

WEST DAVIESS COUNTY WATER DISTRICT

3400 Bittel Rd
Owensboro, KY 42301
Phone : (270) 685-5594
Fax : (270) 683-6324

October 15, 2004

RECEIVED

OCT 18 2004

PUBLIC SERVICE
COMMISSION

Mr. Thomas Dorman, Executive Director
Public Service Commission
211 Sower Blvd.
P.O. Box 615
Frankfort, KY 40602

Case 2004-00415

RE: Request for Rate Surcharge and for
Certificate of Public Convenience and
Necessity

Dear Mr. Dorman;

West Daviess County Water District requests your review and approval for rate adjustment in accordance with KRS 74.395 for additional financing of a welded steel elevated storage tank and incidental line connector. Forward confirmation of receipt of this request along with the style and case number to our District Office.

Enclosed are the original and ten (10) copies of the submittal information. Direct all inquiries to the District Manager, Mr. Bill Higdon, 502/685-5594.

Sincerely,



A. Mike Thompson
Board Chairman

Copy: Mr. Bill Higdon
Mr. James R. Riney, PE, PLS, Project Engineer
WDCWD Board Members

STATE OF KENTUCKY)
(SCT
COUNTY OF DAVIESS)

The foregoing Application was this the 9TH day of July,
2004, signed, acknowledged and sworn to before me by A. M. Thompson.

[Signature]
Notary Public, State at Large
My Commission expires: 6/23/05

**WEST DAVIESS COUNTY WATER DISTRICT
3400 Bittel Road
Owensboro, KY 42301**

**APPLICATION FOR RATE SURCHARGE
AND
APPLICATION FOR CERTIFICATE OF PUBLIC
CONVENIENCE AND NECESSITY**

500,000 Gallon Elevated Water Storage Tank

Project Description and Summary of Need

West Daviess County Water District hereby requests approval of a rate surcharge, as authorized under KRS 74.395, for expansion of the existing system facilities. The project will include a welded steel elevated water storage tank (500,000 gallons), incidental water main connector and appurtenances. Refer to **APPENDIX 'A'** for a complete listing of the proposed improvements.

Need for the water storage tank was identified by a 1993 Preliminary Engineering Review; a 20-year Plan and Plan Update dated 2004 attached as **APPENDIX 'B' and APPENDIX 'C'**; of system improvements and upgrade considerations. The studies were performed to provide a planning and management tool to the District; to be modified or revised; depending upon the dynamics of actual development, population growth and economic circumstances occurring within the District. This project proposal will be an implementation of a portion of the system upgrades based upon the 2004 preliminary study recommendations.

The surcharge will be applied to the total of all water sold by the district; that is, both wholesale and retail customers. Currently the system supplies potable water to approximately 4,100 customers. The system water sales for 2003 totaled approximately 338,576,370 gallons.

Summary of Water Sales and Revenues

There are no potential new customers available to connect to the proposed system due to the nature of the project. The proposed tank will provide sustained flow and assist in maintaining higher system-wide pressure during higher system demand periods.

The proposed elevated storage tank is being installed for additional system capacity and more importantly to supply the continued and substantial growth anticipated for the West District. Addition of a new tank in the central system area will assure District customers of the highest potential for uninterrupted service.

This project will supply the new growth rapidly expanding in the KY 81/KY 56 growth corridors. Attached as **APPENDIX 'D'** is a **summary of monthly water sales revenues and interest income** for the 16-month period from January 2003 through April 2004.

Proposed Financing Method

The scheduled steel tank and connection line construction is proposed to be financed by a combination of existing district funds, a Kentucky Infrastructure Authority/Coal

Development Fund (KIA/CDF) grant, revenue generated by the proposed surcharge with incidental interest accrual and a low interest commercial loan. Projected revenues are based on the 5-year average water sales and summarized below:

PROJECTED REVENUE

KIA/CDF Grant		\$350,000.00
Surcharge Fund		
(338,000,000 gal./yr.*)(\$0.38 /1,000 gal.)(3.5 yrs.)	=	\$449,540.00
Estimated Accrued Interest on Surcharge Escrow	=	3,000.00
Water District Funds	=	<u>1,460.00</u>
 Total Projected Income	 =	 \$804,000.00

*Most recent 5-year average gallons sold (i.e. Historical Test Period) Total includes wholesale customer usage.

The District Board also **specifically requests** that any and all **interest earned** on the special surcharge fund escrow account be applied to payments for this construction project in accord with KRS 74.395(1). Although the exact amount of accrued interest is not known it is the request of the applicant that any approval acknowledge that all earned interest **be applied to this project in addition to the prescribed surcharge funds collected.**

Surcharge Proposal

A **surcharge rate of \$0.38 per 1,000 gallons** will be applied to all District customers for a period of not more than 60 months. The surcharge proceeds will be deposited into an exclusive interest bearing escrow account. Withdrawals from the account will be made on an as needed basis for contractor payments as waterline construction progresses. It is anticipated the surcharge funds may accumulate and interest compounded in the designated special fund account for approximately 12 months before the project funds are expended.

Surcharge Calculation

Projected Income:		\$804,000.00
(See computation above)		
 Projected Expenses:		
Estimated Project Cost		\$774,000.00
Interest and Closing Costs		<u>30,000.00</u>
 Total Projected Expenses		 \$804,000.00

Comparative Financing

The remaining practical alternative for project financing is through a conventional commercial loan. Below is a comparison of the two financing alternatives.

SURCHARGE FUNDING VS COMMERCIAL LOAN

	<u>Surcharge Method</u>	<u>Conventional Loan Method</u>
Loan Principal	\$450,000.00	\$774,000.00
Interest Rate	3.25%	6%
Term	3.5 years	20 years
Interest Costs	\$26,687.30	\$556,841.57
Origination Fees	<u>-0-</u>	8,000.00
Total Financing Costs	\$26,687.30	\$564,841.57
Loan Cost Ratio (Total Financing Costs ÷ Principal)	5.9% vs 73.0%	

Current Financial Information

Attached as APPENDIX 'E' are the Income Statement and Balance Sheet for the previous year.

Board Authorization

Attached as APPENDIX 'F' is a copy of the board minutes whereby the surcharge rate was approved.

Articles of Incorporation

Attached as APPENDIX 'H' is a copy of the Daviess County Court Order for the formation of West Daviess County Water District dated December 7, 1965.

Construction Cost Estimate

Attached as APPENDIX 'I' is a copy of the Preliminary Construction Cost Estimate for the project.

Project Cost Estimate

Attached as APPENDIX 'J' is a copy of the Detailed Total Project Cost Estimate for the project.

Average Annual Volume Sales

Attached as APPENDIX 'K' is a copy of the Average Annual Water Volume Sales for the previous five years.

**APPLICATION FOR CERTIFICATE
OF
PUBLIC CONVENIENCE AND NECESSITY**

Applicant: West Daviess County Water District
3400 Bittel Road
Owensboro, KY 42301
270-685-5594

Project: Panther Hill Water Storage Tank

West Daviess County Water District (herein after referred to as **West District**) was established by Daviess County Fiscal Court pursuant to KRS Chapter 74. A copy of the County Court Order dated 29 July 1964 establishing West District is attached hereto as **APPENDIX 'H'**.

Whereas an engineering study dated 1993 and 2004 prepared by Hale, Riney & Gilmore, Inc. (now HRG, PLLC) consulting engineers identified the need for various waterline connectors and extensions including those contained within this application (copy attached as **APPENDIX 'B'** and **'C'** respectively); and

whereas the West District Board of Directors unanimously approved construction of the elevated steel water storage tank (hereinafter referred to as **PROJECT**) during the 6 July 2004 board meeting (copy attached as **APPENDIX 'F'**); and

whereas the proposed steel tank and connecting line facilities will provide sustained water supply during high demand periods in order to provide uninterrupted service to the District customers; now,

therefore West District does hereby request authorization to construct the Panther Hill Tank pursuant to 807 KAR 5:001, Section 8 and Section 9(2). Construction of the welded steel and connecting lines will be consistent with 807 KAR 5:066, Section 9(2) and will further implement the customer benefits specified in 807 KAR 5:066, Section 9(5).

Ten copies of the application are included with this request.

PUBLIC AUTHORITY PERMITS

Enclosed as **APPENDIX 'P'** is copy of:

- 1.) KY DNREP permit for construction issued by the Drinking Water Branch.

PROJECT DESCRIPTION/LOCATIONS

Attached as **APPENDIX 'A'** is a listing of the project construction items including location, description and approximated route length. Also refer to the West District index map attached which illustrates the proposed project site.

The rate surcharge will be for a period of up to 60 months. The surcharge revenue limit was established at \$450,000.

This project will be contractor constructed based upon solicitation of bid proposals by public bid notice. Inasmuch as all work will occur within the West District designated service area the proposed construction will not conflict with nor compete with any other water supply entity.

FINANCING

Project financing will be provided by a combination of KIA/CDF grant funds, accrued interest on the surcharge escrow and revenue generated by the rate surcharge. The surcharge fund account is estimated to generate an average of over \$7,000.00/month.

Specific financing amounts from the two fund sources are:

KIA/CDF Funds	\$350,000.00
Surcharge Funds	\$449,540.00
Accrued Interest	\$ 3,000.00
Water District Funds	<u>\$ 1,460.00</u>
Total Anticipated Funds	\$804,000.00

Inasmuch as construction of welded steel tank and connection lines will not require the issuing of an notes, loans, bonds nor other indebtedness provisions of 807 KAR 5:001, Section 11 and Section 6 are not applicable.

COST OF OPERATION

The elevated water storage tank project is being implemented in order to provide system stability and in order to provide adequate flow within the distribution system. No additional operational costs are anticipated due to this construction.

FINANCIAL EXHIBITS

Although financial exhibits as defined under 807 KAR 5:001, Section 6 are not applicable, due to no indebtedness requirement for this **PROJECT**, copies of the preceding twelve months of the West District's "Monthly Financial and Statistical Report" are included for guidance and informational purposes. Said reports are attached herein as **APPENDIX 'L'**.

ANNUAL REPORT CERTIFICATION

Attached as **APPENDIX 'G'** is a duly signed and notarized Annual Report Certification for West District.

FINAL ENGINEERING REPORT

Attached as **APPENDIX 'R'** is a copy of the Final Engineering Report for the initial phase.

CONTRACTOR'S BID PROPOSALS

Upon receipt of notification from PSC that the application information contained herein meets the minimum filing requirements then Notice to Bidders and public advertisement for

Contractor's bids will be issued. Said bid documents will contain a 90-day bid hold provision in order to accommodate PSC review of bid tabulations. Due to variations in today's construction, steel and P.V.C. pipe prices; a 3-month hold period is the longest reasonable time anticipated to be favorable to Contractors without inflated costs.

Complete bid tabulation sheets and a copy of the engineer's recommendation letter regarding bid award will be submitted to the PSC under separate cover as soon as available after the public bid opening.

Construction is anticipated to begin within 12 months after approval of the Certificate of Public Convenience and Necessity. Project completion is scheduled for 18 months after actual bid award to allow for the possibility of abnormal weather cycles.

PROJECT COST ESTIMATE

Attached as **APPENDIX 'I'** is a copy of the Preliminary Construction Cost Estimate for this **PROJECT**. Attached as **APPENDIX 'Q'** is a copy of the Total Anticipated Project Costs listed by the Uniform System of Accounts line items.

**WEST DAVIESS COUNTY WATER DISTRICT
PANTHER HILL WATER STORAGE TANK**

**REQUEST FOR RATE SURCHARGE
AND
APPLICATION FOR CERTIFICATE OF PUBLIC CONVENIENCE
AND NECESSITY**

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APPENDIX A

**PROJECT LISTING AND
LOCATION MAP**

APPENDIX A

PROJECT LISTING

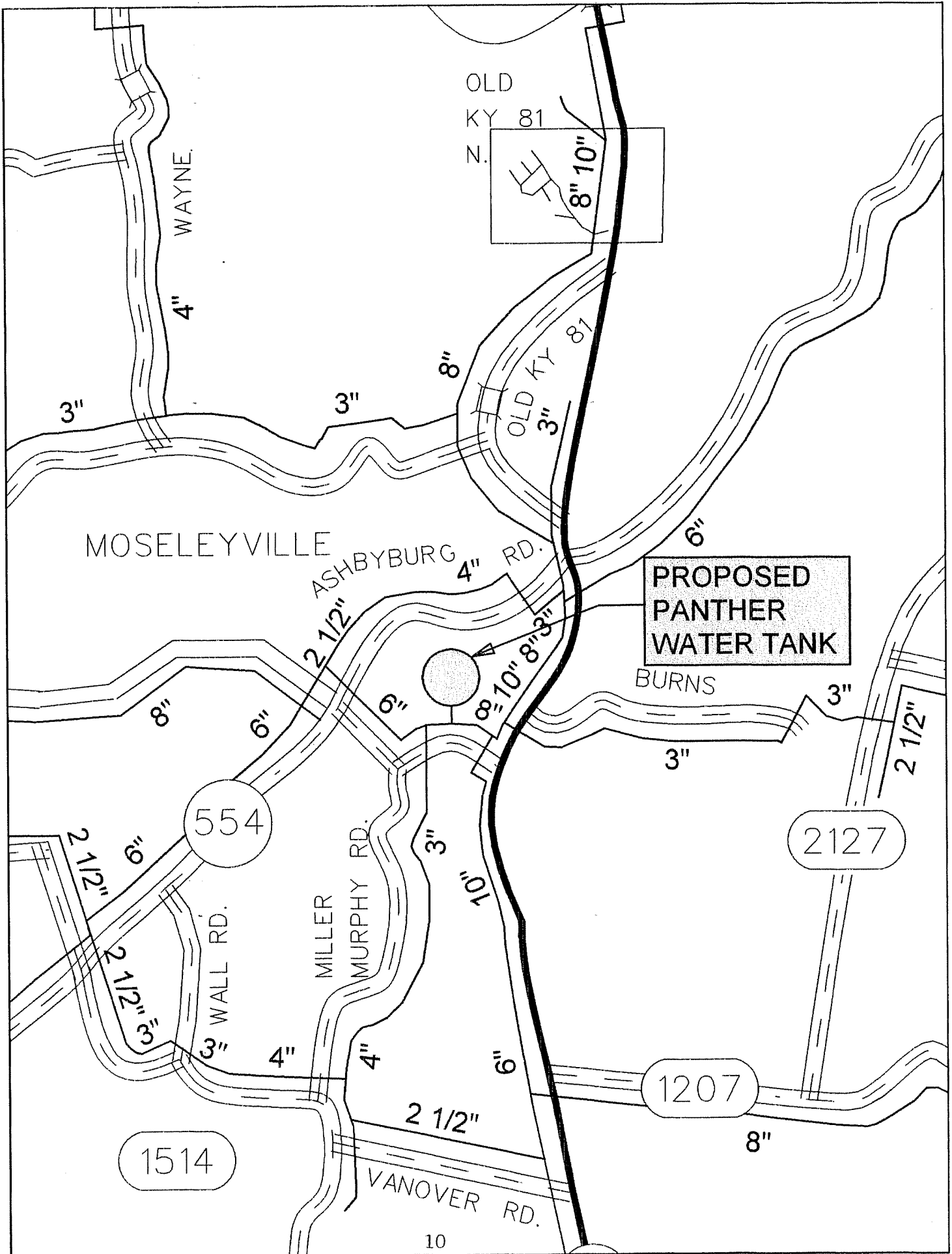
WEST DAVIESS COUNTY WATER DISTRICT (Surcharge Funded Project)

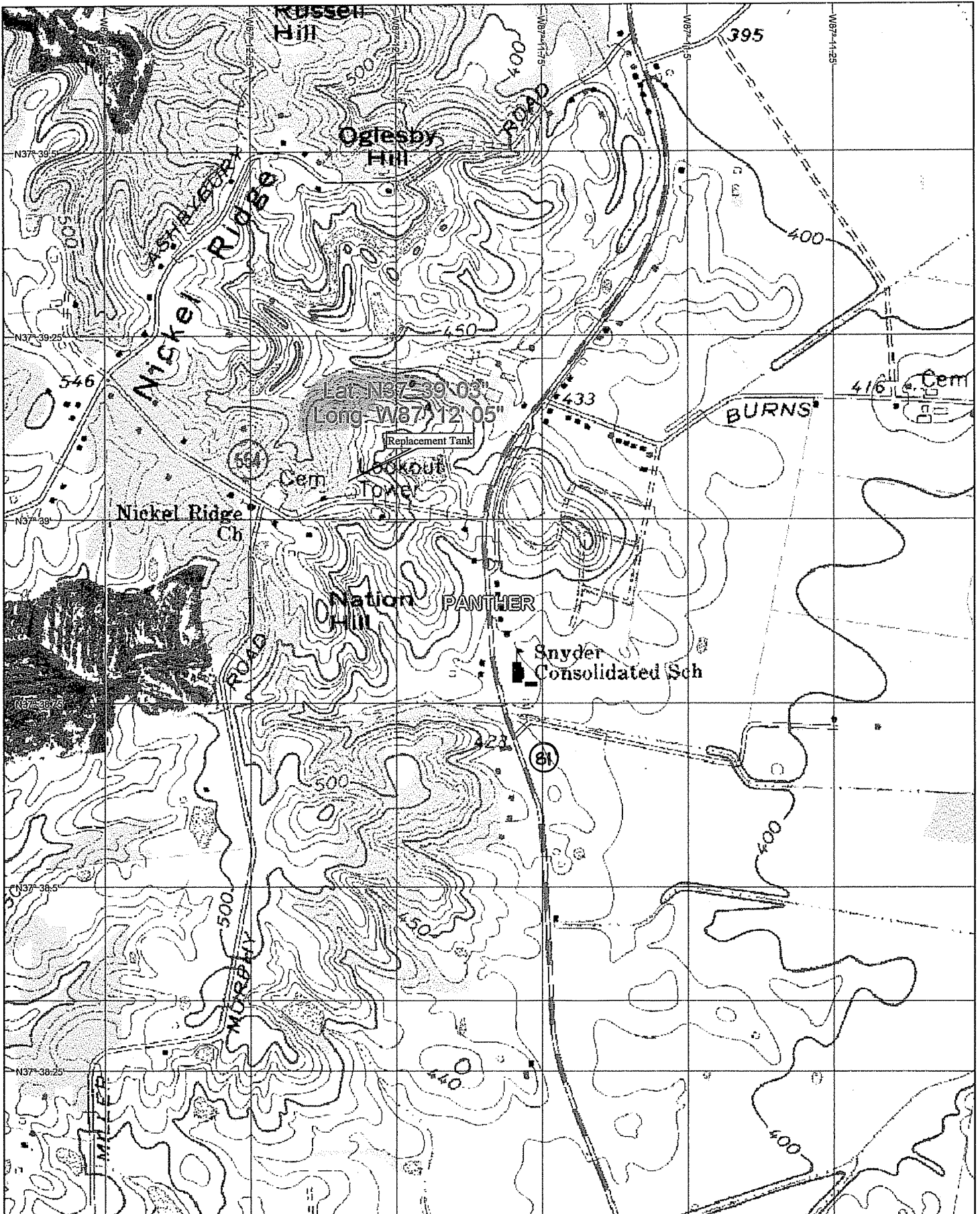
Location

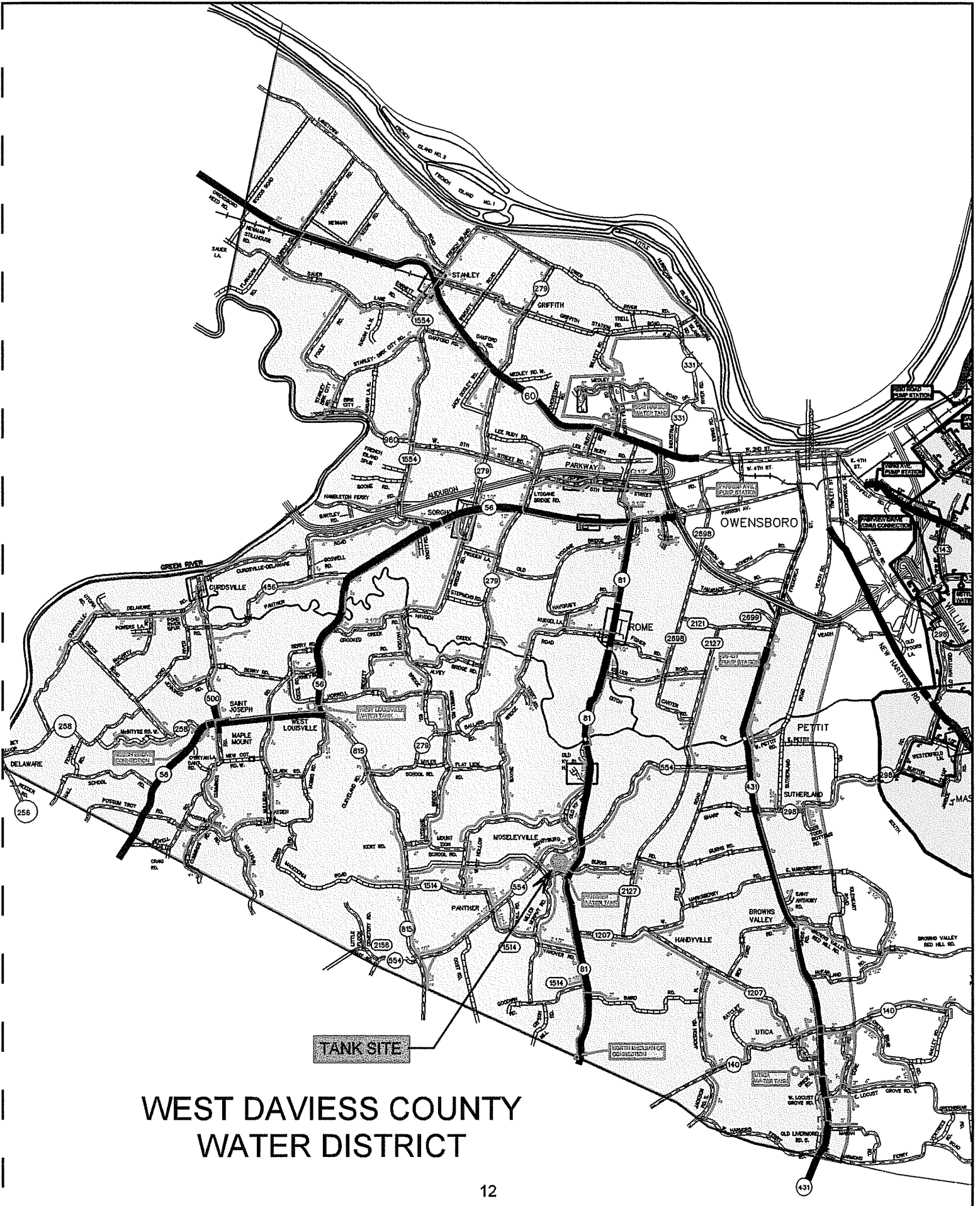
Description

KY 554

500,000 gallon welded steel
elevated water storage tank and connector line







WEST DAVIESS COUNTY WATER DISTRICT

APPENDIX B

PRELIMINARY ENGINEERING STUDY

WEST DAVIESS COUNTY WATER DISTRICT

SYSTEM IMPROVEMENTS

PRELIMINARY ENGINEERING REVIEW

1993

**PREPARED BY:
HALE, RINEY & GILMORE, INC.
416 West Third Street
Owensboro, KY 42301
502/683-7558**

WEST DAVIESS COUNTY WATER DISTRICT

Preliminary Engineer's Review

Since first going into operation in August 1969 the West Daviess County Water District has experienced increasing and steady growth, both in terms of numbers of customers served and in terms of total gallons pumped. Growth in terms of the number of customers has averaged 6.2% growth per annum over the past 23 years. Refer to Exhibits 1 thru 3 for graphic illustration of the District's progressive growth patterns.

The system's customer base is a mixed use of:

- High density urban residential
- Suburban (low density subdivision) residential
- Rural residential
- Farmsteads
- Agricultural/irrigation (seasonal and very unpredictable)
- Very limited commercial use
- Wholesale distribution systems

The highest use category in terms of gallons per month is residential customers; the second highest category is the total monthly flow supplied to wholesale redistribution systems outside the West Daviess service area.

During the District's existence the physical plant growth has expanded primarily through outside efforts and independent funding. Major improvements have occurred primarily through the efforts of those entities requiring the new service. This is a typical growth mechanism used by various types of utilities - those who create the need pay for it. The West Water District has had very limited if any excess funds in past years for major system upgrades. Typical funding has occurred through;

- Subdivision developments
- Grants (C.D.B.G.; local government, etc.)
- Line extensions by private citizens

The District has an outstanding bond debt of \$1,341,585.00 effective December 31, 1992.

Expansion of the district facilities by the above captioned sources has been very beneficial to the District and district customers. System expansion by these methods can; however; be haphazard and piecemeal at times. The following recommendations have been identified as system improvements to be addressed during the next 20 years. Items have been identified by major category and approximate implementation schedule.

1993-2003	Distribution Lines: Line upgrades Loop connectors
1993-2013	Distribution Lines: Line extensions
1998-2003	Storage Tank: Tank replacements
1998-2008	Pump Stations: Pumping facility upgrade Pumping facility additions Trunk line additions

Construction of the above improvements will most 0 effectively be paid for by a short term surcharge to system customers as authorized by KRS 74.395. Initial funding should be in the form of a low interest commercial loan which will ultimately be retired by repayment with the surcharge funds. This is the same procedure implemented successfully for construction of the Utica water storage tank.

DISTRIBUTION

Improvement to the distribution lines should consist of the three primary groupings identified earlier (outer loop completions, upgrades, extensions). A comprehensive review of the existing system results in the following minimum needs. Additional items or system extensions may be identified during the more detailed planning/engineering phases to be performed in the future.,

LOOP CONNECTORS

<u>Item</u>	<u>Route</u>	<u>From</u>	<u>To</u>	<u>Size</u>	<u>Length</u>
1	McIntyre Rd.	10580 McIntyre Rd.	Ky. 258	6"	3,325'
2	Ky. 258	McIntyre Road	Curdsville- Delaware Rd.	6"	6,075'
3	Curdsville- Delaware Rd.	Ky. 258	Ky. 500	6"	27,750'
4	Ky. 1554	U.S. 60	Sauer Lane	8"	3,750'*
5	Sauer Lane	Ky. 1554	Murphy Road	8"	15,400'*
6	Fisher Road	Ky. 81	Carter Road	8"	4,800'
7	Carter Road	Fisher Road	Proposed Pump Station near Southtown Blvd.	8"	4,500'
8	U.S. 60	Audubon Elementary School	Benttree Dr. Proposed Pump Station	8"	2,000'
9	Landfill Access Road	Ky. 815	Windy Hollow Road	8"	6,800'
10	Landfill Access Road	Windy Hollow Road	Ky. 554	8"	9,000'
11	Ky. 815	Ky. 56	Landfill Access Road	8"	22,600'
				Total Length	106,000'
				Total Length (6")	37,150'
				Total Length (8")	68,850'

*Proposed construction by Daviess County Fiscal Court to Scott Paper Site.

LINE EXTENSIONS

<u>Item</u>	<u>Route</u>	<u>From</u>	<u>To</u>	<u>Size</u>	<u>Length</u>
1	Ky. 258	Curdsville- Delaware Rd.	Delaware	6"	6,600
2	Macedonia Rd.	Cleveland Rd.	Hayden Lane	4"	15,000
3	Hayden Lane	Hobbs Road	Macedonia Rd.	6"	2,075
4	Hayden Lane	Macedonia Rd.	Mulligan Rd.	4"	2,450
5	Hobbs Road	Ky. 815	Hayden Lane	6"	12,125
6	Horrell Rd.	Ky. 56	Proposed Tank Site	8"	6,800
7	Horrell Rd.	Proposed Tank Site	Hayden Bridge Road	8"	5,550
8	Nalley Road	Greenbrier Rd.	10900 Nalley Rd.	4"	4,100
9	Ky. No. 279	Griffith Station Road	1605 Ky. 279	4"	3,500
10	Fogle Road	Sauer Lane	1748 Fogle Rd.	6"	12,100
11	Lyddane Bridge Road	900 Lyddane Bridge Road	West Fifth St. Road	4"	1,000
12	W. Fifth St. Road	Lydanne Bridge Road	W. Fifth St. Road	4"	2,200
13	N. Jackson Rd.	Ky. 1207	10775 N. Jackson Road	6"	11,950
14	Jack Bosley Rd.	Ky. 279	760 Jack Bosley Road	4"	2,900
15	Keller Road	Miles Farm Supply	Todd Bridge Rd.	4"	4,000
16	Wayne Bridge Road	Windy Hollow Road	7127 Wayne Bridge Road	4"	3,125

<u>Item</u>	<u>Route</u>	<u>From</u>	<u>To</u>	<u>Size</u>	<u>Length</u>
17	Windy Hollow Road	Windy Hollow Restaurant	5465 Windy Hollow Rd.	4"	3,400
18	Stanley-Birk City Road	Fogle Road	Ky. 1554	6"	10,000
19	Marksberry Rd.	Ky. 1207	U.S. 431	6"	16,1200
20	Fitts Road	Marksberry Rd.	Ky. 554	6"	15,1450
21	Ky. 258	McIntyre Road	Smock Road	4"	4,330
22	Smock Road	Ky. 258	Pond River Rd.	4"	800
23	Pond River Rd.	Smock Road	Curdsville-Delaware Road	4"	13,400
24	Ky. 456	Ky. 500	10104 Ky. 456	4"	7,000
25	Murphy-Miller Road	9181 Murphy Miller Road	Greenback Road	4"	6,475
26	Greenback Rd.	3941 Greenback Road	Vanover Road	4"	1,600
27	Old Lyddane Bridge Road	5400 Old Lyddane Bridge Road	6100 Old Lyddane Bridge Road	4"	8,650
28	Wimsatt Road	444 Wimsatt Rd.	U.S. 60	4"	2,600
			Total	Length	185,380
			Total	Length (4")	86,530
			Total	Length (6")	86,500
			Total	Length (8")	12,350

LINE UPGRADE

<u>Item</u>	<u>Route</u>	<u>From</u>	<u>To</u>	<u>Size</u>	<u>Length</u>
1	Ky. 1554	Ky. 56	W. Fifth St. Road	6"	11,600'
2	Ky. 554	Ashbyburg Rd.	Panther Water Tank	8"	1,675'
			Total Length		13,275'

WATER STORAGE TANKS

The three original water storage tanks and the recently completed Utica tank all have an overflow elevation of elevation 615 feet. A single pressure system has served the district well over the past 23 years. Two major changes occurring within the past 18 to 24 months are now indicating the single pressure method of operation should be reviewed for possible modification(s).

I. STRIPMINES

Hundreds of acres in the vicinity of the Panther and West Louisville communities have recently been converted from abandoned and unoccupied stripmines to privately owned tracts. These tracts are now becoming the sites for new home construction and mobile home setups. During the stripmining years; from the late 1940's to 1991; homesites and farm sites in those areas continued to decline as the mining operations acquired additional acreage. Portions of those areas were in the higher elevation areas of western Daviess County; typically characteristic of coal bearing topography; and remained at relatively high elevations after reclamation. Due to low density population and the negative effects of mining operations on rural growth, the district's water service into the area was minimal to non-existent during past years.

Both the reclaimed and the unreclaimed areas which were recently sold by the mine operator contain areas which remained at elevations too high for satisfactory service by existing tank elevations.; Water service to the areas by the District is in even more demand today since many of the aquifers in the mining areas were apparently permanently damaged.

Additionally, the unmined areas of the Panther community have seen the number of home sites sustained with some additional homes/trailers added over the years. This area experiences minimum acceptable water pressure at high demand periods.

We recommend a new elevated water storage tank; possibly 500,000 gallon capacity; be constructed to replace the existing 200,000 gallon ground level tank at the Panther Tank site. The tank overflow should be increased to an elevation of at least 640 and an independent pressure zone created for serving the higher areas previously described. An approximate pressure zone area is outlined on the attached district map.

Consideration should also be given to replacement of the small elevated tank located at West Louisville (existing 150,000 gallon tank). An alternate tank site off of Horrell Road is approximately 40 feet higher than the existing site which would reflect an appreciable savings in tank construction costs.

II. SCOTT PAPER

Construction of the Scott Paper project was initiated this year as previously predicted. The development of outlots and satellite operations at the plant site itself were not previously anticipated nor specifically discussed. The water district has recently been contacted to provide service to the proposed outlot complex. In order to accommodate this additional water demand we recommend an eight inch trunk line be extended to the site via Sauer Lane.

Additionally, the existing 300,000 gallon ground level tank located at Bon Harbor Hills should be reviewed for possible replacement by a 500,000 gallon elevated storage tank. Previous system experience and hydraulic analysis indicates the 90 foot high tank has limited water turnover. Substantial subgrade settlement has occurred under the tank bottom requiring grout stabilization of the tank floor. The bottom 12" of the tank sidewalls have experienced obvious distortion due to the settlement.

Ultimately, the U.S. 60-Stanley-Newman area may need to become an independent pressure zone supplied by a new pump station off of the O.M.U. distribution system. Implementation of a separate zone depends upon the ultimate industrial development/water demand at the Scott site as well as a detailed analysis of the water system. Division of an existing water distribution system into smaller individual pressure zones is normally a more expensive and less desirable method of operation. This alternative is cautiously listed as a future alternative in the event of a major change in the Stanley/Newman service area resulting in a major demand area which cannot otherwise be addressed by the existing system. In the event such an industrial demand occurs in said area replacement of the Bon Harbor tank should also be investigated.

PUMPING STATIONS

Peak demands on the existing water distribution system are approaching maximum pumping capacities during summer months. Unless the two McLean County wholesale customers (i.e. North McLean County Water District and Beech Grove Water System, Inc.) discontinue receiving water from the West Daviess County system and connect to the recently upgraded and expanded City of Calhoun water distribution system additional pumping capacity will be required for the West Daviess District. Currently the combined water consumption of the two out-of-county wholesale customers averages between 20 and 25 percent of the West District's total annual usage.

The 1991-92 contract negotiations with O.M.U. resulted in specifying two future connection points to the City of Owensboro water supply system by the West District. The points identified in the final contract agreement are:

- 1.) Carter Road in the vicinity of Southtown Blvd.
- 2.) U.S. 60 West in the vicinity of Lakewood Subdivision

The Carter Road supply point should be considered the priority for new pump station construction. This supply point is particularly important in development of an isolated pressure zone previously outlined for improved service to the West Louisville-Panther area.

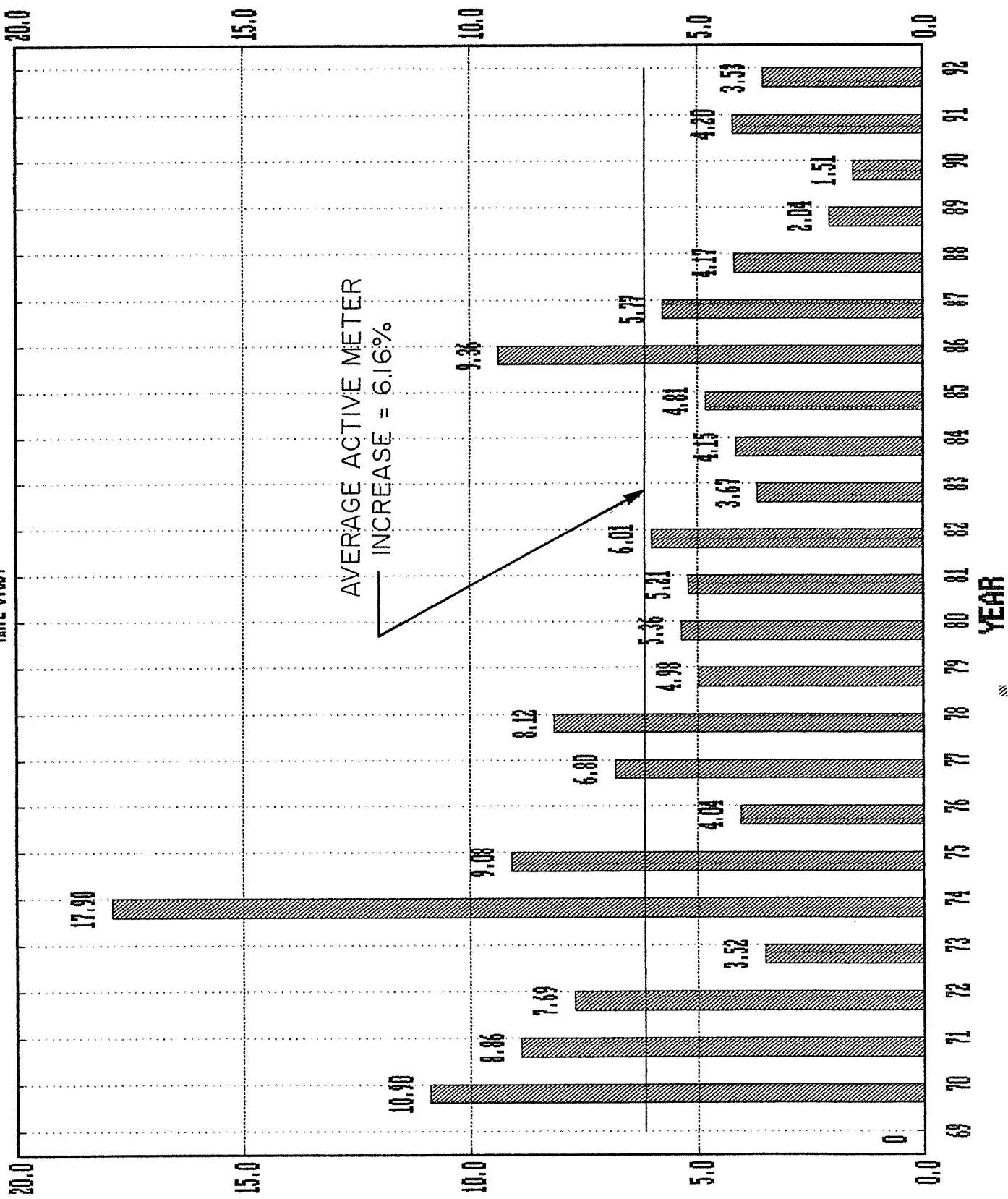
Construction of a new pumping station and trunk line could provide a major benefit to the West District system; particularly if the McLean County wholesale customers continue to secure water supply from the West District. The new connection point should also benefit the O.M.U. system by distributing the major pumping withdrawal points for the West District more evenly to three existing O.M.U. water storage tanks instead of just two tanks as is currently the case. Under this scenario the primary pumping station located along Parrish Avenue; which was built at the time of the original system; will experience a reduction in operating hours.

The original pump station has been in service since 1969 with no major repair required for either of the two pumps. This is a tremendous testimony for both the quality of the original equipment and the quality of the operating practices which have been implemented over the past 23 years. The pump motors and pump assembly/impellers should be checked and upgraded accordingly. Additional pump installation or pump upgrading would be warranted at this facility if McLean County continued to be supplied by the West District or the Carter Road pumping station was not implemented on a timely basis.

PERCENT INCREASE IN ACTIVE METERS

WEST DAVIESS COUNTY WATER DISTRICT

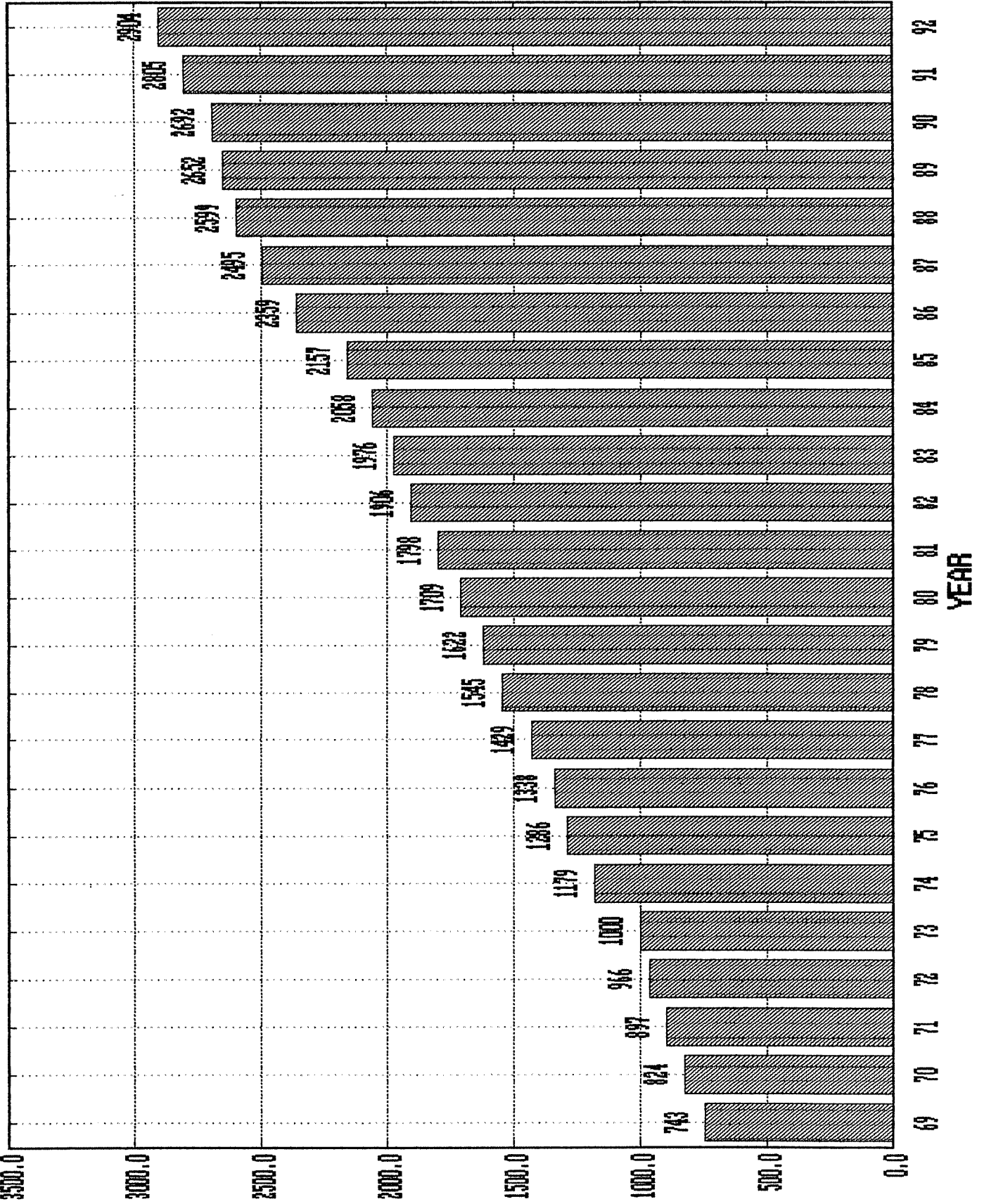
RATE STUDY



PERCENT INCREASE IN ACTIVE METERS

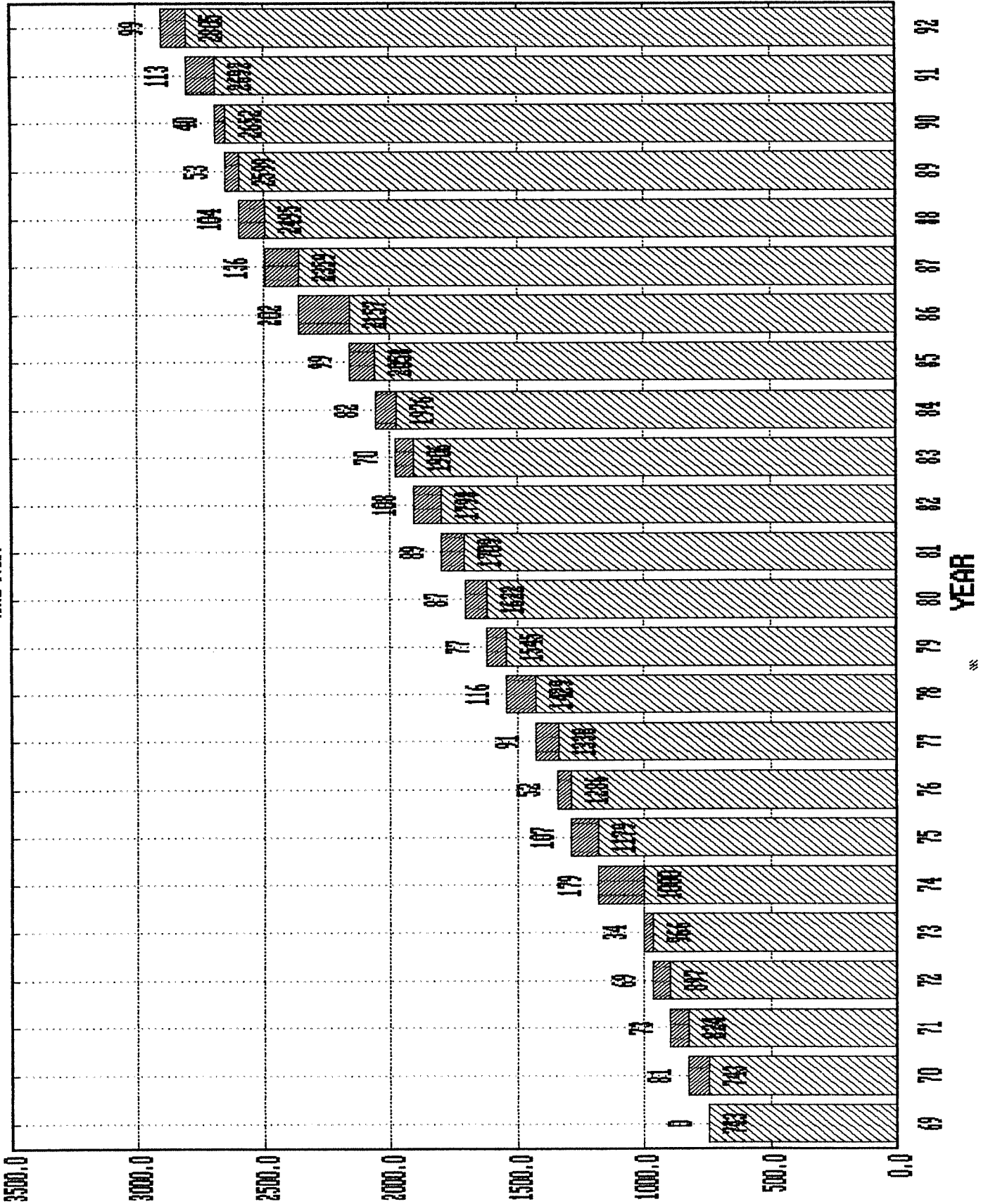
WEST DAVIESS COUNTY WATER DISTRICT

RATE STUDY



WEST DAVIESS COUNTY WATER DISTRICT

RATE STUDY



ACTIVE METERS

APPENDIX C

**20-YEAR PLAN AND
PLAN UPDATE**

WEST DAVIESS COUNTY WATER DISTRICT

UPDATE TO 20-YEAR PLAN **(effective 7 October 2004)**

- PREFACE -

The West Daviess County Board of Directors authorized an update to the “Preliminary Engineering Review” dated 1993. The continued strong growth within the District, particularly growth of major subdivision developments and single site developments have resulted in steady increase of new customers; at an average rate of approximately 100 new meters annually.

In addition to conversion of former strip-mined land into “scattered site” residential lots as previously anticipated, major development has initiated along the KY 81/KY 56 corridors of the District service area. The development comes in the form solid community growth including the new County Government Complex and the new Southern Star Central Gas Pipeline office complex. Both are situated near the KY 81/KY 56 intersection and both include new sanitary sewer master pumping station facilities. Additionally, a new elementary school; complete with another independent master sewage pump station; has been recently completed. The combination of a new school, major job centers and substantial sanitary sewer service is the textbook combination for subdivision development and an increase in residential “rooftops” within the core of the District’s service area.

Approximately one-third of the loop connectors and distribution line extensions identified in the 1993 study have been completed.

A major pumping station has been constructed on Carter Road in accord with the original 20-year plan. The proposed Panther Hill Tank replacement is currently in the bid solicitation process with construction completion scheduled for mid-2005. With major pumping and water storage improvements coming on-line the 20-year plan upgrade identifies the following line extensions and line loops as the next focus of system improvements, in addition to the uncompleted line extensions/upgrades identified in the 1993 report.

WEST DAVIESS COUNTY WATER DISTRICT

UPDATE TO 20-YEAR PLAN
(effective 7 October 2004)

<u>Item</u>	<u>Route</u>	<u>From</u>	<u>To</u>	<u>Size</u>
1.	Horrell Rd.	KY 56	EOL near Bickett Rd.	8"
2.	Bickett Rd.	Horrell Rd.	EOL near Dianne Bickett residence	6"
3.	Lee Rudy Rd.	Graystone Dr.	east of Rudy Rd.	8"
4.	KY 1554	Curdsville-Delaware Rd.	W. Fifth St. Rd./W. Fifth St. Road/Lyddane Bridge Road	6"
5.	Lee Rudy Rd. & W. Fifth St. Rd.	Rudy Rd.	KY 279	8"
6.	KY 279	Line Connector between Griffith Station Rd.	Lower River Rd.	6"
7.	Mt. Zion School Road	Windy Hollow Rd.	Lyddane Bridge Rd.	6"
8.	Stephens Rd.	Hayden Bridge Rd.	KY 279 S.	6"
9.	Hayden Bridge Rd./ KY 279 Connector	EOL near Horrell Rd.	Lyddane Bridge Rd.	6"
10.	KY 815	EOL Fr. Paskuli Trailer	Lonesome Pine Trail	8"
11.	Haycraft Ln./ Kuegel Ln. Connector	KY 81	Wayne Bridge Rd.	6"
12.	Pruden Ln.	Hayden Bridge Rd.	EOL on Pruden Ln.	6"
13.	Old Lyddane Bridge Road	KY 81	KY 279	8"
14.	Panther Creek Park Connection	EOL at Park Entrance	EOL at Panther Creek Park Dr. Subdivision	4"
15.	Wimsatt Rd.	U.S. 60 W.	EOL near Eddie Smith house on Wimsatt Rd.	6"
16.	Replace West Louisville Tank with 500,000 gallon elevated.			

APPENDIX D

**SUMMARY OF WATER REVENUE
AND INTEREST INCOME**

West Daviess County Water District

Monthly Income and Interest

2003

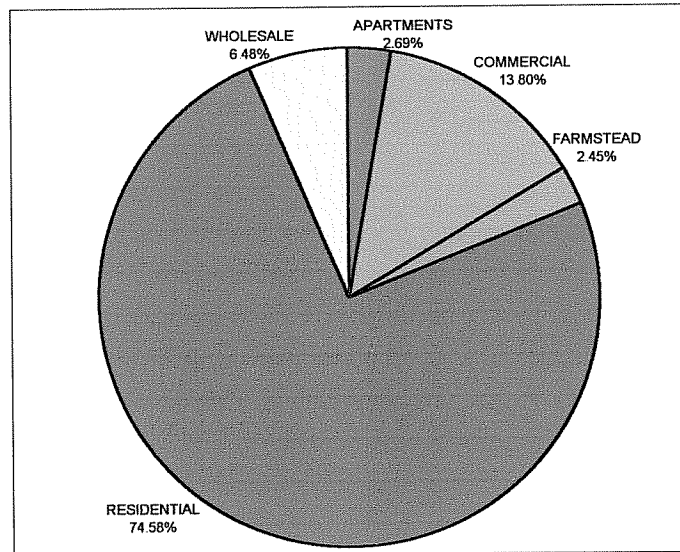
	<u>Monthly Income</u>	<u>Interest</u>	<u>Total</u>
January	\$ 85,873.69	\$ 224.71	\$ 86,098.40
February	\$ 84,785.57	\$ 207.31	\$ 84,992.88
March	\$ 84,964.14	\$ 273.58	\$ 85,237.72
April	\$ 80,295.27	\$ 229.11	\$ 80,524.38
May	\$ 87,455.02	\$ 252.67	\$ 87,707.69
June	\$ 87,647.64	\$ 327.13	\$ 87,974.77
July	\$ 98,458.26	\$ 311.10	\$ 98,769.36
August	\$ 110,383.77	\$ 291.94	\$ 110,675.71
September	\$ 106,707.10	\$ 292.78	\$ 106,999.88
October	\$ 100,891.44	\$ 326.71	\$ 101,218.15
November	\$ 81,578.22	\$ 10,189.42	\$ 91,767.64
December	\$ 81,052.46	\$ 4,393.64	\$ 85,446.10
	<u>\$ 1,090,092.58</u>	<u>\$ 17,320.10</u>	<u>\$ 1,107,412.68</u>

WEST DAVIESS COUNTY WATER DISTRICT

GALLONS SOLD

2003

MONTH	APARTMENTS	COMMERCIAL	FARMSTEAD	RESIDENTIAL	WHOLESALE	TOTAL	RUNNING TOTAL
JAN	839,650	4,149,610	501,560	19,165,370	1,621,600	26,277,790	26,277,790
FEB	816,640	4,191,090	469,720	19,507,710	1,493,400	26,478,560	52,756,350
MAR	639,520	4,006,340	318,240	18,188,310	1,433,000	24,585,410	77,341,760
APR	794,840	3,908,570	559,930	20,146,100	1,759,400	27,168,840	104,510,600
MAY	748,760	4,030,100	477,280	20,255,690	1,380,700	26,892,530	131,403,130
JUN	727,460	5,607,300	586,300	21,655,910	1,793,100	30,370,070	161,773,200
JUL	700,810	4,233,870	1,867,290	26,755,250	1,984,900	35,542,120	197,315,320
AUG	761,900	3,780,110	1,698,680	24,017,380	1,874,300	32,132,370	229,447,690
SEP	826,510	3,682,630	853,090	24,168,660	2,607,000	32,137,890	261,585,580
OCT	790,720	2,774,500	336,020	19,706,170	2,038,600	25,646,010	287,231,590
NOV	757,470	2,853,510	329,450	19,591,370	2,208,900	25,740,700	312,972,290
DEC	718,340	3,497,160	292,340	19,346,640	1,749,600	25,604,080	338,576,370
TOTAL	9,122,620	46,714,790	8,289,900	252,504,560	21,944,500	338,576,370	
%	2.69%	13.80%	2.45%	74.58%	6.48%	338,576,370	



APPENDIX E

**INCOME STATEMENT AND
BALANCE SHEET FROM 2003 AUDIT**

**WEST DAVIESS COUNTY WATER DISTRICT
BALANCE SHEETS
December 31, 2003 and 2002**

ASSETS

	2003	2002
UTILITY PLANT		
Water Plant in service	\$ 6,222,523	\$ 6,038,992
Construction work in progress	10,545	-
	6,233,068	6,038,992
Less: Accumulated depreciation	1,915,887	1,786,080
Utility plant, Net	4,317,181	4,252,912
RESTRICTED FUNDS		
Revenue Fund		
Cash	271,680	95,710
Sinking Fund		
Investments	345,352	392,292
Interest receivable	1,005	1,672
	346,357	393,964
Depreciation Fund		
Cash	19,407	30,960
Investments	275,416	271,127
Interest receivable	259	1,461
Accounts receivable	6,862	2,850
	301,944	306,398
TOTAL RESTRICTED FUNDS	919,981	796,072
CURRENT ASSETS		
Cash	69,882	104,264
Accounts receivable - trade	103,297	105,279
Prepaid insurance	7,632	5,746
Materials and supplies	88,402	59,067
TOTAL CURRENT ASSETS	269,213	274,356
DEFERRED EXPENSE		
Unamortized bond discount and issuance cost	13,317	17,283
	\$ 5,519,692	\$ 5,340,623

**WEST DAVIESS COUNTY WATER DISTRICT
BALANCE SHEETS
December 31, 2003 and 2002**

LIABILITIES AND OTHER CREDITS

	<u>2003</u>	<u>2002</u>
RETAINED EARNINGS		
Unappropriated	\$ 1,038,435	\$ 987,337
LONG-TERM DEBT, DUE AFTER ONE YEAR	<u>160,000</u>	<u>235,000</u>
CURRENT LIABILITIES PAYABLE FROM RESTRICTED FUNDS		
Matured bond interest coupons	7,846	7,846
Accrued bond interest payable	4,622	5,998
Current portion of long-term debt	75,000	70,000
	<u>87,468</u>	<u>83,844</u>
CURRENT LIABILITIES PAYABLE FROM CURRENT ASSETS		
Accounts payable	66,831	62,120
Customer deposits	49,217	40,090
Accrued pension	10,095	10,189
Accrued school and sales taxes	6,069	6,307
Payroll taxes and withholding	5,176	5,201
Accrued payroll	6,323	6,056
	<u>143,711</u>	<u>129,963</u>
TOTAL CURRENT LIABILITIES	<u>231,179</u>	<u>213,807</u>
CONTRIBUTIONS IN AID OF CONSTRUCTION	<u>4,090,078</u>	<u>3,904,479</u>
	<u>\$ 5,519,692</u>	<u>\$ 5,340,623</u>

**WEST DAVIESS COUNTY WATER DISTRICT
STATEMENTS OF INCOME
Years ended December 31, 2003 and 2002**

	<u>2003</u>	<u>2002</u>
WATER SALES AND OTHER MISCELLANEOUS SERVICE REVENUES	\$ 1,083,045	\$ 1,109,347
OPERATING, GENERAL AND ADMINISTRATIVE EXPENSES		
Water purchased	469,504	492,912
Salaries and wages	189,389	184,739
Depreciation	129,807	128,231
Materials, supplies, and repairs	63,833	49,563
Utilities	17,926	16,725
Employee benefits	70,200	64,608
Transportation	10,111	10,373
Office supplies and expense	18,936	16,665
Insurance	13,086	10,309
Audit, accounting and legal	3,650	3,600
Rent of real estate	3,953	3,923
Bad debts	4,310	9,453
Engineering	2,220	122
Payroll taxes	14,424	13,873
Phone and communication	3,358	3,911
Education and seminars	275	350
Water tests and meter service	3,060	1,877
Uniforms	1,571	1,714
PSC assessment	2,022	2,017
Advertising	102	802
Miscellaneous	5,559	4,701
	<u>1,027,296</u>	<u>1,020,468</u>
INCOME FROM OPERATIONS	55,749	88,879
OTHER INCOME (EXPENSE)		
Interest income	15,302	20,920
Gain on sale of fixed asset	-	1,500
Interest expense	(15,986)	(23,979)
Amortization of bond discount and issuance costs	(3,967)	(3,967)
	<u>(3,967)</u>	<u>(3,967)</u>
NET INCOME	\$ 51,098	\$ 83,353

**WEST DAVIESS COUNTY WATER DISTRICT
STATEMENTS OF RETAINED EARNINGS
Years ended December 31, 2003 and 2002**

	<u>2003</u>	<u>2002</u>
RETAINED EARNINGS, BEGINNING OF YEAR	\$ 987,337	\$ 903,984
NET INCOME	<u>51,098</u>	<u>83,353</u>
RETAINED EARNINGS, END OF YEAR	<u>\$ 1,038,435</u>	<u>\$ 987,337</u>

APPENDIX F

**WEST DISTRICT BOARD MINUTES
AUTHORIZING SURCHARGE
5 May 2003 and
6 July 2004**

**Attached is a copy from the Minutes Book
Covering the Board Meeting of 5 May 2003 and 6 July 2004
Board Authorizations**

WEST DAVIESS COUNTY WATER DISTRICT

MINUTES OF MEETING

A regular meeting was held at Noon, May 5, 2003 at the West Daviess County Water District Office, attended by A. M. Thompson, Charles E Smith, Lee Allen Mitchell, Billy Higdon, Keith Krampe, and Manager Jan Kuegel.

The following bills, more than 60 days overdue, were approved for write off:

51-2680-01	Shirley J Snider	4821 Hwy 81	71.08
57-1350-01	Jennifer Burch	5798 W 5 th St Rd	45.85
57-4610-01	William L Boue II	771 Sargent Dr	78.96
57-4820-05	David W Conder	761 Haley Ln	23.52
61-1360-02	Leila L Laslie	1720-C Thompson Dr	18.90
61-1364-06	Alicia Richards	1712-D Thompson Dr	7.91
61-1370-08	Brandi Hawkins	1704-A Thompson Dr	43.98
61-1692-07	Richard E Carpenter	1721-B Parrish PI Dr	65.68
61-1738-07	Heidi Canter	1755-A Parrish PI Dr	33.89
61-1762-11	Beth Smith	1805-E Parrish PI Dr	124.09
66-7140	Lucille Buchanan	4096 Creekside Ct	36.75

Manager Kuegel reported on the financial requirements for the remaining four years of bond and interest payments on the original bond issue. All future revenue was approved to be transferred completely into the operations account at the beginning of the month. Once expenditures for the month are known, a transfer to another account from the operations account will occur to gain a higher interest rate. The transfers to the Sinking Fund will cease due to the District having a balance sufficient to pay off the remaining bond and interest payments.

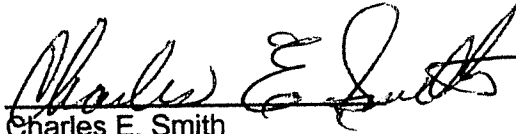
Keith Krampe reported on the financial status of the District. He stated the District remains financially strong with an ending March balance in the operations account of approximately \$ 55,000.00.

The water loss as of April 30, 2003 was 11.02%.

Keith Krampe reported on the Office Staff meetings which included discussion on the OMU rate increase. The District has received confirmation that the pass through of 3 cents per 1,000 gallons increase has been approved by the Public Service Commission. The increase will be effective in June.

The Board moved to authorize Jim Riney of HRG, PLLC to proceed with the submittal of appropriate filings to the necessary agencies for a new tank to be constructed at Panther. The monies will be collected by virtue of a surcharge in conjunction with a \$ 350,000.00 grant promised by the State of Kentucky legislature.

After general discussion, the meeting adjourned at 1:30 p.m.


Charles E. Smith
Secretary

WEST DAVIESS COUNTY WATER DISTRICT

MINUTES OF MEETING

A regular meeting was held at Noon, July 6, 2004 at the West Daviess County Water District Office, attended by A. M. Thompson, Janet Murphy, Lee Allen Mitchell, and Billy Higdon. Engineer Jim Riney also attended the meeting.

The following bills, more than 60 days overdue, were approved for write off:

52-2500	Douglas Lee Hayden	7268 Hwy 81	51.03
52-3440-01	Mary B Freels	7817 Hwy 81	270.15
53-3520-08	J McIntosh & K Wood	1316 Hwy 279 S	8.63
56-6600-01	Lealia M Clements	10900 Mill St	18.48
57-2350-01	Jennifer Alvey	728 Ashland Ave	14.42
57-3860-02	Danielle G Weikel	5344 Ashland Ave	132.92
60-2780-02	Eddie D Wilson	9375 Stanley Birk City Rd	55.83
61-1364-08	John D Hedges	1712-D Thompson Dr	9.03
61-1420-06	Tiffany N Young	1654-A Thompson Dr	17.78
66-2600-01	Tonya & Don Lindsey	422 Somerset Ct	16.01

The Board reviewed the financial and statistical information.

The Board reviewed the office staff report.

The Board authorized Jim Riney, of HRG, PLLC to proceed with the necessary filings for the Panther tank project with the Public Service Commission, Division of Water, and the Kentucky Infrastructure Authority.

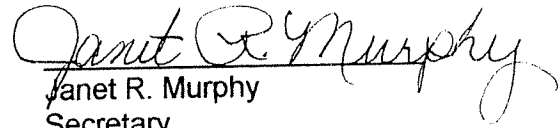
The District has started getting bids for the Panther tank surcharge loan. Five banks have been contacted to present an agreement. The Board authorized Manager Higdon to enter into the most favorable agreement. The motion was made by Mike Thompson and seconded by Janet Murphy and carried unanimously.

Manager Higdon presented possible vulnerable areas to consider with regard to terrorism and vandalism. Some tank sites could use lighting and/or fencing for added protection. Manager Higdon will get estimates for the upgrades and report back to the Board. A safe for the office will also be added

A motion was made by Lee Allen Mitchell and seconded by Mike Thompson to authorize Manager Higdon to sign the agreement between Regional Water Resource Agency and the District explaining the terms and conditions of the contract. The motion carried unanimously.

Manager Higdon stated that he has talked to five different employees of Owensboro Municipal Utilities concerning the pump station automation. They are organizing together to consider the best route to provide us with and will get back with Manager Higdon at a later date.

After general discussion, the meeting adjourned at 1:00 p.m.


Janet R. Murphy
Secretary

APPENDIX G

ANNUAL REPORT CERTIFICATION

APPENDIX G

ANNUAL REPORT CERTIFICATION

I, Bill Higdon, Manager of the West Daviess County Water District, do hereby certify that an annual report for the period from January 1, 2003 through December 31, 2003 for said water district has been completed in the form prescribed by Public Service Commission of Kentucky and has been forwarded to said commission for appropriate filing in accord with 807 KAR 5:006, Section 3(1).

Bill Higdon
Manager

7 - 8 - 04
Date

Subscribed and sworn to before me by Bill Higdon, Manager of West Daviess County Water District this the 8th day of July, 2004.

[Signature]
Notary Public – Kentucky State at Large
My Commission Expires: 6/23/05

APPENDIX H

**COURT ORDER ESTABLISHING
WEST DAVIESS COUNTY WATER DISTRICT**

DAVISS COUNTY COURT

IN THE MATTER OF THE FORMATION OF THE)
WEST DAVIESS COUNTY WATER DISTRICT)

ORDER

It appearing to the Court that a Petition was filed on December 7, 1965 signed by more than seventy-five (75) resident freeholders of the area set out in said Petition requesting the creation of a water district to be known as West Daviess County Water District,

AND IT FURTHER APPEARING that said Petition contained a complete description of the territory to be included in the creation of said water district,

AND IT FURTHER APPEARING that the residents within said area were suffering from water supplies which were inadequate, unreliable and unsanitary, and that said residents of the district find it reasonably necessary for their public health, convenience, fire protection and comfort to create a water district in West Daviess County,

AND IT FURTHER APPEARING to the Court that notice was given to the public of the filing of said Petition by publication in three (3) issues of the Owensboro Messenger-Inquirer newspaper appearing on December 8, 9, and 10, 1965,

AND IT FURTHER APPEARING that a hearing was held more than thirty (30) days from the date of publication at which time no objections were raised to the creation of the water district as described in the Petition filed on December 7, 1965,

NOW THEREFORE, the Court having been sufficiently advised of all these matters, it is ORDERED and ADJUDGED as follows:

1. There shall be created in West Daviess County a water district under the name of WEST DAVIESS COUNTY WATER DISTRICT which shall include that area within the following description:

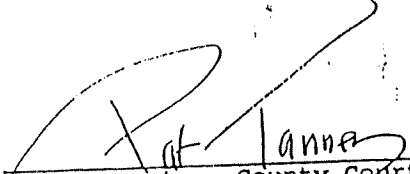
Beginning at a point approximately 1800 feet due east of the intersection of River Road and the Griffith Road, said point being the water mark on the bank of the Ohio River; thence along the water line of the Ohio River with the flow of the river to the Henderson County-Daviess County boundary; thence south and west with the Daviess County boundary to a point near Delaware, Kentucky, and being the intersection of the Henderson, Daviess and McLean County boundaries; thence with the Daviess-McLean County boundary to a point 2000 feet east of the intersection of U. S. Highway 431 and the Daviess-McLean County boundary; thence northwardly and parallel to U. S. Highway 431 and 2000 feet to its east to a point 2000 feet east of the intersection of U. S. Highway 431 and the L & N Railroad at Browns Valley; thence north and parallel to the L. & N. Railroad and 2000 feet east of the eastern boundary of said railroad to the center of the proposed Owensboro Belt-Line; thence westwardly following the center of the proposed Owensboro Belt-Line to a point 1000 feet north of the center of the intersection of the proposed Owensboro Belt-Line and U. S. Highway 60 West; thence parallel to and 1000 feet due north of U. S. Highway 60 westwardly to a point 200 feet east of that road known as Overstreet Road; thence parallel with Overstreet Road and 200 feet to its east to the intersection of Medley Road and Overstreet Road; thence parallel to Medley Road and 200 feet to its northeast to the intersection of Medley Road and Willett Road; thence parallel to Willett Road and 200 feet to its east to a point 500 feet south of the Griffith Road and 200 feet west of Willett Road; thence parallel to Griffith Road and 500 feet to its south and in an eastwardly direction to a point 500 feet west of the intersection of Griffith Road and River Road; thence east approximately 2300 feet to the point of beginning.

2. That Allen W. Haley is hereby appointed as Commissioner of West Daviess County Water District for a term of four (4) years beginning on January 11, 1966, and that J. H. Mackey, Sr. is appointed a Commissioner of West Daviess County Water District for a term of three (3) years beginning on January 11, 1966, and that Walter H. Newton is appointed a Commissioner of West Daviess County Water District for a term of two (2) years beginning on January 11, 1966, and that said Commissioners have this day in Open Court taken and assumed the following oath prescribed by law:

"I do solemnly swear that I will support the Constitution of the United States and the Constitution of this Commonwealth, and be faithful and true to the Commonwealth of Kentucky so long as I continue a citizen thereof, and that I will faithfully execute to the best of my ability, the office of commissioner for the West Daviess County Water District according to law; and I do further solemnly swear that since the adoption of the present Constitution, I, being a citizen of this State, have not fought a duel with deadly weapons within this State nor out of it, nor have I sent or accepted a challenge to fight a duel with deadly weapons, nor have I acted as second in carrying a challenge, nor aided or assisted any person thus offending, so help me God."

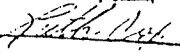
and said Commissioners shall have all the powers conferred upon them by law, including the employing of legal counsel to represent counsel and advise them in any legal matters pertinent to the district.

This the 11th day of January, 1966.

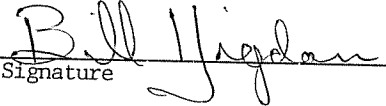


Judge, Daviess County Court

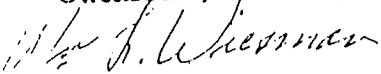
A COPY ATTEST
CHARLES W. WARE, CLERK

By  C. C.

I hereby certify this is a duplicate copy of the Articles of Incorporation for the West Daviess County Water District.

 7-8-64
Signature Date

PREPARED BY
WILLIAM L. WIESMAN
ATTORNEY AT LAW
210 West Third Street
Owensboro, Kentucky



APPENDIX I

**PRELIMINARY CONSTRUCTION
COST ESTIMATE**

**WEST DAVIESS COUNTY WATER DISTRICT
Panther Hill Tank Project**

PRELIMINARY CONSTRUCTION COST ESTIMATE

500,000 Gallon Elevation Tank & Altitude Valve	\$550,000.00
Site Preparation	\$ 8,600.00
Drive	\$ 3,000.00
Hot Tap & 8" D.I.P. Line	\$ 7,500.00
Fence	<u>\$ 6,000.00</u>
Total Anticipated Construction Cost	\$575,100.00

APPENDIX J

DETAILED PROJECT COST ESTIMATE

July 3, 2003

**WEST DAVIESS COUNTY WATER DISTRICT
 Panther Hill Tank Project**

PRELIMINARY COST ESTIMATE

500,000 Gallon Elevation Tank & Altitude Valve	\$550,000.00	
Site Preparation	\$ 8,600.00	
Drive	\$ 3,000.00	
Hot Tap & 8" D.I.P. Line	\$ 7,500.00	
Fence	<u>\$ 6,000.00</u>	
Subtotal	\$575,100.00	
Administration	\$ 8,000.00	
Engineering - Design 80%	\$ 42,000.00	
- Construction 20%	10,100.00	
Engineering - Inspection	\$ 34,800.00	
Surveying	\$ 2,500.00	
GeoTech	\$ 5,000.00	
Construction Staking	\$ 1,500.00	
Legal	\$ 5,000.00	
Interest	\$ 20,000.00	
Contingency	<u>\$ 70,000.00</u>	
Total		\$774,000.00

APPENDIX K

**AVERAGE ANNUAL WATER
VOLUME SALES**

West Daviess County Water District

Annual Gallons Sold

Year	Gallons Sold
1999	337,169,550
2000	319,684,070
2001	340,412,240
2002	353,969,560
2003	338,576,370
Total	1,689,811,790

5 Year Average = 337,962,358

APPENDIX L

**2003-04 MONTHLY REVENUE AND
EXPENSE SUMMARIES (PRE-AUDIT)**

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED JANUARY 31, 2003

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	98,076.34
SCB Collections.....	\$	450.18
Interest Income.....	\$	127.30
Interest From Collections...	\$	31.03
TOTAL.....	\$	98,684.85

DISBURSEMENTS:

Transfer to O & M Fund	\$	90,829.11
Transfer :SCB to O & M	\$	450.26
Transfer to Sinking Fund...	\$	7,278.18
Transfer to Investments....	\$	127.30
Transfer to Pump Stat.....	\$	-
ENDING BALANCE.....	\$	0.00

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	87,665.60
Transfer from Rev. Fund	88,193.29	
Transfer from SCB	596.57	
Interest Earned	66.38	
Service Order Charges	1,365.00	
Reim. on Mileage	-	
Materials, Water	177.23	
Qtrly Report, Phone	66.25	
TOTAL INCOME	\$	178,130.32

DISBURSEMENTS:

Operating Expenses		
Per Analysis Below.....	\$	(79,369.62)
	\$	-

ENDING BALANCE..... **\$ 98,760.70**

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beg. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 399,212.38	\$ 7,278.18	\$ 56.98	\$ -	\$ 406,547.54
Depreciation Fund.....	28,538.15	5,425.00	12.16	2,668.91	31,306.40
Pump Station Fund.....	-	-	-	-	-
Depreciation Investments..	271,126.78	-	58.16	-	271,184.94
TOTALS	\$ 698,877.31	\$ 12,703.18	\$ 127.30	\$ 2,668.91	\$ 709,038.88

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	29,622,659 GALLONS	\$ 35,930.27	\$ 35,930.27
Electric & Gas.....		1,388.49	1,388.49
Operations Expense.....		119.79	119.79
Telephone Expense.....		272.73	272.73
Uniforms.....		130.12	130.12
Water Test.....		-	-
Meter Test.....		-	-
Engineering Fees.....		-	-
Plant Repairs and Maintenance.....		1,578.58	1,578.58
Computer Expense.....		-	-
Salaries and Wages.....		12,566.07	12,566.07
Payroll Taxes.....		4,620.76	4,620.76
Office Supplies and Expenses.....		1,354.29	1,354.29
Insurance - Property & Liability, Unemployment.....		-	-
Insurance - Health, Life, Dental, and Retirement.....		4,194.51	4,194.51
Mileage.....		-	-
Truck Expense.....		534.17	534.17
Miscellaneous.....		822.21	822.21
Legal and Audit Expense.....		-	-
Trustee Fees.....		-	-
Petty Cash.....		125.19	125.19
Sewage.....		12,096.83	12,096.83
Sanitation.....		556.00	556.00
Sales Tax.....		817.89	817.89
School Tax.....		2,261.72	2,261.72
Depreciable Acquisitions.....		-	-
TOTALS.....		\$ 79,369.62	\$ 79,369.62

STATISTICAL REPORT:

		<u>THIS YEAR</u>	<u>LAST YEAR</u>
Active Meters.....	3,886	3,886	3,811
Meters Turned Off.....	183	131	115
Meters In Stock.....	1,085	4,017	3,926
	<u>5,154</u>		
Hours Worked.....		2044 1/2	2058
Beg. Accts. Receivable.....	\$ 7,648.67		
Charges.....	97,275.32	29,622,659	27,676.84
Total.....	\$ 104,923.99	26,180,960	25,537,830
Collections.....	98,526.52	200,000	111,000
End Accts Receivable.....	\$ 6,397.47	3,241,699	2,028.01
		Difference.....	

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED FEBRUARY 28, 2003

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00	
Collections:			
Customer Accts. Rec.....	\$	97,470.91	
SCB Collections.....	\$	449.70	
Interest Income.....	\$	121.88	
Interest From Collections....	\$	21.44	\$ 98,063.93
TOTAL.....			\$ 98,063.93

DISBURSEMENTS:

Transfer to O & M Fund	\$	90,143.91	
Transfer :SCB to O & M	\$	449.70	
Transfer to Sinking Fund...	\$	7,348.44	
Transfer to Investments....	\$	121.88	
Transfer to Pump Stat.....	\$	-	\$ 98,063.93
ENDING BALANCE.....			\$ 0.00

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	98,760.70
Transfer from Rev. Fund		90,829.11
Transfer from SCB		450.26
Interest Earned		63.99
Service Order Charges		1,120.00
Reim. on Mileage		102.24
Ins. Refund		451.84
Hyd Use, Phone		606.06
TOTAL INCOME		\$ 192,384.20
DISBURSEMENTS:		
Operating Expenses		
Per Analysis Below.....	\$	(100,743.81)
Transfer Out	\$	(50,000.00)
ENDING BALANCE.....		\$ 41,640.39

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beg. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 406,547.54	\$ 7,348.44	\$ 57.28	\$ -	\$ 413,953.26
Depreciation Fund.....	31,306.40	1,890.00	10.41	1,567.34	31,639.47
Old National Bank	-	50,000.00	3.42	-	50,003.42
Depreciation Investments..	271,184.94	-	50.77	-	271,235.71
TOTALS	\$ 709,038.88	\$ 59,238.44	\$ 121.88	\$ 1,567.34	\$ 766,831.86

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	29,886,539 GALLONS	\$ 72,180.78	\$ 36,250.51
Electric & Gas.....		3,119.37	1,730.88
Operations Expense.....		239.58	119.79
Telephone Expense.....		718.22	445.49
Uniforms.....		292.77	162.65
Water Test.....		300.00	300.00
Meter Test.....		-	-
Engineering Fees.....		-	-
Plant Repairs and Maintenance.....		23,816.19	22,237.61
Computer Expense.....		-	-
Salaries and Wages.....		23,995.05	11,428.98
Payroll Taxes.....		8,745.33	4,124.57
Office Supplies and Expenses.....		3,898.59	2,544.30
Insurance - Property & Liability, Unemployment.....		-	-
Insurance - Health, Life, Dental, and Retirement.....		8,389.02	4,194.51
Mileage.....		-	-
Truck Expense.....		1,235.11	700.94
Miscellaneous.....		927.79	105.58
Legal and Audit Expense.....		-	-
Trustee Fees.....		191.29	66.10
Petty Cash.....		24,664.37	12,567.54
Sewage.....		1,123.50	567.50
Sanitation.....		1,683.83	865.94
Sales Tax.....		4,592.64	2,330.92
School Tax.....		-	-
Depreciable Acquisitions.....		-	-
TOTALS.....		\$ 180,113.43	\$ 100,743.81

STATISTICAL REPORT:

		<u>THIS YEAR</u>	<u>LAST YEAR</u>
Active Meters.....	3,866	3,866	3,800
Meters Turned Off.....	207	161	126
Meters In Stock.....	1,081	4,027	3,926
	<u>5,154</u>		
Hours Worked.....		1789 1/2	1784 1/2
Beg. Accts. Receivable.....	\$ 6,397.47		
Charges.....	99,324.28	29,886,539	35,549,924
Total.....	\$ 105,721.75	26,277,790	26,351,400
Collections.....	97,920.61	126,000	2,910,000
End Accts Receivable.....	\$ 7,801.14	3,482,749	6,288,524
		Accounted for Water Loss.....	
		Difference.....	

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED MARCH 31, 2003

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	97,299.24
SCB Collections.....	\$	461.80
Interest Income.....	\$	206.33
Interest From Collections....	\$	24.99
TOTAL.....	\$	97,992.36

DISBURSEMENTS:

Transfer to O & M Fund	\$	89,976.07
Transfer :SCB to O & M	\$	461.82
Transfer to Sinking Fund...	\$	7,348.14
Transfer to Investments....	\$	206.33
Transfer to Pump Stat.....	\$	-
ENDING BALANCE.....	\$	0.00

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	41,640.39
Transfer from Rev. Fund		90,143.91
Transfer from SCB		449.70
Interest Earned		42.26
Service Order Charges		980.00
Reim. on Mileage		168.89
Sign Lease		900.00
Maintenance, Materials		713.00
TOTAL INCOME	\$	135,038.15

DISBURSEMENTS:

Operating Expenses		(79,770.28)
Per Analysis Below.....		(79,770.28)

ENDING BALANCE..... \$ 55,267.87

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beq. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 413,953.26	\$ 7,348.14	\$ 55.80	\$ 78,997.50	\$ 342,359.70
Depreciation Fund.....	31,639.47	2,275.00	11.05	1,059.08	32,866.44
Old National Bank	50,003.42	-	106.17	-	50,109.59
Depreciation Investments..	271,235.71	-	33.31	-	271,269.02
TOTALS	\$ 766,831.86	\$ 9,623.14	\$ 206.33	\$ 80,056.58	\$ 696,604.75

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	28,101,262 GALLONS	\$ 106,266.07	\$ 34,085.29
Electric & Gas.....		4,579.27	1,459.90
Operations Expense.....		359.37	119.79
Telephone Expense.....		898.82	180.60
Uniforms.....		422.89	130.12
Water Test.....		300.00	-
Meter Test.....		-	-
Engineering Fees.....		-	-
Plant Repairs and Maintenance.....		28,344.81	4,528.62
Computer Expense.....		306.00	306.00
Salaries and Wages.....		35,669.66	11,674.61
Payroll Taxes.....		12,973.67	4,228.34
Office Supplies and Expenses.....		5,612.29	1,713.70
Insurance - Property & Liability, Unemployment.....		-	-
Insurance - Health, Life, Dental, and Retirement.....		12,589.98	4,200.96
Mileage.....		-	-
Truck Expense.....		2,233.48	998.37
Miscellaneous.....		993.72	65.93
Legal and Audit Expense.....		-	-
Trustee Fees.....		-	-
Petty Cash.....		339.17	147.88
Sewage.....		36,893.77	12,229.40
Sanitation.....		1,691.00	567.50
Sales Tax.....		2,495.16	811.33
School Tax.....		6,914.58	2,321.94
Depreciable Acquisitions.....		-	-
TOTALS.....		\$ 259,883.71	\$ 79,770.28

STATISTICAL REPORT:

Active Meters.....	3,916	Customers - Active Meters.....	3,916	3,819
Meters Turned Off.....	163	Paying Minimum-Meter off.....	115	119
Meters In Stock.....	1,075	Total.....	4,031	3,938
	<u>5,154</u>	Hours Worked.....	1863	1870
Beg. Accts. Receivable.....	\$ 7,801.14	Gallons Pumped.....	28,101,262	25,728,494
Charges.....	97,840.65	Gallons Billed.....	26,478,560	23,844,370
Total.....	\$ 105,641.79	Accounted for Water Loss.....	220,000	1,200,000
Collections.....	97,761.04	Difference.....	1,402,702	684,124
End Accts Receivable.....	\$ 7,880.75			

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED APRIL 30, 2003

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	91,498.62
SCB Collections.....	\$	517.92
Interest Income.....	\$	157.64
Interest From Collections....	\$	19.16
TOTAL.....	\$	92,193.34

DISBURSEMENTS:

Transfer to O & M Fund	\$	91,517.77
Transfer :SCB to O & M	\$	517.93
Transfer to Sinking Fund...	\$	-
Transfer to Investments....	\$	157.64
Transfer to Pump Stat.....	\$	-
ENDING BALANCE.....	\$	0.00

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	55,267.87
Transfer from Rev. Fund		89,976.07
Transfer from SCB		461.82
Interest Earned		52.31
Service Order Charges		840.00
Reim. on Mileage		37.67
Materials for hydrant		3,137.47
Qtrly report, meter test		25.00
TOTAL INCOME	\$	149,798.21

DISBURSEMENTS:

Operating Expenses		
Per Analysis Below.....	\$	(78,169.12)

ENDING BALANCE..... **\$ 71,629.09**

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beq. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 342,359.70	\$ -	\$ 9.59	\$ -	\$ 342,369.29
Depreciation Fund.....	32,866.44	7,685.00	11.83	3,168.05	37,395.22
Old National Bank	50,109.59	-	93.01	-	50,202.60
Depreciation Investments..	271,269.02	-	43.21	-	271,312.23
TOTALS	\$ 696,604.75	\$ 7,685.00	\$ 157.64	\$ 3,168.05	\$ 701,279.34

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	30,290,746 GALLONS	\$ 143,006.63	\$ 36,740.56
Electric & Gas.....		5,977.05	1,397.78
Operations Expense.....		479.16	119.79
Telephone Expense.....		1,082.02	183.20
Uniforms.....		553.01	130.12
Water Test.....		480.00	180.00
Meter Test.....		-	-
Engineering Fees.....		-	-
Plant Repairs and Maintenance.....		29,610.82	1,266.01
Computer Expense.....		306.00	-
Salaries and Wages.....		47,827.55	12,157.89
Payroll Taxes.....		17,420.23	4,446.56
Office Supplies and Expenses.....		6,912.88	1,300.59
Insurance - Property & Liability, Unemployment.....		-	-
Insurance - Health, Life, Dental, and Retirement.....		16,797.39	4,207.41
Mileage.....		-	-
Truck Expense.....		2,890.53	657.05
Miscellaneous.....		1,363.99	370.27
Legal and Audit Expense.....		-	-
Trustee Fees.....		-	-
Petty Cash.....		426.52	87.35
Sewage.....		48,059.04	11,165.27
Sanitation.....		2,247.00	556.00
Sales Tax.....		3,355.73	860.57
School Tax.....		9,257.28	2,342.70
Depreciable Acquisitions.....		-	-
TOTALS.....		\$ 338,052.83	\$ 78,169.12

STATISTICAL REPORT:

		<u>THIS YEAR</u>	<u>LAST YEAR</u>
Active Meters.....	3,939	3,939	3,858
Meters Turned Off.....	151	103	91
Meters In Stock.....	1,064	4,042	3,949
	<u>5,154</u>		
Hours Worked.....		1958	1946
Beg. Accts. Receivable.....	\$ 7,880.75		
Charges.....	<u>90,944.96</u>	30,290,746	25,911,083
Total.....	\$ 98,825.71	24,585,410	22,393,470
Collections.....	<u>92,016.54</u>	1,102,000	60,000
End Accts Receivable.....	\$ 6,809.17	4,603,336	3,457,613
		<u>Difference.....</u>	

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED MAY 31, 2003

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	100,316.11
SCB Collections.....	\$	687.98
Interest Income.....	\$	180.59
Interest From Collections...	\$	26.55
TOTAL.....	\$	101,211.23

DISBURSEMENTS:

Transfer to O & M Fund	\$	100,342.59
Transfer :SCB to O & M	\$	688.05
Transfer to Sinking Fund...	\$	-
Transfer to Investments....	\$	180.59
Transfer to Pump Stat.....	\$	-
ENDING BALANCE.....	\$	0.00

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	71,629.09
Transfer from Rev. Fund		91,517.77
Transfer from SCB		517.93
Interest Earned		45.53
Service Order Charges		1,995.00
Reim. on Mileage		115.86
Use of truck		67.50
Kenergy refund		222.87
TOTAL INCOME	\$	166,111.55
DISBURSEMENTS:		
Operating Expenses		
Per Analysis Below.....	\$	(87,433.18)
Less : Transfer Out.....	\$	(40,000.00)
ENDING BALANCE.....	\$	38,678.37

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beq. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 342,369.29	\$ -	\$ 10.84	\$ -	\$ 342,380.13
Depreciation Fund.....	37,395.22	9,660.00	13.59	3,598.83	43,469.98
Old National Bank	50,202.60	40,000.00	123.06	-	90,325.66
Depreciation Investments..	271,312.23	-	33.10	-	271,345.33
TOTALS	\$ 701,279.34	\$ 49,660.00	\$ 180.59	\$ 3,598.83	\$ 747,521.10

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	29,180,415 GALLONS	\$ 178,400.76	\$ 35,394.13
Electric & Gas.....		7,314.53	1,337.48
Operations Expense.....		598.95	119.79
Telephone Expense.....		1,503.13	421.11
Uniforms.....		715.66	162.65
Water Test.....		630.00	150.00
Meter Test.....		-	-
Engineering Fees.....		-	-
Plant Repairs and Maintenance.....		30,501.05	890.23
Computer Expense.....		306.00	-
Salaries and Wages.....		59,852.01	12,024.46
Payroll Taxes.....		21,857.48	4,437.25
Office Supplies and Expenses.....		9,298.63	2,385.75
Insurance - Property & Liability, Unemployment.....		-	-
Insurance - Health, Life, Dental, and Retirement.....		20,998.35	4,200.96
Mileage.....		-	-
Truck Expense.....		3,906.79	1,016.26
Miscellaneous.....		1,561.43	197.44
Legal and Audit Expense.....		3,650.00	3,650.00
Trustee Fees.....		-	-
Petty Cash.....		501.33	74.81
Sewage.....		61,100.11	13,041.07
Sanitation.....		2,755.00	508.00
Sales Tax.....		4,137.19	781.46
School Tax.....		11,432.61	2,175.33
Depreciable Acquisitions.....		4,465.00	4,465.00
TOTALS.....		\$ 425,486.01	\$ 87,433.18

STATISTICAL REPORT:

Active Meters.....	3,965
Meters Turned Off.....	133
Meters In Stock.....	1,056
	<u>5,154</u>

	<u>THIS YEAR</u>	<u>LAST YEAR</u>
Customers - Active Meters ..	3,965	3,871
Paying Minimum-Meter off ..	88	99
Total.....	4,053	3,970

Beg. Accts. Receivable.....	\$ 6,809.17
Charges.....	101,407.57
Total.....	\$ 108,216.74
Collections.....	101,004.09
End Accts Receivable.....	\$ 7,212.65

Hours Worked.....	1902	2041
Gallons Pumped.....	29,180,415	33,026,379
Gallons Billed.....	27,168,840	27,170,230
Accounted for Water Loss	1,170,000	48,500
Difference.....	841,575	5,807,349

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED JUNE 30, 2003

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	100,646.08
SCB Collections.....	\$	761.40
Interest Income.....	\$	258.59
Interest From Collections...	\$	24.50
TOTAL.....	\$	101,690.57

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	38,678.37
Transfer from Rev. Fund		100,342.59
Transfer from SCB		688.05
Interest Earned		44.04
Service Order Charges		1,330.00
Reim. on Mileage		5.84
Material Reimbursement		235.77

DISBURSEMENTS:

Transfer to O & M Fund	\$	100,670.58
Transfer :SCB to O & M	\$	761.40
Transfer to Sinking Fund...	\$	-
Transfer to Investments....	\$	258.59
Transfer to Pump Stat.....	\$	-
ENDING BALANCE.....	\$	0.00

TOTAL INCOME

TOTAL INCOME	\$	141,324.66
DISBURSEMENTS:		
Operating Expenses		
Per Analysis Below.....	\$	(85,993.31)
Less : Transfer Out.....	\$	-

ENDING BALANCE..... **\$ 55,331.35**

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beq. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 342,380.13	\$ -	\$ 10.86	\$ -	\$ 342,390.99
Depreciation Fund.....	43,469.98	3,161.55	7.02	29,826.57	16,811.98
Old National Bank	90,325.66	25,000.00	205.57	-	115,531.23
Depreciation Investments..	271,345.33	-	35.14	-	271,380.47
TOTALS	\$ 747,521.10	\$ 28,161.55	\$ 258.59	\$ 29,826.57	\$ 746,114.67

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	31,392,505 GALLONS	\$ 216,478.05	\$ 38,077.29
Electric & Gas.....		8,680.29	1,365.76
Operations Expense.....		718.74	119.79
Telephone Expense.....		1,672.23	169.10
Uniforms.....		853.43	137.77
Water Test.....		780.00	150.00
Meter Test.....		-	-
Engineering Fees.....		2,055.00	2,055.00
Plant Repairs and Maintenance.....		32,309.70	1,808.65
Computer Expense.....		612.00	306.00
Salaries and Wages.....		71,268.12	11,416.11
Payroll Taxes.....		26,164.96	4,307.48
Office Supplies and Expenses.....		10,977.08	1,678.45
Insurance - Property & Liability, Unemployment.....		-	-
Insurance - Health, Life, Dental, and Retirement.....		25,199.31	4,200.96
Mileage.....		-	-
Truck Expense.....		4,840.78	933.99
Miscellaneous.....		3,699.41	2,137.98
Legal and Audit Expense.....		3,650.00	-
Trustee Fees.....		-	-
Petty Cash.....		612.86	111.53
Sewage.....		74,315.45	13,215.34
Sanitation.....		3,299.50	544.50
Sales Tax.....		5,001.41	864.22
School Tax.....		13,826.00	2,393.39
Depreciable Acquisitions.....		4,465.00	-
TOTALS.....		\$ 511,479.32	\$ 85,993.31

STATISTICAL REPORT:

Active Meters.....	3,974
Meters Turned Off.....	144
Meters In Stock.....	1,036
	<u>5,154</u>

	<u>THIS YEAR</u>	<u>LAST YEAR</u>
Customers - Active Meters.....	3,974	3,914
Paying Minimum-Meter off.....	81	89
Total.....	4,055	3,983

Beg. Accts. Receivable.....	\$ 7,212.65
Charges.....	101,439.87
Total.....	\$ 108,652.52
Collections.....	101,407.48
End Accts Receivable.....	\$ 7,245.04

Hours Worked.....	1737	PT
Gallons Pumped.....	31,392,505	31,647,571
Gallons Billed.....	26,892,530	27,558,340
Accounted for Water Loss	550,000	560,000
Difference.....	3,949,975	3,529,230

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED JULY 31, 2003

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	111,898.32
SCB Collections.....	\$	620.00
Interest Income.....	\$	236.46
Interest From Collections...	\$	26.71
TOTAL.....	\$	112,781.49

DISBURSEMENTS:

Transfer to O & M Fund	\$	111,925.03
Transfer :SCB to O & M	\$	620.00
Transfer to Sinking Fund...	\$	-
Transfer to Investments....	\$	236.46
Transfer to Pump Stat.....	\$	-
ENDING BALANCE.....	\$	0.00

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	55,331.35
Transfer from Rev. Fund		100,670.58
Transfer from SCB		761.40
Interest Earned		47.93
Service Order Charges		1,365.00
Reim. on Mileage		123.02
Qtrly report, use of truck, phone		177.00
Oost Rd waterline		2,921.55
TOTAL INCOME	\$	161,397.83

DISBURSEMENTS:

Operating Expenses		
Per Analysis Below.....	\$	(111,745.78)
Less : Transfer Out.....	\$	-

ENDING BALANCE..... \$ 49,652.05

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beq. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 342,390.99	\$ -	\$ 9.41	\$ -	\$ 342,400.40
Depreciation Fund.....	16,811.98	7,875.00	6.37	3,347.61	21,345.74
Old National Bank	115,531.23	-	197.04	-	115,728.27
Depreciation Investments..	271,380.47	-	23.64	-	271,404.11
TOTALS	\$ 746,114.67	\$ 7,875.00	\$ 236.46	\$ 3,347.61	\$ 750,878.52

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	37,270,786 GALLONS	\$ 262,804.67	\$ 46,326.62
Electric & Gas.....		10,163.87	1,483.58
Operations Expense.....		1,059.79	341.05
Telephone Expense.....		2,002.70	330.47
Uniforms.....		992.98	139.55
Water Test.....		1,252.39	472.39
Meter Test.....		-	-
Engineering Fees.....		2,055.00	-
Plant Repairs and Maintenance.....		34,048.45	1,738.75
Computer Expense.....		612.00	-
Salaries and Wages.....		83,715.55	12,447.43
Payroll Taxes.....		30,703.10	4,538.14
Office Supplies and Expenses.....		12,299.81	1,322.73
Insurance - Property & Liability, Unemployment.....		15,264.41	15,264.41
Insurance - Health, Life, Dental, and Retirement.....		29,400.27	4,200.96
Mileage.....		-	-
Truck Expense.....		5,500.22	659.44
Miscellaneous.....		4,022.41	323.00
Legal and Audit Expense.....		3,650.00	-
Trustee Fees.....		-	-
Petty Cash.....		775.73	162.87
Sewage.....		87,796.51	13,481.06
Sanitation.....		3,878.50	579.00
Sales Tax.....		5,883.80	882.39
School Tax.....		16,225.64	2,399.64
Depreciable Acquisitions.....		9,117.30	4,652.30
TOTALS.....		\$ 623,225.10	\$ 111,745.78

STATISTICAL REPORT:

Active Meters.....	4,002	Customers - Active Meters.....	4,002	3,954
Meters Turned Off.....	132	Paying Minimum-Meter off.....	64	56
Meters In Stock.....	1,020	Total.....	4,066	4,010
	<u>5,154</u>			
		Hours Worked.....	1899 1/2	2058
Beg. Accts. Receivable.....	\$ 7,245.04			
Charges.....	110,894.02	Gallons Pumped.....	37,270,786	34,744,836
Total.....	\$ 118,139.06	Gallons Billed.....	30,370,070	31,776,450
Collections.....	112,518.32	Accounted for Water Loss.....	1,980,000	145,000
End Accts Receivable.....	\$ 5,620.74	Difference.....	4,920,716	2,823,386

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED AUGUST 31, 2003

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	125,452.82
SCB Collections.....	\$	934.49
Interest Income.....	\$	220.08
Interest From Collections...	\$	28.03
TOTAL.....	\$	126,635.42

DISBURSEMENTS:

Transfer to O & M Fund	\$	125,480.85
Transfer :SCB to O & M	\$	934.49
Transfer to Sinking Fund...	\$	-
Transfer to Investments....	\$	220.08
Transfer to Pump Stat.....	\$	-
ENDING BALANCE.....	\$	0.00

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	49,652.05
Transfer from Rev. Fund		111,925.03
Transfer from SCB		620.00
Interest Earned		43.83
Service Order Charges		1,820.00
Reim. on Mileage		80.65
Hyd use, materials, s/c		324.71
Wayne Br / Oost Rd waterline		6,754.09
TOTAL INCOME	\$	171,220.36

DISBURSEMENTS:

Operating Expenses		
Per Analysis Below.....	\$	(123,395.27)
Less : Transfer Out.....	\$	-

ENDING BALANCE..... \$ 47,825.09

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beq. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 342,400.40	\$ -	\$ 8.66	\$ -	\$ 342,409.06
Depreciation Fund.....	21,345.74	9,785.00	7.08	3,732.78	27,405.04
Old National Bank.....	115,728.27	-	196.58	-	115,924.85
Depreciation Investments..	271,404.11	-	7.76	-	271,411.87
TOTALS	\$ 750,878.52	\$ 9,785.00	\$ 220.08	\$ 3,732.78	\$ 757,150.82

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	40,183,252 GALLONS	\$ 312,750.90	\$ 49,946.23
Electric & Gas.....		11,930.96	1,767.09
Operations Expense.....		1,179.58	119.79
Telephone Expense.....		2,488.81	486.11
Uniforms.....		1,152.03	159.05
Water Test.....		1,402.39	150.00
Meter Test.....		-	-
Engineering Fees.....		3,537.00	1,482.00
Plant Repairs and Maintenance.....		40,365.47	6,317.02
Computer Expense.....		612.00	-
Salaries and Wages.....		95,794.97	12,079.42
Payroll Taxes.....		34,995.16	4,292.06
Office Supplies and Expenses.....		13,592.76	1,292.95
Insurance - Property & Liability, Unemployment.....		15,264.41	-
Insurance - Health, Life, Dental, and Retirement.....		53,466.38	24,066.11
Mileage.....		-	-
Truck Expense.....		6,569.88	1,069.66
Miscellaneous.....		4,277.75	255.34
Legal and Audit Expense.....		3,650.00	-
Trustee Fees.....		-	-
Petty Cash.....		882.21	106.48
Sewage.....		103,209.55	15,413.04
Sanitation.....		4,469.00	590.50
Sales Tax.....		7,026.18	1,142.38
School Tax.....		18,885.68	2,660.04
Depreciable Acquisitions.....		9,117.30	-
TOTALS.....		\$ 746,620.37	\$ 123,395.27

STATISTICAL REPORT:

Active Meters.....	4,015
Meters Turned Off.....	129
Meters In Stock.....	1,010
	<u>5,154</u>

Beg. Accts. Receivable.....	\$ 5,620.74
Charges.....	128,398.90
Total.....	\$ 134,019.64
Collections.....	126,387.31
End Accts Receivable.....	\$ 7,632.33

	<u>THIS YEAR</u>	<u>LAST YEAR</u>
Customers - Active Meters.....	4,015	3,946
Paying Minimum-Meter off.....	77	63
Total.....	4,092	4,009

Hours Worked..... 1822 3/4 1934

Gallons Pumped.....	40,183,252	47,009,909
Gallons Billed.....	35,542,120	41,180,620
Accounted for Water Loss.....	775,000	469,000
Difference.....	3,866,132	5,360,289

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED SEPTEMBER 30, 2003

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	120,540.41
SCB Collections.....	\$	896.54
Interest Income.....	\$	212.80
Interest From Collections....	\$	29.79
TOTAL.....	\$	121,679.54

DISBURSEMENTS:

Transfer to O & M Fund	\$	120,570.20
Transfer :SCB to O & M	\$	896.54
Transfer to Sinking Fund...	\$	-
Transfer to Investments....	\$	212.80
Transfer to Pump Stat.....	\$	-
ENDING BALANCE.....	\$	0.00

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	47,825.09
Transfer from Rev. Fund		125,480.85
Transfer from SCB		934.49
Interest Earned		50.19
Service Order Charges		1,465.00
Reim. on Mileage		159.49
Materials		250.00
Materials		1,916.00
TOTAL INCOME	\$	178,081.11
DISBURSEMENTS:		
Operating Expenses		
Per Analysis Below.....	\$	(126,285.23)
Less : Transfer Out.....	\$	-
ENDING BALANCE.....	\$	51,795.88

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	Beg. Balance	Received	Interest	Disbursed	End. Balance
Sinking Fund.....	\$ 342,409.06	\$ -	\$ 7.67	\$ 6,932.50	\$ 335,484.23
Depreciation Fund.....	27,405.04	9,675.00	9.12	6,732.02	30,357.14
Old National Bank	115,924.85	-	190.56	-	116,115.41
Depreciation Investments..	271,411.87	-	5.45	-	271,417.32
TOTALS	\$ 757,150.82	\$ 9,675.00	\$ 212.80	\$ 13,664.52	\$ 753,374.10

OPERATING EXPENSES:

		YEAR TO DATE	CURRENT MONTH
Water.....	32,913,473 GALLONS	\$ 353,660.52	\$ 40,909.62
Electric & Gas.....		13,419.95	1,488.99
Operations Expense.....		1,299.37	119.79
Telephone Expense.....		2,653.28	164.47
Uniforms.....		1,244.85	92.82
Water Test.....		1,552.39	150.00
Meter Test.....		-	-
Engineering Fees.....		3,537.00	-
Plant Repairs and Maintenance.....		65,100.32	24,734.85
Computer Expense.....		918.00	306.00
Salaries and Wages.....		108,509.24	12,714.27
Payroll Taxes.....		39,522.75	4,527.59
Office Supplies and Expenses.....		15,030.08	1,437.32
Insurance - Property & Liability, Unemployment.....		15,264.41	-
Insurance - Health, Life, Dental, and Retirement.....		58,388.10	4,921.72
Mileage.....		-	-
Truck Expense.....		7,604.41	1,034.53
Miscellaneous.....		4,513.97	236.22
Legal and Audit Expense.....		3,650.00	-
Trustee Fees.....		-	-
Petty Cash.....		1,003.19	120.98
Sewage.....		117,314.40	14,104.85
Sanitation.....		5,094.00	625.00
Sales Tax.....		8,073.54	1,047.36
School Tax.....		21,961.53	3,075.85
Depreciable Acquisitions.....		23,590.30	14,473.00
TOTALS.....		\$ 872,905.60	\$ 126,285.23

STATISTICAL REPORT:

		THIS YEAR	LAST YEAR
Active Meters.....	4,034	4,034	3,933
Meters Turned Off.....	135	81	92
Meters In Stock.....	1,113	4,115	4,015
	<u>5,282</u>		
Hours Worked.....		1936 1/4	1879
Beg. Accts. Receivable.....	\$ 7,632.33		
Charges.....	117,760.80	32,913,473	40,376,816
Total.....	\$ 125,393.13	32,132,370	40,045,210
Collections.....	121,436.95	1,240,000	875,900
End Accts Receivable.....	\$ 3,956.18	(458,897)	(143,394)
		Gallons Pumped.....	Gallons Billed.....
		Accounted for Water Loss	Difference

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED OCTOBER 31, 2003

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00	
Collections:			
Customer Accts. Rec.....	\$	115,999.60	
SCB Collections.....	\$	858.83	
Interest Income.....	\$	250.20	
Interest From Collections...	\$	23.62	
TOTAL.....	\$	117,132.25	
		<u>\$ 117,132.25</u>	
DISBURSEMENTS:			
Transfer to O & M Fund	\$	116,023.22	
Transfer :SCB to O & M	\$	858.83	
Transfer to Sinking Fund...	\$	-	
Transfer to Investments....	\$	250.20	
Transfer to Pump Stat.....	\$	-	
ENDING BALANCE.....	\$	0.00	

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	51,795.88
Transfer from Rev. Fund		120,570.20
Transfer from SCB		896.54
Interest Earned		52.89
Service Order Charges		1,995.00
Reim. on Mileage		307.55
Wayne Br Rd reimbursement		21,363.24
Materials, meter test		387.98
TOTAL INCOME	\$	197,369.28
DISBURSEMENTS:		
Operating Expenses		(111,752.33)
Per Analysis Below.....	\$	(40,000.00)
Less : Transfer Out.....	\$	(40,000.00)
ENDING BALANCE.....	\$	45,616.95

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beg. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 335,484.23	\$ -	\$ 4.03	\$ -	\$ 335,488.26
Depreciation Fund.....	30,357.14	7,945.00	7.33	24,620.60	13,688.87
Old National Bank	116,115.41	60,000.00	233.40	-	176,348.81
Depreciation Investments..	271,417.32	-	5.44	-	271,422.76
TOTALS	\$ 753,374.10	\$ 67,945.00	\$ 250.20	\$ 24,620.60	\$ 796,948.70

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	35,200,769 GALLONS	\$ 397,412.89	\$ 43,752.37
Electric & Gas.....		15,008.77	1,588.82
Operations Expense.....		1,419.16	119.79
Telephone Expense.....		3,167.67	514.39
Uniforms.....		1,345.99	101.14
Water Test.....		1,552.39	-
Meter Test.....		-	-
Engineering Fees.....		3,537.00	-
Plant Repairs and Maintenance.....		83,961.22	18,860.90
Computer Expense.....		918.00	-
Salaries and Wages.....		121,314.46	12,805.22
Payroll Taxes.....		44,207.59	4,684.84
Office Supplies and Expenses.....		16,601.51	1,571.43
Insurance - Property & Liability, Unemployment.....		15,264.41	-
Insurance - Health, Life, Dental, and Retirement.....		62,589.06	4,200.96
Mileage.....		25.20	25.20
Truck Expense.....		8,443.99	839.58
Miscellaneous.....		4,621.95	107.98
Legal and Audit Expense.....		3,650.00	-
Trustee Fees.....		-	-
Petty Cash.....		1,150.52	147.33
Sewage.....		132,621.89	15,307.49
Sanitation.....		5,753.50	659.50
Sales Tax.....		9,069.90	996.36
School Tax.....		24,762.56	2,801.03
Depreciable Acquisitions.....		26,258.30	2,668.00
TOTALS.....		\$ 984,657.93	\$ 111,752.33

STATISTICAL REPORT:

		<u>THIS YEAR</u>	<u>LAST YEAR</u>
Active Meters.....	4,033	4,033	3,927
Meters Turned Off.....	154	88	87
Meters In Stock.....	1,198	4,121	4,014
	<u>5,385</u>		
Hours Worked.....		1954 3/4	1993 1/4
Beg. Accts. Receivable.....	\$ 3,956.18		
Charges.....	118,054.41	35,200,769	36,548,120
Total.....	\$ 122,010.59	32,137,890	35,989,060
Collections.....	116,858.43	1,235,000	4,355,000
End Accts Receivable.....	\$ 5,152.16	1,827,879	1,795,937
		Difference.....	

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED NOVEMBER 30, 2003

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	95,188.38
SCB Collections.....	\$	768.89
Interest Income.....	\$	10,129.71
Interest From Collections....	\$	39.40
		<u>\$ 106,126.38</u>
TOTAL.....		<u>\$ 106,126.38</u>

DISBURSEMENTS:

Transfer to O & M Fund	\$	95,227.78
Transfer :SCB to O & M	\$	768.89
Transfer to Sinking Fund...	\$	-
Transfer to Investments....	\$	10,129.71
Transfer to Pump Stat.....	\$	-
		<u>\$ 106,126.38</u>
ENDING BALANCE.....		<u>\$ 0.00</u>

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	45,616.95
Transfer from Rev. Fund		116,023.22
Transfer from SCB		858.83
Interest Earned		20.31
Service Order Charges		840.00
Reim. on Mileage		98.09
Phone reim., Qtrly report		346.20
Materials, Use of truck		114.50
TOTAL INCOME		<u>\$ 163,918.10</u>
DISBURSEMENTS:		
Operating Expenses		(123,991.58)
Per Analysis Below.....		<u>\$ (123,991.58)</u>
Less : Transfer Out.....		\$ -
ENDING BALANCE.....		<u>\$ 39,926.52</u>

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beg. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 335,488.26	\$ -	\$ 9,824.62	\$ -	\$ 345,312.88
Depreciation Fund.....	13,688.87	5,985.00	3.74	3,831.66	15,845.95
Old National Bank	176,348.81	-	289.89	-	176,638.70
Depreciation Investments..	271,422.76	-	11.46	-	271,434.22
TOTALS	<u>\$ 796,948.70</u>	<u>\$ 5,985.00</u>	<u>\$ 10,129.71</u>	<u>\$ 3,831.66</u>	<u>\$ 809,231.75</u>

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	29,479,479 GALLONS	\$ 434,054.04	\$ 36,641.15
Electric & Gas.....		16,474.21	1,465.44
Operations Expense.....		1,538.95	119.79
Telephone Expense.....		3,674.08	506.41
Uniforms.....		1,479.10	133.11
Water Test.....		1,702.39	150.00
Meter Test.....		-	-
Engineering Fees.....		3,537.00	-
Plant Repairs and Maintenance.....		125,672.01	41,710.79
Computer Expense.....		918.00	-
Salaries and Wages.....		133,241.28	11,926.82
Payroll Taxes.....		48,438.77	4,231.18
Office Supplies and Expenses.....		18,059.93	1,458.42
Insurance - Property & Liability, Unemployment.....		15,264.41	-
Insurance - Health, Life, Dental, and Retirement.....		66,794.13	4,205.07
Mileage.....		25.20	-
Truck Expense.....		9,944.87	1,500.88
Miscellaneous.....		5,899.59	1,277.64
Legal and Audit Expense.....		3,650.00	-
Trustee Fees.....		500.00	500.00
Petty Cash.....		1,294.55	144.03
Sewage.....		146,341.94	13,720.05
Sanitation.....		6,412.50	659.00
Sales Tax.....		9,957.25	887.35
School Tax.....		27,517.01	2,754.45
Depreciable Acquisitions.....		26,258.30	-
TOTALS.....		<u>\$ 1,108,649.51</u>	<u>\$ 123,991.58</u>

STATISTICAL REPORT:

		<u>THIS YEAR</u>	<u>LAST YEAR</u>
Active Meters.....	4,039	4,039	3,927
Meters Turned Off.....	168	92	90
Meters In Stock.....	<u>1,678</u>	<u>4,131</u>	<u>4,017</u>
	<u>5,885</u>		
Hours Worked.....		1807 1/2	1816 1/2
Begin. Accts. Receivable.....	\$ 5,152.16		
Charges.....	98,878.79	29,479,479	30,643,380
Total.....	<u>\$ 104,030.95</u>	25,646,010	26,175,090
Collections.....	<u>95,957.27</u>	185,000	460,000
End Accts Receivable.....	<u>\$ 8,073.68</u>	3,648,469	4,008,290
		Difference.....	

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED DECEMBER 31, 2003

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	94,050.47
SCB Collections.....	\$	662.32
Interest Income.....	\$	4,326.63
Interest From Collections....	\$	29.51
TOTAL.....	\$	<u>99,068.93</u>

DISBURSEMENTS:

Transfer to O & M Fund	\$	94,079.98
Transfer :SCB to O & M	\$	662.32
Transfer to Sinking Fund...	\$	-
Transfer to Investments....	\$	4,326.63
Transfer to Pump Stat.....	\$	-
ENDING BALANCE.....	\$	<u>0.00</u>

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	39,926.52
Transfer from Rev. Fund		95,227.78
Transfer from SCB		768.89
Interest Earned		37.50
Service Order Charges		1,050.00
Reim. on Mileage		276.82
Sign lease, materials, phone		1,030.00
Wayne Bridge Rd reim		18,055.23
TOTAL INCOME	\$	<u>156,372.74</u>

DISBURSEMENTS:

Operating Expenses		(105,978.23)
Per Analysis Below.....	\$	<u>(105,978.23)</u>
Add : Outst checks deemed lost....	\$	<u>15.14</u>
ENDING BALANCE.....	\$	<u>50,409.65</u>

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beq. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 345,312.88	\$ -	\$ 39.60	\$ -	\$ 345,352.48
Depreciation Fund.....	15,845.95	8,850.00	5.14	6,678.02	18,023.07
Old National Bank	176,638.70	-	300.04	-	176,938.74
Depreciation Investments..	271,434.22	-	3,981.85	-	275,416.07
TOTALS	<u>\$ 809,231.75</u>	<u>\$ 8,850.00</u>	<u>\$ 4,326.63</u>	<u>\$ 6,678.02</u>	<u>\$ 815,730.36</u>

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	29,465,311 GALLONS	\$ 470,677.79	\$ 36,623.75
Electric & Gas.....		17,863.50	1,389.29
Operations Expense.....		1,658.74	119.79
Telephone Expense.....		3,901.55	227.47
Uniforms.....		1,568.65	89.55
Water Test.....		1,852.39	150.00
Meter Test.....		-	-
Engineering Fees.....		3,702.00	165.00
Plant Repairs and Maintenance.....		129,161.06	3,489.05
Computer Expense.....		1,224.00	306.00
Salaries and Wages.....		149,716.71	16,475.43
Payroll Taxes.....		53,614.07	5,175.30
Office Supplies and Expenses.....		20,125.05	2,065.12
Insurance - Property & Liability, Unemployment.....		15,264.41	-
Insurance - Health, Life, Dental, and Retirement.....		70,659.56	3,865.43
Mileage.....		25.20	-
Truck Expense.....		10,785.27	840.40
Miscellaneous.....		6,207.56	307.97
Legal and Audit Expense.....		3,650.00	-
Trustee Fees.....		500.00	-
Petty Cash.....		1,436.47	141.92
Sewage.....		159,331.27	12,989.33
Sanitation.....		7,083.50	671.00
Sales Tax.....		10,620.95	663.70
School Tax.....		29,790.24	2,273.23
Depreciable Acquisitions.....		44,207.80	17,949.50
TOTALS.....		<u>\$ 1,214,627.74</u>	<u>\$ 105,978.23</u>

STATISTICAL REPORT:

		<u>THIS YEAR</u>	<u>LAST YEAR</u>
Active Meters.....	4,016	4,016	3,915
Meters Turned Off.....	201	116	106
Meters In Stock.....	1,668	4,132	4,021
	<u>5,885</u>		
Hours Worked.....		1994	190
Beg. Accts. Receivable.....	\$ 8,073.68		
Charges.....	92,347.97		
Total.....	\$ 100,421.65	29,465,311	33,120,228
Collections.....	94,712.79	25,740,700	25,304,360
End Accts Receivable.....	\$ 5,708.86	530,000	3,350,000
		Difference.....	3,194,611
			4,465,868

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED JANUARY 31, 2004

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00	
Collections:			
Customer Accts. Rec.....	\$	102,888.97	
SCB Collections.....	\$	869.37	
Interest Income.....	\$	362.00	
Interest From Collections....	\$	34.21	\$ 104,154.55
TOTAL.....			<u>\$ 104,154.55</u>

DISBURSEMENTS:

Transfer to O & M Fund	\$	102,923.18	
Transfer :SCB to O & M	\$	869.37	
Transfer to Sinking Fund...	\$	-	
Transfer to Investments.....	\$	362.00	
Transfer to Pump Stat.....	\$	-	\$ 104,154.55
ENDING BALANCE.....			<u>\$ 0.00</u>

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	50,409.65
Transfer from Rev. Fund		94,079.98
Transfer from SCB		662.32
Interest Earned		28.70
Service Order Charges		1,400.00
Reim. on Mileage		485.15
Materials, Barnett Rd contr.		4,457.01
Water, Qtrly report, Truck use		601.78
TOTAL INCOME	\$	<u>152,124.59</u>

DISBURSEMENTS:

Operating Expenses		
Per Analysis Below.....	\$	<u>(87,547.29)</u>

ENDING BALANCE..... \$ 64,577.30

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beg. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 345,352.48	\$ -	\$ 45.15	\$ -	\$ 345,397.63
Depreciation Fund.....	18,023.07	3,465.00	4.74	4,057.40	17,435.41
Old National Bank	176,938.74	-	299.76	-	177,238.50
Depreciation Investments..	275,416.07	-	12.35	-	275,428.42
TOTALS	<u>\$ 815,730.36</u>	<u>\$ 3,465.00</u>	<u>\$ 362.00</u>	<u>\$ 4,057.40</u>	<u>\$ 815,499.96</u>

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	27,963,945 GALLONS	\$ 34,756.76	\$ 34,756.76
Electric & Gas.....		1,694.45	1,694.45
Operations Expense.....		119.79	119.79
Telephone Expense.....		204.73	204.73
Uniforms.....		132.73	132.73
Water Test.....		1,510.00	1,510.00
Meter Test.....		-	-
Engineering Fees.....		-	-
Plant Repairs and Maintenance.....		5,283.74	5,283.74
Computer Expense.....		-	-
Salaries and Wages.....		12,681.83	12,681.83
Payroll Taxes.....		4,547.40	4,547.40
Office Supplies and Expenses.....		2,316.00	2,316.00
Insurance - Property & Liability, Unemployment.....		-	-
Insurance - Health, Life, Dental, and Retirement.....		3,158.67	3,158.67
Mileage.....		-	-
Truck Expense.....		1,630.29	1,630.29
Miscellaneous.....		891.25	891.25
Legal and Audit Expense.....		-	-
Trustee Fees.....		-	-
Petty Cash.....		191.96	191.96
Sewage.....		13,063.54	13,063.54
Sanitation.....		682.50	682.50
Sales Tax.....		700.56	700.56
School Tax.....		2,281.09	2,281.09
Depreciable Acquisitions.....		1,700.00	1,700.00
TOTALS.....		<u>\$ 87,547.29</u>	<u>\$ 87,547.29</u>

STATISTICAL REPORT:

Active Meters.....	3,992
Meters Turned Off.....	235
Meters In Stock.....	<u>1,658</u>
	<u>5,885</u>

	<u>THIS YEAR</u>	<u>LAST YEAR</u>
Customers - Active Meters.....	3,992	3,886
Paying Minimum-Meter off.....	145	131
Total.....	<u>4,137</u>	<u>4,017</u>

Beg. Accts. Receivable.....	\$ 5,708.86
Charges.....	<u>103,390.06</u>
Total.....	\$ 109,098.92
Collections.....	<u>103,758.34</u>
End Accts Receivable.....	<u>\$ 5,340.58</u>

Hours Worked.....	1946 1/2	2044 1 2
Gallons Pumped.....	27,963,945	29,822,659
Gallons Billed.....	25,604,080	26,180,960
Accounted for Water Loss.....	150,000	200,000
Difference.....	<u>2,209,865</u>	<u>3,241,699</u>

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED FEBRUARY 28, 2004

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	97,850.91
SCB Collections.....	\$	711.90
Interest Income.....	\$	341.54
Interest From Collections...	\$	21.43
TOTAL.....	\$	<u>98,925.78</u>

DISBURSEMENTS:

Transfer to O & M Fund	\$	96,421.52
Transfer :SCB to O & M	\$	711.90
Transfer to Med. Reim.....	\$	1,450.82
Transfer to Investments.....	\$	341.54
Transfer to Pump Stat.....	\$	-
ENDING BALANCE.....	\$	<u>0.00</u>

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	64,577.30
Transfer from Rev. Fund		101,472.36
Transfer from SCB		869.37
Interest Earned		42.54
Service Order Charges		1,295.00
Reim. on Mileage		318.35
Water & Hyd Use		586.23
Wayne Br Rd Contr.		5,090.00
TOTAL INCOME	\$	<u>174,251.15</u>

DISBURSEMENTS:

Operating Expenses		
Per Analysis Below.....	\$	(105,266.64)

ENDING BALANCE..... **\$ 68,984.51**

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beg. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 345,397.63	\$ 160,000.00	\$ 43.87	\$ -	\$ 505,441.50
Depreciation Fund.....	17,435.41	2,590.00	4.11	3,139.23	16,890.29
Old National Bank	177,238.50	-	280.87	-	177,519.37
Depreciation Investments..	275,428.42	-	12.41	160,000.00	115,440.83
Medical Reimburse. Acct.....	-	1,450.82	0.28	56.98	1,394.12
TOTALS	\$ 815,499.96	\$ 164,040.82	\$ 341.54	\$ 163,196.21	\$ 816,686.11

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	30,959,559 GALLONS	\$ 73,237.56	\$ 38,480.80
Electric & Gas.....		3,458.72	1,764.27
Operations Expense.....		239.58	119.79
Telephone Expense.....		647.35	442.62
Uniforms.....		238.91	106.18
Water Test.....		1,510.00	-
Meter Test.....		-	-
Engineering Fees.....		-	-
Plant Repairs and Maintenance.....		29,511.65	24,227.91
Computer Expense.....		-	-
Salaries and Wages.....		25,390.00	12,708.17
Payroll Taxes.....		9,012.60	4,465.20
Office Supplies and Expenses.....		3,688.26	1,372.26
Insurance - Property & Liability, Unemployment.....		-	-
Insurance - Health, Life, Dental, and Retirement.....		6,318.12	3,159.45
Mileage.....		-	-
Truck Expense.....		3,070.14	1,439.85
Miscellaneous.....		1,036.11	144.86
Legal and Audit Expense.....		-	-
Trustee Fees.....		-	-
Petty Cash.....		370.84	178.88
Sewage.....		25,964.39	12,900.85
Sanitation.....		1,376.50	694.00
Sales Tax.....		1,470.12	769.56
School Tax.....		4,573.08	2,291.99
Depreciable Acquisitions.....		1,700.00	-
TOTALS.....		\$ 192,813.93	\$ 105,266.64

STATISTICAL REPORT:

Active Meters.....	3,992	Customers - Active Meters.....	<u>3,992</u>	3,866
Meters Turned Off.....	251	Paying Minimum-Meter off.....	149	161
Meters In Stock.....	<u>1,642</u>	Total.....	<u>4,141</u>	<u>4,027</u>
	<u>5,885</u>			
		Hours Worked.....	1871 1/2	1789 1/2
Beg. Accts. Receivable.....	\$ 5,340.58	Gallons Pumped.....	30,959,559	29,886,539
Charges.....	<u>102,455.67</u>	Gallons Billed.....	26,804,980	26,277,790
Total.....	\$ 107,796.25	Accounted for Water Loss.....	-	126,000
Collections.....	<u>98,562.81</u>	Difference.....	<u>4,154,579</u>	<u>3,482,749</u>
End Accts Receivable.....	<u>\$ 9,233.44</u>			

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED MARCH 31, 2004

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	104,426.61
SCB Collections.....	\$	651.02
Interest Income.....	\$	356.78
Interest From Collections...	\$	26.04
TOTAL.....	\$	105,460.45

DISBURSEMENTS:

Transfer to O & M Fund	\$	103,001.83
Transfer :SCB to O & M	\$	651.02
Transfer to Med. Reim.....	\$	1,450.82
Transfer to Investments.....	\$	356.78
Transfer to Pump Stat.....	\$	-
ENDING BALANCE.....	\$	0.00

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	68,984.51
Transfer from Rev. Fund	96,421.52	
Transfer from SCB	711.90	
Interest Earned	48.86	
Service Order Charges	1,155.00	
Reim. on Mileage	294.84	
Materials	92.60	
Hyd. use	122.92	
TOTAL INCOME	\$	167,832.15

DISBURSEMENTS:

Operating Expenses		
Per Analysis Below.....	\$	(95,678.07)
Transfer Out.....	\$	(49,000.00)

ENDING BALANCE..... \$ 23,154.08

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beg. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 505,441.50	\$ -	\$ 50.16	\$ 243,532.50	\$ 261,959.16
Depreciation Fund.....	16,890.29	5,935.00	5.18	3,161.35	19,669.12
Old National Bank	177,519.37	49,000.00	300.72	-	226,820.09
Depreciation Investments..	115,440.83	-	-	5.03	115,435.80
Medical Reimburse. Acct.....	1,394.12	1,450.82	0.72	82.10	2,763.56
TOTALS	\$ 816,686.11	\$ 56,385.82	\$ 356.78	\$ 246,780.98	\$ 626,647.73

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	29,366,348 GALLONS	\$ 109,738.26	\$ 36,500.70
Electric & Gas.....		5,123.22	1,664.50
Operations Expense.....		359.37	119.79
Telephone Expense.....		836.32	188.97
Uniforms.....		366.69	127.78
Water Test.....		1,961.89	451.89
Meter Test.....		-	-
Engineering Fees.....		-	-
Plant Repairs and Maintenance.....		30,390.86	879.21
Computer Expense.....		306.00	306.00
Salaries and Wages.....		40,990.55	15,600.55
Payroll Taxes.....		14,919.64	5,907.04
Office Supplies and Expenses.....		5,021.99	1,333.73
Insurance - Property & Liability, Unemployment.....		-	-
Insurance - Health, Life, Dental, and Retirement.....		9,477.57	3,159.45
Mileage.....		-	-
Truck Expense.....		4,231.43	1,161.29
Miscellaneous.....		4,218.57	3,182.46
Legal and Audit Expense.....		-	-
Trustee Fees.....		-	-
Petty Cash.....		504.04	133.20
Sewage.....		38,845.69	12,881.30
Sanitation.....		2,082.00	705.50
Sales Tax.....		2,277.07	806.95
School Tax.....		6,940.84	2,367.76
Depreciable Acquisitions.....		9,900.00	8,200.00
TOTALS.....		\$ 288,492.00	\$ 95,678.07

STATISTICAL REPORT:

		<u>THIS YEAR</u>	<u>LAST YEAR</u>
Active Meters.....	4,023	4,023	3,916
Meters Turned Off.....	240	130	115
Meters In Stock.....	1,622	4,153	4,031
	<u>5,885</u>		
Hours Worked.....		2440	1863
Gallons Pumped.....		29,366,348	28,101,262
Gallons Billed.....		27,379,500	26,478,560
Accounted for Water Loss.....		4,920,000	220,000
Difference.....		(2,933,152)	1,402,702
Beg. Accts. Receivable.....	\$ 9,233.44		
Charges.....	101,147.48		
Total.....	\$ 110,380.92		
Collections.....	105,077.63		
End Accts Receivable.....	\$ 5,303.29		

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT

FOR THE MONTH ENDED APRIL 30, 2004

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	94,168.60
SCB Collections.....	\$	819.13
Interest Income.....	\$	632.13
Interest From Collections...	\$	28.08
TOTAL.....	\$	95,645.94

DISBURSEMENTS:

Transfer to O & M Fund	\$	92,743.86
Transfer :SCB to O & M	\$	819.13
Transfer to Med. Reim.....	\$	1,450.82
Transfer to Investments....	\$	632.13
Transfer to Pump Stat.....	\$	-
ENDING BALANCE.....	\$	0.00

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	23,154.08
Transfer from Rev. Fund	103,001.83	
Transfer from SCB	651.02	
Interest Earned	32.01	
Service Order Charges	1,435.00	
Reim. on Mileage	223.31	
Materials, Qtrly Report, Truck use	225.16	
Barnett Rd Reim.	2,928.90	
TOTAL INCOME	\$	131,651.31

DISBURSEMENTS:

Operating Expenses		
Per Analysis Below.....	\$	(87,156.90)

ENDING BALANCE..... \$ 44,494.41

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beg. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 261,959.16	\$ -	\$ 2.13	\$ -	\$ 261,961.29
Depreciation Fund.....	19,669.12	5,235.00	5.51	2,923.67	21,985.96
Old National Bank	226,820.09	-	355.77	-	227,175.86
Depreciation Investments..	115,435.80	-	267.78	-	115,703.58
Medical Reimburse. Acct.....	2,763.56	1,460.92	0.94	-	4,225.42
TOTALS	\$ 626,647.73	\$ 6,695.92	\$ 632.13	\$ 2,923.67	\$ 631,052.11

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	31,797,588 GALLONS	\$ 149,260.69	\$ 39,522.43
Electric & Gas.....		6,609.47	1,486.25
Operations Expense.....		479.16	119.79
Telephone Expense.....		1,007.56	171.24
Uniforms.....		505.04	138.35
Water Test.....		1,961.89	-
Meter Test.....		-	-
Engineering Fees.....		393.00	393.00
Plant Repairs and Maintenance.....		31,448.38	1,057.52
Computer Expense.....		306.00	-
Salaries and Wages.....		54,608.01	13,617.46
Payroll Taxes.....		19,828.80	4,909.16
Office Supplies and Expenses.....		6,634.01	1,612.02
Insurance - Property & Liability, Unemployment.....		-	-
Insurance - Health, Life, Dental, and Retirement.....		12,319.35	2,841.78
Mileage.....		-	-
Truck Expense.....		5,339.07	1,107.64
Miscellaneous.....		4,607.68	389.11
Legal and Audit Expense.....		-	-
Trustee Fees.....		-	-
Petty Cash.....		664.03	159.99
Sewage.....		52,078.18	13,232.49
Sanitation.....		2,799.00	717.00
Sales Tax.....		3,116.82	839.75
School Tax.....		9,339.26	2,398.42
Depreciable Acquisitions.....		12,343.50	2,443.50
TOTALS.....		\$ 375,648.90	\$ 87,156.90

STATISTICAL REPORT:

		<u>THIS YEAR</u>	<u>LAST YEAR</u>
Active Meters.....	4,065	4,065	3,939
Meters Turned Off.....	210	101	103
Meters In Stock.....	1,610	4,166	4,042
	<u>5,885</u>		
Hours Worked.....		2062 1/4	1958
Beg. Accts. Receivable.....	\$ 5,303.29		
Charges.....	95,822.45	31,797,588	30,290,746
Total.....	\$ 101,125.74	24,439,890	24,585,410
Collections.....	94,987.73	2,210,000	1,102,000
End Accts Receivable.....	\$ 6,138.01	5,147,698	4,603,336
		<u>Difference.....</u>	<u>5,147,698</u>

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED MAY 31, 2004

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00	
Collections:			
Customer Accts. Rec.....	\$	104,917.26	
SCB Collections.....	\$	848.45	
Interest Income.....	\$	471.57	
Interest From Collections....	\$	29.86	\$ 106,267.14
TOTAL.....	\$		\$ 106,267.14

DISBURSEMENTS:

Transfer to O & M Fund	\$	103,496.30	
Transfer :SCB to O & M	\$	848.45	
Transfer to Med. Reim.....	\$	1,450.82	
Transfer to Investments.....	\$	471.57	
Transfer to Pump Stat.....	\$	-	\$ 106,267.14
ENDING BALANCE.....	\$		\$ 0.00

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	44,494.41
Transfer from Rev. Fund		92,743.86
Transfer from SCB		819.13
Interest Eamed		50.12
Service Order Charges		1,645.00
Reim. on Mileage		67.83
Materials		2,908.51
Hydrant Use, Kenergy Refund		98.87
TOTAL INCOME	\$	142,827.73

DISBURSEMENTS:

Operating Expenses		
Per Analysis Below.....	\$	(98,239.06)

ENDING BALANCE..... \$ 44,588.67

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	Beg. Balance	Received	Interest	Disbursed	End. Balance
Sinking Fund.....	\$ 261,961.29	\$ -	\$ 1.23	\$ 3,962.52	\$ 258,000.00
Depreciation Fund.....	21,985.96	6,230.00	5.89	2,868.56	25,353.29
Old National Bank	227,175.86	119,666.10	463.30	-	347,305.26
Depreciation Investments..	115,703.58	-	-	115,703.58	-
Medical Reimburse. Acct.....	4,225.42	1,450.82	1.15	1,477.23	4,200.16
TOTALS	\$ 631,052.11	\$ 127,346.92	\$ 471.57	\$ 124,011.89	\$ 634,858.71

OPERATING EXPENSES:

		YEAR TO DATE	CURRENT MONTH
Water.....	31,721,326 GALLONS	\$ 188,688.65	\$ 39,427.96
Electric & Gas.....		8,113.93	1,504.46
Operations Expense.....		598.95	119.79
Telephone Expense.....		1,415.27	407.71
Uniforms.....		796.24	291.20
Water Test.....		2,281.89	320.00
Meter Test.....		-	-
Engineering Fees.....		783.00	390.00
Plant Repairs and Maintenance.....		33,960.36	2,511.98
Computer Expense.....		306.00	-
Salaries and Wages.....		66,002.59	11,394.58
Payroll Taxes.....		23,943.10	4,114.30
Office Supplies and Expenses.....		8,154.47	1,520.46
Insurance - Property & Liability, Unemployment.....		-	-
Insurance - Health, Life, Dental, and Retirement.....		15,300.98	2,981.63
Mileage.....		-	-
Truck Expense.....		6,405.41	1,066.34
Miscellaneous.....		6,895.80	2,288.12
Legal and Audit Expense.....		3,700.00	3,700.00
Trustee Fees.....		-	-
Petty Cash.....		707.02	42.99
Sewage.....		65,981.41	13,903.23
Sanitation.....		3,516.00	717.00
Sales Tax.....		3,861.20	744.38
School Tax.....		11,541.68	2,202.42
Depreciable Acquisitions.....		20,934.01	8,590.51
TOTALS.....		\$ 473,887.96	\$ 98,239.06

STATISTICAL REPORT:

		THIS YEAR	LAST YEAR
Active Meters.....	4,085	4,085	3,965
Meters Turned Off.....	205	86	88
Meters In Stock.....	1,595	4,171	4,053
	<u>5,885</u>		
Hours Worked.....		1824	1902
Beg. Accts. Receivable.....	\$ 6,138.01		
Charges.....	105,490.72		
Total.....	\$ 111,628.73	31,721,326	29,180,415
Collections.....	105,765.71	28,223,470	27,168,840
End Accts Receivable.....	\$ 5,863.02	384,000	1,170,000
		Accounted for Water Loss.....	Difference.....
		<u>3,113,856</u>	<u>841,575</u>

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED AUGUST 31, 2004

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	134,351.97
SCB Collections.....	\$	822.28
Interest Income.....	\$	602.84
Interest From Collections....	\$	32.44
TOTAL.....	\$	<u>135,809.53</u>

DISBURSEMENTS:

Transfer to O & M Fund	\$	133,155.52
Transfer :SCB to O & M	\$	822.28
Transfer to Med. Reim.....	\$	1,228.89
Transfer to Investments....	\$	602.84
Transfer to Pump Stat.....	\$	-
ENDING BALANCE.....	\$	<u>0.00</u>

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	50,091.60
Transfer from Rev. Fund		123,735.50
Transfer from SCB		934.27
Interest Earned		53.49
Service Order Charges		1,890.00
Reim. on Mileage		-
Hyd use		328.11
Materials, Service call		332.60
TOTAL INCOME	\$	<u>177,365.57</u>

DISBURSEMENTS:

Operating Expenses		
Per Analysis Below.....	\$	<u>(102,553.96)</u>

ENDING BALANCE..... \$ 74,811.61

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	Beg. Balance	Received	Interest	Disbursed	End. Balance
Sinking Fund.....	\$ 258,000.00	\$ -	\$ -	\$ -	\$ 258,000.00
Depreciation Fund.....	33,022.12	8,970.00	10.58	6,200.18	35,802.52
Old National Bank	348,463.91	-	590.29	-	349,054.20
Depreciation Investments..	-	-	-	-	-
Medical Reimburse. Acct.....	6,412.16	1,228.89	1.97	72.00	7,571.02
TOTALS	\$ 645,898.19	\$ 10,198.89	\$ 602.84	\$ 6,272.18	\$ 650,427.74

OPERATING EXPENSES:

		YEAR TO DATE	CURRENT MONTH
Water.....	40,315,022 GALLONS	\$ 341,599.77	\$ 54,101.39
Electric & Gas.....		12,904.89	1,733.93
Operations Expense.....		958.32	119.79
Telephone Expense.....		2,359.87	509.53
Uniforms.....		1,214.11	105.78
Water Test.....		2,761.89	320.00
Meter Test.....		-	-
Engineering Fees.....		783.00	-
Plant Repairs and Maintenance.....		45,394.48	2,194.10
Computer Expense.....		612.00	-
Salaries and Wages.....		101,574.10	11,872.48
Payroll Taxes.....		36,820.77	4,343.64
Office Supplies and Expenses.....		13,592.59	1,294.83
Insurance - Property & Liability, Unemployment.....		16,829.88	-
Insurance - Health, Life, Dental, and Retirement.....		42,922.74	2,667.86
Mileage.....		336.00	-
Truck Expense.....		15,056.08	1,161.10
Miscellaneous.....		9,266.04	140.16
Legal and Audit Expense.....		3,700.00	-
Trustee Fees.....		-	-
Petty Cash.....		1,154.42	109.44
Sewage.....		109,186.50	15,171.71
Sanitation.....		5,724.00	751.00
Sales Tax.....		6,826.86	1,141.01
School Tax.....		19,396.57	2,916.21
Depreciable Acquisitions.....		28,894.01	1,900.00
TOTALS		\$ 819,868.89	\$ 102,553.96

STATISTICAL REPORT:

		THIS YEAR	LAST YEAR
Active Meters.....	4,106	4,106	4,015
Meters Turned Off.....	225	86	77
Meters In Stock.....	1,554	4,192	4,092
	<u>5,885</u>		
Hours Worked.....		1804 1/2	1822 3/4
Beg. Accts. Receivable.....	\$ 7,332.33		
Charges.....	135,174.12	40,315,022	40,183,252
Total.....	\$ 142,506.45	37,906,480	35,542,120
Collections.....	135,174.25	2,310,000	775,000
End Accts Receivable.....	<u>\$ 7,332.20</u>	<u>98,542</u>	<u>3,866,132</u>
		Difference.....	98,542

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT

FOR THE MONTH ENDED JULY 31, 2004

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	124,925.52
SCB Collections.....	\$	934.27
Interest Income.....	\$	599.88
Interest From Collections....	\$	38.87
TOTAL.....	\$	<u>126,498.54</u>

DISBURSEMENTS:

Transfer to O & M Fund	\$	123,735.50
Transfer :SCB to O & M	\$	934.27
Transfer to Med. Reim.....	\$	1,228.89
Transfer to Investments....	\$	599.88
Transfer to Pump Stat.....	\$	-
ENDING BALANCE.....	\$	<u>0.00</u>

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	79,731.55
Transfer from Rev. Fund	107,082.85	
Transfer from SCB	1,094.64	
Interest Earned	39.19	
Service Order Charges	1,925.00	
Reim. on Mileage	55.68	
Materials, Phone reim., Hyd use	8,093.42	
Mulligan Rd reim, Sale of truck	6,539.00	
TOTAL INCOME	\$	<u>204,561.33</u>

DISBURSEMENTS:		
Operating Expenses		
Per Analysis Below.....	\$	<u>(154,469.73)</u>

ENDING BALANCE..... \$ 50,091.60

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	Beg. Balance	Received	Interest	Disbursed	End. Balance
Sinking Fund.....	\$ 258,000.00	\$ -	\$ -	\$ -	\$ 258,000.00
Depreciation Fund.....	27,803.62	8,715.00	9.11	3,505.61	33,022.12
Old National Bank	347,874.61	-	589.30	-	348,463.91
Depreciation Investments..	-	-	-	-	-
Medical Reimburse. Acct.....	5,346.37	1,107.13	1.47	42.81	6,412.16
TOTALS	<u>\$ 639,024.60</u>	<u>\$ 9,822.13</u>	<u>\$ 599.88</u>	<u>\$ 3,548.42</u>	<u>\$ 645,898.19</u>

OPERATING EXPENSES:

		YEAR TO DATE	CURRENT MONTH
Water.....	42,905,292 GALLONS	\$ 287,498.38	\$ 57,695.01
Electric & Gas.....		11,170.96	1,575.98
Operations Expense.....		838.53	119.79
Telephone Expense.....		1,850.34	201.58
Uniforms.....		1,108.33	221.84
Water Test.....		2,441.89	-
Meter Test.....		-	-
Engineering Fees.....		783.00	-
Plant Repairs and Maintenance.....		43,200.38	8,537.76
Computer Expense.....		612.00	-
Salaries and Wages.....		89,701.62	12,083.46
Payroll Taxes.....		32,477.13	4,368.25
Office Supplies and Expenses.....		12,297.76	1,606.09
Insurance - Property & Liability, Unemployment.....		16,829.88	16,829.88
Insurance - Health, Life, Dental, and Retirement.....		40,254.88	22,453.92
Mileage.....		336.00	336.00
Truck Expense.....		13,894.98	6,429.62
Miscellaneous.....		9,125.88	1,924.38
Legal and Audit Expense.....		3,700.00	-
Trustee Fees.....		-	-
Petty Cash.....		1,044.98	175.80
Sewage.....		94,014.79	14,476.37
Sanitation.....		4,973.00	728.50
Sales Tax.....		5,685.85	931.28
School Tax.....		16,480.36	2,514.22
Depreciable Acquisitions.....		26,994.01	1,260.00
TOTALS.....		<u>\$ 717,314.93</u>	<u>\$ 154,469.73</u>

STATISTICAL REPORT:

		THIS YEAR	LAST YEAR
Active Meters.....	4,100	4,100	4,002
Meters Turned Off.....	217	77	64
Meters In Stock.....	<u>1,568</u>	<u>4,177</u>	<u>4,066</u>
	<u>5,885</u>		
Beg. Accts. Receivable.....	\$ 5,695.78	Hours Worked.....	1814 1/4
Charges.....	<u>127,496.34</u>		1899 1/2
Total.....	\$ 133,192.12	Gallons Pumped.....	42,905,292
Collections.....	<u>125,859.79</u>	Gallons Billed.....	34,646,860
End Accts Receivable.....	<u>\$ 7,332.33</u>	Accounted for Water Loss.....	382,000
		Difference.....	<u>7,876,432</u>
			<u>4,920,716</u>

WEST DAVIESS COUNTY WATER DISTRICT

MONTHLY FINANCIAL AND STATISTICAL REPORT FOR THE MONTH ENDED JUNE 30, 2004

REVENUE FUND:

BEGINNING BAL. - DEPOSITORY BANK	\$	0.00
Collections:		
Customer Accts. Rec.....	\$	108,162.55
SCB Collections.....	\$	1,094.64
Interest Income.....	\$	579.70
Interest From Collections....	\$	27.43
TOTAL.....	\$	<u>109,864.32</u>

DISBURSEMENTS:

Transfer to O & M Fund	\$	107,082.85
Transfer :SCB to O & M	\$	1,094.64
Transfer to Med. Reim.....	\$	1,107.13
Transfer to Investments....	\$	579.70
Transfer to Pump Stat.....	\$	-
ENDING BALANCE.....	\$	<u>0.00</u>

OPERATION AND MAINT. FUND:

BEGINNING BALANCE	\$	44,588.87
Transfer from Rev. Fund		103,496.30
Transfer from SCB		848.45
Interest Earned		48.42
Service Order Charges		1,085.00
Reim. on Mileage		45.46
Materials, Mulligan Rd Reim.		4,956.49
KIA Reim. - Panther		13,620.00
TOTAL INCOME	\$	<u>168,688.79</u>

DISBURSEMENTS:

Operating Expenses		
Per Analysis Below.....	\$	<u>(88,957.24)</u>

ENDING BALANCE..... \$ 79,731.55

TRUSTEE'S DISBURSEMENTS TO OTHER FUNDS

	<u>Beg. Balance</u>	<u>Received</u>	<u>Interest</u>	<u>Disbursed</u>	<u>End. Balance</u>
Sinking Fund.....	\$ 258,000.00	\$ -	\$ -	\$ -	\$ 258,000.00
Depreciation Fund.....	25,353.29	6,110.00	8.85	3,668.52	27,803.62
Old National Bank	347,305.26	-	569.35	-	347,874.61
Depreciation Investments..	-	-	-	-	-
Medical Reimburse. Acct.....	4,200.16	1,450.82	1.50	306.11	5,346.37
TOTALS	\$ <u>634,858.71</u>	\$ <u>7,560.82</u>	\$ <u>579.70</u>	\$ <u>3,974.63</u>	\$ <u>639,024.60</u>

OPERATING EXPENSES:

		<u>YEAR TO DATE</u>	<u>CURRENT MONTH</u>
Water.....	33,077,757 GALLONS	\$ 229,803.37	\$ 41,114.72
Electric & Gas.....		9,594.98	1,481.05
Operations Expense.....		718.74	119.79
Telephone Expense.....		1,648.76	233.49
Uniforms.....		886.49	90.25
Water Test.....		2,441.89	160.00
Meter Test.....		-	-
Engineering Fees.....		783.00	-
Plant Repairs and Maintenance.....		34,662.62	702.26
Computer Expense.....		612.00	306.00
Salaries and Wages.....		77,618.16	11,615.57
Payroll Taxes.....		28,108.88	4,165.78
Office Supplies and Expenses.....		10,691.67	2,537.20
Insurance - Property & Liability, Unemployment.....		-	-
Insurance - Health, Life, Dental, and Retirement.....		17,800.96	2,499.98
Mileage.....		-	-
Truck Expense.....		7,465.36	1,059.95
Miscellaneous.....		7,201.50	305.70
Legal and Audit Expense.....		3,700.00	-
Trustee Fees.....		-	-
Petty Cash.....		869.18	162.16
Sewage.....		79,538.42	13,557.01
Sanitation.....		4,244.50	728.50
Sales Tax.....		4,754.57	893.37
School Tax.....		13,966.14	2,424.46
Depreciable Acquisitions.....		25,734.01	4,800.00
TOTALS.....		\$ <u>562,845.20</u>	\$ <u>88,957.24</u>

STATISTICAL REPORT:

		<u>THIS YEAR</u>	<u>LAST YEAR</u>
Active Meters.....	4,096	4,096	3,974
Meters Turned Off.....	209	77	81
Meters In Stock.....	<u>1,580</u>	<u>4,173</u>	<u>4,055</u>
	5,885		
		Hours Worked.....	1804
			1737
Beg. Accts. Receivable.....	\$ 5,863.02		
Charges.....	<u>109,089.95</u>	33,077,757	31,392,505
Total.....	\$ <u>114,952.97</u>	29,650,540	26,892,530
Collections.....	<u>109,257.19</u>	620,000	550,000
End Accts Receivable.....	<u>\$ 5,695.78</u>	<u>2,807,217</u>	<u>3,949,975</u>
		Difference.....	

APPENDIX M

FINANCING CRITERIA

APPENDIX M

FINANCING CRITERIA (807 KAR 5:001, SECTION 11)

11(1)(a) Applicants Property and Property Costs

Attached as a supplement is **APPENDIX 'E'**, a copy of the 2003 Income Statement and Balance Sheets which summarize the District's property and property cost information.

11(1)(b) Proposed Loan

A low interest commercial loan not to exceed \$450,000 will be secured from Bank One of Owensboro, Kentucky. The low interest loan will be for a period of approximately 60 months a discounted interest rate. The loan will be secured by the special surcharge account. See attached letter of 12 July 2004 from Rodney Ellis (**APPENDIX 'N'**).

11(1)(c) Use of Loan Proceeds

Low interest commercial loan funds will be used in partial payment of the and appurtenances. The cost of pump station, waterline extension and appurtenances will be paid from the surcharge account.

11(1)(d) Property Description and Costs

(See Item 11(2)(c) for detailed cost estimate.)

1. Site clearing, excavating and site grading.
2. Construct appurtenances.

11(1)(e) Discharge or Refund Obligations

Neither redemption nor sale of current District assets is proposed. Repayment of the proposed low interest commercial loan will be according to standard loan repayment amortization.

11(2)(a) Financial Exhibit

Attached as **APPENDIX 'O'** is a financial exhibit addressing the items outlined in 807 KAR 5:001, Section 6.

11(2)(b) Trust Deeds or Mortgages

Not applicable.

11(2)(c) Engineering Submittals

1. Preliminary Engineering Review dated 2004.
2. Project cost estimate: See “Project Cost Estimate” attached (**APPENDIX ‘I’** and **APPENDIX ‘J’**).

APPENDIX N

**BANK ONE PROPOSAL DOCUMENT
(dated 12 July 2004) FOR
LOW INTEREST FINANCING**



July 12, 2004

West Daviess County Water District
Attn: Bill Higdon

RE: Tax-Exempt Lease Purchase Proposal

Banc One Leasing Corporation ("BOLC") is pleased to submit this financing proposal to the Daviess County Water Distribution ("Lessee"). This letter is a proposal only and is contingent upon the Lessee's compliance with the requirements of the Internal Revenue Code of 1986, as amended, related to the Lessee's ability to issue tax-exempt obligations. The terms and provisions of this financing are subject to credit and business approval in accordance with Bank One's internal procedures, as well as certain conditions set forth below:

TRANSACTION:	Fixed-rate, fully amortizing, privately placed tax-exempt lease purchase agreement ("Agreement") with \$1.00 buyout at end of term.
LESSEE:	West Daviess County Water District
LESSOR:	Banc One Leasing Corporation.
ESTIMATED FUNDING AMOUNT:	\$450,000.00
BANK QUALIFIED:	This proposal assumes that the Lessee will not issue more than \$10 million in tax-exempt obligations this calendar year and that the Lessee will designate this lease as a "qualified" tax-exempt obligation ("QTEO").
USE OF PROCEEDS/TITLE:	To finance the acquisition of one (1) 500,000 gallon elevated water tower.
EXPECTED FINANCING TERM:	5 years
PAYMENT MODE/FREQUENCY:	Monthly in arrears
PROPOSED LEASE RATES:	3.25%
PROPOSED LEASE PAYMENTS:	Sixty (60) payments of \$8,136.00

INTEREST RATE LOCK:

The above-proposed Lease Rates and Lease Payments are valid through and including July 26, 2004. If funding does not occur on or before such date, the proposed interest rates are subject to adjustment to reflect changes in market conditions.

DOCUMENTATION:

Documentation shall be prepared by BOLC or its counsel.

PROPOSAL EXPIRATION:

This proposal must be accepted and funded on or before July 26, 2004. If acceptance and funding have not occurred by this date, the Lease Rate and Lease Payment amounts will be adjusted to market conditions.

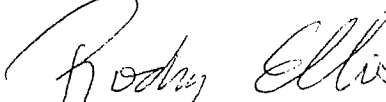
This proposal, including the Funding Options presented herein, is subject to credit and documentation approval at Bank One's sole discretion. To render a credit decision, the Lessee shall provide Bank One with the most recent three (3) years' audited financial statements, a copy of the budget for the current fiscal year, and other information as may be requested by Bank One's Municipal Credit Group.

We appreciate your interest in Bank One and look forward to your favorable response. Should you have any questions, please contact me at 614-213-4494 or michele_cosko@bankone.com.

Sincerely,
Banc One Leasing Corporation

Michele Cosko
Sales Representative, Public Finance

Sincerely,
Bank One


Rodney Ellis
Vice President

ACCEPTED BY: Daviess County Water Distribution

By: William Higdon
Name: William Higdon
Title: MANAGER
Date: 10-14-04

APPENDIX O

FINANCIAL EXHIBITS

APPENDIX O

FINANCIAL EXHIBITS (807 KAR 5:001, Section 6)

<u>Item</u>	<u>Remarks</u>
6(1)	No stocks issued by Water District.
6(2)	Not applicable.
6(3)	Not applicable.
6(4)	Not applicable – No mortgage.
6(5)	Bond Amount authorized: Not Applicable – Original Bond Issue Retired
6(6)	Not applicable – No outstanding notes
6(7)	Not applicable – No other indebtedness
6(8)	Not applicable – No dividends paid No capital stock
6(9)	Income statement and balance sheet attached (portion of 2003 audit records – see Appendix ‘E’).

APPENDIX P

**KENTUCKY DIVISION OF WATER
CONSTRUCTION APPROVAL**

ENG



ERNIE FLETCHER
GOVERNOR

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

LAJUANA S. WILCHER
SECRETARY

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
14 REILLY ROAD
FRANKFORT, KENTUCKY 40601-1190
www.kentucky.gov
September 9, 2004

William G. Higdon
West Daviess County Water District
3400 Bittel Road
Owensboro, KY 42301

Re: West Daviess County Water District PWS-33866
DW No. 0300450-04-004
Panther Hill Tank
Activity ID: APE20040004

Dear Mr. Higdon:

We have reviewed the plans and specifications for the above referenced project. The plans include the construction of a 500, 000 Gallon Elevated Storage Tank. 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.

If you have any questions regarding this decision, please contact John B. Mathews Jr., at (502) 564-2225, extension 578.

Sincerely,

Donna S. Marlin, Manager
Drinking Water Branch
Division of Water

DSM/JBM
Enclosure

CC: HRG, PLLC.
Daviess County Health Department
Public Service Commission



Distribution-Major Construction
W Daviess Co Water District
Subject Item Inventory

Activity ID No.: APE20040004

Subject Item Inventory:

ID	Designation	Description
AIOO33866		
STOR1	Elevated Storage Tank	500,000 Gallon Welded Steel Elevelstad Storage Tank

Subject Item Groups:

ID	Description	Components
GACT4	500,000 Gallon Welded Steel Elevelstad Storage Tank	STOR1 500,000 Gallon Welded Steel Elevelstad Storage Tank

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

Distribution-Major Construction

W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

GACT4 (Panther Hill Tank) 500,000 Gallon Welded Steel Elevated Storage Tank:

Monitoring Requirements:

Condition No.	Parameter	Condition
M-1	Coliform	The presence or absence of total Coliform monitored by sampling and analysis as needed shall be determined for new storage structures. With at least 1 sample taken at least 24 hours after the first construction complete sample(s), take 2 or more samples from the yard hydrant, the outlet piping from the storage structure, or a sample tap directly connected to the storage structure. Sample bottles shall be clearly identified as "special" construction tests. [Recommended Standards for Water Works 7.0.18, 401 KAR 8:150 Section 4] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.

Submittal/Action Requirements:

Coliform:

Condition No.	Condition
S-1	Coliform For new construction projects, the distribution system, using the most expedient method, shall submit Coliform test results to the Cabinet: Due immediately following disinfection and flushing. [401 KAR 8:150 Section 4(2)]

Condition No.	Condition
---------------	-----------

S-2 For proposed changes to the approved plan, submit information: Due prior to any modification to the Cabinet for approval. Changes to the approved plan shall not be implemented without the prior written approval of the Cabinet. [401 KAR 8:100 Section 1(8)]

Distribution-Major Construction

W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

Submittal/Action Requirements:

Condition No.	Condition
S-3	The person who presented the plans shall submit the professional engineer's certification: Due when construction is complete to the Division of Water. The certification shall be signed by a registered professional engineer and state that the water project has been constructed and tested in accordance with the approved plans, specifications, and requirements. [401 KAR 8:100 Section 1(8)]

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)]

Distribution-Major Construction

W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

Page 3 of 8

STOR1 (Elevated Storage Tank) 500,000 Gallon Welded Steel Elevated Storage Tank:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Depth	High and low level Depth \geq 30 ft apart should not be allowed in storage structures providing pressure to a distribution system. [Recommended Standards for Water Works 7.3.2] This requirement is applicable during the following months: All Year. Statistical basis: Maximum.
L-2	Distance	To prevent excessive erosion of storage structure foundations, the overflow and main drain shall either a) discharge to concrete or other stable surfaces (splash pads) which extend a Distance \geq 10 ft away from the base of the storage structure or b) discharge directly into a crushed stone pit that is at least 2' x 2' x 2' which is a Distance \geq 10 ft away from the base of the storage structure. [401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-3	Height	Tanks shall have an overflow which is a) brought down to a Height \geq 12 and \leq 24 in above the ground surface, b) of sufficient diameter to permit waste of water in excess of the filling rate, c) open downward, d) screened with twenty-four mesh noncorrodible screen installed within the pipe at a location least susceptible to damage by vandalism, and e) when not internal, e) i) located on the outside of the tank so that any discharge is visible, when internal, e) ii) located in the access tube. [Recommended Standards for Water Works 7.0.7] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-4	Height	Tanks shall have manholes that are a) framed a Height \geq 4 in above the surface of the roof at the opening and b) fitted with a solid watertight cover which overlaps the framed opening and extends down around the frame at least 2 inches. Manholes should be hinged at one side and shall have a locking device. [Recommended Standards for Water Works 7.0.8] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.

Distribution-Major Construction

W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-1	<p>Additional Limitations: The materials and designs used for storage structures shall provide stability and durability as well as protection for the quality of the stored water. Steel structures shall follow the AWWA standards wherever they are applicable. Other materials of construction are acceptable when properly designed to meet the requirements in this permit. [Recommended Standards for Water Works 7.0]</p>
T-2	<p>Additional Limitations: The safety of employees must be considered in the design of any tank. The design of tanks shall</p> <ul style="list-style-type: none">a) meet or exceed the minimum requirements of pertinent safety laws and regulations in the areas where the tanks are constructed,b) include ladders, ladder guards and balcony railings (where applicable),c) locate entrance hatches in safe places,d) provide railings or handholds where persons must transfer from an access tube to the water compartment, ande) consider confined space entry requirements. <p>Additionally, if tanks have riser pipes over 8 inches in diameter, the tanks shall have protective bars over the riser openings inside of the tank. [Recommended Standards for Water Works 7.0.12]</p>
T-3	<p>Additional Limitations: Storage structures shall be designed with reasonably convenient access to the interior for cleaning and maintenance. Where space permits, at least 2 manholes shall be provided above the waterline at each water compartment. [Recommended Standards for Water Works 7.0.8]</p>
T-4	<p>Additional Limitations: Fencing, locks on access manholes, and other necessary precautions shall be provided to prevent trespassing, vandalism, and sabotage. [Recommended Standards for Water Works 7.0.4]</p>
T-5	<p>Additional Limitations: All storage structures and their appurtenances, especially the riser pipes, overflows, and vents, shall be designed to prevent freezing. [Recommended Standards for Water Works 7.0.13]</p>
T-6	<p>Additional Limitations: Tanks shall be constructed with no openings except properly constructed vents, manholes, overflows, risers, drains, control ports, and piping for inflow and outflow. Any pipes running through the roof or sidewall must be welded or properly gasketed. [Recommended Standards for Water Works 7.0.10]</p>
T-7	<p>Additional Limitations: All finished water storage structures shall have suitable watertight roofs and sidewalls which exclude birds, animals, insects, and excessive dust. [Recommended Standards for Water Works 7.0.3, Recommended Standards for Water Works 7.0.10]</p>

Distribution-Major Construction

W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

Page 5 of 8

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-8	<p>Additional Limitations: The roof of each storage structure shall be well drained. Downspout pipes shall not enter or pass through storage structures. Parapets or similar structures which would tend to hold water and snow on a storage structure roof shall not be approved unless adequate waterproofing and drainage are provided. [Recommended Standards for Water Works 7.0.11]</p>
T-9	<p>Additional Limitations: Storage structures shall be designed so they can be isolated from the distribution system and drained for cleaning or maintenance without necessitating loss of pressure in the distribution system. [Recommended Standards for Water Works 7.3.2, Recommended Standards for Water Works 7.0.5]</p>
T-10	<p>Additional Limitations: Storage structure drains shall discharge to the ground surface at a drainage structure inlet or splash plate. [Recommended Standards for Water Works 7.3.2, Recommended Standards for Water Works 7.0.7]</p>
T-11	<p>Additional Limitations: No drain on a storage structure may have a direct connection to a sewer or storm drain. [Recommended Standards for Water Works 7.0.5, Recommended Standards for Water Works 7.0.7, Recommended Standards for Water Works 7.3.2]</p>
T-12	<p>Additional Limitations: Main drains from storage structures shall have a twenty-four mesh noncorrodible screen installed within the drain pipe at a location least susceptible to damage by vandalism. [401 KAR 8:100 Section 1(7)]</p>
T-13	<p>Additional Limitations: Storage structures shall be designed to facilitate turn over of water. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.0.6]</p>
T-14	<p>Additional Limitations: Storage structures shall have sufficient capacity, as determined from engineering studies, to meet domestic demands. Additionally, if fire protection is provided, capacity shall also be sufficient to meet fire flow demands. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.0.1]</p>
T-15	<p>Additional Limitations: Storage structure discharge pipes shall be located in a manner that will prevent the flow of sediment into the distribution system. Additionally, removable silt stops should be provided. [Recommended Standards for Water Works 7.0.15]</p>

Distribution-Major Construction

W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-16	<p>Additional Limitations: Appropriate sampling tap(s) shall be provided to facilitate collection of water samples for both bacteriologic and chemical analyses. [Recommended Standards for Water Works 7.0.19]</p>
T-17	<p>Additional Limitations: Storage structures shall be vented. Overflows shall not be considered as vents. Open construction between the sidewall and roof is not permitted. Vents shall</p> <ul style="list-style-type: none">a) prevent the entrance of rainwater,b) exclude birds and animals, andc) exclude insects and dust (as much as compatible with effective venting). <p>Vents may use four-mesh noncorrodible screen. [Recommended Standards for Water Works 7.0.9]</p>
T-18	<p>Additional Limitations: Adequate controls shall be provided to maintain levels in storage structures. The level controls shall be acceptable to the Division of Water. Level indicating devices should be provided at a central location. Overflow and low-level warnings or alarms should be located at places in the community where they will be under responsible surveillance 24 hrs a day. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.3.3]</p>
T-19	<p>Additional Limitations: If storage structures have a catwalk over the water, the catwalk floor shall be solid with raised edges so that shoe scrapings and dirt will not fall into the water. [Recommended Standards for Water Works 7.0.14]</p>
T-20	<p>Additional Limitations: Proper protection shall be given to metal surfaces by</p> <ul style="list-style-type: none">a) paints or other protective coatings and/orb) cathodic protective devices. [Recommended Standards for Water Works 7.0.17]
T-21	<p>Additional Limitations: If cathodic protection is utilized,</p> <ul style="list-style-type: none">a) competent technical personnel should design and install the protection andb) a maintenance contract should be provided. [Recommended Standards for Water Works 7.0.17]
T-22	<p>Additional Limitations: If the interior of the storage structure is coated or lined, the coating or lining shall be of a type approved by the Division of Water for use in contact with potable water. [401 KAR 8:020 Section 2(19)]</p>

Distribution-Major Construction

W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-23	<p>Additional Limitations: Paints and coatings</p> <ol style="list-style-type: none">shall meet NSF standard 61,shall be acceptable to the Division of Water,shall be properly applied and cured, andshall not transfer any substance to the water which will be toxic or cause tastes or odors (following curing). <p>Wax coatings shall not be used in any storage structure and must be completely removed before using other paints or coatings in an existing storage structure. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.0.17]</p>
T-24	<p>Additional Limitations: New water storage structures shall be thoroughly disinfected (in accordance with AWWA Standard C652) upon completion of construction and before being placed into service. To disinfect new storage structures</p> <ol style="list-style-type: none">remove all scaffolding, planks, tools, rags, and other items that are not part of the structural or operational facilities of the storage structure,clean thoroughly by sweeping, scrubbing, using high-pressure water jets, or some equivalently effective means, anduse chlorine or chlorine compounds as subsequently described. <p>Finalize disinfection by</p> <ol style="list-style-type: none">chlorination method 1, described in detail at AWWA Standard C652 Section 4.3.1,chlorination method 2, described in detail at AWWA Standard C652 Section 4.3.2, orchlorination method 3, described in detail at AWWA Standard C652 Section 4.3.3. <p>See the following conditions for abbreviated descriptions of the methods. Following the finalization of disinfection, place storage structures into service if, and only if, Coliform monitoring applicable to the storage structure does not show the presence of Coliform. If Coliform is detected, flush the tank and repeat Coliform monitoring. If Coliform is still detected, repeat disinfection and flushing as if the tank has never been disinfected. Continue the described process until monitoring does not show the presence of Coliform. [Recommended Standards for Water Works 7.0.18]</p>

Distribution-Major Construction
W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

Narrative Requirements:

Condition No.	Condition
T-25	<p>If applicable, chlorination method 1 generally requires</p> <ul style="list-style-type: none"> a) filling a storage structure to the overflow level with water providing a free chlorine Residual Disinfection ≥ 10 ppm and b) i) completely draining the storage facility and refilling or ii) otherwise reducing (in accordance with method 1) the free chlorine residual to a level appropriate for distribution. [Recommended Standards for Water Works 7.0.18]
T-26	<p>If applicable, chlorination method 2 generally requires</p> <ul style="list-style-type: none"> a) scrubbing or spraying the water-contact surfaces of a storage structure with a water solution having an available chlorine concentration = 200 ppm and b) purging of the strong chlorine solution and filling to the overflow level. [Recommended Standards for Water Works 7.0.18]
T-27	<p>If applicable, chlorination method 3 generally requires</p> <ul style="list-style-type: none"> a) filling a storage structure to approximately 5% of the total storage volume with water having an available chlorine concentration of 50 ppm, b) continued filling of the storage structure to the overflow level with normal potable water, and c) purging the storage structure so that various disinfection by-products do not reach water consumers. [Recommended Standards for Water Works 7.0.18, 401 KAR 8:100 Section 1(7)]

APPENDIX Q

**PROJECT COST ESTIMATE
UNIFORM SYSTEM OF ACCOUNTS
LINE ITEMS**

APPENDIX Q

WEST DAVIESS COUNTY WATER DISTRICT
Panther Hill Water Storage Tank Project

PRELIMINARY PROJECT COST ESTIMATE

ACCOUNT NO.	DESCRIPTION	AMOUNT
303	Legal Expenses	\$5,000.00
304	500,000 gallon Elevated Welded Steel Tank and Appurtenances	\$575,100.00
311	Engineering Bid Solicitation and Contract Administration	\$123,900.00
N/A	Contingencies	\$70,000.00
	Total	\$774,000.00

APPENDIX R

FINAL ENGINEERING REPORT

APPENDIX R

WEST DAVIESS COUNTY WATER DISTRICT

Panther Hill Water Storage Tank

FINAL ENGINEERING REPORT

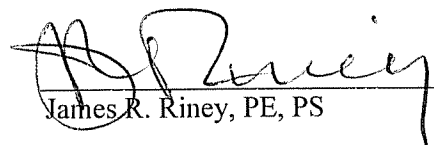
The additional water storage capacity outlined in the 1993 Preliminary Engineering Review is focused on the District's control tank, Panther Hill. Even though the site currently contains a 200,000-gallon storage tank, the unit is a ground storage tank. The vast majority of stored water is "structural water" simply supporting the top 25'-30' of "functional system storage". The study recommended system improvements to be addressed during the next 20 years. This project represents the next phase of the implementation upgrade effort. A recent study of system-wide growth reveals a conservative estimate of 100 new meters annually connecting to the system.

The elevated tank identified in the surcharge analysis is the higher priority upgrade item to provide for future anticipated for the entire district service system, especially the north central area of the district where a major growth initiative has recently evolved. From an engineering standpoint the primary advantage is to provide additional storage capacity "in the air" and to provide at least a one-day storage volume within the District. As system demands continue to increase over time, the proposed tank will become a higher priority.

A summary of engineering computation is attached as Exhibit No. 1 listing system pressure at various existing junction points of the system. In addition, the water surface elevation in each tank is compared with the proposed construction of the new elevated tank on Panther Hill. Analysis of the data reveals stability of the system pressure after the water storage tank and trunk line are completed.

In summary, the elevated tank included in the report was identified as part of the overall system needs. The proposed water storage detailed in the District's application for Certificate of Public Convenience and Necessity will be used and useful.

The above information contained herein is true and correct to the best of my knowledge and belief.


James R. Riney, PE, PS
10/8/04
Date

Seal

**WEST DAVIESS COUNTY WATER DISTRICT
PANTHER TANK REPLACEMENT
PRESSURE READINGS
(PRE-DEVELOPMENT WITH 200,000 GALLON STANDPIPE)**

	J-3	J-19	J-35	J-74	J-85	J-181
0 HRS/PRESSURE	83.91	89.14	99.37	50.21	92.12	84.25
1 HRS/PRESSURE	89.40	134.83	106.70	50.85	96.61	89.92
2 HRS/PRESSURE	90.61	93.71	109.46	51.81	96.99	89.48
3 HRS/PRESSURE	91.80	94.25	105.15	52.58	96.47	91.89
4 HRS/PRESSURE	92.42	94.12	102.92	53.30	95.20	91.24
5 HRS/PRESSURE	92.19	94.04	103.26	53.69	95.62	92.42
6 HRS/PRESSURE	92.14	94.04	108.38	54.05	96.99	92.00
7 HRS/PRESSURE	92.28	93.70	102.23	54.25	95.17	92.71
8 HRS/PRESSURE	91.76	93.71	108.52	54.33	97.26	93.20
9 HRS/PRESSURE	91.95	93.33	102.23	54.51	95.30	93.61
10 HRS/PRESSURE	91.31	93.02	102.50	54.53	95.54	94.27
11 HRS/PRESSURE	91.16	93.25	108.87	54.61	97.72	94.78
12 HRS/PRESSURE	91.52	92.94	102.72	54.81	95.78	95.08
13 HRS/PRESSURE	91.00	92.71	103.01	54.85	96.03	95.64
14 HRS/PRESSURE	90.77	92.53	103.08	54.94	96.13	95.97
15 HRS/PRESSURE	90.62	92.39	103.16	55.03	96.24	96.27
16 HRS/PRESSURE	90.50	92.26	103.20	55.11	96.30	96.5
17 HRS/PRESSURE	90.61	92.74	109.58	55.19	98.61	97.15
18 HRS/PRESSURE	91.28	93.01	109.93	55.45	98.97	97.82
19 HRS/PRESSURE	91.69	93.06	109.65	55.72	98.82	97.73
20 HRS/PRESSURE	92.59	130.90	109.76	55.89	98.32	96.44
21 HRS/PRESSURE	93.11	93.59	104.74	55.85	97.42	98.22
22 HRS/PRESSURE	92.25	93.26	104.65	56.01	97.52	98.44
23 HRS/PRESSURE	91.73	93.46	96.41	56.15	95.09	98.85
24 HRS/PRESSURE	91.06	92.87	95.50	56.08	94.43	97.56

EXHIBIT NO. 1
(Sheet 1 of 3)

**WEST DAVIESS COUNTY WATER DISTRICT
PANTHER TANK REPLACEMENT
PRESSURE READINGS
(NORMAL DEMAND WITH NEW 500,000 GALLON PANTHER TANK)**

	J-3	J-19	J-35	J-74	J-85	J-181
0 HRS/PRESSURE	89.47	93.14	102.62	50.32	93.97	86.05
1 HRS/PRESSURE	91.23	134.07	104.68	51.15	95.12	87.79
2 HRS/PRESSURE	90.79	94.21	110.50	52.00	97.98	90.60
3 HRS/PRESSURE	90.11	93.00	103.00	52.80	95.21	90.54
4 HRS/PRESSURE	89.96	92.45	101.99	53.29	94.80	90.86
5 HRS/PRESSURE	89.80	91.91	100.71	53.55	94.12	90.53
6 HRS/PRESSURE	89.77	91.54	100.07	53.55	93.71	90.42
7 HRS/PRESSURE	89.69	91.41	100.09	53.41	93.65	90.76
8 HRS/PRESSURE	89.57	91.21	99.98	53.28	93.51	90.94
9 HRS/PRESSURE	89.52	91.30	100.71	53.14	93.89	91.85
10 HRS/PRESSURE	89.41	91.05	100.40	53.15	93.70	91.90
11 HRS/PRESSURE	89.30	90.86	100.31	53.08	93.61	92.04
12 HRS/PRESSURE	89.25	90.94	101.00	53.00	94.01	92.83
13 HRS/PRESSURE	89.21	90.91	101.32	53.06	94.24	93.38
14 HRS/PRESSURE	89.16	90.84	101.47	53.15	94.38	93.79
15 HRS/PRESSURE	89.11	90.76	101.58	53.25	94.50	94.14
16 HRS/PRESSURE	89.03	90.57	101.26	53.34	94.33	94.09
17 HRS/PRESSURE	88.92	90.35	100.94	53.35	94.12	93.95
18 HRS/PRESSURE	88.79	90.14	100.64	53.29	93.91	93.74
19 HRS/PRESSURE	88.81	90.49	107.39	53.18	95.98	93.53
20 HRS/PRESSURE	89.38	129.30	101.60	53.23	94.08	93.59
21 HRS/PRESSURE	89.02	90.56	101.71	53.12	94.52	94.65
22 HRS/PRESSURE	89.14	91.14	104.55	53.31	96.49	97.10
23 HRS/PRESSURE	89.04	90.80	93.69	53.76	92.49	95.93
24 HRS/PRESSURE	89.00	90.58	93.50	53.49	92.27	95.48

**EXHIBIT NO. 1
(Sheet 2 of 3)**

**WEST DAVIESS COUNTY WATER DISTRICT
PANTER TANK REPLACEMENT
PRESSURE READINGS
(PEAK DEMAND WITH NEW 500,000 GALLON PANTHER TANK)**

	J-3	J-19	J-35	J-74	J-85	J-181
0 HRS/PRESSURE	89.65	93.19	107.05	56.28	99.43	99.93
1 HRS/PRESSURE	89.30	92.45	96.11	56.70	95.22	98.82
2 HRS/PRESSURE	89.08	91.71	94.73	56.31	94.13	97.29
3 HRS/PRESSURE	89.04	91.42	94.00	55.68	93.37	96.24
4 HRS/PRESSURE	89.07	91.37	93.70	55.05	92.93	95.71
5 HRS/PRESSURE	88.47	89.91	90.69	54.24	90.18	91.78
6 HRS/PRESSURE	88.62	89.98	98.97	53.28	92.91	90.54
7 HRS/PRESSURE	88.45	89.84	98.80	52.75	92.54	90.22
8 HRS/PRESSURE	88.55	90.56	106.65	52.32	94.97	90.33
9 HRS/PRESSURE	89.53	129.49	107.38	52.21	94.86	89.62
10 HRS/PRESSURE	89.94	130.08	107.96	52.03	95.22	90.47
11 HRS/PRESSURE	89.20	91.22	107.24	51.97	95.23	91.48
12 HRS/PRESSURE	89.19	91.08	107.19	52.00	95.18	91.61
13 HRS/PRESSURE	89.17	90.94	107.11	52.01	95.11	91.68
14 HRS/PRESSURE	89.10	90.53	106.42	51.97	94.51	90.77
15 HRS/PRESSURE	89.88	129.28	107.27	51.79	94.51	90.11
16 HRS/PRESSURE	90.28	129.98	107.92	51.58	94.92	90.91
17 HRS/PRESSURE	89.62	91.17	106.87	51.52	94.63	91.28
18 HRS/PRESSURE	89.47	90.60	105.90	51.46	93.80	89.92
19 HRS/PRESSURE	90.00	128.60	106.23	51.18	93.35	88.43
20 HRS/PRESSURE	90.19	128.71	106.09	50.79	93.05	87.92
21 HRS/PRESSURE	89.95	127.94	98.09	50.37	90.33	87.45
22 HRS/PRESSURE	90.12	128.96	98.99	49.83	90.63	88.34
23 HRS/PRESSURE	89.64	91.07	99.35	49.52	91.19	89.91
24 HRS/PRESSURE	89.83	91.97	103.79	49.73	94.38	94.18

EXHIBIT NO. 1
(Sheet 3 of 3)

RECEIVED

OCT 18 2004

PUBLIC SERVICE
COMMISSION
2004-00415

FOR BID

**WEST DAVIESS COUNTY
WATER DISTRICT**

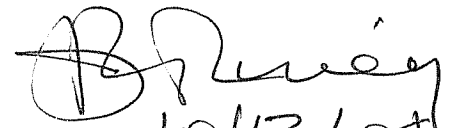
**PANTHER HILL WELDED STEEL
ELEVATED WATER STORAGE
TANK PROJECT**

**WX 21059009
SAI KY20031008-1511**

**PROJECT SPECIFICATIONS
2004**

**KENTUCKY INFRASTRUCTURE AUTHORITY
CDF PROJECT**

**PREPARED BY
HRG, PLLC
416 W. Third Street
Owensboro, KY 42301
270-683-7558**


10/13/04

WEST DAVIESS COUNTY WATER DISTRICT

**Panther Hill Welded Steel Elevated
Water Storage Tank Project**

**WX21059009
SAI KY20031008-1511**

**ADDENDUM NO. 1
(Issued by Fax & U.S. Mail)**

Addendum Issue Date: 13 October 2004

Issued By: James R. Riney, P.E., P.L.S.
Project Engineer

1. **DISCARD** Bid Schedule sheet BF-4.
2. **INSERT** Bid Schedule sheet BF-4 (REV).
3. **INSERT** Method of Measurement and Basis of Payment sheet MM/BP-4(REV).
4. Tank color to be selected by Owner from standard color chart of paint manufacturers.

Tank name shall consist of two coats (minimum) of white exterior tank coating. The tank name shall be applied to the southern tank face at the general orientation, layout pattern and tank name shall be as shown on the tank plan Detail Sheet. Letters shall be 24" high block-style lettering.

**BIDDERS FOR THIS CONTRACT MUST ACKNOWLEDGE RECEIPT OF
THIS ADDENDUM NO. 1 IN THE BID DOCUMENT.**

WEST DAVIESS COUNTY WATER DISTRICT
PANTHER HILL TANK PROJECT

Bid Item #8

Lump Sum for **photographs and video images** (see Special Condition #3) including all labor, materials, equipment, and incidentals; complete, in place and ready for use.

At _____ Dollars and _____ Cents

\$ _____
Lump Sum

TOTAL PROJECT BID: \$ _____

The above unit prices shall include all labor, materials, equipment, safety and occupational regulations, overhead, profit, insurance, and all incidentals necessary to complete the work specified, complete, in place and ready to use.

Bidder acknowledges receipt of the following Addenda:

Addendum #1 Dated _____
Addendum #2 Dated _____
Addendum #3 Dated _____

Bidder understands that the Owner reserves the right to reject any and all bids and to waive any informalities in the bidding.

The bidder agrees that this bid shall be good and may not be withdrawn for a period of Ninety (90) calendar days following the scheduled closing time for receiving bids.

Upon receipt of written notice of the acceptance of this bid, bidder will execute the contract agreement attached within ten (10) days and deliver a Surety Bond or Bonds as required by the project specifications. The bid security attached in the sum of (insert bid bond dollar amount or percentage of total bid)

_____ (\$ _____)

is to become the property of the Owner in the event the contract and bond are not executed within the time setforth hereinabove, as liquidated damages resulting from the delay and additional expense to the Owner caused thereby.

Respectfully submitted:

By _____
Title

Business Address & Zip Code

WEST DAVIESS COUNTY WATER DISTRICT
PANTHER HILL TANK PROJECT

Bid Item No. 8

Payment for this Bid Item shall be lump sum for providing all photographs and video images of the existing condition of KY 554 and the existing tank site.

Payment shall be full compensation for all labor, equipment, materials, photography and video image equipment, film and cassettes/disks, development, duplicate copies, mailing and postage and incidentals necessary to provide the existing conditions in accordance with the Contract Documents. Duplicate copies (two copies) shall be provided to the Project Engineer.

**WEST DAVIESS COUNTY WATER DISTRICT
PANTHER HILL WELDED STEEL ELEVATED
WATER STORAGE TANK PROJECT
WX 21059009
SAI KY20031008-1511**

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NOTICE TO BIDDERS

Sealed bids will be received by West Daviess County Water District, 3400 Bittel Road, Owensboro, KY 42301, until 2:00 p.m. C.D.T. on Tuesday, October 19, 2004 for the following:

**West Daviess County Water District
Panther Hill Welded Steel Elevated
Water Storage Tank
(500,000 gallon)**

Bids are to be delivered to the West Daviess County Water District, 3400 Bittel Road, Owensboro, KY 42301, to be publicly opened and read at said location at 2:00 p.m. C.D.T. on Tuesday, October 19, 2004.

Project plans and contract documents may be examined at:

HRG, PLLC Surveying & Engineering
416 West Third Street
Owensboro, Kentucky 42301
Phone (270)683-7558

Contract Documents and Bid Forms may be obtained from HRG, PLLC Surveying & Engineering upon payment of Ninety-Five (\$95.00) Dollars. A Fifteen (\$15.00) Dollar refund will be made to all unsuccessful Prime Bidders upon return of all plans and documents unmarked and in good condition within 30 calendar days after the bid opening. Bids are of the unit price variety and shall be submitted on the forms provided and returned sealed in the official bid envelope.

No bids may be withdrawn for a period of Ninety (90) days after the bid opening date.

All bids must be accompanied by the Bid Bond or Cashiers Check in the amount of five (5) percent of the Total Base Bid and said surety shall be made payable to West Daviess County Water District. The successful bidder shall provide a Performance Bond and Payment Bond in the amount of one hundred (100) percent of the Total Base Bid.

West Daviess County Water District reserves the right to accept any bid, to reject any and all bids, to waive any irregularities or informalities in awarding the Contract, and to accept what in their opinion is the lowest, responsive, responsible and best bid. Further, West Daviess County Water District reserves the right to reject any Bid where evidence or information does not satisfy the OWNER that the Bidder is qualified to carry out the Project per Contract Documents, and to delete any Bid Item(s).

WEST DAVIESS COUNTY WATER DISTRICT
PANTHER HILL TANK PROJECT

By Order Of

West Daviess County Water District
3400 Bittel Road
Owensboro, KY 42301

By Bill Higdon
Bill Higdon, District Manager

Received for publication 9/23/04, 2004
Owensboro Publishing Company

By: Nathaniel Knapp Title: M-I

INSTRUCTIONS TO BIDDERS

Proposals are requested by West Daviess County Water District for the Panther Hill Welded Steel Elevated Water Storage Tank Project and related work. The project is located in Daviess County, Kentucky.

1. Bidders shall inform themselves of all conditions under which the proposed project work is to be performed relative to but not limited to the site location, obstacles which may be encountered and other pertinent factors; by a visit to the site for personal examination, by a complete study of the Contract Plan, Project Specifications and Contract Documents, by personal interview as applicable with the Project Engineer and/or Project Owner.

Any revision or interpretation of the Contract Plans, Contract Specifications or Contract Documents will be made by addendum only and will be issued to each individual plan holder.

Quantities listed in the Bid Items, including the unit price Bid Items, are approximate only and may vary from the final in-place quantities. Final payment due to the Contractor will be based on in-place measured quantities for unit price items. Bid proposals, however, will be compared on the basis of the approximate quantities included in the Proposal.

The Bidder's attention is called to the Wage Rate Section of the Specifications.

Any Bidder may withdraw his Proposal at any time prior to the scheduled bid closing time. No Project Proposals may be withdrawn after this time except as stated in the Notice for Bids.

Proposals shall be submitted on the Project Proposal Forms furnished by the Owner without change or alterations. Each Proposal shall be submitted with the cashiers check or BID BOND in the amount of five (5) percent of the total bid price. Bid Bonds shall be issued by a company with a licensed agent. A PERFORMANCE and PAYMENT BOND (surety bond) shall be furnished by the successful Bidder in the amount of one hundred (100) percent of the total contract price.

Only those proposals which have been properly completed, signed and appropriate Bid Security provided will be considered and read.

2. **Preparation of Bid:** Each bid must be submitted on the prescribed form. All blank spaces for bid prices must be filled in, in ink or typewritten, in both words and figures. Facsimile (i.e. fax) bid proposals will not be accepted.

WEST DAVIESS COUNTY WATER DISTRICT
PANTHER HILL TANK PROJECT

Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, his/her address, and the name of the project for which the bid is submitted. If forwarded by mail, the sealed envelope containing the bid must be sealed in another envelope addressed as specified in the Notice to Bidders.

3. **Subcontracts:** The bidder is specifically advised that any proposed subcontractor(s) must be acceptable to the Owner.
4. **Telegraphic Modification:** Any bidder may modify his/her bid by telegraphic or facsimile communication at any time prior to the scheduled closing time for receipt of bids, provided such telegraphic communication is received by the Owner prior to the closing time, and provided further, the Owner is satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed prior to the closing time. The telegraphic communication should not reveal the unit price but should provide the addition or subtraction or other modification so that the final prices or terms will not be known by the Owner until the sealed bid is opened. If written confirmation is not received within two (2) days from the closing time, no consideration will be given to the telegraphic modification.
5. **Method of Bidding:** The Owner invites the following bid(s):

Unit Price Bids per bidding schedule.
6. **Qualifications of Bidder:** The Owner may make such investigations as deemed necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigations of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein.
7. **Bid Security:** Each bid must be accompanied by cash, cashier's check of the bidder, or a bid bond, duly executed by the bidder as principal and having as surety thereon a surety company approved by the Owner, in the amount of five (5) percent of the bid. Such cash, checks or bid bonds will be returned promptly after the Owner and the accepted bidder have executed the contract, or if no award has been made within Ninety (90) days after the date of the opening of bids, upon demand of the bidder at any time thereafter, so long as he/she has not been notified of the acceptance of his/her bid.
8. **Liquidated Damages for Failure to Enter into Contract:** The successful bidder, upon his/her failure or refusal to execute and deliver the contract and bonds required within ten (10) days after he/she has received notice of the acceptance of his/her bid,

shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his/her bid.

9. **Time of Completion and Liquidated Damages:** Bidder must agree to commence work on or before a date to be specified in the written "Notice to Proceed" of the Owner and to fully complete all work by **July 1, 2005**. Bidder must agree also to pay as liquidated damages, the sum of **\$100.00** for each consecutive calendar day thereafter as hereinafter provided in the General Provisions.
10. **Conditions of Work:** Each bidder shall inform him/herself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his/her obligation to furnish all material and labor to carry out the provisions of his/her contract. Insofar as possible, the Contractor, in carrying out the work, must employ methods or means as will not cause any interruption of or interference with the work of any other contractor.
11. **Addenda and Interpretations:** No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any bidder orally. Every request for such interpretation should be in writing addressed to **James R. Riney at P.O. Box 535, Owensboro, Kentucky, 42302** and to be given consideration must be received at least five (5) days prior to the date established for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be mailed by certified mail with return receipt requested to all prospective bidders (at the respective addresses furnished for such purposes), not later than three (3) days prior to the date established for the opening of bids. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from the obligation under his/her bid as submitted. All addenda so issued shall become part of the contract documents.
12. **Security for Faithful Performance:** Simultaneously with his/her delivery of the executed contract, the contractor shall furnish a surety bond as security for faithful performance of this contract and for the payment of all persons performing labor on the project under this contract and furnishing materials in connection with this contract, as specified in the General Provisions. The surety on such bond shall be a duly authorized surety company satisfactory to the Owner. The surety bond shall remain in effect for one full year after receipt of final payment by the Contractor.
13. **Power of Attorney:** Attorneys-in-fact who sign bid documents or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney. Power of Attorney shall include a licensed agent.
14. **Notice to Special Conditions:** Attention is particularly called to those parts of the contract documents and specifications which deal with the following:

WEST DAVIESS COUNTY WATER DISTRICT
PANTHER HILL TANK PROJECT

- a. Insurance requirements.
- b. Wage rates.

15. **Laws and Regulations:** The bidder's attention is directed to the fact that all applicable laws and ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written in full.
16. **Method of Award--Lowest Qualified Bidder:** If at the time this contract is to be awarded, the lowest, qualified and best bid submitted by a responsible bidder does not exceed that amount of funds then estimated by the Owner as available to finance the contract, the contract will be awarded on the basis of the bid items. If such bid exceeds such amount, the Owner may reject all bids or may award the contract on the bid items combined with reduction in the bid quantities or the bid items to be determined by the Owner, as produces a net amount which is within the available funds. For purposes of this project the lowest, qualified and best bid shall also include the lowest responsible and responsive bidder. Conditional bids will not be accepted.
17. **Obligation of Bidder:** At the time of the opening of bids each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract documents (including all addenda). The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve any bidder from any obligation in respect to his/her bid.

CONTRACT

THIS AGREEMENT made and entered into this _____

day of _____, 2004, by and between West Daviess County Water District,

hereinafter called "OWNER" and _____

doing business as a _____ (insert appropriate term:
individual, partnership, corporation, etc.), hereinafter called "CONTRACTOR".

WITNESSETH:

- (1) That the Contractor, for the consideration hereinafter set out, hereby agrees to commence and complete the construction of Panther Hill Welded Steel Elevated Water Storage Tank Project.
- (2) The Contractor will furnish all labor, equipment, materials and incidentals necessary to complete the herein described Project per Contract Plans and Specifications.
- (3) The Contractor shall commence the work to be performed under this agreement within ten (10) days of receipt of Notice to Proceed and shall be fully completed by July 1, 2005.
- (4) The Contractor agrees to perform all the work defined in the Contract Documents and Plans for the sum of \$ _____ or as shown in the Bid Schedule. The Contractor may request, at his option, partial payment for work performed and materials stored or stockpiled at the job site or at the Contractor's Owensboro, Kentucky yard. Requests shall be made no later than the 15th day of each calendar month for ninety (90) percent of the value; based on contract prices and paid invoices for work performed or materials stored as hereinabove defined. Payment will normally be made by the 20th day of the following month. All payment requests are subject to the review and approval of the Engineer.
- (5) Upon completion of the project work the Contractor shall formally notify the Owner and Engineer requesting final inspection of the project. Upon satisfactory review and acceptance of the work by the Owner and Engineer and when the Contractor furnishes evidence of all supply, materials and other bills for the Project have been satisfactorily paid, the Contractor shall be paid in full within thirty (30) days.

Final payment will be withheld, in the amount of damage or estimated costs for any incomplete or unsatisfactory work requiring: repairs to public or private property, inspection and/or engineering costs, liquidated damages or unpaid bills associated with this project.

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The CONTRACT DOCUMENTS are defined as:

- Advertisement for Bids
- Notice to Bidders
- Bid and Bond Form
- Agreement
- General Conditions
- Special Conditions
- Project Specifications
- Performance and Payment Bond
- Notice to Proceed
- Change Orders
- Any duly issued Addenda
- Plans and Technical Drawings prepared by
HRG, PLLC Surveying & Engineering

IN WITNESS WHEREOF the parties hereto do hereby execute or cause to be executed by the duly authorized officials in four (4) original copies on the day and year written above.

OWNER: West Daviess County Water District

BY: _____
A.M. Thompson

TITLE: Chair

ATTEST:

NAME: _____

TITLE: _____

WEST DAVIESS COUNTY WATER DISTRICT
PANTHER HILL TANK PROJECT

CONTRACTOR: _____

BY: _____
Signature

Printed Name

TITLE: _____

ATTEST:

NAME: _____

TITLE: _____

(Owner's Seal)

(Contractor's Seal)

CERTIFICATE OF OWNER'S ATTORNEY

I, the undersigned, Robert M. Kirtley, the duly authorized and acting legal representative of West Daviess County Water District, do hereby certify as follows:

I have examined the attached contract and surety bonds and the manner of execution thereof, and I am of the opinion that the aforesaid agreement has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreement on behalf of the respective parties named thereon; and that the foregoing agreement constitutes a valid and legally binding obligation upon the parties executing the same in accordance with the terms, conditions and provisions thereof.

Signature

Date

SPECIAL CONDITIONS

1. **OMPC Public Improvements Specifications**

All conditions and requirements of construction and implementation contained in the “Public Improvement Specifications” as issued in August 2002 by the Owensboro Metropolitan Planning Commission (OMPC) must be complied with on this project and are hereby incorporated by reference. Copies may be obtained from the OMPC office located on the second floor of the Owensboro City Hall or by downloading from the OMPC web page (www.iompc.org).

2. **Tank Inspection and Geotechnical Inspection**

The Consultant will provide routine construction review and coordination. Specialized tank construction, fabrication, surface preparation and coating application will be provided by “Wet or Dry Tank Inspection Company” (Jay L. Hoffman). Geotechnical compliance and routine on-site review will be provided by Hanson Testing and Engineering.

The Contractor shall fully and continuously coordinate, schedule and check all work with the inspection representatives. Primary coordination and all information/schedule activities shall be through the Consultant.

3. **Site Video and Photos**

The Contractor’s attention is called to the existing condition of KY 554 and the existing tank site.

The Contractor shall secure photographs and videotape images of KY 554 eastward to KY 81 and the existing tank site. The videotape shall thoroughly and completely document the condition of the existing roadway, roadway ditches and related items. A duplicate copy of all photos and videotapes shall be provided by the Contractor at no cost to the Project Engineer. Photography and videotape costs shall be paid at the lump sum bid price for “Photographs and Video Images”.

4. **KY State Clearinghouse Comments**

Conditions and criteria contained in the State Clearinghouse comments shall be applicable and binding on this Contract; being incorporated herein by reference (see Appendix C).

SECTION 1

GENERAL PROVISIONS

<u>Section</u>	<u>Item</u>	<u>Page</u>
1.1	Definitions and Terms	TS-2
1.2	Bidding Requirements and Conditions	TS-4
1.3	Award and Execution of Contract	TS-6
1.4	Scope of Work	TS-7
1.5	Materials Specifications	TS-8
1.6	Legal Considerations and Insurance	TS-9
1.7	Contract Prosecution and Progress	TS-11
1.8	Utilities Coordination	TS-14
1.9	Construction Staking	TS-14
1.10	Subsurface and Groundwater Conditions	TS-15
1.11	Incidentals	TS-16
	1. Drives, Entrances, etc.	
	2. Tree Removal	

1.1. DEFINITIONS AND TERMS

Wherever encountered in these specifications or in other contract documents, the intent and meaning of the terms listed herein shall be interpreted as follows:

Award

The acceptance of the Owner.

Bid Bond

The security furnished with the bid to guarantee that the bidder will enter into the contract if his bid is accepted.

Bidder

An individual, partnership, firm, or corporation, submitting a proposal.

Calendar Day

Any day shown on the calendar, beginning and ending at midnight.

Change Order

A written order issued by the Engineer to the Contractor, approved by the Owner, covering changes in the plans or quantities or both, within the scope of the contract and establishing the basis of payment and time adjustments for the work affected by the changes.

Consultant

The firm responsible for project planning, design, and layout designated by the Owner to prepare the contract plans and specifications. The Project Consultant is HRG, PLLC.

Contract

The written agreement between the Owner and the Contractor setting forth the obligations of the parties thereunder, for the performance of the prescribed work.

Contract Item or Pay Item

A specific unit of work for which a price is established in the contract.

Contract Performance Bond

The security furnished to the Owner to guarantee completion of the work in accordance with the contract.

Contract Time

The number of calendar days allowed for completion of the contract. When a calendar date of completion is shown in the proposal in lieu of a number of calendar days, the contract shall be completed by that date.

Contractor

The individual, partnership, firm, or corporation, contracting with the Owner for performance of the prescribed work.

Engineer

The Project Engineer as designated by the Consultant and his duly appointed agents or representatives.

Equipment

All machinery and equipment, together with the necessary supplies for upkeep and maintenance, and also tools and apparatus necessary for the proper construction and acceptable completion of the work.

Inspector

The Engineer or an authorized representative thereof assigned to make periodic inspections of contract performance.

Notice to Proceed

Written notice to the Contractor to proceed with the contract work including, when applicable, the date of beginning of contract time.

Owner

West Daviess County Water District, 3400 Bittel Road, Owensboro, KY 42301,
Phone 270-685-5594.

Plans

The approved plans, profiles, and related drawings, or exact reproductions thereof, which show the location, character, dimensions, and details of the work to be done. Standard Drawings are drawings approved for repetitive use, showing details to be used where appropriate. Individual standard drawings attached to, or cited in, the plans or proposal become a part of the contract.

Project

The 500,000 gallon welded steel elevated water storage tank, water main connection and extension, site work, fencing and associated construction to be performed thereon under this Contract.

Proposal

The offer of a bidder, on the prescribed form, to perform the work and to furnish the labor and materials at the prices quoted.

Specifications

A general term applied to all directions, provisions, and requirements pertaining to performance of the work.

Specified Completion Date

The date on which the contract work is specified to be completed.

Subcontractor

An individual, firm or corporation who, with the written consent of the Owner, subcontracts any part of the contract.

Surety

The corporation, firm, or individual; other than the Contractor; executing a bond furnished by the Contractor and having an agent licensed and doing business in the Commonwealth of Kentucky.

Work

The furnishing of all labor, materials, equipment and other incidentals necessary to the successful completion of the project or contract item and the carrying out of all duties and obligations imposed by the contract.

ABBREVIATIONS AND STANDARD SPECIFICATIONS REFERENCES

A.A.S.H.T.O.	American Association of State Highway Transportation Officials
A.I.S.C.	American Institute of Steel Construction
S.S.P.C.	Steel Structures Painting Council
A.S.T.M.	American Society for Testing and Materials
A.W.W.A.	American Water Works Association
K.R.S.	Kentucky Revised Statutes
M.U.T.C.D.	Manual on Uniform Traffic Control Devices for Streets and Highways
N.A.S.S.Co.	National Association of Sewer Service Companies
N.S.F.	National Sanitation Foundation
A.N.S.I.	American National Standards Institute

Kentucky Standard Specifications for Road and Bridge Construction,
Transportation Cabinet, Department of Highways

1.2. BIDDING REQUIREMENTS AND CONDITIONS

Qualification of Bidders

The Owner may make such investigations as deemed necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work specified therein.

The Owner reserves the right to reject any bid proposal submitted by a company or individual who has provided inferior, inadequate, incomplete or unsatisfactory work to the Owner in the past.

A financial statement from the Bidders may be required by the Owner in order to assist in the bid review, the analysis of acceptability and the ultimate bid award determination. Unsatisfactory demonstration of financial ability to engage and complete the project will result in rejection of the bid.

Interpretations of Bid Quantities

The quantities appearing on the Bid Form are estimated quantities only and are prepared for the comparison of bids. Payment to the Contractor will be made only for the actual quantities of work performed and accepted or materials furnished in accordance with the contract. The estimated quantities or work to be done and materials to be furnished may each be increased, decreased, or omitted as provided herein.

Examination of Plans, Specifications, and Project Site

The bidder is expected to examine carefully the site of the proposed work, the proposal, plans, specifications, contract forms and related documents, before submitting a proposal. The submission of a bid shall be considered prima facie evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the contract. Profession of ignorance or misunderstanding regarding requirements of the work will in no way serve to modify the provisions of the contract.

Preparation of Proposal

The bidder must submit his proposal upon the forms furnished by the Owner. The bidder shall specify a unit price in figures for each pay item for which a quantity is given and shall also show the products of the respective unit prices and quantities written in figures in the column provided for that purpose and the total amount of the proposal obtained by adding the amounts of the several items. All figures should be in ink or typed. The bidder's proposal must be signed in ink by the individual, by one or more members of the partnership, or by one or more officers of a corporation, or by an agent of the Contractor legally qualified and acceptable to the Owner.

Irregular Proposals

Bids will be considered irregular and will be rejected when the bidder omits a unit price for any pay item and an amount for the entire quantity of the same pay item. Proposals will considered irregular and may be rejected for any of the following reasons:

- (a) When the proposal is on a form other than that furnished by the Owner; or when the form is altered or any part thereof is detached; or

- (b) When there are unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the proposal incomplete, indefinite, or ambiguous as to its meaning; or
- (c) When the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award; or
- (d) Proposals in which the prices are determined to be unbalanced; or
- (e) When bid proposals which are obviously excessively high or excessively low relative to the Engineer's estimate.

Bid Bond

No proposal will be considered unless accompanied by a Bid Bond of the character and in an amount no less than the amount indicated on the proposal form. Any proposal not accompanied by the required guaranty will be rejected, and not read.

Delivery of Proposals

Each proposal shall be submitted in a sealed envelope and shall be clearly identified as to contents. All proposals shall be received prior to the time and at the place specified in the Notice to Bidders. Proposals received after the time specified for opening of bids will be returned to the bidder unopened. Facsimile (i.e. fax) bid proposals will not be accepted.

Disqualification of Bidders

Any of the following reasons may be considered as being sufficient for the disqualification of a bidder and the rejection of his proposal:

- (a) More than one proposal for the same work from an individual, firm, or corporation under the same or different name; or
- (b) Evidence of collusion among bidders. Bidders are advised that collusive bidding is a violation of the law and could result in criminal prosecution or civil damage actions.

1.3. AWARD AND EXECUTION OF CONTRACT

Consideration of Bid

The bid prices will be tabulated as soon as possible after the proposals are opened and a comparison of bids will be made. In the event of a discrepancy between the unit bid prices and extensions, the unit bid price shall govern. The Owner reserves the right to reject any and all proposals and to waive minor irregularities as may be deemed in the best interest of the Owner.

Award of Contract

Unless all bids are rejected, the contract will be awarded to the lowest, responsive, responsible and best bidder, without discrimination on the grounds of race, creed, color, sex, or national origin, whose proposal complies with the requirements of the law and the project specifications.

Contract Bond

Within ten (10) calendar days after the Notice of Award has been received by the bidder and at the time of execution of the contract, the successful bidder shall execute a performance and payment bond on a form acceptable to the Owner, in the penal sum of 100 percent of the amount of the contract, with a surety to be approved by the Owner. Contract bonds shall be conditioned upon the faithful performance of the requirements of the contract and any modifications thereof in conformity with the proposal, plans, and specifications; payment of proper compensation under the required labor and wage conditions as provided in the contract; and payment of claims against the Contractor for materials, labor and supplies. The contract bond shall be kept in full force for a period not less than one (1) full year after the date when final payment is made to the Contractor. The bonds shall be issued by a company with a Kentucky authorized contracting agent.

One-Year Warranty Period

The Contractor must guarantee all work for a period of one (1) year and shall promptly make corrections or adjustments which may be necessary to correct defects including repairs of any damages to other parts of the system resulting from such defects. Payment by the Owner does not constitute a waiver of the Owner's claims against the Contractor. The Contractor's One-Year Warranty period shall commence on the date of the final payment check issued by the Owner.

Execution of Contract

The bidder to whom the contract is awarded shall, within ten (10) calendar days after receiving the Notice of Award, execute and file with the Engineer the contract, accompanied by the following items:

- (a) The contract bonds specified hereinabove; and
- (b) Satisfactory evidence of required insurance coverage.

1.4. SCOPE OF WORK

Intent of Contract

The intent of the contract is to provide for the construction and completion in every detail of the utility mains, grade, drain, surface and appurtenances. The Contractor shall furnish all labor, materials, equipment, tools, transportation, supplies and incidentals necessary to complete the work in accordance with the plans, specifications, and terms of the contract.

The Contractor shall provide all labor, equipment, and incidentals necessary to test the completed construction items.

Change Orders

Additions or deletions in the scope of work of the Contract may be changed only by a Change Order. The value of such change may be either an increase or a decrease in the Contract Price and shall be based on a least one of the following criteria:

1. Previously established unit prices, or
2. A lump sum agreement, or
3. Cost-plus (as negotiated by the Owner, Engineer and Contractor) determined by direct cost with an additional amount of not more than fifteen (15) percent to cover overhead and profit.

Final Clean-up of Site

The work will not be considered as complete, and final payment will not be made until the project site and all ground occupied by the Contractor in connection with the work has been cleared of all rubbish, equipment, excess materials and weeds, as directed by the Engineer. All property, both public and private, which has been damaged in the prosecution of the work, shall be restored to a condition equal to or better than existed prior to commencement of the work, at the expense of the Contractor.

1.5. MATERIALS SPECIFICATIONS

Source of Supply and Materials Requirements

All construction materials shall conform to the Kentucky Standard Specifications for Road and Bridge Construction, Transportation Cabinet, Department of Highways, current edition.

The Contractor shall furnish upon request the manufacturer's/ vendor's specifications or manufacturer's/vendor's certification of materials standards for review and approval by the Engineer relative to the requirements of the contract.

Material Testing

The cost of any materials testing or sampling shall be the responsibility of the Contractor. The Contractor shall give the Engineer and/or Inspector all reasonable assistance in obtaining samples and shall furnish copies of all test results to the Engineer and the Owner immediately.

Defective Material

Any stockpiled or placed materials which the Engineer deems to be inferior or inadequate, shall be removed and replaced at the Contractor's expense.

Storage of Materials

Materials shall be stored by the Contractor so as to ensure preservation of their quality and fitness for the work. Stored materials shall be located so as to facilitate prompt inspection.

1.6. LEGAL CONSIDERATIONS AND INSURANCE

Laws to be Observed

In all operations connected with the work, all Federal, State, and local laws, regulations and ordinances controlling or limiting in any way the actions of those engaged on the work shall be strictly complied with by the Contractor and all his employees or subcontractors, in such manner as to save the Owner, its agents, and its employees harmless.

The Contractor shall not discriminate against any worker because of race, creed, color, sex, national origin, or age.

Safety, Health, and Sanitation

The Contractor shall comply with all applicable Federal, State, and local laws and regulations governing safety, health, and sanitation. The Contractor shall provide all safeguards, safety devices, safety fences, and protective equipment and shall take all other needed actions which are determined to be reasonably necessary to protect the life and health of all employees and personnel on the project, provide for the safety of the public, and protect all property affected by the performance of the work covered by the contract.

As provided in KRS Chapter 338 in the Kentucky Occupational Safety and Health Act and in subsequent regulations and standards promulgated by the Kentucky Occupational Safety and Health Standards Board, the Contractor shall not require any laborer or mechanic employed in performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety.

Licenses, Fees, and Permits

Unless specified otherwise in the Special Conditions, the Contractor shall be responsible for the securing and the payment of any applicable licenses, fees, or permits. The cost of such items shall be considered incidental to completion of the work specified and no additional compensation will be made for such items.

Insurance Requirements

The Contractor shall not commence site work under this Contract until all insurance requirements specified herein have been acquired and such insurance has been approved by the Owner, nor shall the Contractor allow any Subcontractor to commence work on

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this project until all similar insurance required for the Subcontractor has been so obtained and approved.

Compensation Insurance: The Contractor shall take out and maintain during the life of this Contract and before any work is commenced, Workman's Compensation Insurance for all his employees employed at the site of the project, and in the event that any of the work is sublet, the Contractor shall require the Subcontractor similarly to provide Workman's Compensation insurance for all the latter's employees unless such employees are covered by the protection afforded by the Contractor. In case any class of employees engaged in work under this Contract at the site of the project is not protected under the Workman's Compensation Statute, the Contractor shall provide, and shall cause such Subcontractor to provide Employer's Liability Insurance for the protection of his employees not protected by the Workmen's Compensation Statute.

Employer's Public Liability Insurance: The Contractor shall take out and maintain during the life of this contract, Employer's Public Liability Insurance in an amount no less than \$1,000,000.00.

Comprehensive General Liability: The Contractor shall take out and maintain during the life of this contract such Public Liability and Property Damage Insurance as shall protect him, the owner, and any Subcontractor, during the performance of the work covered by this Contract, from claims for damages for personal injury, including accidental death, as well as for claims for property damages, which may arise from operations under this Contract, whether such operations be by himself or by any Subcontractor or by anyone directly or indirectly employed by either of them or in such manner as to impose liability on the Owner. The amounts of such insurance shall be as required by law or, in the absence of specified regulations, the amount of coverage shall be as follows:

Bodily Injury in an amount not less than \$1,000,000.00 for each occurrence including wrongful death to any person, \$2,000,000.00 aggregate.

Property Damage in an amount not less than \$1,000,000.00 for each occurrence, \$1,000,000.00 aggregate.

Automobile Insurance: The Contractor shall secure and maintain during the life of this Contract automobile bodily injury insurance in amounts not less than \$1,000,000.00 each person, \$1,000,000.00 each accident, and property damage liability insurance in amounts not less than \$1,000,000.00. Such insurance shall cover the use of all such motor vehicles engaged in operating within the terms of this Contract on the site of the work to be performed thereunder, unless such coverage is included in the insurance specified hereinabove.

Proof of Carrying Insurance: The Contractor shall furnish the Owner with satisfactory proof of coverage of the insurance required, with a reliable company or companies, before commencing work. Such proof shall consist of certificates executed by the respective insurance companies and filed with the Engineer.

Indemnification

The Contractor shall indemnify and hold harmless the Owner, agents, or employees from and against all claims, damages, losses, and expenses including attorney's fees arising out of or resulting from the performance of the work, provided that any such claim, damage, losses, or expenses (a) is attributable to bodily injury, sickness, disease or death, or attributable to injury to, or destruction of, tangible property (other than the work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of the Contractor, anyone directly or indirectly employed by the Contractor, or anyone for whose acts the Contractor may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

In any and all claims against the Owner and its affiliated companies or any of its agents or employees by any employee of the Contractor, or anyone directly or indirectly employed by the Contractor or anyone for whose acts the Contractor may be liable, the indemnification obligation under the above paragraph shall not be limited in any way by the limitation payable by or for the Contractor under Workman's Compensation Acts, disability benefit acts, or other employee benefit acts.

Any provisions of this Contract in respect to indemnification which are prohibited or unenforceable by law shall be ineffective to the extent of such prohibition or unenforceability, and shall not invalidate the remaining provisions of this Agreement.

1.7. CONTRACT PROSECUTION AND PROGRESS

Subcontracting of Contract

The Contractor shall not subcontract, sell transfer, assign, or otherwise dispose of the contract, or any portion thereof, or of his right, title, or interest therein, without written consent of the Owner. When such consent is given, the Contractor will be permitted to subcontract a portion thereof, but will perform with his own organization work amounting to no less than fifty-one (51) percent of the total contract cost. No subcontract shall in any case release the Contractor of his liability under the contract and bonds. All transactions of the Engineer will be with the Contractor.

Preconstruction Conference

After the contract is awarded, the Engineer will schedule a preconstruction conference. At this conference, the Contractor shall be prepared to discuss the planned sequence of major operations to be performed on the project, and provide any relevant information as requested by the Engineer.

Prosecution of the Work

The Contractor shall not begin work until he has received official notice from the Engineer to do so. The Contractor shall begin work within ten (10) calendar days after receipt of the Notice to Begin Work. Once construction has begun, the work shall proceed in a timely manner at a progressive construction rate. The Contractor shall satisfactorily complete each work element of the project as soon as possible before beginning the next sequence of work elements.

Work under this Contract shall be performed in a safe, workmanlike manner by competent personnel with adequate training and supervision. Upon request of the Engineer the Contractor shall furnish experience and qualification records for the Contractor's personnel. Any of the Contractor's Project personnel whose experience/qualifications records are deemed unsatisfactory by the Engineer or Owner shall not provide work on the project.

The Contractor shall provide a qualified and competent person on each construction crew as superintendent or foreman to direct and coordinate the work. Such person shall have authority to carry out instructions and directions for the Engineer. The Contractor shall provide a qualified and competent superintendent of Projects experienced at directing more than one construction crew.

The Contractor shall communicate and cooperate with the Engineer on work scheduling and shall notify the Engineer of all work activities.

Specified Completion Date

The Contractor shall complete all work on the project by **July 1, 2005**. The contract time allowed for completion of the work specified in the contract is based on the original quantities of work as specified herein. When the final contract cost is greater than the original contract cost because of authorized additional work, an extension of the contract time will be granted the Contractor. The additional work may consist either of net increases in the original quantities or of addition of items to the contract, or both. The extension of contract time shall be in direct proportion to the amount of additional work, as determined by the Engineer.

When the period between the execution of the contract and the issuance of the Notice to Begin Work exceeds thirty (30) calendar days, then the specified completion date will be extended by the number of calendar days the Notice to Begin Work was withheld in excess of the 30 calendar days. No extension of time will be allowed at any time for weather or conditions resulting therefrom, except for delays caused by extraordinary conditions beyond the control of the Contractor. In the event of an extraordinary condition, the Contractor shall submit to the Owner a written request for extension of time at the time of occurrence. The extension shall be for a reasonable time as determined by the Engineer.

Failure to Complete on Time

For each calendar day, excluding weekends and legal holidays, that the work remains incomplete after the specified completion date, the Contractor shall pay to the Owner the sum of **\$100.00 (One Hundred Dollars)** in daily charges (per each calendar day), not as a penalty but as agreed liquidated damages. Daily charges as agreed liquidated damages shall be deducted from any money due the Contractor, if not previously paid by the Contractor.

Conflicting Contract Document Conditions

In the event of conflicting requirements within the Contract Documents, applicable laws, regulations or policies the more stringent interpretation shall prevail. In the event of conflict of interpretation between the Owner and the Contractor then the decision of the Project Engineer shall be final.

1.8. UTILITIES COORDINATION

The Contractor shall be responsible for notifying utilities and coordinating work efforts with all utilities, relative to the project.

Damage to underground utility facilities shall be immediately reported to the respective utility authority. Damages shall be repaired to the satisfaction of the respective utility authority at the Contractor's expense.

The Contractor shall be responsible for contacting all utilities, including but not limited to those listed below, which have facilities in the vicinity of the project.

West Daviess County Water District	(270)685-5594
Kenergy	(270)926-4141
Regional Water Resource Agency	(270)687-8440
Atmos Energy	(270)685-8150
BellSouth	(270)685-7623
Adelphia Communications/Cable	(270)926-0202
B.U.D.	1-800-752-6007

1.9. CONSTRUCTION STAKING

Construction control points will be furnished by the Owner on a one-time basis for the general project area. Additional staking or re-staking will be at the expense of the Contractor and shall be reasonable effort to protect the construction control points.

Control points will be provided for horizontal and vertical control at intervals and spacing along the project normally required by Contractors. Staking will include:

1. Key control points for horizontal control.
2. Benchmarks for elevation reference.
3. Coordinate listing for major construction items.

All staking is on a one-time basis provided by the Owner in sequence as the construction progresses. The Contractor pays for replacement stakes and for checking stakes after initially set.

The Contractor shall be responsible to notify and coordinate the construction staking on a timely basis with the Engineer or his duly designated representative. The actual staking will be performed by the Contractor. Use of the construction staking by the Contractor constitutes acceptance of the staking by the Contractor.

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The Contractor's attention is called to the provision listed below regarding engineering/surveying work provided at overtime occasions, provided after the scheduled completion date or under similar circumstances. The Owner will provide control layout, construction inspection and related work via the Consultant, based on normal working hours of the firm. All engineering inspection, or survey crew personnel will be furnished Monday through Friday (except holidays) between the hours of 7:30 a.m. and 4:00 p.m. by the Owner at no cost to the Contractor. Actual construction layout and staking shall be provided by the Contractor.

The Contractor shall pay for all overtime furnished by the consultant at the Consultant's Hourly Rate for the respective personnel. Overtime charges will be assessed against the Contract for work occurring during the Contract period. In addition, the overtime rates hereinabove described shall be assessed against the Contractor for any and all work and for each hour of work performed by the Consultant beyond expiration of the Contract completion date. Payments of all costs assessed to the Contractor for overtime or excess work provided by the Consultant will be deducted from payments due the Contractor if not previously paid in full by the Contractor during the time covered by the respective periodic payment requests. The Contractor is responsible for the cost of replacing damaged construction and layout staking and/or control points.

The Owner maintains at any and at all times the right of entry upon and to the job site(s). This right shall be extended by the Owner to include representatives of the Consultant and to State/Federal agencies.

The Contractor shall notify the Engineer immediately of control point (staking) which are inconsistent or which do not appear to be in compliance with the Plans. The Contractor shall suspend construction operations for any section or area of work where he discovers or feels there is such an inconsistency until the conflict is resolved by the Engineer.

At least one full working day notice shall be given by the Contractor to the Engineer when construction control is required for each phase or section of construction.

1.10. SUBSURFACE AND GROUNDWATER CONDITIONS

No assurance is given or implied regarding the nature or character of the subsurface conditions at the site. The Bidder is advised to perform whatever excavation, borings or similar work he deems necessary in order to best determine subsurface conditions. Unless otherwise noted in the Project Special Conditions, no direct payment will be allowed for work required due to subsurface and/or groundwater conditions.

1.11. INCIDENTALS

1.11.1. Drives, Entrances, etc.

All intersected drives, entrances, alleyways, sidewalks, housewalks or other hard surfaced areas shall be removed and reconstructed to a serviceable condition as determined by the Engineer. The items shall be reconstructed to a condition equal to or better than the original condition and shall be reconstructed of the same type of material existing prior to construction.

All cement concrete driveway slabs shall be reconstructed not less than six (6) inches in thickness. All cement concrete sidewalks (except at driveway crossings) shall be reconstructed not less than four (4) inches in thickness. Sidewalk sections at drives, alleys, etc., shall be constructed not less than six (6) inches in thickness.

Bituminous surfaced residential driveways, etc., shall be reconstructed not less than one and one-half (1-1/2) inches thick with not less than four (4) inches of D.G.A. base.

1.11.2. Tree Removal

Trees designated on the plans for removal and any other trees formally approved by the Owner per written change order shall be cut and removed from the job site by the Contractor. The stump shall be removed to a depth of at least twelve (12) inches below the proposed subgrade or the proposed finish grade, whichever is lower. The hole created by such removal shall be completely and thoroughly backfilled and unstable materials removed prior to placing base material or other construction items. All limbs, tree trunks, roots and associated debris shall become the property of the Contractor and shall be removed and properly disposed of at his expense.

Repair, temporary removal or replacement of utility lines occurring in conjunction with the tree removal shall be performed at the Contractor's expense. Damages to public or private property, utility mains or service lines shall be corrected at the expense of the Contractor to the satisfaction of the respective owner.

SECTION 2

EARTH WORK

<u>Section</u>	<u>Item</u>	<u>Page</u>
2.1	Clearing and Grubbing	TS-18
2.2	Excavation	TS-18

2.1. CLEARING AND GRUBBING

This work shall consist of clearing, grubbing, removing, and disposing of all vegetation, topsoil (min. 6") and debris, which are within the limits of construction of the proposed facilities as shown on the Plans. This work shall include the loosening, loading, removing, transportation, disposing of all vegetation, natural material, man-made materials (wet or dry materials) necessary to be removed to construct all work included in this project to the lines, grades, and locations shown on the Plans. The Contractor must assume the risk of meeting and the contract price shall include the cost of removal of unstable soils, rock, boulders, rubbish, unforeseen obstacles, underground conduits, gas pipe, drain tile, trees, logs, roots, timber or masonry structures, fences, pavements, and sidewalks, and the delayer damage occasioned by the same whether these obstacles are shown on the plans or not. Clearing and grubbing work shall be incidental to the Contract Bid Items unless specifically identified as a separate item in the Bid Schedule.

This work shall also include, where applicable, the preservation from injury or defacement of all vegetation and objects designated to remain. The Engineer will designate all trees, shrubs, plants, and other items to be removed.

All materials resulting from clearing and grubbing shall be completely disposed of by the Contractor off the project site. In no case shall the Contractor place on adjacent property any material obtained from clearing and grubbing without written permission from the property owner, a copy of which shall be available to the Engineer. Burning of material on or near the project site is prohibited unless specifically approved on a case-by-case basis by the Engineer and unless performed in compliance with all Federal, State and Local regulations or restrictions.

2.2. EXCAVATION

Excavation shall be performed in a neat workmanlike manner, to the line and grade shown on the plans and typical sections or as directed by the Engineer. Care shall be exercised to avoid under-cutting or excessive cuts. All cuts shall be uniform; along a straight line; without sags, bulges, or heaped areas. No frozen material, stumps, logs, roots or other perishable material shall be placed in any embankment. Stone or masonry fragments greater than four (4) inches in any dimension shall be removed from the top foot of embankment material or subgrade material. Embankments shall not be constructed on frozen material.

Earth embankment shall be formed by uniformly distributing in successive horizontal layers not exceeding twelve (12) inches in thickness; loose depth; to the full width of the cross-section.

Each layer of the fill shall be thoroughly compacted as specified in the Contract Documents.

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Excavation and fill placement shall be performed in a manner to provide positive drainage and in order to maintain a well-drained site. Daily work areas shall be graded to drain and when directed shall include temporary drains, swales or diversions installed at the Contractor's expense for protection of the site and/or adjacent areas.

Final grading, shaping and finishing shall be to a uniform line and grade to a tolerance on 0.20 foot. The final graded site shall be free of ponding or settlement area. The site shall be filled, leveled and final graded as many times as necessary to provide a uniform, well drained area at no additional compensation to the Contractor.

SECTION 3

EROSION CONTROL

<u>Section</u>	<u>Item</u>	<u>Page</u>
3.1	Erosion Control	TS-21
3.2	Erosion Control Procedures	TS-21

3.1. EROSION CONTROL

Erosion control and sediment containment shall be performed in general conformance with the "Kentucky Best Management Practices for Construction Activities"; prepared by the Division of Conservation and the Division of Water, Natural Resources and Environmental Protection Cabinet; dated August 1994 or most recent revision.

3.2. EROSION CONTROL PROCEDURES

Construction Areas

Site excavation and grading shall proceed in an orderly and practical manner as necessary to implement the site grading work and in order to avoid trapping water on the project site. Daily work areas shall be graded to drain. Work will be performed in a manner to minimize soil erosion and downstream siltation as described herein. The final site grading shall result in a uniformly graded surface and free of ponding areas.

Control Procedures

- (a) Erosion control techniques shall include silt checks (straw bales, rock checks, timber dams, earthen dams, etc.) diversion ditches, silt traps or similar methods. Silt checks and silt fences shall be maintained and remain in-place until ground cover/re-vegetation has been established.
- (b) Upon completion of construction/earthwork within a drainage basin area, the site shall be final shaped to drain and temporary seeding/fertilizer applied. Temporary seeding and/or final seeding shall be placed within seven (7) days after completion within a work area.
- (c) Seed areas shall receive a straw or organic cover (approximately 2" loose depth) after seeding of disturbed areas.
- (d) Storm run-off routes and sediment traps shall be monitored and sediment periodically removed for continued collection of upstream sediment.

Silt Basins

Any necessary silt basins shall be built prior to any site clearing or grading work; except for construction of diversions, silt basins, or necessary access roads.

Maintenance

The Contractor shall be required to clean out (remove sediment from) silt checks, silt traps and retention basins whenever they become one-half full, and properly dispose of the materials at site as often as required by the Engineer.

SECTION 4

**SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF
WELDED STEEL “MULTI-COLUMN” 500,000 GALLON
ELEVATED WATER STORAGE TANK**

<u>Section</u>	<u>Item</u>	<u>Page</u>
4.1	Tank Construction	TS-23
4.2	Tank Painting Specification	TS-32

4.1. TANK CONSTRUCTION

1.0 GENERAL REQUIREMENTS

1.1 Scope

The Contractor shall be responsible for all labor, materials and equipment necessary for the design, fabrication, construction, painting, disinfection and testing of an elevated welded steel water storage tank supported by a series of supporting columns and cross bracing. This style of tank is commonly referred to as a "Multi-Column" Tank. Design and construction of the Elevated Tank shall conform to all requirements of AWWA D100 Standard for Welded Steel Tanks for Water Storage except as modified by the requirements of these contract documents.

1.2 Qualification of Manufacturer

The design and construction of the "Multi-Column" elevated welded steel water storage tank shall only be undertaken by a Contractor with a minimum of five years experience with elevated tank construction. The Contractor must be able to demonstrate experience through the design and construction of at least ten "Multi-Column" elevated water tanks within the last five years. The Contractor shall not subcontract either the design or erection of the steel tank and support structure. Divided responsibilities between erection and fabrication will not be allowed.

1.3 Submittals

The bidder shall submit with his proposal:

1. A list of ten "Multi-Column" elevated tanks constructed within the last five years including the Owner, tank capacity, the Engineer and contact information.
2. A preliminary drawing of the tank showing major dimensions and plate thickness upon which the bid is based, the high and low water levels and the dimensions of the supporting tower.
3. A foundation design drawing showing preliminary dimensions and approximate quantities of concrete and reinforcing steel.

No bid will be considered unless this information is provided with the bid.

1.4 Standard Specifications

All work on the water storage tank shall fully conform to the requirements of the latest published editions of the following Standard Specifications (latest editions):

1. AWWA (American Water Works Association) D100 Standard for Welded Steel Tanks for Water Storage.
2. AWWA D102 - Standard for Painting Steel Water Storage Tanks.
3. AWWA C652 - Standard for Disinfection of Water Storage Facilities.
4. AWS (American Welding Society)
5. NSF (National Sanitation Foundation) 61 - Materials in contact with Potable Water.
6. Steel Structures Painting Council Manual - Volume 1 - Good Painting Practice.
7. Steel Structures Painting Council Manual - Volume 2 - Systems and Specifications.
8. ACI 318 - Building Code Requirements for Reinforced Concrete
9. ACI 301 – Standard Specification for Structural Concrete
10. Kentucky Building Code and local Building Inspector's requirements.

1.5 Tank Details

The elevated tank shall be all-welded construction of the most economical design. All members of structural steel or of reinforced concrete shall be designed to safely withstand the maximum stresses to which they may be subjected during erection and operation.

1. The minimum operating capacity of the storage tank will be 500,000 US gallons.
2. The capacity of the tank, low to high water level, shall be contained within a maximum operating range of 30 feet (i.e. 56' nominal diameter).
3. The height of the tank, top of foundation (elev. 550) to High Water Level (elev. 615), shall be 65 feet.
4. Top of foundation elevation shall be 550.
5. The existing ground elevation is 549/550 (see Site Plan).
6. The finished ground elevation shall be 549 (max.).
7. Tank style: Oblatoid.

1.6 Permits and Easements

Permits acquired by the Owner are listed in Section 11 of the Contract Documents (i.e. Permits). Easements acquired by the Owner are noted on the site plan. The Contractor is responsible for securing all other applicable permits and payment of all other applicable fees.

1.7 Working Drawings

After contract award and prior to construction, the Contractor shall provide working drawings and design calculations for the elevated steel tank and the foundation. Drawings shall show the size and location of all structural components and reinforcement, the required strength and grade of all materials, and the size and arrangement of principle piping and equipment. The drawings and calculations shall be certified by a professional Engineer licensed in the State of Kentucky. The design coefficients and resultant loads for snow, wind and seismic forces, and the methods of analysis shall be documented.

2.0 DESIGN

2.1 General

The structural design of the elevated storage tank shall conform to the following design

standards except as modified or clarified as follows:

- a. Foundations – AWWA D100 and ACI 318 – Building Code Requirements for reinforced concrete.
- b. Steel Tank – AWWA D100
- c. Steel Tank Painting – AWWA D102

Tank design and construction features shall be in accordance with Kentucky Division of Water criteria and regulations and local Building Inspector's office requirements including but not limited to the Kentucky Building Code.

2.2 LOADS

2.2.1 Seismic Load

Design in accordance with AWWA D100-96, Section 13. The following factors shall be used:

Seismic Zone = Zone Two (2) unless otherwise specified by local code requirements.

All other factors shall be in accordance with Section 13.

2.2.2 Wind Load

Wind pressure shall be determined in accordance with AWWA D100-96, Section 3.1.4 for a 100-MPH wind velocity.

2.2.3 Snow Load

Snow load shall be determined in accordance with AWWA D100-96, Section 3.1.3 for 25 psf minimum loading.

2.3 Foundation

A Geotechnical investigation has been carried out at the site and a copy of the report is included with the Contract Documents (See Appendix 'B'). Allowable bearing capacities are defined in this report. The Owner has retained the services of the Geotechnical consultant to verify the adequacy of the bearing stratum after the Contractor has carried out the excavation and before any concrete or reinforcement is placed. The concrete foundation shall be designed by the Contractor based upon the recommendations in the Geotechnical report.

The tank Contractor shall design the foundation for soil bearing loads, as recommended in the attached subsurface investigation report by Hanson Engineering and Testing. The foundation drawings shall be signed and sealed by a structural engineer licensed in the Commonwealth of Kentucky. These drawings shall be submitted for approval with the tank shop drawings.

2.4 STEEL TANK

2.4.1 General

The materials, design, fabrication, erection, welding, testing and inspection of the steel tank shall be in accordance with the applicable sections of AWWA D100 except as modified in this document.

2.4.2 Minimum Plate Thickness

The minimum thickness for any part of the structure shall be 3/16 inch for parts not in contact with water and 1/4 inch for parts in contact with water. All portions of the tank including the roof shall be of watertight construction.

3.0 CONSTRUCTION

3.1 Concrete Foundation

The foundation shall be designed and constructed to safely and permanently support the structure. The basis of the foundation construction shall be commensurate with the soils investigation data included herein at the end of these specifications. Appropriate changes to construction schedule and price will be negotiated if, during excavation, soil conditions are encountered which differ from those described in geotechnical report. The concrete foundation shall be constructed in accordance with ACI 301. Minimum concrete compressive strength shall be as specified in Section 10, "Cast-In-Place Concrete".

3.2 STEEL TANK CONSTRUCTION

3.2.1 General

The erection of the steel tank shall comply with the requirements of Section 10 of AWWA D100 except as modified by these documents.

All parts forming the structure shall be built in accordance with reviewed shop drawings prepared by the Contractor. The workmanship and finishing shall be the best in modern shop practice. Welding must be done by operators who have been qualified within the previous year, in accordance with the requirements of the American Welding Society. Records of these qualification tests shall be available to the Engineer. The work at all times shall be open to the Engineer or his representative.

Upon completion of the tank erection, the Tank Contractor will remove or dispose of all rubbish and other unsightly material caused by its operation, and will leave the premises in good appearance.

3.2.2 Welding

All shop and field welding shall conform to AWS and AWWA D100, Section 10. Before any welding is performed, the constructor shall make certain that the welders or welding operators have their credentials for acceptance.

3.2.3 Fabrication

All fabrication and shop assembly shall conform to the requirements of AWWA D100, Section 9, Shop Fabrication.

3.2.4 Erection

Plates subjected to stress by the weight or pressure of the contained liquid shall be assembled and welded in such a manner that the proper curvature of the plates in both directions is maintained. Plates shall be assembled and welded together by a procedure that will result in a minimum of distortion from weld shrinkage.

3.2.5 Testing

Testing for both shop and field welds shall be in accordance with AWWA D100, Section 11, Inspection and Testing. All testing shall be performed prior to interior and exterior field painting. The testing shall be performed by an independent testing agency with all costs included in the Contractor's bid and paid by the Contractor.

After tank construction has been completed, the tank shall be hydrostatically tested by filling with water which will be furnished by the Owner. Any leaks shall be repaired and the structure made watertight. No repair work will be done on any joints unless the water level in the tank is a least two feet below the joint being repaired.

In addition the Tank Contractor shall test the weld joints by means of the radiographic method. All testing shall be done in accordance with the latest revisions of AWWA D100, Section 11. The radiographic film test results will become the property of the Owner.

3.2.6 Roof Lap Joints

All interior lap joints shall be sealed by means of caulking, seam sealer or continuous seal welding. This shall include penetrations of roof accessories.

4.0 ACCESSORIES

4.1 General

The following accessories shall be provided in accordance with these specifications. All items shall be in full conformity with the current applicable OSHA safety regulations and the operating requirements of the structure.

The Contractor shall not use or store any materials on any property not in the temporary construction site boundaries or the owner's property boundary. All materials required to install or erect the tank shall be removed after construction is complete. The Contractor shall remove any debris, trash, or material used to

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construct the tank when completed. Seeding, fencing and grading shall be provided under this contract. The Contractor shall construct all temporary excess roads necessary to install the tank. Erosion control measures must be taken to insure proper drainage of nearby property and creeks.

4.2 Ladders

Access ladders shall be provided at the following locations:

- a) The tower ladder shall extend up one column from near the base connecting with the balcony. The first rung shall be located approximately 12 feet above top of foundation. The ladder shall be equipped with an anti-climb device approved by the Owner.
- b) An outside tank ladder from the balcony to the roof hatch.
- c) An inside tank ladder from the roof hatch to the inside bottom of the tank.
- d) An inside riser ladder from the base of the riser to the bottom of the tank.

Ladder side rails shall be a minimum 3/8-inch by 2 inches with a 16-inch clear spacing. Rungs shall be not less than 3/4 inch, round, spaced at 12-inch centers. The surface of the rungs shall be knurled, dimpled or otherwise treated to minimize slipping. Ladders shall be secured to adjacent structures by brackets located at intervals not exceeding 10 feet. Brackets shall be of sufficient length to provide a minimum distance of 7 inches from the center of the rung to the nearest permanent object behind the ladder.

4.3 Fall Protection

Ladders shall be equipped with a cable type safety climb system meeting OSHA regulations. The system shall be supplied complete with safety harnesses, locking mechanisms, lanyards and accessories for two persons.

4.4 Balcony

The tank shall be equipped with a balcony not less than 36" wide with a handrail not less than 42" high. The floor shall be perforated for drainage. The balcony floor shall be designed for a minimum vertical load of 1,000 pounds assumed to be applied at any point. The handrail shall be capable of withstanding 300 pound load applied laterally at the top rail.

4.5 OPENINGS

4.5.1 Roof Hatches

Provide two access hatches on the roof of the tank. One hatch shall be 30-inch diameter and allow access from the roof to the interior of the tank. The hatch will

be hinged and equipped with a hasp for locking. The hatch cover shall have a 2-inch downward edge. The second hatch will be 24-inch diameter and flanged with a removable cover so constructed that an exhaust fan may be connected for ventilation during painting operations. The openings shall have a minimum 4-inch curb with a rain proof roof hatch cover.

4.5.2 Tank Vent

The tank vent should be centrally located at the apex of the tank roof above the maximum weir crest elevation. The tank vent shall have an intake and relief capacity sufficiently large that excessive pressure or vacuum will not develop during maximum flow rate. The vent shall be designed, constructed and screened so as to prevent the ingress of wind driven debris, insects, birds and animals. The vent shall be designed to operate when frosted over or otherwise clogged. The screens or relief material shall not be damaged by the occurrence and shall return automatically to operating position after the blockage is cleared.

4.5.3 Riser Manhole

A minimum 24-inch diameter (28 bolt) minimum access manhole shall be provided approximately 3 feet above the base of the wet riser. The hatch shall open inward. A one-inch (1") threaded pipe nipple (NPT) shall be included in the riser fabrication, complete with plug. Manway shall be a cantilevered arm supported exterior style. The arm pivot shall include a zerck fitting in place.

4.6 Riser

The diameter of the wet riser shall be not less than 5 feet.

4.7 PIPING

4.7.1 Inlet/Outlet Piping

The vertical inlet/outlet pipe connection to the bottom of the riser shall be a ten-inch standard weight carbon steel pipe with appropriate transition to a base elbow of the same diameter. The vertical pipe shall extend up into the riser one foot above the riser base.

4.7.2 Overflow

The overflow pipe shall be designed to carry the maximum design flow rate of 1,200 GPM. The eight-inch steel overflow pipe shall have a minimum wall thickness of 1/4". A suitable weir shall be provided inside the tank with the crest located at High Water Level. The overflow shall be routed from the weir to

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closely match the roof contour and extend down the ladder column and terminate approximately 1 to 2 feet above grade and discharge onto a concrete splash pad. The point of discharge shall have a 45-degree elbow to and be equipped with a Tide-Flex series 35 valve.

4.8 Identification Plate

A tank identification plate shall be mounted on the tank riser pipe above the access manhole. The identification plate shall be corrosion resistant and contain the following information.

- a) Tank Contractor
- b) Contractor's project or file number
- c) Tank capacity
- d) Height to High Water Level
- e) Date erected

5.0 GUARANTEE

The tank Contractor shall guarantee its work for a period of one year from the date that final payment is issued to the extent that it will repair any defects caused by faulty design, workmanship or material furnished under the specifications. If Contractor is not advised of any defects by the end of the guarantee period, guarantee shall be considered fulfilled and complete. Defects caused by damaging service conditions such as electrolytic, chemical, abrasive or other damaging service conditions are not covered by this guarantee.

All guarantees obtained by the tank Contractor from the manufacturer or installer of paint, equipment or accessories not manufactured by tank Contractor shall be obtained for the benefit of the Owner.

6.0 TELEMETRY

The Contractor shall provide and install one (1) base plate for the purpose of mounting telemetry controls located on the balcony railing as specified by the Engineer. A 1" conduit for the telemetry shall be installed from the balcony railing to a specified point on the base leg. The telemetry components and wiring shall be installed under a separate contract by the Owner.

7.0 WATER LEVEL INDICATOR

The Contractor shall provide and install a water level indicator at the new 500,000-gallon tank. The level indicator shall show Full, 3/4, 1/2, 1/4, Empty. All metal parts shall be painted with the same type and conditions as the 500,000-gallon tank. All cable shall be stainless steel. The indicator assembly shall be located at tank dome ladder as directed by the Engineer. The indicator target shall be painted red.

4.2. TANK PAINTING SPECIFICATION

1.0 Painting

1.1 General

The items covered by this Section include cleaning, abrasive blast cleaning and painting of all interior and exterior steel surfaces. Work also includes disinfection of the tank after coating.

1.2 Reference Standards

Work performed and materials used must comply with the latest revisions of the following standards:

1. AWWA(American Water Works Association) D100 Standard for Welded Steel Tanks for Water Storage.
2. AWWA D102 Standard for Painting Steel Water Storage Tanks.
3. AWWA C652 Standard for Disinfection of Water Storage Facilities.
4. NSF (National Sanitation Foundation) 61 - Materials in contact with Potable Water.
5. Steel Structures Painting Council Manual - Volume 1 - Good Painting Practice,
6. Steel Structures Painting Council Manual - Volume 2 - Systems and Specifications.

1.3 Submittals

Before beginning the work the contractor shall provide the Engineer with the following information:

1. Name of the protective coating supplier and manufacturers data for the paint systems being used.

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2. A listing of the specific products proposed for use including but not limited to: abrasive materials, paint, solvents, thinners, etc.
3. Product data sheets for each of the proposed materials.
4. Samples of the color specified for owner approval.

1.4 Quality Control

1. Only paint and painting materials as specified shall be used.
2. Paint shall be delivered in unbroken containers bearing the designated name, specification number, color, directions for use, manufacturer and date of manufacture.
3. All manufacturers' instructions shall be carefully followed in the preparation, application, curing or drying and handling of the paint.
4. All prime, intermediate and finish coating materials shall be applied in different color shades.
5. Paint shall be stored in a location that is protected from the elements, well ventilated and free from excessive heat or open flame sources.
6. The contractor shall obtain the Inspector's written approval of the steel surface preparation and of each coat of paint, before applying succeeding coats. Such approval will not relieve the contractor of his obligations under the contract. Inspections may be waived by written notice to the contractor.
7. The contractor shall record environmental conditions, at the beginning of each daily operation, thirty minutes before painting begins and every hour during painting operations, on the attached Environmental Conditions Report.
8. Painting shall be performed by skilled painters using the materials and methods specified.

1.5 Health and Safety

The Contractor shall comply with all regulations as established by the Occupational Safety and Health Act and other government authorities. Up to date Material Safety Data Sheets shall be available on site for all products used. Workers shall wear proper protection devices. Where ventilation is used, all equipment shall be explosion proof. Temporary ladders and scaffolding systems shall conform to applicable safety requirements. It shall be the responsibility of the Contractor to adequately protect, shield or cover all structure, machinery, equipment and openings as required to prevent damage or contamination from the work procedures. The work area shall be kept clean at all times, consistent with the type of work being performed.

1.6 Testing

Dry Coating thickness measurements shall be made using a Magnetic Gauge. Tolerances to be in accordance with SSPC-PA 2 Measurement of Dry Coating

Thickness with Magnetic Gauges. Additional coats shall be applied as required to obtain the specified thickness. The Contractor will be required to perform Holiday Testing as soon as the work is sufficiently cured according to the manufacturer's recommendations. All pinholes and deficiencies will be repaired.

1.7 Site Conditions

The Contractor shall ensure that surface and ambient conditions are in accordance with the manufacturer's instructions immediately prior to and during application and for the period of curing. No paint shall be applied when the surrounding air temperature as measured in the shade is above or below the manufacturer's specifications. No paint shall be applied when the temperature of the surface to be painted is below manufacturer's recommended application temperature. Painting shall not be applied to wet or damp surfaces or when the ambient temperature is less than 5 degrees above the dew point.

2.0 SURFACE PREPARATION

2.1 Interior Surface Preparation

Remove all oil or greasy contamination from the surface prior to blast cleaning. All interior wet surfaces shall be abrasive blast cleaned to a SSPC SP-10 Near White Finish with a surface profile compatible with the paint manufacturer's recommendations. Interior dry surfaces shall be cleaned to a SSPC SP-6 Commercial Finish. Immediately after blasting and before any rusting occurs, apply one coat of shop primer as per the interior paint specifications.

2.2 Exterior Surface Preparation

Remove all oil or greasy contamination from the surface prior to blast cleaning. All surfaces shall be abrasive blast cleaned to a SSPC SP-6 Commercial Finish with a surface profile compatible with the paint manufacturer's recommendations. Immediately after blasting and before any rusting occurs, apply one coat of shop primer as per the exterior paint specifications.

2.3 Field Surface Preparation

After erection and prior to field touch up, all surfaces shall be cleaned to remove all surface contamination including oil, grease, dust, dirt and foreign matter. Weld slag, weld spatter and other sharp or rough projections shall be removed. All rusted, abraded and unpainted areas on the interior wet area shall be abrasive blast cleaned to a near white finish in accordance with SSPC SP-10. All other

rusted, abraded and unpainted areas shall be either abrasive blast or mechanically cleaned to a SSPC SP-6 Commercial Finish.

2.4 Paint Application

Coating materials to be applied in successive coats as specified by the manufacturer to attain the required dry film thickness for each system. Coatings to be applied without sags, foreign materials contamination or blemishes. Acceptable manufacturers include:

Sherwin Williams
Tnemec
Carboline

2.5 Shop Prime

Apply prime coat after blast cleaning and prior to flash rusting. If rust appears as a result of delay in primer application the surface shall be reblasted to specified surface preparation. A six-inch strip of blasted uncoated bare steel shall be left between the primed area and the edge of the steel plate.

3.0 COATING SYSTEMS

3.1 Interior Wet Coating

Interior wet coating systems will be applied within the following dry film thickness:

Prime Coat – One coat High Solids Epoxy by spray to a dry film thickness of 2-3 mils.

Weld Seams –High Solids Epoxy Brush apply to a dry film thickness of 2-3 mils.

Intermediate Coat - One coat High Solids Epoxy by spray to a dry film thickness of 4-5 mils.

Finish Coat – One coat High Solids Epoxy by spray to a dry film thickness of 4-6 mils.

Minimum DFT of paint system for interior wet coating to be 10 mils.

3.2 Exterior Coating

Exterior coating systems will be applied within the following dry film thickness:

Prime Coat – One coat epoxy Primer by spray to a dry film thickness of 2-3 mils.

Weld Seams – Epoxy Primer Brush apply to a dry film thickness of 2-3 mils.

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Intermediate Coat – One coat High Solids Epoxy by spray, brush or roller to a dry film thickness of 4-6 mils.

Finish Coat - One coat Gloss Aliphatic Polyurethane by spray, brush or roller to a dry film thickness of 2-3 mils.

Minimum DFT of exterior paint system to be 8 mils

4.0 CLEANUP

After completion of painting, remove all traces of splashed materials, paint droppings, and spots from finished and adjacent surfaces.

5.0 DISINFECTION

After painting has been completed the tank and piping shall be disinfected using either Method 2 or Method 3 as specified in AWWA C652 for Disinfection of Water Storage Facilities. The tank shall be filled with clean water furnished by the Owner. The tank disinfection water shall be dechlorinated at the time of discharge/disposal.

5.2 Bacteriological Testing

Upon completion of the disinfection process the Owner or his representative shall arrange for bacteriological testing of water samples by an independent lab. The tank shall not be put into service until safe test results are obtained.

ENVIRONMENTAL CONDITIONS REPORT

Project: _____

DATE	TIME	AIR TEMP.	SURFACE TEMP.	HUMIDITY	DEW POINT

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SECTION 5

WATER MAINS, SERVICE LINES AND APPURTENANCES

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5.1. SCOPE OF WORK

Work under this section shall include all labor, equipment, materials, hand tools and incidentals necessary to construct the water mains, service lines and appurtenances as shown on the project plans.

The Contractor shall provide all labor, equipment, and incidentals necessary to test, disinfect and place all lines into service.

5.2. MATERIALS

C-900 Pipe

Watermain piping sections designated as C-900 materials shall be polyvinyl chloride (P.V.C.) conforming to all requirements of A.W.W.A. Standard Specification C-900 and shall meet the following requirements:

Dimension Ratio (DR)--	NIC
Pressure Class	NIC
Joint Length (Laying Length)	20 feet
Test Pressure (2 hours minimum)	150% of normal line pressure (100 psi minimum)
Minimum Cover	30 inches
Maximum Cover	40 inches

I.P.S. Pipe

Watermain piping sections shall be the type and diameter as noted on the construction plans. The I.P.S. pipe shall conform to all requirements of A.S.T.M. Standard Specification D-2241 A.S.T.M. Standard D-3139 for Polyvinyl Chloride (P.V.C.) plastic pipe.

Dimension Ratio (DR)--	SDR-21
Pressure Class	Class 200
Joint Length (Laying Length)	20 feet
Test Pressure (2 hours minimum)	150% of normal line pressure (100 psi minimum)
Minimum Cover	30 inches
Maximum Cover	40 inches

P.V.C. Pipe

All pipe shall bear the National Sanitation Foundation seal of approval.

The pipe shall be jointed by means of rubber ring bell joint which shall be an integral and homogeneous part of the pipe barrel. The elastomeric seal gasket shall comply with the requirements of A.S.T.M. F-477. Each joint of pipe shall bear the manufacturer's name and dimension ratio.

Ductile Iron Pipe

Ductile iron pipe for watermains shall conform to the requirements of AWWA Standard C-151 "Ductile-Iron Pipe, Centrifugally Cast Inmetal Molds or Sandlined Molds, for Water or Other Liquids" and AWWA Standard C-150 "Thickness Design of Ductile Iron Pipe".

Rubber gaskets and pipe joints shall conform to requirements of AWWA Standard C-111 unless special gasket requirements are noted on the construction plans.

Pipe Characteristics for the Project

Pipe Class--	(4"-CL 51)(6" or larger-CL 50)
Lining--	Cement (AWWA C-104)
Laying Length--	18 feet
Joint Type--	Mechanical Joint (all pipe joints)
Fitting Class--	Ductile Iron
Fitting Type--	Mechanical Joint
Minimum Cover--	30 inches
Maximum Cover--	40 inches
Outside Coating--	Asphaltic (AWWA C-151)

Steel Casing Pipe

Material--	Steel Pipe, A.S.T.M. 153-B
Nominal Casing Diameter--	As shown on the Contract Plans
Minimum Yield Strength--	35,000 psi
Steel casing shall be new material	

Water Fittings

Water main fittings; i.e., ells, tees, reducers, etc.; shall be mechanical joint type and either ductile iron conforming to the requirements of AWWA C-110 or cast iron materials.

Compact ductile iron fittings shall conform to AWWA C-153 (350 pressure class). Valves, fittings and other appurtenances shall be the type and size shown on the project plans; shall include the appropriate type and sized gaskets, transition gaskets, seals, bolts and other incidental hardware. The cost of said miscellaneous hardware is to be considered incidental to the unit bid price of the related Pay Items. All fittings shall have the same outside coating and interior lining as the Ductile iron pipe.

Valves, Hydrants and Appurtenances

Valve assemblies shall be set plumb with valve boxes remaining directly over the valve. All new valve boxes or existing boxes which are reset shall be placed with the top of the valve box at finished grade. Valve boxes shall be backfilled and the earth thoroughly compacted.

In the event of valve settings in excess of three (3) feet, a permanent valve stem extension shall be furnished in the valve box. The cost of furnishing and installing the valve stem extension shall be included in the unit bid price per each valve and box setting.

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Hydrants shall be set plumb with the nozzles being not less than twelve (12) inches above the finished grade. Hydrants shall be turned in order that the pumper nozzle is directed toward the street, unless otherwise approved by the Engineer. Hydrants shall be provided with a crushed stone drainage sump area, a concrete thrust block backing and conform to requirements of the plans and construction details.

Fire hydrant connector pipe with restrainers (as manufactured by Assured Flow Sales, Inc. or equal) or ductile iron hydrant tee may be installed in lieu of the standard hydrant and thrust block method. The connector pipe shall be compact ductile iron, 350 psi and positioned between the hydrant and gate valve. The connector pipe shall be of the offset design so that the hydrant can be adjusted to ensure placement at the proper grade. Anchoring features shall be at both ends of the connector pipe to provide restrained joints. The connector pipe shall be cement lined.

All hydrants and all valves must be checked to verify that parts are in proper working order. Valve stem extensions shall be installed as directed by the Engineer.

Valves, hydrant assemblies and associated fittings shall be of the mechanical joint type only.

All valves, hydrants, fittings, etc., for this project shall be either cast iron or ductile iron materials. Cast iron items shall conform to the requirements of A.S.T.M. A126, Class B or A.S.T.M. A48. Ductile iron items shall conform to the requirements of A.S.T.M. specification A395, A445 or A536. Ductile iron fittings shall conform to the requirements of A.W.W.A. C-153.

Valve Characteristics for the Project

Gate Type--	Wedge Disc.
Seat--	Resilient Seat
Opening Direction--	Counterclockwise
End Type--	Mechanical Joint
Operation--	Non-rising Stem

Plug Valves

Valves shall be of the non-lubricated eccentric type with resilient faced, resilient seat plugs and shall be furnished with end connections as shown on the plans. Flanged valves shall be faced and drilled to the ANSI 125/150 lb. standard. Mechanical joint ends shall be to the AWWA Standard C111, latest revision. Bell ends shall be to the AWWA Standards C100, latest revision Class B. Screwed ends shall be to the NPT standard.

Port areas for valves through 20" shall be minimum 80% of full pipe area and port areas of 24" and larger valves shall be minimum 70% of full pipe area.

Valve bodies shall be of ASTM A126 Class B cast iron in compliance with AWWA C504, Section 2.2. Bodies in 3" and larger valves shall be furnished with a welded

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overlay seat of not less than 90% pure nickel in accordance with AWWA C507, Section 7.2. Valves utilizing resilient seats attached to the body shall not be acceptable. As per AWWA C504, Section 35.2 and AWWA C507, Section 7.2, sprayed or plated seats are not acceptable, nor shall screwed in seats be acceptable.

Plugs shall be of ASTM A126 Class B cast iron in compliance with AWWA C504, Section 2.2. The plug shall be of one piece construction and shall be capable of withstanding the full pressure rating of the valve without use of additional structural reinforcing ribs that extend beyond the profile of the plug itself. Plugs shall be resilient faced with neoprene or hycar, suitable for use with sewage. Plugs with cast inlays shall not be acceptable.

Valves shall be furnished with replaceable, sleeve type metal bearings conforming to AWWA C504, Section 3.6 and AWWA C507, Section 8. Bearings shall be of sintered, oil impregnated and permanently lubricated type 316 ASTM A743 Grade CF-8M or AISI Type 317L stainless steel in 1/2" - 36" sizes. In valves larger than 36", the upper and lower plug journals shall be fitted with ASTM A-240 type 316 stainless sleeves with bearings of ASTM B30, Alloy C95400 aluminum bronze. Non-metallic bearings shall not be acceptable.

Valves shaft seals shall be of the multiple V-ring type and shall be externally adjustable, repackable without removing the bonnet or actuator from the valve, and repackable under pressure. Shaft seals shall conform with AWWA C504, Section 3.7 and AWWA C507, Section 10.2. Valves utilizing O-ring seals or non-adjustable packing shall not be acceptable. All exposed nuts, bolts, springs, washers, etc., shall be stainless steel for buried valves and zinc plated for all others.

Valve pressure rating shall be 175 psi through 12" and 150 psi for 14" through 72". Each valve shall be given a hydrostatic and seat test with test results being certified.

Certified copies of proof-of-design test reports shall be furnished as outlines in AWWA C504, Section 5.5.

Manual valves shall have lever or gear actuators and tee wrenches, extension stems, floor stands, etc., as indicated on the plans. All valves 8" and larger shall be equipped with gear actuators. All gearing shall be enclosed in a semi-steel housing and be suitable for running in a lubricant with seals provided on all shafts to prevent entry of dirt and water into the actuator. The actuator shaft and the quadrant shall be supported on permanently lubricated bronze bearings. Actuators shall clearly indicate valve position and an adjustable stop shall be provided to set closing torque. All exposed nuts, bolts and washers shall be zinc plated.

Valves and gear actuators for buried or submerged service shall have seals on all shafts and gaskets on the valve and actuator covers to prevent the entry of water. Actuator mounting brackets for buried or submerged service shall be totally enclosed

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and shall have gasket seals. All exposed nuts, bolts, springs and washers shall be stainless steel. All gear actuators shall conform to AWWA C504, Section 3.8.

All valves and actuators shall be as manufactured by DeZurik or approved equal.

Hydrant Characteristics for the Project

Hydrant Type--	Dry Barrel Traffic Model
Main Valve Size--	5-1/4" For Water Mains 6" Dia. and Larger 4-1/2" For 4" Water Mains
Minimum Trench Depth--	3-1/2'
Opening Direction--	Counterclockwise
Opening Nut Size and Shape--	1-1/2" pentagon, point to flat
Color--	Red
Number of Hose Nozzles--	Two (2)

Hose Nozzle Specifications

Inside Diameter of Nipple--	2-1/2"
Thread Type--	National Standard Thread

Pumper Nozzle Specifications

Inside Diameter of Nipple--	4-1/2"
Thread Type--	National Standard Thread
Connection Type--	Mechanical

Stainless Steel Tapping Sleeve

Type--	Full Circle Single or Double Panel
Material--	Stainless Steel (Band and Armor Plate)
Gasket--	Full Circle, Full Width Neoprene with Check-O-Seal design
Band Lugs--	Stainless Steel
Nuts & Bolts--	Stainless Steel
Band Length--	12" minimum
Flange--	Stainless Steel Standard AWWA C207 Class D, ANSI 150 lb. Drilling with Recessed Flange to accept Tapping Valve

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All materials installed during the performance of this work shall be new materials and appurtenances in accordance with the contract specifications and contract plans with the exception of resetting of existing water meter boxes. New gaskets or fittings as required shall be furnished by the Contractor for the relocation and/or resetting of existing water meter assembly. After new water mains have been successfully placed into service the Contractor shall cut off, disconnect, plug and otherwise render inactive any cross-connection from the existing water lines (mains) which are being replaced. Additional compensation will not be allowed for such work; the cost of such work shall be considered incidental to the several Pay Items for the proposed water system.

Water meter service lines shall be installed by boring technique or by pushing service line under existing paved areas.

Compensation for driveway, road or street crossings will be included in the Unit Bid Price per linear foot of service line installation. The Contractor shall use due care and consideration when installing service lines by pushing under existing pavement, particularly in the presence of other existing buried utilities.

Standard Manufactured Items

Listed below are manufacturer's items which have been deemed acceptable for this project. This listing is in no manner exclusive and other suppliers' items which are equal will be acceptable. Suppliers of other manufacturer's items must submit specifications, technical data and materials testing reports for review and approval by the Owner and by the Engineer prior to materials acceptance under the "or equal" clause.

Polyvinyl Chloride Pipe:

Certained, Capco, Can-Tex, H & W, Vulcan, or equal.

Ductile Iron Pipe:

U.S. Pipe, Griffin, Tyler, or equal.

Gate Valves:

Kennedy, Mueller, or equal.

Fire Hydrants:

Mueller, Kennedy, or equal.

Tapping Sleeve:

Power Seal, JCM Industries, Inc. Smith-Blair, Inc., or equal.

Defective or Damaged Materials

The Contractor shall be responsible for all material furnished by or to him, and shall replace at no expense to the Owner all such material found to be damaged or defective in manufacture or as a result of improper handling. Replacement of defective or damaged

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materials shall include furnishing all material and labor required for a satisfactory and acceptable installation as approved by the Engineer.

The Contractor shall be responsible for the safe storage of materials furnished by or to him, and accepted by him for use on the project, until such time as the materials are incorporated into the completed project. The exterior as well as the sealing surfaces of all pipe, fittings, structures, seals and other accessories shall be kept free of dirt and foreign matter at all times. Care shall be taken at all times to avoid damage to pipe materials, fittings and appurtenances. Valves and hydrants shall be drained and stored in a manner that will protect them from damage by freezing. Pipe stored outside and exposed to prolonged periods of sunlight (several months or more) should be covered by canvas or other opaque material. Clear plastic sheets shall not be used. Air circulation shall be provided under covering.

5.3. DAMAGES TO EXISTING WATER FACILITIES

Repairs to existing facilities which are damaged by the Contractor, his agents, or subcontractors shall be repaired entirely at the expense of the Contractor. No Owner supplied materials may be used for such repairs. The Owner's crews will not be available to repair damages resulting from actions by the Contractor.

5.4. RESTORATION OF PRIVATE AND PUBLIC PROPERTIES

The Contractor shall protect all private properties and public properties from unnecessary disturbance or damage. Any areas of public or private property which are damaged or otherwise disturbed by the Contractor or his agents during the completion of this project shall be restored to a condition equal to or greater than that existing prior to construction at no expense to the Owner. The Contractor shall be responsible for adjusting to proper grade and alignment any existing or proposed water valves, water meter/box, fire hydrant, water mains, etc., within the limits of the project.

5.5. GENERAL INSTALLATION CONDITIONS

Existing water mains are to remain in service and functional at all times. Where existing service lines are to be replaced, new service lines shall be provided as quickly and as timely as possible with minimal inconvenience to the water customer.

Mains, service lines and hydrant connectors shall have not less than thirty (30) inches nor more than forty (40) inches cover above the top edge of the pipe. Forty-eight (48) inches of cover may be allowed in special locations only when previously approved by the Engineer or the Owner on a case by case basis. Street cuts shall be backfilled with compacted D.G.A. materials.

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The cost of furnishing, transporting, placing and compacting the granular fill material along water main sections, service line sections, etc., shall be paid for at the Unit Bid Price for special fill material.

The Contractor shall remove pavement or other improved surfaces; excavate the trenches and pits to the required dimensions; provide for the maintenance of traffic and other utilities; sheet, brace and support the adjoining ground or structures where necessary; handle all drainage or ground water; guard the site; distribute and lay the pipe and accessories; relocate any conduits, ducts or pipes where necessary; replace all damaged drains, sewers or other structures; backfill the trench and pits; remove surplus excavated material and clean the site of all debris; test the completed pipe line for pressure and leakage requirements; disinfect the completed pipeline; restore the pavements and other improved surfaces of the trench; and restore all disturbed ground surfaces to a condition, equal to or better than the original surface, as directed by the Engineer.

Temporary support, adequate protection and maintenance of all underground and surface utility structures, drains, sewers and other structures encountered in the progress of the work shall be furnished by the Contractor at his own expense. Where grade, alignment or minimum cover of the pipe is obstructed by existing utility structures such as conduits, ducts, pipes, branch connections to main sewers, or main drains, the line shall be adjusted by raising or lowering the main; (1) where grades are not critical or the obstruction shall be permanently supported, relocated, removed, or (2) reconstructed by the Contractor in cooperation with the owners of such utility structures where lines and grades are critical; as approved by the Engineer.

All pipe shall be laid to and maintained at the required lines and grades if shown on the plans. If lines and grades are not shown on the plans, the minimum cover as called for on the plans shall be maintained at all times. Fittings, valves, air vents and hydrants shall be installed at the required locations with valve and hydrant stems plumb. No deviation shall be made from the required line and grade or minimum/maximum cover requirements without approval from the Engineer or his representative.

5.6. PIPE PLACEMENT

The trench bottom shall be constructed to provide a firm, stable and uniform support for the full length of the pipe. The trench shall be dug to the required alignment and depth and only so far in advance of pipe laying as is safe and practical. No trench shall be left open and unguarded while construction operations are not in progress.

All pipe, fittings, valves, hydrants, and accessories shall be carefully lowered into the trench using suitable equipment in such a manner as to prevent damage to pipe and fittings. Under no circumstances shall the pipe or accessories be dropped or dumped into the trench.

All foreign matter or dirt shall be removed from the interior of the pipe before lowering into position in the trench. Pipe shall be kept clean by means approved by the Engineer during and after laying.

The pipe shall be cut in a neat and workmanlike manner without damage to the pipe so as to have a smooth end at right angles to the axis of the pipe. Pipe ends shall be cut square, deburred and beveled in accordance with the pipe manufacturer's recommendations.

The pipe and accessories shall be inspected for defects prior to lowering into the trench. Any defective, damaged or unsound material shall be repaired or replaced as directed by the Engineer.

The sealing surface of the pipe, the bell to be joined, and the elastomeric gaskets shall be cleaned immediately before assembly, and assembly shall be made as recommended by the manufacturer. When pipe laying is not in progress, the open ends of installed pipe shall be closed to prevent entrance of trench water into the line. Adequate backfill shall be placed on the empty water pipe to prevent floating. Any pipe that has floated shall be removed from the trench and the backfill restored. No pipe shall be laid when the trench conditions or the weather are unsuitable for proper installation, as determined by the Engineer.

5.7. BACKFILLING PIPELINE TRENCHES

General Requirements

All backfilling shall be accomplished in accordance with the details shown on the plans.

The Contractor shall obtain a compaction of the backfill of at least 95 percent of standard (A.S.T.M. D-698) Proctor density where mechanical tamping of backfill is required. Before final acceptance, the Contractor will be required to level off all trenches or to bring the trench up to the level of the surrounding terrain. The Contractor shall also remove from roadways, rights-of-way and/or private property all excess earth or other materials resulting from construction.

In the event that pavement is not placed immediately following trench backfilling in streets and highways, the Contractor shall be responsible for maintaining the trench surface in a level condition at proper pavement grade at all times for traffic and pedestrian crossing.

In all cases walking or working on the completed pipelines except as may be necessary in tamping or backfilling will not be permitted until the trench has been backfilled to a point one foot above the top of the pipe. The filling of the trench and the tamping of the backfill shall be carried on simultaneously on both sides of the pipe in such a manner that the completed pipeline will not be disturbed and injurious side pressures do not occur.

Method "A" -- Backfilling in Open Terrain

Backfilling of pipeline trenches in open terrain shall be accomplished in the following manner:

The Contractor shall backfill with natural soil to a point six (6) inches above top of pipe. The upper portion of the trench shall be backfilled with material which is free from large rock. Incorporation of rock having a volume exceeding one-half cubic foot is prohibited. Backfilling of this portion of the trench may be accomplished by any means approved by the Engineer. The trench backfill shall be heaped over until completely settled and then leveled.

Method "B" -- Backfilling under Sidewalks and Unpaved Driveways

Backfilling of pipeline trenches under sidewalks and unpaved driveways shall be accomplished in the following manner:

The Contractor shall backfill with natural soil to a point six (6) inches above top of pipe. That portion of the trench to a point six (6) inches below the grade line, shall be backfilled with material free from rock and acceptable to the Engineer. The material shall be placed and compacted in layers of approximately six (6) inches. Upon approval by the Engineer, the Contractor may backfill this portion of the trench with crushed stone in lieu of materials which require compaction.

The upper portion of the trench shall be temporarily backfilled and maintained with crushed stone or gravel until such time as the sidewalk is constructed or the driveway surface is restored.

Method "C" -- Backfilling under Streets, Roads & Paved Driveways

Backfilling of pipeline trenches under streets, roads and paved driveways shall be accomplished in the following manner:

The Contractor shall backfill with natural soil to a point six (6) inches above top of pipe. That portion of the trench to a point six (6) inches below the bottom of the pavement or concrete sub-slab, shall be backfilled with crushed stone.

The upper portion of the trench, from a point six (6) inches below the pavement or concrete sub-slab up to grade, shall be backfilled with a base course of dense-graded aggregate or crushed stone suitable to the Engineer. At such time that pavement replacement is accomplished, the excess base course shall be removed as required.

Settlement of Trenches

The Contractor shall be responsible for any trench settlement which occurs within one year from the time of final acceptance of the work. The trench settlement shall be repaired at no additional cost to the Owner.

Backfilling at Unimproved Driveways, Rural Roads and Unimproved Streets

The Contractor shall backfill with natural soil to a point twelve (12) inches above the top of the pipe. The remainder of the trench shall be backfilled with dense-graded aggregate (DGA) or crushed limestone suitable to the Engineer.

5.8. REACTION OR THRUST BLOCKING

A reaction or thrust blocking shall be provided at each hydrant, bend, tee and at reducers or fittings where changes in pipe diameters or directions occur. Anchorage may also be made to the water main pipe with rods and clamps.

5.9. SERVICE CONNECTIONS

Service connections for all pipe diameters and classes may be made by means of a suitable saddle, tapped coupling, or service connector for plastic pipe. The saddle, tapped coupling or service connector shall be installed according to the recommendations of the manufacturer thereof.

Service connections in Pressure Class 150 or 200 (C-900 pipe) with six inches or greater nominal size may be direct tapped. Threaded corporation stops shall be A.W.W.A. threaded stops. Non-threaded stops shall be rubber sleeved corporation stops. Tapping equipment used shall be standard water-works equipment using an A.W.W.A. threaded drill-tap tool designed for plastic pipe. Teflon tape shall be placed on the corporation stop threads prior to installation. Installation of corporation stops shall leave one to three threads visible. Stops shall not be torqued to more than thirty-five foot pounds.

5.10. PRESSURE AND LEAK TESTS

Sufficient backfill shall be placed prior to filling with water and field testing to prevent lifting of the pipe. When local conditions require that the trenches be backfilled immediately after the pipe has been laid, the testing may be carried out after the backfilling has been completed but before placement of permanent surface.

At least seven (7) days shall elapse after the last concrete thrust or reaction blocking has been cast.

The Contractor may perform simultaneous Pressure and Leakage Tests or may perform separate Pressure and Leakage Tests on the installed system at test durations and pressures specified.

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The Contractor shall furnish the gauges and measuring device for the leakage test, pump, pipe, connections, and all other necessary apparatus, and shall furnish the necessary assistance to conduct the test.

5.11. DISINFECTION

All new lines and exposed sections of existing lines shall be disinfected utilizing chlorine and flushed prior to being placed into service.

Due to safety and environmental hazards, **pressurized chlorine** gas shall NOT be used for waterline disinfection.

Disinfection of new, repaired or extended water distribution systems shall meet the requirements of the Kentucky Division of Water Quality and in accordance with A.W.W.A. Standard C-601 "Disinfection of Water Mains". Said systems shall be thoroughly disinfected before being placed into service, by use of chlorine or chlorine compounds in such amounts as to produce a concentration of at least fifty (50) ppm and a residual of a least twenty-five (25) ppm at the end of twenty-four (24) hours then followed by thorough flushing prior to the bacteriological sampling. New water distribution lines shall not be placed into service until the proper number of bacteriological samples taken at the points specified in the following paragraph of this section are examined and are shown to be negative following disinfection. Chlorination residual tests (50 and 25 ppm) shall be taken at each bacteriological test point.

Bacteriological samples shall be submitted for each new construction project, routine repair, replacement, or extension to existing systems after disinfection and flushing. Two samples shall be taken from the first one-half (1/2) mile of water line. On shorter lines a sample shall be taken from a tap point placed as near as possible to the origin and to the terminus points of the main (i.e., minimum of two (2) separate testing points per short run water main). Additionally, one (1) sample per mile for each mile of new distribution line shall be submitted. If bacteriological tests are positive, the sterilization and bacteriological tests shall be performed until bacteriological tests are negative. A complete chain of custody procedure shall be provided for each set of chlorine residual/bacteriological test samples.

All water sampling and testing shall be performed by independent laboratories/personnel which are deemed satisfactory and approved by the Engineer. Sampling, testing, analysis, etc., shall be provided at the expense of the Contractor and shall be considered incidental to the several Pay Items for the proposed water system.

5.12. CONNECTIONS TO EXISTING LINES

Connection of a new main to an existing main shall be performed in a safe, neat sanitary workmanlike manner. Connection to existing water mains shall be made under full pressure

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unless otherwise approved by the Engineer. A tapping valve and sleeve shall be utilized to provide the connection and shall be mechanical joint tapping sleeves.

Tapping sleeves shall be the proper size and shall be installed in accordance with the manufacturer's recommendations. Tapping sleeves shall be pressure tested to the pressure specified for the water main in the materials section of these specifications. Pressure testing shall be performed prior to the actual tapping of the existing water main.

In the event water service has to be interrupted, it must be under the approval and direct supervision of the utility owner. It will be the Contractor's responsibility to inform all affected customers 24 hours in advance of the interruption. The Contractor shall be responsible for opening and closing all valves that will affect customer service.

Great care shall be taken to prevent pipe line contamination when dewatering, cutting into or making connections with existing pipelines used for the conveyance or distribution of water for domestic or public use. The Contractor shall work with the Engineer in isolating services and shall conduct his operation in such a manner that no trench water, mud or other contaminating substances are permitted to get into the connected line or lines at any time during the progress of the work. The interiors of all pipe, fittings and valves, both new and reused, installed in such connections, shall be thoroughly cleaned and disinfected in accordance with A.W.W.A. Standard C-601, "Disinfection of Water Main" and requirements of the Kentucky Division of Water Quality.

5.13. SPECIAL CONDITIONS

In the event a new service line, new meter, meter box, etc., will be required at a previously non-existent service location, the Contractor shall install such items along the project at the respective Unit Bid Prices. The Engineer shall approve new service installations and location in writing prior to installation by the Contractor.

The Contractor shall be responsible for any damages to existing meters, meter boxes, etc., and should these be damaged due to his negligence, he shall be required to replace the damaged material with new equipment at no cost to the Owner.

The Contractor's attention is called to the sections of the General Specifications requiring disinfection and testing of the lines as well as the minimum intervals for test-point spacing. Test-point sampling, blow-offs, line flushing, etc., may be performed using newly installed fire hydrants, 3/4" corporation stops, or other points approved by the Engineer.

Incidental corporation stops installed by the Contractor for water testing, blow-off, etc., shall be provided by the Contractor at no additional cost to the Owner. Cost for such corporation stops shall be incidental to the Unit Price Bid per linear foot of water line. Ends of corporation stops shall be protected by use of a plastic cap or heavy-duty tape upon final use for point testing or other construction related use.

Upon final testing, disinfection and blow-off, the tested water line shall be flushed and purged of air. Air shall be released at all hydrants, corporation stops or by other methods approved by the Engineer.

**5.14. COORDINATION WITH WATER DEPARTMENT/DISTRICT
AND EMERGENCY SERVICES OFFICES**

The Contractor shall notify the Owner's Superintendent not less than 24 hours prior to the time an active water main is temporarily shut down or otherwise disrupts existing water service. Active water mains shall not be temporarily shut off for more than two (2) hours without approval by and scheduling with the Engineer and with the Owner's Superintendent.

The Contractor shall notify the appropriate Fire Department(s) prior to temporarily shutting down an existing water main and shall notify all area emergency agencies (i.e., police, ambulance, etc.) prior to blocking a public roadway in any manner which would result in the road becoming impassible by emergency vehicles.

5.15. QUALITY CONTROL

Each truckload of pipe delivered to the project shall be subject to field measurements and tests deemed necessary by the Engineer. These tests may be conducted by the Engineer or his representative. The costs of such testing shall be the responsibility of the Owner, however, the cost of any pipe destroyed during such testing shall be the responsibility of the Contractor.

5.16. DITCH CROSSING PROTECTION

At ditch crossing locations shown on the construction plans bag mix shall be placed on top of the water line for ballast and line protection. The water line trench shall be excavated to a depth which will provide a minimum of 30 inches cover between top of the pipe and the ditch bottom.

Bags of pre-mixed cement concrete shall be placed over the pipe to form a continuous protective cover prior to backfilling the trench. The bags shall be placed flat over the pipe with the length dimension of the bag being perpendicular to the centerline of the water line. The paper bags shall be cut or perforated in order for the concrete mix to bond between bags. The protective concrete bags shall extend a minimum of four (4) feet beyond the limits of the natural or proposed ditch bottom. Compensation for the ditch crossing protection shall be included in the bid price.

5.17. JACK AND BORE

Roadway crossings and other sections of the proposed project requiring steel encasement pipe shall be installed at locations, to the line and grade, shown on the Project Plans. Unless otherwise noted in the Project Plans or Specifications the steel casing shall be installed by Jack and Bore Technique. Compensation for the Jack and Bore installed steel casing shall be paid per bid unit price for the respective size of installed steel casing sections as verified by and as approved by the Engineer.

Steel pipe shall conform to requirements of A.S.T.M. A53-B and shall not be less than the minimum diameter and wall thickness shown on the Project Plans. The steel pipe shall have a minimum yield strength of not less than 35,000 psi. Steel casing shall be new materials.

The void between the carrier pipe and the steel casing pipe at each end of the casing shall be thoroughly sealed with mastic.

When a casing is extended under a road ditch, the top of the casing shall be a minimum of thirty (30) inches below the ditch flow line.

5.18. WATER LINE EASEMENTS AND TEMPORARY WORK/STORAGE AREAS

The Contractor will not be responsible for securing permanent easements or rights of way for the water line location. The Contractor shall secure written permission for use of any private properties in conjunction with this project regarding equipment or material storage, temporary office placement, or other construction related activities. Copies of the written private property access agreement shall be available to the Owner or Engineer upon request.

5.19. SALVAGE MATERIALS AND ITEMS

Existing water line pipe, fittings, blow-offs, hydrants and appurtenances required to be removed by the Contractor during the performance of this Contract shall be salvaged and returned by the Contractor to the water utility storage yard unless otherwise directed by the Engineer.

5.20. TRACER WIRE

The Contractor shall install a tracer wire along the entire water main system. The tracer shall be continuous along the main with no gaps, breaks nor open circuits. The insulated copper wire shall be installed along the top elevation of the water line pipe, secured with tape and shall be connected to **the exterior** of each valve box for future electronic signal tracing.

Splices in the tracer wire shall provide a positive, secure connection and shall be protected by wrapping with electrical tape, approved electrical connector or electrical sealing compound. The wire shall be loosely strung and shall **NOT** be pulled taut. All tracer wire shall be tested by the Contractor and shall satisfactorily convey electrical signal. Any defective section of tracer wire shall be repaired and/or replaced at the Contractor's expense.

The cost of installing the tracer wire shall be included in the bid unit price(s) for the water main construction.

5.21. TRACER WIRE MATERIAL

Insulated copper wire: AWG 14, Type 1, THHN or THWN, 600 V; insulation shall be gasoline and oil resistant.

5.22. FINAL INSPECTION

Final inspection of the water distribution system shall be completed after pressure/leak tests and disinfection procedures have been completed with satisfactory test results furnished to the Engineer. At the time of final inspection the Contractor shall be required to flush all hydrants and blow-offs. All valves and hydrants shall be inspected for plumbness and correct construction.

Final inspection shall be completed prior to final release of the project retainage funds. Unsatisfactory construction items discovered during the final inspection process shall be repaired by the Contractor to the satisfaction of the Engineer.

Any valves, hydrants, blow-offs, air release valves or other construction items which are not found to be completed, turned on, or ready for use at the time of subsequent fire flow or system testing by the local fire department and/or water system operator, will be reported to the Contractor for repair. A service call fee of not less than \$100.00 will be paid by the Contractor to the fire department and/or water system operator that dispatched personnel and equipment necessary for testing the completed line in the event the item (i.e. line, hydrant, valve, etc.) is not available for service, is not turned on or is otherwise inoperable.

5.23. PROXIMITY TO EXISTING SEWER MAINS

Water mains crossing sewer shall be laid to provide a vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a

water main crosses under a sewer, adequate structural support shall be provided for the sewer to prevent damage to the water main.

Water mains shall be laid at least 10 feet horizontally from any existing or proposed sewer main. The distance shall be measured edge to edge.

5.24. METER SETTER CHANGE-OUT (PRV/DOUBLE CHECK)

Meter Box and Cover

A meter box with cover shall be provided for each service and shall be as near the property line as possible and shall be located as directed by the Engineer. The meter box shall be high density polyethylene (0.300 inch wall thickness) construction as manufactured by Carson Industries or approved equal. The size shall be 24" deep unless otherwise specified or required by the meter size (DX 1015-24 HDPE or approved equal).

The meter box cover shall be a non-hinged HDPE cover (DX 1015-8 or approved equal) with a cast iron meter reading lid (DX 1015-24 CIR or approved equal).

Meter boxes and covers shall be set with backfill neatly compacted in place. In yards and other maintained areas, the top of the meter box cover shall be 1/2 inch to 1 inch above original grade, otherwise 2 inches above original grade.

Salvageable parts from damaged meter boxes shall be secured by the Contractor and be returned to the City's maintenance shop.

Meter Setting Equipment

The meter setting equipment shall consist of a copper meter yoke, with an inlet and outlet suitable for connection to the existing service pipes. The meter yoke shall be provided with a plain stop. Unless otherwise specified or required for the service, the yoke shall accept a 5/8 inch by 3/4 inch meter as specified below. The cost of existing service line tie-in shall be included with the unit price bid for meter setter change-out.

Copper meter yokes shall have angle ball valve inlet, double check valve outlet and 7" rise. Meter yokes shall include an individual PRV, the tandem yoke shall be an A.Y. McDonald Model No. 22-207-WD-2233 or approved equal.

Meter yokes shall be supplied with two (2) end connections (with gaskets) per meter setting. Inlet end connections shall be Ford Pack Joint or equal for 3/4" CTS or as required based upon type of service line used. Outlet end connections shall be FIP double purpose outlet, or as required based upon type of existing service line. Insert stiffeners (of approved length) shall be furnished and installed for each inlet and outlet meter setting service pipe connection.

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Existing meter setters shall be removed by the Contractor and returned by the Contractor to the Owner's maintenance shop for reuse/rebuilding by the Owner.

Pressure Reducing Valve (Individual)

When called for on the drawings or when directed by the Engineer, the Contractor shall install a pressure reducing valve, with strainer, equal to the size of the service. This valve shall be placed inside the meter box according to the standard drawings. Pressure reducing valves shall be Honeywell Braukmann Series DO5, Wilkins Series 500 YSBR, A.W. Cash Company, No. E24U or Watts Series 223 and Series N223B for larger size lines, or approved equal. All PRV's shall include a separate strainer. PRV units for 1-1/2" or larger lines shall be installed in-line and within a separate meter box assembly.

SECTION 6

D. G. A. BASE MATERIALS

<u>Section</u>	<u>Item</u>	<u>Page</u>
6.1	Scope of Work	TS-59
6.2	Placement	TS-59
6.3	Subgrade Stabilization	TS-59
6.4	Clearing and Excavation	TS-59
6.5	Subgrade Approval	TS-60
6.6	Dust and Nuisance Control	TS-60
6.7	Base Material Watering and Conditioning	TS-60

6.1. SCOPE OF WORK

Work under this section shall include all labor, equipment, materials, hand tools and incidentals necessary to furnish and place the D.G.A. base at the Project.

All D.G.A. base materials shall be furnished and placed in accordance with the Standard Specification for Road and Bridges Construction issued by the Kentucky Department of Highways.

6.2. PLACEMENT

Base course material shall be placed to a minimum width and depth as specified on the Project Plans. Base course D.G.A. shall be placed in compacted lifts no greater than four (4) inches.

The D.G.A. shall be placed on the prepared subgrade; shaped and compacted to the lines, grades and cross sections shown on the Project Plans. The base material may be placed by tail-gating from trucks and spread by motor grader, providing such operation produces a uniform grade and section satisfactory to the Engineer. The base material shall be shaped and compacted to have no more than 1/2 inch deviation from the typical cross section after completion.

The D.G.A. base material shall be compacted to a density of not less than 80 percent of the solid volume throughout the layer. In no case shall each layer receive less than the compactive effort of a steel-wheeled vibratory roller weighing at least ten (10) tons.

6.3. SUBGRADE STABILIZATION

In all cases, regardless of Base Material type, unstable subgrade materials shall be removed and replaced with crushed limestone materials as directed by the Engineer as subgrade stabilization materials. The cost of street subgrade stabilization shall be paid at the Bid unit price per ton of Stabilization Material; payment shall include unstable subgrade and unstable D.G.A. base materials removal, transporting and disposal.

6.4. CLEARING AND EXCAVATION

Existing pavement removal, excavation to subgrade and subgrade preparation shall be included in the Bid unit price for D.G.A. base material. Excess excavation and construction debris shall become the property of the Contractor and shall be removed, hauled and disposed of by the Contractor. Locations for excavation/waste material disposal shall be provided by the Contractor.

6.5. SUBGRADE APPROVAL

Base materials shall be placed on stable, compacted subgrade and shall not be placed on mud, frozen ground, unstable areas, areas subject to pumping or other uncompacted areas. No payment will be allowed for D.G.A. materials placed prior to approval of the subgrade by the Engineer. The subgrade shall be drained at all times.

6.6. DUST AND NUISANCE CONTROL

Adjacent street, roadways, alleys, driveways, and sidewalks shall be kept reasonably clean of mud, dust, dirt and associated construction debris. The Contractor shall provide a power broom, watering truck or other devices deemed necessary to clean adjacent streets in order to minimize nuisance and/or cause inconvenience along the public thoroughfare in the vicinity of the site.

6.7. BASE MATERIAL WATERING AND CONDITIONING

Watering, grading or compacting of the subgrade shall be provided by the Contractor in order to keep the D.G.A. base materials tight and compacted prior to placement of the base asphalt materials.

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SECTION 7

FENCING

<u>Section</u>	<u>Item</u>	<u>Page</u>
7.1	Scope of Work	TS-62
7.2	Fencing Materials	TS-62
7.3	Construction	TS-64

7.1. SCOPE OF WORK

Work under this section shall include all labor, equipment, materials hand tools, and incidentals necessary to furnish and place the fencing (including required temporary fencing). The fence shall be constructed along a true line as shown on the Contract Plans. All materials shall conform to the Standard Specifications for road and bridge construction issued by the Kentucky Department of Highways.

7.2. FENCING MATERIALS

Fencing materials shall meet the following minimum size and physical characteristic requirements:

Barbed Wire -	12 1/2 gage steel 4 point pattern 5" spacing
Timber/Corner Pull Posts and Brace Posts -	Treated timber 8"x8" nominal size 8' overall minimal length 3' minimum bury depth maximum spacing: 250'
Line Posts -	Studded steel "T" posts Weight: 1.33 #/L.F. 7' overall minimum length 2.5' minimum driven depth Maximum spacing: 10'
Timber Braces -	Treated timber Nominal size: 4"x4" Diagonal placement with Maximum 10' horizontal span Length
Chain Link Fence Fabric -	Zinc coated steel 0.148" nominal diameter (No. 9 Gage) 2" mesh spacing Top and bottom salvages shall be twisted and barbed.

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Chain Link Line Posts -	Steel posts (A.S.T.M. A-569) Minimum O.D. - 2" (2.28 #/L.F.) Zinc galvanized coating per A.S.T.M. B-6
Chain Link Corner Posts -	Steel posts (A.S.T.M. A-569) Minimum O.D. - 3" (4.64 #/L.F.) Zinc galvanized coating per A.S.T.M. B-6
Chain Link Top Rail -	Steel pipe (A.S.T.M. A-569) Minimum O.D. - 1-5/8" (1.84 #/L.F.) Zinc coated galvanized coating per A.S.T.M. B-6
Chain Link Post Depth -	Corner posts at 36" depth in 2500 psi concrete (minimum 12" diameter) Line posts at 30" depth in 2500 psi concrete (minimum 12" diameter)
Temporary Safety Fence -	Polypropylene High Visibility Safety: i.e., Orange, Yellow, etc. Nominal 48" tall Minimum tensile strength: 600 lbs./ft. of width 700 lbs./ft. of length Temperature Range: -22 degrees to 150 degrees Fahrenheit Ultra Violent Resistance: Fully stabilized
Vinyl Fence -	5" x 5" square posts 5-1/2" x 1-1/2" rails - 16' long Maximum 8' horizontal span length Flexural strength (ASTM D 790) Tensile Elongation (ASTM D 696)

NOTE: All fencing and gates on this project shall be galvanized chain link type.

7.3. CONSTRUCTION

Fence shall be constructed with new materials at locations shown on the Contract Plans. Sufficient tension shall be applied to each of the fence fabric and the barbed wire strands between pull posts in order to provide a stock tight fence.

Posts shall be set or driven to the minimum depth established for the respective type post. Posts shall be erected plumb and shall be in true alignment. Posts shall be set firm and rigid in its position by tamping, concreting or driving as is applicable.

Posts which are split, bent or otherwise damaged shall be removed and replaced by the Contractor at no additional compensation.

Wire Fence

Diagonal braces shall be placed at each corner post system and at each pull post system. Ends of the diagonal brace shall be chamfered to fit vertical posts at each end and shall be secured to posts by spike nailing.

Barbed wire strands and/or woven wire fence fabric shall be secured to steel posts by use of standard manufactured ties or wire loops. Fence fabric and/or barbed wire strands shall be secured to wooden posts by steel staple nails. Barbed wire strands shall be installed at uniform spacing and shall be parallel to the general ground level for barbed wire fences.

Temporary Fence

Temporary fencing shall be erected along pasture areas where livestock will remain during construction process and shall be placed along the temporary construction easement limits. Any temporary fencing required during the construction project shall be coordinated with the respective property owner/farm operator by the Contractor. The cost of furnishing, installing, maintaining and removing any temporary fence sections necessary during the project shall be merged into the bid unit price for permanent fence construction.

Temporary Safety Fence

Temporary safety fence shall be constructed at locations shown on the Contract Plans and per manufacturer's recommendations. Sufficient tension shall be applied to the fence fabric between pull posts in order to provide a tight fence.

Temporary safety fencing shall be placed along the temporary construction easement limits or as indicated on the Contract Plans. The cost of furnishing, installing, maintaining and removing any temporary safety fence sections necessary during the project shall be a separate bid item.

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Chain Link Fence

Fence height shall be as shown on plans. Three strands of barbed wire shall be placed at the top of the fence supported by barbed wire arms. Post caps and socket type brace connections shall be galvanized malleable iron. All posts, rails, gate frames and expansion sleeves shall be zinc coated steel.

Fabric ties shall be minimum 0.148" nominal diameter (No. 9 Gage) aluminum alloy. All hog rings and tension wire shall be zinc coated steel wire.

Vinyl Fence

Fence height shall be as shown on plans. The posts shall be set plumb in concrete to a set depth of 36 inches. The rails shall be 16-foot long with the posts set on 8-foot centers. All posts shall have caps covering exposed openings.

SECTION 8

SEEDING AND PROTECTION

<u>Section</u>	<u>Item</u>	<u>Page</u>
8.1	Scope of Work	TS-67
8.2	Materials	TS-67
8.3	Construction Requirements	TS-67

8.1. SCOPE OF WORK

This work shall consist of the preparation, seeding and mulching of all disturbed areas within the limits of construction, as directed by the Engineer.

8.2. MATERIALS

Materials shall conform to the following requirements:

Seed Mixture

70 percent Kentucky 31 Fescue
15 percent Creeping Red Fescue
10 percent Red Top
5 percent White Dutch Clover (per Mixture No. 1, Kentucky Standard Specifications)

Application Rate: 4 pounds per 1,000 square feet (175 pounds per acre)

Fertilizer

Fertilizer shall conform to the requirements of Section 827.04 of the Kentucky Standard Specifications. Unless otherwise specified the fertilizer shall be 10-10-10.

Application Rate: 23 pounds per 1,000 square feet (1,000 pounds per acre)

Straw Mulch

Straw mulch shall conform to the requirements of Section 827.06 of the Kentucky Standard Specifications.

Application Rate: 2 tons per acre (approximately 2-inches loose depth)

8.3. CONSTRUCTION REQUIREMENTS

Areas of established lawns and other non-agricultural areas disturbed during construction work shall be backfilled and graded to existing/adjacent ground lines in a smooth and uniform manner. All backfill shall be free of large roots, asphalt, concrete or other debris.

Fertilizer shall be thoroughly incorporated into the soil, either prior to or at the time of seeding.

Normally seeding and ground cover restoration will occur from March through June and from September through November, inclusive.

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The Contractor is required to exercise extreme care when backfilling and shaping the disturbed areas to insure that flooding and water ponding will not occur. Areas of excessive settlement, ponding, etc., shall be reshaped, filled or regraded as many times as necessary to provide a uniformly contoured restoration area, at no additional cost to the Owner.

The Contractor shall grade, disc, shape, seed, fertilize, mulch and water the ground cover restoration areas as many times as necessary in order to provide a uniform ground cover of specified grasses and clovers in all restoration areas. The Contractor shall provide a guaranteed ground cover at all restoration areas for a period of one year after project completion.

SECTION 9

MATERIALS SPECIFICATIONS

<u>Section</u>	<u>Item</u>	<u>Page</u>
9.1	Materials Specifications	TS-70
9.2	Flowable Fill as Pipe Backfill	TS-70
9.3	Portland Cement Roadbed Modification	TS-72

9.1. MATERIALS SPECIFICATIONS

All construction materials shall conform to the requirements as specified by the Kentucky Department of Highways or as otherwise defined in the Project Specifications and Contract Documents.

The cost of any materials testing or sampling shall be the responsibility of the Owner. Any stockpiled or placed materials which the Engineer deems inferior or inadequate shall be removed and replaced at the Contractor's expense.

All construction materials shall be the type and size shown on the Construction Plans.

The Contractor shall furnish upon request the manufacturer's/vendor's certification of materials standards for review and approval relative to the requirements of the Contract Documents.

9.2. FLOWABLE FILL AS PIPE BACKFILL **(NIC)**

Unless otherwise specified on the project plans, flowable fill shall be used at roadway crossings as backfill material. Compensation for furnishing and placing the flowable fill shall be paid per cubic yard as verified by and as approved by the Engineer.

Description

Flowable fill is a low strength mixture consisting of portland cement, sand, class F fly ash, water and other materials as approved by the Engineer. Flowable fill has a density between 115 lb./c.f. and 130 lb./c.f. and is of a consistency that will flow under and around pipe. Flowable fill does not require compaction, finishing, or curing and will not settle after hardening occurs. It is ideal for use in restricted areas where placing and compacting fill material is difficult and where traffic cannot be delayed for a long period. When used to backfill aluminum pipe, an approved means of separation shall be provided, such as bituminous coating.

Materials

Unless otherwise approved by the Engineer flowable fill shall be proportioned as follows, per cubic yard:

Cement	30 lbs.
Fly Ash, Class F	300 lbs.
Sand (S.S.D.)	3000 lbs.
Water (Maximum)	550 lbs.

To expedite settlement and hardening of the flowable fill, bleed water should appear on the surface within 5 to 10 minutes after placement. The release of water by bleeding

caused the solid particles to realign into intimate contact and the mixture becomes firm. A delay in bleeding indicates there are too many fines in the mixture or insufficient water. If the maximum water was added, the fly ash quantity shall be reduced in increments of 50 lbs. until the mixture is bleeding freely. Approximately 60 lbs. of sand shall be added to replace each 50 lbs. increment of fly ash to maintain the original yield. If two increment reductions, 100 lbs., do not promote free bleeding of the mixture, other possible remedies shall be evaluated. The flowable fill is too dry when cracks develop as it flows into place.

A set of test cylinders shall be cast for each 300 cubic yards of flowable fill. Cylinders shall not be rodded, but the sides of the mold shall be tapped lightly. The test cylinders shall be allowed to bleed for about 30 minutes, refilled, and then covered with a sheet of tough durable impervious plastic or cylinder lid. Plastic shall be secured in place around the mold, within one inch of the top, with a rubber band or string prior to covering the lid with wet burlap. The burlap shall be removed after 24 hours and the cylinder cured at 60 degrees Fahrenheit to 90 degrees Fahrenheit, in the shade, until 28 days old. The plastic covering and mold shall then be removed and the compressive strength test shall be performed. The average of the 28 days compressive strength tests shall be 50 Psi to 100 Psi. This strength range will provide the optimum balance of adequate cohesion while allowing ease of subsequent removal, if necessary.

Construction

Unless otherwise approved by the Engineer, flowable fill shall be delivered in revolving drum truck mixers to insure that the mixture is in suspension when placed. Agitation will be required during transportation and waiting time. Subsidence may occur if the mixer is not agitated. Flowable fill may be placed by discharging directly from truck chutes into the trench or it may be placed by means of conveyors, buckets or pumps. If pumping is utilized the voids shall be adequately filled with solid particles to provide adequate cohesiveness for transport through the pump line under pressure without segregation. Inadequate void filling results in mixtures that may segregate in the pump and may cause line blockage. Continuous flow through the pump line shall be maintained. Interrupted flow may cause segregation which restricts flow and may result in line blockage.

The flowable fill shall extend from the top of the compacted bedding to the bottom of the pavement structure. Flowable fill shall be in place a minimum of 2 hours prior to the addition and compaction of any material above it unless otherwise directed by the Engineer.

When flowable fill is used, the Contractor may reduce the trench width to a minimum of 6 inches clearance on each side of the pipe. Standing water in the trench does not have to be pumped out before backfilling with flowable fill.

Because certain types of pipe may float, it may be necessary to backfill in lifts or anchor the pipe. Backfilling in lifts is generally more applicable to long lines of pipe, allowing time for a substantial amount of the water to dissipate prior to applying the next lift.

Anchors may be made of small lumber or metal straps, and shall be adequately spaced. For larger diameter pipe, it may be possible to maintain a surge of flowable fill on top of the pipe to prevent floating. Floating will usually not occur after the level of the backfill is above the springline of the pipe. The Contractor shall be responsible to insure that the pipe remains in the correct horizontal position and at the specified elevation.

9.3. PORTLAND CEMENT ROADBED MODIFICATION
(NIC)

The roadbed modification process is achieved by uniformly mixing portland cement with roadbed materials and compacting to the lines, grades, thickness, and cross sections as specified in the contract plans. Modification shall also comply with Kentucky's Standard Specifications for Road and Bridge Construction, Section 304. Mixing depth and cement ratio shall be as defined in the Contract Documents or as directed by the Engineer.

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SECTION 10

CONCRETE

<u>Section</u>	<u>Item</u>	<u>Page</u>
10.1	General	TS-74
10.2	Products	TS-80
10.3	Execution	TS-82
10.4	Concrete Reinforcement	TS-94
10.5	Products	TS-95
10.6	Execution	TS-96
10.7	Expansion Joints, Contraction Joints and Waterstops	TS-97
10.8	Products	TS-99
10.9	Execution	TS-99

10.1. GENERAL

References

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN CONCRETE INSTITUTE (ACI)

ACI 211.1	(1981; Rev 1985) Selecting Proportions for Normal, Heavyweight, and Mass Concrete
ACI 211.2	(1981) Selecting Proportions for Structural Lightweight Concrete
ACI 301	(1984; Rev 1988) Structural Concrete for Buildings
ACI 305R	(1977; Rev 1982) Hot Weather Concreting
ACI 318	(1983; Rev 1986) Building Code Requirements for Reinforced Concrete

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 31	(1988) Making and Curing Concrete Test Specimens in the Field
ASTM C 33	(1986) Concrete Aggregates
ASTM C 39	(1986) Compressive Strength of Cylindrical Concrete Specimens
ASTM C 42	(1987) Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
ASTM C 78	(1984) Flexural Strength of Concrete (Using Simple Beam With Third Point Loading)
ASTM C 94	(1986b) Ready Mixed Concrete
ASTM C 109	(1987) Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or 50-mm Cube Specimens)
ASTM C 143	(1978) Slump of Portland Cement Concrete

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ASTM C 150	(1986) Portland Cement
ASTM C 171	(1969; R 1986) Sheet Materials for Curing Concrete
ASTM C 172	(1982) Sampling Freshly Mixed Concrete
ASTM C 173	(1978) Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C 192	(1988) Making and Curing Concrete Test Specimens in the Laboratory
ASTM C 231	(1982) Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C 260	(1986) Air-Entraining Admixtures for Concrete
ASTM C 309	(1981) Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C 330	(1987) Lightweight Aggregates for Structural Concrete
ASTM C 494	(1986) Chemical Admixtures for Concrete
ASTM C 552	(1988) Cellular Glass Thermal Insulation
ASTM C 567	(1985) Unit Weight of Structural Lightweight Concrete
ASTM C 578	(1987a) Preformed, Cellular Polystyrene Thermal Insulation
ASTM C 595	(1986) Blended Hydraulic Cements
ASTM C 597	(1983) Pulse Velocity Through Concrete
ASTM C 618	(1987) Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete
ASTM C 803	(1982) Penetration Resistance of Hardened Concrete

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ASTM C 805	(1985) Rebound Number of Hardened Concrete
ASTM C 989	(1988) Ground Iron Blast Furnace Slag for Use in Concrete and Mortars
ASTM C 1017	(1985) Chemical Admixture for Use in Producing Flowing Concrete
ASTM D 98	(1987) Calcium Chloride
ASTM E 96	(1980) Water Vapor Transmission of Materials

FEDERAL SPECIFICATIONS (FS)

FS HH I-530 (Rev B; Int Am 1) Insulation Board, Thermal, Unfaced, Polyurethane or Polyisocyanurate

FS CCC-C-467 (Rev C) Cloth, Burlap, Jute (or Kenaf)

NATIONAL READY-MIXED CONCRETE ASSOCIATION (NRMCA)

NRMCA 01	(Jan 1, 1984) Certification of Ready Mixed Concrete Production Facilities
NRMCA CPMB 100	(8th Rev 1986) Concrete Plant Standards
NRMCA TMMB-01	(Jan 1, 1982; 11th Rev) Truck Mixer and Agitator Standards

CORPS OF ENGINEERS (COE)

COE CRD-C 621-	(1989) Specification for Non-Shrink Grout
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Submittals

Submit shop drawings and product data as directed by the Engineer and as outlined in the Contract Documents.

General Requirements

A. Strength Requirements

Structural concrete for all work shall have a 28-day compressive strength of 3,500 pounds per square inch. Concrete slabs on-grade as indicated shall have a 28-day flexural strength of 600 pounds per square inch. Concrete made with high-early strength cement shall have a 7-day strength equal to the specified 28-day strength for concrete made with Type I or II Portland cement.

B. Air Entrainment

Concrete may, at the option of the Contractor, be air entrained to produce concrete with 3 to 5 percent total air.

C. Special Properties

Concrete may contain other admixtures, such as water reducers, superplasticizers, or set retarding agents to provide special properties to the concrete, if approved.

D. Slump

Slump shall be within the following limits:

<u>Structural Element</u>	<u>Slump in inches</u>	
	<u>Minimum</u>	<u>Maximum</u>
Walls, columns and beams	2	4
Foundation walls, substructure walls, footings, pavement, and slabs	1	3
Any structural concrete approved for placement by pumping	None	6

*Where use of superplasticizers are approved to produce flowing concrete these slump requirements do not apply.

E. Technical Service for Specialized Concrete

The service of a technical representative shall be obtained to oversee proportioning, batching, mixing, placing, consolidating and finishing of specialized structural concrete, such as lightweight or flowing concrete until field controls indicate concrete of specified quality is furnished.

Proportions of Mix

A. Mixture Proportioning, Normal Weight Concrete

Trial batches shall contain materials proposed to be used in the project. Trial mixtures having proportions, consistencies and air content suitable for the work shall be made based on methodology described in ACI 211.1, using at least three different water-cement ratios. Trial mixes shall be proportioned to produce concrete strengths specified. In the case where ground iron blast-furnace slag is used, the weight of the slag will be substituted in the equations for the term P which is used to denote the weight of pozzolan. Trial mixtures shall be designed for maximum permitted slump and air content. The temperature of concrete in each trial batch shall be reported. For each water-cement ratio at least three test cylinders for each test age shall be made and cured in accordance with ASTM C 192. They shall be tested at 7 and 28 days in accordance with ASTM C 39. From these test results a curve shall be plotted showing the relationship between water-cement ratio and strength.

B. Average Strength

In meeting the strength requirements specified, the selected mixture proportion shall produce an average compressive strength exceeding the specified strength by the amount indicated below. Where a concrete production facility has test records, a standard deviation shall be established. Test records from which a standard deviation is calculated shall represent materials, quality control procedures, and conditions similar to those expected; shall represent concrete produced to meet a specified strength or strengths within 1000 psi of that specified for proposed work; and shall consist of at least 30 consecutive tests. A strength test shall be the average of the strengths of two cylinders made from the same sample of concrete and tested at 28 days or at other test age designated for determination of the specified strength.

1. Test Records Exceeding 29

Required average compressive strength used as the basis for selection of concrete proportions shall be the larger of the specified strength plus the standard deviation multiplied by 1.34 or the specified strength plus the standard deviation multiplied by 2.33 minus 500 .

2. Test Records Less Than 29

Where a concrete production facility does not have test records meeting the above requirements but does have a record based on 15 to 29 consecutive tests, a standard deviation may be established as the product of the calculated standard deviation and a modification factor from the following table:

No. of tests (1)	Modification factor for standard deviation
Less than 15	See Note
15	1.16
20	1.08
25	1.03
30 or more	1.00

(1) Interpolate for intermediate numbers of tests.

When a concrete production facility does not have field strength test records for calculation of standard deviation or the number of tests is less than 15, the required average strength shall be:

- a. The specified strength plus 1000 specified strength of less than 3000 psi.
- b. The specified strength plus 1200 for specified strengths of 3000 to 5000 psi.
- c. The specified strength plus 1400 for specified strengths greater than 5000 psi.

Storage of Materials

Cement and pozzolan shall be stored in weathertight buildings, bins, or silos which will exclude moisture and contaminants. Aggregate stockpiles shall be arranged and used in a manner to avoid excessive segregation and to prevent contamination with other materials or with other sizes of aggregates. Reinforcing bars and accessories shall be stored above

the ground on platforms, skids or other supports. Other materials shall be stored in such a manner as to avoid contamination and deterioration. Admixtures which have been in storage at the project site for longer than 6 months or which have been subjected to freezing shall not be used unless retested and proven to meet the specified requirements.

10.2. PRODUCTS

Admixtures

Admixtures shall conform to the following:

- A. Accelerating Admixture
ASTM C 494, Type C or E; or calcium chloride conforming to ASTM D 98.
- B. Air Entraining Admixture
ASTM C 260.
- C. Flowing Concrete Admixture
ASTM C 1017, Type 1 or 2.
- D. Water-Reducing or Retarding Admixture
ASTM C 494, Type A, B, D, F, or G.

Cementitious Materials

Cementitious materials shall each be of one type and from one source when used in concrete which will have surfaces exposed in the finished structure. Cementitious materials shall conform to one of the following:

- A. Cement
ASTM C 150, Type I or II low alkali.
- B. Portland Blast-Furnace-Slag Cement
ASTM C 595, Type IS.
- C. Portland-Pozzolan Cement ASTM C 595, Type IP.
- D. Pozzolan
ASTM C 618, Class F.
- E. Ground Iron Blast-Furnace Slag
ASTM C 989 Grade 120.

Aggregates

Aggregates shall conform to the following:

- A. Lightweight Aggregate ASTM C 330
- B. Normal Weight Aggregate ASTM C 33.

Curing Materials

- A. Burlap
FS CCC-C-467.
- B. Impervious Sheets
ASTM C 171, type optional, except that polyethylene film, if used, shall be white opaque.
- C. Membrane-Forming Compounds
ASTM C 309, Type 1-D, Class A or B.

Embedded Items

Embedded items shall be of the size and type indicated or as needed for the application.

Nonshrink Grout

Nonshrink grout shall conform to & COE CRD-C 621- & and shall be a formulation suitable for the application.

Floor Hardener

Floor hardener shall be a colorless aqueous solution containing zinc silicofluoride, magnesium silicofluoride, or sodium silicofluoride. These silicofluoride can be used individually or in combination.

Perimeter Insulation

Perimeter insulation shall be 2-inch thick polystyrene conforming to ASTM C 578, Type II; polyurethane conforming to FS HH-I-530, Type II; or cellular glass conforming to ASTM C 552, Type I or IV.

Vapor Barrier

Vapor barrier shall be polyethylene sheeting with a minimum thickness of 6 mils or other equivalent material having a vapor permeance rating not exceeding 0.5 perms as determined in accordance with ASTM E 96.

Water

Water shall be potable, except that nonpotable water may be used if it produces mortar cubes having 7- and 28-day strengths at least 90 percent of the strength of similar specimens made with water from a municipal supply. The strength comparison shall be made on mortars, identical except for mixing water, prepared and tested in accordance with ASTM C 109. Water for curing shall not contain any substance injurious to concrete, or which causes staining.

10.3. EXECUTION

Preparation of Surfaces

Surfaces to receive concrete shall be clean and free from frost, ice, mud, and water. Conduit and other similar items shall be in place and clean of any deleterious substance.

A. Foundations

Earthwork shall be as specified on Drawings. Flowing water shall be diverted without washing over freshly deposited concrete. Rock foundations shall be cleaned by high velocity air-water jets, sandblasting, or other approved methods. Debris and loose, semi-detached or unsound fragments shall be removed. Rock surfaces shall be moist but without free water when concrete is placed. Semiporous subgrades for foundations and footings shall be damp when concrete is placed. Pervious subgrades shall be sealed by blending impervious material with the top 6 inches of the in-place pervious material or by covering with an impervious membrane.

B. Perimeter Insulation

Perimeter insulation shall be installed at locations indicated. Adhesive shall be used where insulation is applied to the interior surface of foundation walls.

C. Vapor Barrier

Unless otherwise indicated, subgrades for slabs in buildings shall be covered with a vapor barrier. Vapor barrier edges shall be lapped at least 4 inches and ends shall be lapped not less than 6 inches. Patches and lapped joints shall be sealed with pressure-sensitive adhesive or tape not less than 2 inches wide and compatible with the membrane.

D. Preparation of Previously Placed Concrete

Concrete surfaces to which other concrete is to be bonded shall be roughened in an approved manner that will expose sound aggregate uniformly without damaging the concrete. Laitance and loose particles shall be removed. Surfaces shall be moist but without free water when concrete is placed.

Installation of Embedded Items

Embedded items shall be free from oil, loose scale or rust, and paint. Embedded items shall be installed at the locations indicated and required to serve the intended purpose. Voids in sleeves, slots and inserts shall be filled with readily removable material to prevent the entry of concrete.

Batching, Mixing and Transporting Concrete

Ready-mixed concrete shall be batched, mixed and transported in accordance with ASTM C 94, except as otherwise specified. Truck mixers, agitators, and nonagitating units shall comply with NRMCA TMMB-01. Ready-mix plant equipment and facilities shall be certified in accordance with NRMCA 01. Site-mixed concrete shall be mixed in accordance with ACI 301. On-site plant shall conform to the NRMCA CPMB-100.

A. Admixtures

Admixtures shall be batched within an accuracy of 3 percent. Where two or more admixtures are used in the same batch, they shall be batched separately and must be compatible. Retarding admixture shall be added within one minute after addition of water is complete or in the first quarter of the required mixing time, whichever is first. Superplasticizing admixtures shall be added as recommended by manufacturer. Concrete that shows evidence of total collapse or segregation caused by the use of admixture shall be removed from the site.

B. Control of Mixing Water

No water from the truck system or elsewhere shall be added after the initial introduction of mixing water for the batch except when on arrival at the jobsite, the slump of the concrete is less than that specified. Water added to bring the slump within the specified range shall not change the total water in the concrete to a point that the approved water-cement ratio is exceeded. The drum shall be turned an additional 30 revolutions, or more, if necessary, until the added water is uniformly mixed into the concrete. Water shall not be added to the batch at any later time.

C. Mixing of Lightweight Concrete

The mixing cycle shall be as recommended by the aggregate producer for the batching and mixing as required by the absorptivity of the aggregate. Typically,

the mixer is charged with approximately 2/3 of the total mixing water and all of the aggregate. Ingredients are mixed for not less than 30 seconds in a stationary mixer nor less than 10 revolutions at mixing speed in a truck mixer. Cement, air entraining admixture, and the rest of the mixing water are added to obtain the required slump and mixing is continued for 30 revolutions at mixing speed.

Sampling and Testing

Sampling and Testing is the responsibility of the Contractor and shall be performed by an approved testing agency.

A. Aggregates

Aggregates for normal weight concrete shall be sampled and tested in accordance with ASTM C 33. Gradation tests shall be performed on the first day and every other day thereafter during concrete construction.

B. Sampling of Concrete

Samples of concrete for air, slump, unit weight, and strength tests shall be taken in accordance with ASTM C 172.

1. Air Content

Test for air content shall be performed in accordance with ASTM C 173 or ASTM C 231. A minimum of 1 test per day shall be conducted.

2. Slump

At least 2 slump tests shall be made on randomly selected batches of each mixture of concrete during each day's concrete placement. Tests shall be performed in accordance with ASTM C 143.

C. Evaluation and Acceptance of Concrete

1. Frequency of Testing

Samples for strength tests of each class of concrete placed each day shall be taken not less than once a day, nor less than once for each 150 cubic yards of concrete, nor less than once for each 5000 square feet of surface area for slabs or walls. If this sampling frequency results in less than 5 strength tests for a given class of concrete, tests shall be made from at least 5 randomly

selected trucks or from each truck if fewer than 5 truck loads are used. Field cured specimens for determining form removal time or when a structure may be put in service shall be made in numbers directed to check the adequacy of curing and protection of concrete in the structure. The specimens shall be removed from the molds at the age of 24 hours and shall be cured and protected, insofar as practicable, in the same manner as that given to the portion of the structure the samples represent.

2. Testing Procedures

Cylinders and beams for acceptance tests shall be molded and cured in accordance with ASTM C 31. Cylinders shall be tested in accordance with ASTM C 39 and beams shall be tested in accordance with ASTM C 78. A strength test shall be the average of the strengths of two cylinders made from the same sample of concrete and tested at 28 days or at another specified test age.

3. Evaluation of Results

Concrete specified on the basis of compressive strength will be considered satisfactory if the averages of all sets of three consecutive strength test results equal or exceed the specified strength and no individual strength test result falls below the required strength by more than 500 pounds per square inch. For flexural strength concrete, the strength level of the concrete will be considered satisfactory if the averages of all sets of five consecutive strength test results equal or exceed the required flexural strength.

D. Investigation of Low-Strength Test Results

When any strength test of standard-cured test cylinder falls below the specified strength requirement by more than 500 pounds per square inch, or if tests of field-cured cylinders indicate deficiencies in protection and curing, steps shall be taken to assure that load-carrying capacity of the structure is not jeopardized. Non-destructive testing in accordance with ASTM C 597, ASTM C 803 or ASTM C 805 may be permitted by the Owner to determine the relative strengths at various locations in the structure as an aid in evaluating concrete strength in place or for selecting areas to be cored. Such tests, unless properly calibrated and correlated with other test data, shall not be used as a basis for acceptance or rejection. When strength of concrete in place is considered potentially deficient, cores shall be obtained and tested in accordance with ASTM C 42. At least three representative cores shall be taken from each member or area of concrete in place that is considered potentially deficient. The location of cores shall be determined by the owner to least impair the strength of the structure. If the concrete in the

structure will be dry under service conditions, the cores shall be air dried (temperature 60 to 80 degrees F, relative humidity less than 60 percent) for seven days before testing and shall be tested dry. If the concrete in the structure will be more than superficially wet under service conditions, the cores shall be tested after moisture conditioning in accordance with ASTM C 42. Concrete in the area represented by the core testing will be considered adequate if the average strength of the cores is equal to or at least 85 percent of the specified strength requirement and if no single core is less than 75 percent of the specified strength requirement. If the core tests are inconclusive or impractical to obtain, or if structural analysis does not confirm the safety of the structure, load tests may be directed by the Owner in accordance with the requirements of ACI 318. Concrete work evaluated by structural analysis or by results of a load test and found deficient shall be corrected in a manner satisfactory to the Owner. All investigations, testing, load tests, and correction of deficiencies shall be performed, and approved by the Owner, at the expense of the Contractor.

Conveying Concrete

Concrete shall be conveyed from mixer to forms as rapidly as possible and within the time interval specified in paragraph "CONCRETE PLACEMENT" by methods which will prevent segregation or loss of ingredients.

A. Chutes

When concrete can be placed directly from a truck mixer or other transporting equipment, chutes attached to this equipment may be used. Separate chutes will not be permitted except when specifically approved.

B. Buckets

Bucket design shall be such that concrete of the required slump can be readily discharged. Bucket gates shall be essentially grout tight when closed. The bucket shall provide means for positive regulations of the amount and rate of deposit of concrete in each dumping position.

C. Belt Conveyors

Belt conveyors may be used when approved. Belt conveyors shall be designed for conveying concrete and shall be operated to assure a uniform flow of concrete to the final place of deposit without segregation or loss of mortar. Conveyors shall be provided with positive means for preventing segregation of the concrete at transfer points and point of placement.

D. Pumps

Concrete may be conveyed by positive displacement pumps when approved. Pump shall be the piston or squeeze pressure type. Pipeline shall be steel pipe or heavy duty flexible hose. Inside diameter of the pipe shall be at least three times the maximum size of the coarse aggregate. Distance to be pumped shall not exceed the limits recommended by the pump manufacturer. Concrete shall be supplied to the pump continuously. When pumping is completed, the concrete remaining in the pipeline shall be ejected without contaminating the concrete in place. After each use, the equipment shall be thoroughly cleaned. Flushing water shall be wasted outside the forms.

Concrete Placement

Mixed concrete which is transported in truck mixers or agitators or concrete which is truck mixed, shall be discharged within 1 1/2 hours or before the drum has revolved 300 revolutions, whichever comes first after the introduction of the mixing water to the cement and aggregates or the introduction of the cement to the aggregates. These limitations may be waived by the Engineer if the concrete is of such slump after the 1-1/2 hour time or 300 revolution limit has been reached that it can be placed, without the addition of water to the batch. When the concrete temperature exceeds 85 degrees F, the time shall be reduced to 45 minutes. Concrete shall be placed within 15 minutes after it has been discharged from the truck.

A. Placing Operation

Concrete shall be handled from mixer to forms in a continuous manner until the approved unit of operation is completed. Adequate scaffolding, ramps and walkways shall be provided so that personnel and equipment are not supported by in-place reinforcement. Placing will not be permitted when the sun, heat, wind, or limitations of facilities furnished by the Contractor prevent proper consolidation, finishing and curing. Concrete shall be deposited as close as possible to its final position in the forms, and there shall be no vertical drop greater than 8 feet except where suitable equipment is provided to prevent segregation and where specifically authorized. Depositing of the concrete shall be so regulated that it will be effectively consolidated in horizontal layers not more than 12 inches thick, except that all slabs shall be placed in a single layer. Concrete to receive other construction shall be screeded to the proper level to avoid excessive shimming or grouting.

B. Consolidation

Immediately after placing, each layer of concrete shall be consolidated by internal vibrators, except for slabs 4 inches or less. The vibrators shall at all times be adequate in effectiveness and number to properly consolidate the

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concrete; a spare vibrator shall be kept at the jobsite during all concrete placing operations. The vibrators shall have a frequency of not less than 8000 vibrations per minute, and the head diameter and amplitude shall be appropriate for the concrete mixture being placed. Vibrators shall be inserted vertically at uniform spacing over the area of placement. The distance between insertions shall be approximately 1-1/2 times the radius of action of the vibrator so that the area being vibrated will overlap the adjacent just-vibrated area by a few inches. The vibrator shall penetrate rapidly to the bottom of the layer and at least 6 inches into the preceding layer if there is such. Vibrator shall be held stationary until the concrete is consolidated and then withdrawn slowly. The use of form vibrators must be specifically approved. Vibrators shall not be used to transport concrete within the forms. Slabs 4 inches and less in thickness shall be consolidated by properly designed vibrating screeds or other approved technique. Excessive vibration of lightweight concrete resulting in segregation and flotation of coarse aggregate shall be avoided.

C. Cold Weather Requirements

Special protection measures, approved by the Engineer, shall be used if freezing temperatures are anticipated before the expiration of the specified curing period. The ambient temperature of the air where concrete is to be placed and the temperature of surfaces to receive concrete shall be not less than 40 degrees F. The temperature of the concrete when placed shall be not less than 50 degrees F nor more than 75 degrees F. Heating of the mixing water or aggregates will be required to regulate the concrete placing temperature. Materials entering the mixer shall be free from ice, snow, or frozen lumps. Salt, chemicals or other materials shall not be incorporated in the concrete to prevent freezing. Upon written approval, calcium chloride or chemical admixture conforming to ASTM C 494 Type C or E may be used. The amount of calcium chloride shall not exceed 2 percent by weight of the cement, and it shall be batched in solution form. Calcium chloride shall not be used where concrete will be in contact with aluminum or zinc-coated items, or where sulfate resistant or prestressed concrete is specified.

D. Warm weather Requirements

The temperature of the concrete placed during warm weather shall not exceed 85 degrees F except where an approved retarder is used. The mixing water and/or aggregates shall be cooled, if necessary, to maintain a satisfactory placing temperature. In no case shall the placing temperature exceed 95 degrees F.

Construction Joints

Construction joints shall be located as indicated or approved. Where concrete work is interrupted by weather, end of work shift or other similar type of delay, location and type of construction joint shall be subject to approval of the Owner. Unless otherwise indicated and except for slabs on grade, reinforcing steel shall extend through construction joints. Construction joints in slabs on grade shall be keyed or doweled as shown. Concrete columns, walls, or piers shall be in place at least 2 hours, or until the concrete is no longer plastic, before placing concrete for beams, girders, or slabs thereon. In walls having door window openings, lifts shall terminate at the top and bottom of the opening. Other lifts shall terminate at such levels as to conform to structural requirements or architectural details. Where horizontal construction joints are required, a strip of 1-inch square-edge lumber, beveled and oiled to facilitate removal, shall be tacked to the inside of the forms at the construction joint. Concrete shall be placed to a point 1 inch above the underside of the strip. The strip shall be removed 1 hour after the concrete has been placed, and any irregularities in the joint line shall be leveled off with a wood float, and all laitance shall be removed. Prior to placing additional concrete, horizontal construction joints shall be prepared as specified in paragraph "PREPARATIONS OF SURFACES."

Finishing Concrete

A. Formed Surfaces

1. Repair of Surface Defects

Surface defects shall be repaired within 24 hours after the removal of forms. Honeycombed and other defective areas shall be cut back to solid concrete or to a depth of not less than 1 inch, whichever is greater. Edges shall be cut perpendicular to the surface of the concrete. The prepared areas shall be dampened and brush-coated with neat cement grout. The repair shall be made using mortar consisting of not more than 1 part cement to 2-1/2 parts sand. The mixed mortar shall be allowed to stand to stiffen (approximately 45 minutes), during which time the mortar shall be intermittently remixed without the addition of water. After the mortar has attained the stiffest consistency that will permit placing, the patching mix shall be thoroughly tamped into place by means approved by the Engineer and finished slightly higher than the surrounding surface. For [Class A and] Class B finished surfaces the cement used in the patching mortar shall be a blend of job cement and white cement proportioned to produce a finished repair surface matching, after curing, the color of adjacent surfaces. Holes left after the removal of form ties shall be cleaned and filled with patching mortar. Holes left by the removal of tie rods shall be reamed and filled by dry-packing. Repaired surfaces shall be cured as required for adjacent surfaces. The

temperature of concrete, mortar patching material, and ambient air shall be above 50 degrees F while making repairs and during the curing period. Concrete with defects which affect the strength of the member or with excessive honeycombs will be rejected, or the defects shall be corrected as directed.

2. Class A Finish

Where a Class A finish is indicated, fins shall be removed. A mortar mix consisting of one part portland cement and two parts well-graded sand passing a No. 30 sieve, with water added to give the consistency of thick paint, shall be prepared. White cement shall be used to replace part of the job cement. After the surface has been thoroughly wetted and allowed to approach surface dryness, the mortar shall be vigorously applied to the area by clean burlap pads or by cork or wood-floating, to completely fill all surface voids. Excess grout shall be scraped off with a trowel. As soon as it can be accomplished without pulling the mortar from the voids, the area shall be rubbed with burlap pads until all visible grout film is removed. The rubbing pads shall have on their surfaces the same sand-cement mix specified above but without any mixing water. The finish of any area shall be completed in the same day, and the limits of a finished area shall be made at natural breaks in the surface. The surface shall be continuously moist cured for 48 hours. The temperature of the air adjacent to the surface shall be not less than 50 degrees F for 24 hours prior to, and 48 hours after, the application. In hot, dry weather the smooth finish shall be applied in shaded areas.

3. Class B Finish

Where a Class B finish is indicated, fins shall be removed. Concrete surface shall be smooth with a texture at least equal to that obtained through the use of Grade B-B plywood forms.

4. Class C Finish

Where a Class C finish is indicated, fins shall be removed. Concrete surfaces shall be relatively smooth with a texture imparted by the forms used.

5. Class D Finish

Where a Class D finish is indicated, fins exceeding 1/4 inch in height shall be chipped or rubbed off. Concrete surfaces shall be left with the texture imparted by the forms used.

B. Unformed Surfaces

In cold weather, the air temperature in areas where concrete is being finished shall not be less than 50 degrees F. In hot windy weather when the rate of evaporation of surface moisture, as determined by methodology presented in ACI 305R , may reasonably be expected to exceed 0.2 pounds per square foot per hour; coverings, windbreaks, or fog sprays shall be provided as necessary to prevent premature setting and drying of the surface. The dusting of surfaces with dry materials or the addition of water during finishing will not be permitted. Finished surfaces shall be plane, with no deviation greater than 1/4 inch when tested with a 10-foot straightedge. Surfaces shall be pitched to drains.

1. Trowel Finish

Slabs shall be given a trowel finish immediately following floating. Surfaces shall be trowelled to produce smooth, dense slabs free from blemishes including trowel marks. In lieu of hand finishing, an approved power finishing machine may be used in accordance with the directions of the machine manufacturer. A final hard steel troweling shall be done by hand.

Trowel finish will be specified for most wearing surfaces and where a smooth finish is required.

2. Broom Finish (Concrete Stoops)

After floating, slabs shall be lightly trowelled, and then broomed with a fiber-bristle brush in a direction transverse to that of the main traffic.

Curing and Protection

A. General

All concrete shall be cured by an approved method for the period of time given below:

Concrete with Type III cement	3 days
Concrete with Type I, II, IP or IS cement	7 days
Concrete with Type I or Type II cement blended with pozzolan	7 days

Immediately after placement, concrete shall be protected from premature drying, extremes in temperatures, rapid temperature change, mechanical injury and

injury from rain and flowing water. Air and forms in contact with concrete shall be maintained at a temperature above 50 degrees F for the first 3 days and at a temperature above 32 degrees F for the remainder of the specified curing period. Exhaust fumes from combustion heating units shall be vented to the outside of the enclosure and heaters and ducts shall be placed and directed so as not to cause areas of overheating and drying of concrete surfaces or to create fire hazards. All materials and equipment needed for adequate curing and protection shall be available and at the site prior to placing concrete. No fire or excessive heat shall be permitted near or in direct contact with the concrete at any time. Curing shall be accomplished by any of the following methods, or combination thereof, as approved.

B. Moist Curing

Concrete to be moist-cured shall be maintained continuously wet for the entire curing period. If water or curing materials used stains or discolors concrete surfaces which are to be permanently exposed, the concrete surfaces shall be cleaned. When wooden forms are left in place during curing, they shall be kept wet at all times. If the forms are removed before the end of the curing period, curing shall be carried out as on unformed surfaces, using suitable materials. Horizontal surfaces shall be cured by ponding, by covering with a 2-inch minimum thickness of continuously saturated sand, or by covering with waterproof paper, polyethylene sheet, polyethylene-coated burlap or saturated burlap.

C. Membrane Curing

Membrane curing shall not be used on surfaces that are to receive any subsequent treatment depending on adhesion or bonding to the concrete; except a styrene acrylate or chlorinated rubber compound meeting ASTM C 309, Class B requirements may be used for surfaces which are to be painted or are to receive bituminous roofing or waterproofing, or floors that are to receive adhesive applications of resilient flooring. The curing compound selected shall be compatible with any subsequent paint, roofing, waterproofing or flooring specified. Membrane curing compound shall not be used on surfaces that are maintained at curing temperatures with free steam. Curing compound shall be applied to formed surfaces immediately after the forms are removed and prior to any patching or other surface treatment except the cleaning of loose sand, mortar, and debris from the surface. Surfaces shall be thoroughly moistened with water and the curing compound shall be applied to slab surfaces as soon as the bleeding water has disappeared, with the tops of joints being temporarily sealed to prevent entry of the compound and to prevent moisture loss during the curing period. Compound shall be applied in a one-coat continuous operation by mechanical

spraying equipment, at a uniform coverage in accordance with the manufacturer's printed instructions. Concrete surfaces which have been subjected to rainfall within 3 hours after curing compound has been applied shall be resprayed by the method and at the coverage specified. On surfaces permanently exposed to view, the surface shall be shaded from direct rays of the sun for the duration of the curing period. Surfaces coated with curing compound shall be kept free of foot and vehicular traffic, and from other sources of abrasion and contamination during the curing period.

Setting Base Plates and Bearing Plates

After being properly positioned, column base plates, bearing plates for beams and similar structural members, and machinery and equipment base plates shall be set to the proper line and elevation with damp-pack bedding mortar, except where non-shrink grout is indicated. The thickness of the mortar or grout shall be approximately 1/24 the width of the plate, but not less than 3/4 inch. Concrete and metal surfaces in contact with grout shall be clean and free of oil and grease, and concrete surfaces in contact with grout shall be damp and free of laitance when grout is placed.

A. Damp-Pack Bedding Mortar

Damp-pack bedding mortar shall consist of 1 part cement and 2-1/2 parts fine aggregate having water content such that a mass of mortar tightly squeezed in the hand will retain its shape but will crumble when disturbed. The space between the top of the concrete and bottom of the bearing plate or base shall be packed with the bedding mortar by tamping or ramming with a bar or rod until it is completely filled.

B. Nonshrink Grout

Nonshrink grout shall be mixed and placed in accordance with material manufacturer's written recommendations. Forms of wood or other suitable material shall be used to retain the grout. The grout shall be placed quickly and continuously, completely filling the space without segregation or bleeding of the mix.

C. Treatment of Exposed Surfaces

For metal-oxidizing nonshrink grout, exposed surfaces shall be cut back 1 inch and immediately covered with a parget coat of mortar consisting of 1 part portland cement and 2 1/2 parts fine aggregate by weight, with sufficient water to make a plastic mixture. The parge coat shall have a smooth finish. For other mortars or grouts, exposed surfaces shall be left untreated. Curing shall comply with paragraph "CURING AND PROTECTION."

10.4. CONCRETE REINFORCEMENT

References

The publications listed below form a part of this specification to the extent reference. The publications are referred to in the text by basic designation only.

AMERICAN CONCRETE INSTITUTE (ACI)

ACI 318 (1983; Rev 1986) Building Code Requirements for Reinforced Concrete

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 53 (1989a) Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless

ASTM A 82 (1988) Steel Wire, Plain, for Concrete Reinforcement

ASTM A 184 (1988) Fabricated Deformed Steel Bar Mats for Concrete Reinforcement

ASTM A 185 (1985) Steel Welded Wire Fabric, Plain, for Concrete Reinforcement

ASTM A 497 (1989) Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement

ASTM A 499 (1981; R 1988) Steel Bars and Shaped, Carbon Rolled from "T" Rails

ASTM A 615 (1989) Deformed and Plain Billet Steel Bars for Concrete Reinforcement

ASTM A 675 (1988) Steel Bars, Carbon, Hot Wrought, Special Quality, Mechanical Properties

ASTM A 706 (1989) Low-Alloy Steel Deformed Bars for Concrete Reinforcement

AMERICAN WELDING SOCIETY (AWS)

AWS D1.4 (1979) Structural Welding Code - Reinforcing Steel

CONCRETE REINFORCING STEEL INSTITUTE (CRSI)

CRSI DA4 (Jan 1986; 24th Ed) Manual of Standard Practice

Submittals

Submit shop drawings and product data as directed by the Engineer and as outlined in the Contract Documents.

Qualifications

Welders shall be qualified in accordance with AWS D1.4. Qualification test shall be performed at the worksite and the Contractor shall notify the Owner 24 hours prior to conducting tests. Welding procedures qualified by others and welders qualified by another employer may be accepted as permitted by AWS D1.4.

Delivery and Storage

Reinforcement and accessories shall be stored off the ground on platforms, skids, or other supports.

10.5. PRODUCTS

Dowels

Dowels shall conform to ASTM A 675, Grade 80, or ASTM A 499. Steel pipe conforming to ASTM A 53, Schedule 80, may be used as dowels provided the ends are closed with metal or plastic inserts or with mortar.

Fabricated Bar Mats

Fabricated bar mats shall conform to ASTM A 184.

Reinforcing Steel

Reinforcing steel shall be deformed bars conforming to ASTM A 615 or ASTM A 706, grades and sizes as indicated. Cold drawn wire used for spiral reinforcement shall conform to ASTM A 82.

Welded Wire Fabric

Welded wire fabric shall conform to ASTM A 185 or ASTM A 497.

Wire Ties

Wire ties shall be 16 gauge or heavier black annealed steel wire.

Supports

Bar supports for formed surfaces shall be designed and fabricated in accordance with CRSI DA4 and shall be steel or precast concrete blocks. Precast concrete blocks shall be not less than 4 inches square when supporting reinforcement on ground. Precast concrete block shall have compressive strength equal to that of the surrounding concrete. Where concrete formed surfaces will be exposed to weather or where surfaces are to be painted, steel supports within 1/2 inch of concrete surface shall be plastic protected or of stainless steel. Concrete supports used in concrete exposed to view shall have the same color and texture as the finish surface. For slabs on grade, supports shall be precast concrete blocks, plastic coated steel fabricated with bearing plates, or specifically designed wire fabric supports fabricated of plastic.

10.6. EXECUTION

Reinforcement

Reinforcement shall be fabricated to shapes and dimensions shown and shall conform to the requirements of ACI 318. Reinforcement shall be cold bent unless otherwise authorized. Bending may be accomplished in the field or at the mill. Bars shall not be bent after embedment in concrete. Safety caps shall be placed on all exposed ends of vertical concrete reinforcement bars that pose a danger to life safety.

A. Placement

Reinforcement shall be free from loose rust and scale, dirt, oil, or other deleterious coating that could reduce bond with the concrete. Reinforcement shall be placed in accordance with ACI 318 at locations shown plus or minus one bar diameter. Reinforcement shall not be continuous through expansion joints and shall be as indicated through construction or contraction joints. Concrete coverage shall be as indicated or as required by ACI 318. If bars are moved more than one bar diameter to avoid interference with other reinforcement, conduits or embedded items, the resulting arrangement of bars, including additional bars required to meet structural requirements, shall be approved before concrete is placed.

B. Splicing

Splices of reinforcement shall conform to ACI 318 and shall be made only as required or indicated. Splicing shall be by lapping or by mechanical or welded butt connection; except that lap splices shall not be used for bars larger than No. 11 unless otherwise indicated. Welding shall conform to AWS D1.4. Welded butt splices shall be full penetration butt welds. Lapped bars shall be placed in contact and securely tied or spaced transversely apart to permit the embedment of the entire surface of each bar in concrete. Lapped bars shall not be spaced farther apart than one-fifth the required length of lap or 6-inches. Mechanical butt splices shall be in accordance with the recommendation of the manufacturer of the mechanical splicing device. Butt splices shall develop 125 percent of the specified minimum yield tensile strength of the spliced bars or of the smaller bar in transition splices. Bars shall be flame dried before butt splicing. Adequate jigs and clamps or other devices shall be provided to support, align, and hold the longitudinal centerline of the bars to be butt spliced in a straight line.

Welded-Wire Fabric

Welded-wire fabric shall be placed in slabs as indicated. Fabric placed in slabs on grade shall be continuous between expansion, construction, and contraction joints. Lap splices shall be made in such a way that the overlapped area equals the distance between the outermost crosswires plus 2 inches. Laps shall be staggered to avoid continuous laps in either direction. Fabric shall be wired or clipped together at laps at intervals not to exceed 4 feet. Fabric shall be positioned by the use of supports.

Dowels

Dowels shall be installed in slabs on grade at locations indicated and at right angles to joint being doweled. Dowels shall be accurately aligned parallel to the finished concrete surface and rigidly supported during concrete placement. One end of dowels shall be coated with a bond breaker.

10.7. EXPANSION JOINTS, CONTRACTION JOINTS, AND WATERSTOPS

References

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A135.4 (1982) Basic Hardboard

WEST DAVIESS COUNTY WATER DISTRICT
PANTHER HILL TANK PROJECT

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 1751	(1983) Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
ASTM D 1752	(1984) Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction
ASTM D 2628	(1981) Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements
ASTM D 2835	(1972; R 1982) Lubricant for Installation of Preformed Compression seals in Concrete Pavements

CORPS OF ENGINEERS HANDBOOK FOR CONCRETE AND CEMENT (CRD)

CRD-C 513	(1974) Rubber Waterstops
CRD-C 572	(1974) Polyvinylchloride Waterstops

FEDERAL SPECIFICATIONS (FS)

FS SS-S-200	(Rev. E) Sealants, Joint, Two-Component, Jet-Blast-Resistant, Cold-Applied, for Portland Cement Concrete Pavement
FS SS-S-1401	(Rec. C) Sealants, Joint, Non-Jet-Fuel-Resistant, Hot-Applied, for Portland Cement and Asphalt Concrete Pavements
FS SS-S-1614	(Rev. A) Sealants, Joint, Jet-Fuel-Resistant, Hot-Applied, for Portland Cement and Tar Concrete Pavements

Submittals

Submit shop drawings and product data as required by the Engineer and as outlined in the Contract Documents.

Delivery and Storage

Material delivered and placed in storage shall be stored off the ground and protected from moisture, dirt, and other contaminants. Sealants shall be delivered in the manufacturer's original unopened containers. Sealants whose shelf life has expired shall be removed from the site.

10.8. PRODUCTS

Contraction-Joint Strips

Contraction-joint strips shall be 1/8-inch thick tempered hardboard conforming to ANSI A135.4, Class 1. In lieu of hardboard strips, rigid polyvinylchloride (PVC) insert strips specifically designed to induce controlled cracking in slabs on grade may be used. Such insert strips shall have removable top section.

Expansion-Joint Filler

Expansion-joint filler shall be premolded material conforming to ASTM D 1751 or ASTM D 1752. Unless otherwise indicated, filler material shall be 3/8-inch thick and of a width applicable for the joint formed.

Joint Sealant

Joint sealant shall conform to the following:

- A. Preformed Polychloroprene Elastomeric Joint Seals ASTM D 2628.
- B. Lubricant for Installation of Preformed Compression Seals ASTM D 2835.
- C. Hot-Poured Type FS SS-S-1401.
- D. Cold-Applied Jet-Fuel Resistant Type FS SS-S-200, Type M.
- E. Hot-Applied Jet-Fuel Resistant Type FS SS-S-1614.

Waterstops

Waterstops shall conform to CRD-C 513 or CRD-C 572.

10.9. EXECUTION

Joints

Joints shall be installed at locations indicated and as authorized.

- A. Contraction Joints

Contraction joints may be constructed by inserting tempered hardboard strips or rigid PVC insert strips into the plastic concrete or by cutting the concrete with a saw after concrete has set. Joints shall be approximately 1/8-inch wide and shall extend into the slab approximately one-fourth the slab thickness but not less than 1-inch.

1. Joint Strips

Strips shall be of the required dimensions and as long as practicable. After the first floating, the concrete shall be grooved with a tool at the joint locations. The strips shall be inserted in the groove and depressed until the top edge of the vertical surface is flush with the surface of the slab. The slab shall be floated and finished as specified. Working of the concrete adjacent to the joint shall be the minimum necessary to fill voids and consolidate the concrete. Where indicated, the top portion of the strip shall be sawed out after the curing period to form a recess for sealer. The removable section of PVC strips shall be discarded and the insert left in place. Means shall be provided to insure true alignment of the strips is maintained during insertion.

2. Sawed Joints

Joint sawing shall be early enough to prevent uncontrolled cracking in the slab, but late enough that this can be accomplished without appreciable spalling. Concrete-sawing machines shall be adequate in number and power, and with sufficient replacement blades to complete the sawing at the required rate. Joints shall be cut to true alignment and shall be cut in sequence of concrete placement. Sludge and cutting debris shall be removed.

B. Expansion Joints

Premolded expansion joint filler shall be used in expansion and isolation joints in slabs around columns and between slabs on grade and vertical surfaces where indicated. The filler shall extend the full slab depth, unless otherwise indicated. The edges of the joint shall be neatly finished with an edging tool of 1/8-inch radius, except where a resilient floor surface will be applied. Where the joint is to receive a sealant, the filler strips shall be installed at the proper level below the finished floor with a slightly tapered, dressed-and-oiled wood strip temporarily secured to the top

thereof to form a recess 3/4-inch deep to be filled with sealant. The wood strip shall be removed after the concrete has set. In lieu of the wood strip a removable expansion filler cap designed and fabricated for this purpose may be used.

C. Joint Sealant

Sawed contraction joints and expansion joints in slabs shall be filled with joint sealant, unless otherwise shown. Types and locations of sealants shall be as indicated. Joint surfaces shall be clean, dry, and free of oil or other foreign material which would adversely affect the bond between sealant and concrete. Joint sealant shall be applied as recommended by the manufacturer of the sealant. Joints sealed with field molded sealant shall be completely filled with sealant.

Waterstops

Waterstops shall be of the type indicated and shall be installed at the locations shown to form a continuous water-tight diaphragm. Adequate provision shall be made to support and completely protect the waterstops during the progress of the work. Any waterstop punctured or damaged shall be repaired or replaced. Splices shall be made in conformance with the recommendations of the waterstop manufacturer. Continuity of cross sectional features shall be maintained across the splice. Splices showing evidence of separation after bending shall be remade.

SECTION 11

PERMITS

<u>Section</u>	<u>Item</u>	<u>Page</u>
11.1	Permits Secured by Contractor	TS-103
11.2	Permits Secured by Owner	TS-103

11.1. PERMITS SECURED BY CONTRACTOR

Refer to Section 1.6., "Legal Considerations and Insurance", for information regarding permits to be secured by the Contractor.

11.2. PERMITS SECURED BY OWNER

Division of Water

Permits have been obtained by the Owner, for system construction, from the Kentucky Division of Water. All permit conditions and criteria must be complied with and are incorporated into the Contract Documents by reference in **Appendix A**.

Other Permits and Fees

The Contractor is responsible for securing all other applicable permits and payment of all other applicable fees.

APPENDIX A

**KY DIVISION OF WATER
APPROVAL LETTER**

ENG



ERNIE FLETCHER
GOVERNOR

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

DEPARTMENT FOR ENVIRONMENTAL PROTECTION

DIVISION OF WATER

14 REILLY ROAD

FRANKFORT, KENTUCKY 40601-1190

www.kentucky.gov

September 9, 2004

LAJUANA S. WILCHER
SECRETARY

William G. Higdon
West Daviess County Water District
3400 Bittel Road
Owensboro, KY 42301

Re: West Daviess County Water District PWS--33866
DW No. 0300450-04-004
Panther Hill Tank
Activity ID: APE20040004

Dear Mr. Higdon:

We have reviewed the plans and specifications for the above referenced project. The plans include the construction of a 500,000 Gallon Elevated Storage Tank. 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.

If you have any questions regarding this decision, please contact John B. Mathews Jr., at (502) 564-2225, extension 578.

Sincerely,

Donna S. Marlin, Manager
Drinking Water Branch
Division of Water

DSM/JBM

Enclosure

CC: HRG, PLLC.

Daviess County Health Department
Public Service Commission



Distribution-Major Construction

W Daviess Co Water District
Subject Item Inventory

Activity ID No.: APE20040004

Subject Item Inventory:

ID	Designation	Description
AIOO33866		
STOR1	Elevated Storage Tank	500,000 Gallon Welded Steel Elevated Storage Tank

Subject Item Groups:

ID	Description	Components
GACT4	500,000 Gallon Welded Steel Elevated Storage Tank	STOR1 500,000 Gallon Welded Steel Elevated Storage Tank

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

Distribution-Major Construction

W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

GACT4 (Panther Hill Tank) 500,000 Gallon Welded Steel Elevated Storage Tank:

Monitoring Requirements:

Condition No.	Parameter	Condition
M-1	Coliform	The presence or absence of total Coliform monitored by sampling and analysis as needed shall be determined for new storage structures. With at least 1 sample taken at least 24 hours after the first construction complete sample(s), take 2 or more samples from the yard hydrant, the outlet piping from the storage structure, or a sample tap directly connected to the storage structure. Sample bottles shall be clearly identified as "special" construction tests. [Recommended Standards for Water Works 7.0.18, 401 KAR 8:150 Section 4] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.

Submittal/Action Requirements:

Coliform:

Condition No.	Condition
S-1	Coliform For new construction projects, the distribution system, using the most expedient method, shall submit Coliform test results to the Cabinet: Due immediately following disinfection and flushing. [401 KAR 8:150 Section 4(2)]

Condition No.	Condition
S-2	For proposed changes to the approved plan, submit information: Due prior to any modification to the Cabinet for approval. Changes to the approved plan shall not be implemented without the prior written approval of the Cabinet. [401 KAR 8:100 Section 1(8)]

Distribution-Major Construction

W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

Page 2 of 8

Submittal/Action Requirements:

Condition No.	Condition
S-3	The person who presented the plans shall submit the professional engineer's certification: Due when construction is complete to the Division of Water. The certification shall be signed by a registered professional engineer and state that the water project has been constructed and tested in accordance with the approved plans, specifications, and requirements. [401 KAR 8:100 Section 1(8)]

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)]
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)]

Distribution-Major Construction

W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

STOR1 (Elevated Storage Tank) 500,000 Gallon Welded Steel Elevated Storage Tank:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Depth	High and low level Depth \geq 30 ft apart should not be allowed in storage structures providing pressure to a distribution system. [Recommended Standards for Water Works 7.3.2] This requirement is applicable during the following months: All Year. Statistical basis: Maximum.
L-2	Distance	To prevent excessive erosion of storage structure foundations, the overflow and main drain shall either a) discharge to concrete or other stable surfaces (splash pads) which extend a Distance \geq 10 ft away from the base of the storage structure or b) discharge directly into a crushed stone pit that is at least 2' x 2' x 2' which is a Distance \geq 10 ft away from the base of the storage structure. [401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-3	Height	Tanks shall have an overflow which is a) brought down to a Height \geq 12 and \leq 24 in above the ground surface, b) of sufficient diameter to permit waste of water in excess of the filling rate, c) open downward, d) screened with twenty-four mesh noncorrodible screen installed within the pipe at a location least susceptible to damage by vandalism, and e) when not internal, e) i) located on the outside of the tank so that any discharge is visible, when internal, e) ii) located in the access tube. [Recommended Standards for Water Works 7.0.7] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-4	Height	Tanks shall have manholes that are a) framed a Height \geq 4 in above the surface of the roof at the opening and b) fitted with a solid watertight cover which overlaps the framed opening and extends down around the frame at least 2 inches. Manholes should be hinged at one side and shall have a locking device. [Recommended Standards for Water Works 7.0.8] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.

Distribution-Major Construction

W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-1	<p>Additional Limitations: The materials and designs used for storage structures shall provide stability and durability as well as protection for the quality of the stored water. Steel structures shall follow the AWWA standards wherever they are applicable. Other materials of construction are acceptable when properly designed to meet the requirements in this permit. [Recommended Standards for Water Works 7.0]</p>
T-2	<p>Additional Limitations: The safety of employees must be considered in the design of any tank. The design of tanks shall</p> <ol style="list-style-type: none">meet or exceed the minimum requirements of pertinent safety laws and regulations in the areas where the tanks are constructed,include ladders, ladder guards and balcony railings (where applicable),locate entrance hatches in safe places,provide railings or handholds where persons must transfer from an access tube to the water compartment, andconsider confined space entry requirements. <p>Additionally, if tanks have riser pipes over 8 inches in diameter, the tanks shall have protective bars over the riser openings inside of the tank. [Recommended Standards for Water Works 7.0.12]</p>
T-3	<p>Additional Limitations: Storage structures shall be designed with reasonably convenient access to the interior for cleaning and maintenance. Where space permits, at least 2 manholes shall be provided above the waterline at each water compartment. [Recommended Standards for Water Works 7.0.8]</p>
T-4	<p>Additional Limitations: Fencing, locks on access manholes, and other necessary precautions shall be provided to prevent trespassing, vandalism, and sabotage. [Recommended Standards for Water Works 7.0.4]</p>
T-5	<p>Additional Limitations: All storage structures and their appurtenances, especially the riser pipes, overflows, and vents, shall be designed to prevent freezing. [Recommended Standards for Water Works 7.0.13]</p>
T-6	<p>Additional Limitations: Tanks shall be constructed with no openings except properly constructed vents, manholes, overflows, risers, drains, control ports, and piping for inflow and outflow. Any pipes running through the roof or sidewall must be welded or properly gasketed. [Recommended Standards for Water Works 7.0.10]</p>
T-7	<p>Additional Limitations: All finished water storage structures shall have suitable watertight roofs and sidewalls which exclude birds, animals, insects, and excessive dust. [Recommended Standards for Water Works 7.0.3, Recommended Standards for Water Works 7.0.10]</p>

Distribution-Major Construction

W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-8	<p>Additional Limitations: The roof of each storage structure shall be well drained. Downspout pipes shall not enter or pass through storage structures. Parapets or similar structures which would tend to hold water and snow on a storage structure roof shall not be approved unless adequate waterproofing and drainage are provided. [Recommended Standards for Water Works 7.0.11]</p>
T-9	<p>Additional Limitations: Storage structures shall be designed so they can be isolated from the distribution system and drained for cleaning or maintenance without necessitating loss of pressure in the distribution system. [Recommended Standards for Water Works 7.3.2, Recommended Standards for Water Works 7.0.5]</p>
T-10	<p>Additional Limitations: Storage structure drains shall discharge to the ground surface at a drainage structure inlet or splash plate. [Recommended Standards for Water Works 7.3.2, Recommended Standards for Water Works 7.0.7]</p>
T-11	<p>Additional Limitations: No drain on a storage structure may have a direct connection to a sewer or storm drain. [Recommended Standards for Water Works 7.0.5, Recommended Standards for Water Works 7.0.7, Recommended Standards for Water Works 7.3.2]</p>
T-12	<p>Additional Limitations: Main drains from storage structures shall have a twenty-four mesh noncorrodible screen installed within the drain pipe at a location least susceptible to damage by vandalism. [401 KAR 8:100 Section 1(7)]</p>
T-13	<p>Additional Limitations: Storage structures shall be designed to facilitate turn over of water. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.0.6]</p>
T-14	<p>Additional Limitations: Storage structures shall have sufficient capacity, as determined from engineering studies, to meet domestic demands. Additionally, if fire protection is provided, capacity shall also be sufficient to meet fire flow demands. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.0.1]</p>
T-15	<p>Additional Limitations: Storage structure discharge pipes shall be located in a manner that will prevent the flow of sediment into the distribution system. Additionally, removable silt stops should be provided. [Recommended Standards for Water Works 7.0.15]</p>

Distribution-Major Construction

W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-16	<p>Additional Limitations: Appropriate sampling tap(s) shall be provided to facilitate collection of water samples for both bacteriologic and chemical analyses. [Recommended Standards for Water Works 7.0.19]</p>
T-17	<p>Additional Limitations: Storage structures shall be vented. Overflows shall not be considered as vents. Open construction between the sidewall and roof is not permitted. Vents shall</p> <ul style="list-style-type: none">a) prevent the entrance of rainwater,b) exclude birds and animals, andc) exclude insects and dust (as much as compatible with effective venting). <p>Vents may use four-mesh noncorrodible screen. [Recommended Standards for Water Works 7.0.9]</p>
T-18	<p>Additional Limitations: Adequate controls shall be provided to maintain levels in storage structures. The level controls shall be acceptable to the Division of Water. Level indicating devices should be provided at a central location. Overflow and low-level warnings or alarms should be located at places in the community where they will be under responsible surveillance 24 hrs a day. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.3.3]</p>
T-19	<p>Additional Limitations: If storage structures have a catwalk over the water, the catwalk floor shall be solid with raised edges so that shoe scrapings and dirt will not fall into the water. [Recommended Standards for Water Works 7.0.14]</p>
T-20	<p>Additional Limitations: Proper protection shall be given to metal surfaces by</p> <ul style="list-style-type: none">a) paints or other protective coatings and/orb) cathodic protective devices. [Recommended Standards for Water Works 7.0.17]
T-21	<p>Additional Limitations: If cathodic protection is utilized,</p> <ul style="list-style-type: none">a) competent technical personnel should design and install the protection andb) a maintenance contract should be provided. [Recommended Standards for Water Works 7.0.17]
T-22	<p>Additional Limitations: If the interior of the storage structure is coated or lined, the coating or lining shall be of a type approved by the Division of Water for use in contact with potable water. [401 KAR 8:020 Section 2(19)]</p>

Distribution-Major Construction

W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-23	<p>Additional Limitations: Paints and coatings</p> <ol style="list-style-type: none">shall meet NSF standard 61,shall be acceptable to the Division of Water,shall be properly applied and cured, andshall not transfer any substance to the water which will be toxic or cause tastes or odors (following curing). <p>Wax coatings shall not be used in any storage structure and must be completely removed before using other paints or coatings in an existing storage structure. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 7.0.17]</p>
T-24	<p>Additional Limitations: New water storage structures shall be thoroughly disinfected (in accordance with AWWA Standard C652) upon completion of construction and before being placed into service. To disinfect new storage structures</p> <ol style="list-style-type: none">remove all scaffolding, planks, tools, rags, and other items that are not part of the structural or operational facilities of the storage structure,clean thoroughly by sweeping, scrubbing, using high-pressure water jets, or some equivalently effective means, anduse chlorine or chlorine compounds as subsequently described. <p>Finalize disinfection by</p> <ol style="list-style-type: none">chlorination method 1, described in detail at AWWA Standard C652 Section 4.3.1,chlorination method 2, described in detail at AWWA Standard C652 Section 4.3.2, orchlorination method 3, described in detail at AWWA Standard C652 Section 4.3.3. <p>See the following conditions for abbreviated descriptions of the methods. Following the finalization of disinfection, place storage structures into service if, and only if, Coliform monitoring applicable to the storage structure does not show the presence of Coliform. If Coliform is detected, flush the tank and repeat Coliform monitoring. If Coliform is still detected, repeat disinfection and flushing as if the tank has never been disinfected. Continue the described process until monitoring does not show the presence of Coliform. [Recommended Standards for Water Works 7.0.18]</p>

Distribution-Major Construction

W Daviess Co Water District
Facility Requirements

Activity ID No.: APE20040004

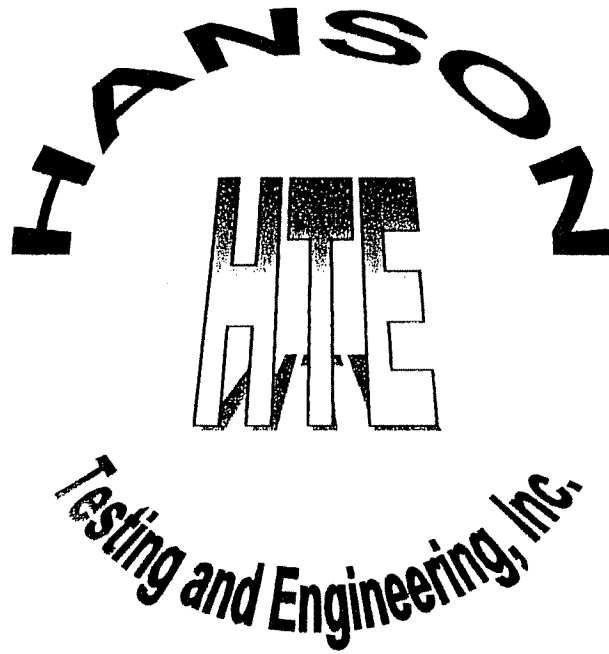
Narrative Requirements:

Condition No.	Condition
T-25	<p>If applicable, chlorination method 1 generally requires</p> <ul style="list-style-type: none">a) filling a storage structure to the overflow level with water providing a free chlorine Residual Disinfection ≥ 10 ppm andb) i) completely draining the storage facility and refilling orii) otherwise reducing (in accordance with method 1) the free chlorine residual to a level appropriate for distribution. [Recommended Standards for Water Works 7.0.18]
T-26	<p>If applicable, chlorination method 2 generally requires</p> <ul style="list-style-type: none">a) scrubbing or spraying the water-contact surfaces of a storage structure with a water solution having an available chlorine concentration = 200 ppm andb) purging of the strong chlorine solution and filling to the overflow level. [Recommended Standards for Water Works 7.0.18]
T-27	<p>If applicable, chlorination method 3 generally requires</p> <ul style="list-style-type: none">a) filling a storage structure to approximately 5% of the total storage volume with water having an available chlorine concentration of 50 ppm,b) continued filling of the storage structure to the overflow level with normal potable water, andc) purging the storage structure so that various disinfection by-products do not reach water consumers. [Recommended Standards for Water Works 7.0.18, 401 KAR 8:100 Section 1(7)]

APPENDIX B

GEOTECHNICAL INVESTIGATION

RECEIVED FEB 19 2004



GEOTECHNICAL ENGINEERING INVESTIGATION

PROPOSED 500,000 GALLON ELEVATED WATER TANK
WEST DAVIESS COUNTY WATER DISTRICT
KY 554
DAVIESS COUNTY, KENTUCKY

FOR
HRG, PLLC

HANSON TESTING & ENGINEERING, INC.

2731 EASTSIDE PARK DRIVE
EVANSVILLE, INDIANA 47715
PHONE: 812-477-8981
FAX: 812-477-8982

February 18, 2004

Report No.: 154090

James R. Riney, P.E., P.L.S.
HRG, PLLC
416 West Third Street
Owensboro, Kentucky 42301

Project: Geotechnical Engineering Investigation
Proposed 500,000 Gallon Elevated Water Tank
West Daviess County Water District

Dear Mr. Riney:

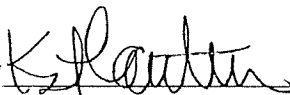
Hanson Testing & Engineering, Inc. is pleased to submit the following report of subsurface exploration and geotechnical engineering evaluation of the subject project. The investigation was completed under the general guidelines as stated in our proposal dated October 24, 2003.

This report briefly outlines the exploratory procedures used, exhibits the data obtained and presents our evaluation and recommendations relative to the geotechnical engineering aspects pertaining to the foundation design for the proposed elevated water tank.

The soil and rock samples obtained during the field exploration will be stored at this office for a period of 60 days and then discarded unless otherwise instructed.

We appreciate having the opportunity to work with you on this project. If you have any questions regarding the information contained in this report or if we can be of further service, please contact us.

Sincerely,
Hanson Testing & Engineering, Inc.

By 
Kent L. Lautner, P.E.
President

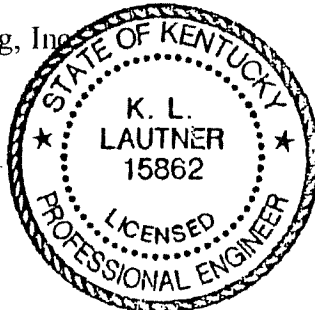


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**GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED 500,000 GALLON ELEVATED WATER TANK
WEST DAVIESS COUNTY WATER DISTRICT
DAVIESS COUNTY, KENTUCKY**

1.0 PURPOSE OF INVESTIGATION

The purpose of this investigation was to determine the subsurface conditions by drilling a series of test borings; perform a reconnaissance visit to the immediate site and to gather data from existing geologic publications on which to base recommendations relative to the foundation design for proposed water tank.

2.0 PROJECT INFORMATION

The project is located southwest of Owensboro, Kentucky along the north side of KY 554, approximately 1/8 of a mile west of KY 81. An existing 200,000-gallon stand pipe water tank is located to the immediate south of the proposed site. A Vicinity Map, which shows the general site location, is included in the Appendix.

The proposed structure is a 500,000 gallon elevated water tank. The planned height of the tank is 60-ft. It will supported by 6 legs in a 56-ft. diameter and a central load bearing riser. The maximum anticipated leg and riser loads are 750-kips and 1,500-kips, respectively.

3.0 AREA GEOLOGY

According to "Geologic Quadrangle Map for Panther, Kentucky (GQ-866)" published by the Kentucky Geological Survey; the site is covered by loess deposits over Carbondale formations of bedrock dated to the Pennsylvanian Period.

The U.S. Department of Agriculture classifies the undisturbed surface soils as Memphis silt loam. The seasonal high groundwater table is greater than 6-ft. below the surface.

The coal mining industry has been a major part of the economy of Daviess County since the 1800's. Numerous mining operations are known to be in the general area of this site. The nearest mapped abandoned underground coal mine shaft is located south of the site along the eastside of Miller Murphy Road. The direction and area in which the mine encompasses is not known. Mr. Dan O'Canna, from the Kentucky Bureau of Mines and Minerals – Frankfort Office, indicated during a phone conversation that a fire at the Bureau's office in 1948 destroyed the maps illustrating details of mines abandoned prior to this date. Drift mines, which were often excavated by individual property owners and not mapped, could be within this property. Drift mining techniques were used when the coal was visible in the side of a hill.

Numerous seismic faults are located below the earth's surface in Daviess and McLean Counties in Kentucky. The nearest mapped fault is located approximately 2 miles southwest of the site near the Daviess – McLean County line.

An earthquake spectral response analysis was performed on this site using the 2002 Kentucky Building Code. Based upon a Site Classification of B and Seismic Use Group III, the Seismic Design Category is D. The IBC printout of the analysis is included in the Appendix for your reference.

4.0 SITE CONDITIONS

The surface-cover at the time of the boring operations consisted of grass and crushed limestone. The site is relatively well drained with a maximum surface relief between the test borings of 1.7-ft. The surface elevations at the boring locations ranged from 549.1 to 550.8.

5.0 FIELD INVESTIGATION

A total of 3 test borings were drilled within the perimeter of the proposed elevated water tank on the 10th and 11th of February 2004. The test holes were drilled in accordance with ASTM D1586 using a truck-mounted Central Mine Equipment CME 55 drill rig and hollow stem augers to advance the borings into the underlying rock. Standard Penetration Tests were made using a 140 lb. "Automatic Safety Hammer" driving a Standard (Terzaghi) 1-3/8 in. ID split barrel sampler 2-ft. long. The results are illustrated on the logs under the heading "SPT". Rotary drilling techniques were used to drill into the underlying rock to determine if voids from previous mining operations could be found. A core of the rock was also sampled at test hole location B1 in accordance with ASTM D2113 to ascertain additional engineering characteristics.

The test holes were field located with surface elevations by HRG, PLLC prior to the drill crew arriving on-site. A Site Plan developed by HRG, showing the approximate boring locations, is included in the Appendix.

Logs of the borings, which show visual descriptions of all soil data encountered using the Unified Soil Classification System, have been included in the Appendix. In addition, a sheet defining the terminology used on the logs and explaining the Standard Penetration Test procedure and a soil classification chart are provided for information purposes.

The soil samples obtained during the field exploration will be stored at this office for a period of 60 days and then discarded unless otherwise instructed.

6.0 EXPLORATORY FINDINGS

The boring records represent our interpretation of the subsurface conditions based on the field logs, laboratory test results and visual examinations of the field samples by the geotechnical engineer.

6.1 SUBSURFACE CONDITIONS

The types of soils and rock encountered at the boring locations have been classified and are described in detail on the logs located in the Appendix. The dashed lines on the logs indicate the approximate transitions between soil and rock profiles. The results of the field penetration tests, strength tests and laboratory moisture contents are also illustrated on the logs.

Six (6) to 8-ft. of silt and clay was encountered in the test borings overlying a 1 to 3-ft. layer of fine sand. Weathered sandstone with a clay binder was encountered 9 to 11-ft. below the surface. Weathered shale underlies the sandstone. Coal was encountered in all 3 test holes at a depth of 65-ft. below the surface. The thickness of the coal was approximately 4-ft. thick. The drilling was terminated in all 3 borings at 75-ft. below the surface.

A 10-ft. core sample of the underlying sandstone was obtained at test hole location B1. As illustrated on the log, the Rock Quality Designation (RQD) was 90% indicating excellent quality. Rock Quality Designation is a general method to determine the quality of the rock relating to the amount of fracturing in the rock. Compressive strength tests were also performed on selective rock samples and are shown on the logs.

6.2 GROUNDWATER CONDITIONS

Groundwater levels were not measured in the boreholes because water was injected into the holes while rotary drilling the rock. Any water measurements would yield erroneous results. It must be noted, water was not visible on the drill rods and split spoons during the auger drilling.

7.0 LABORATORY TEST RESULTS

In addition to the field exploration, a laboratory-testing program was conducted to ascertain additional engineering characteristics of the underlying soils and rock. The laboratory-testing program included supplementary visual classifications and the following specific tests.

7.1 NATURAL MOISTURE CONTENT, ASTM D2216 (See boring logs in the Appendix)

7.2 COMPRESSIVE STRENGTH OF ROCK CORES (See boring logs in the Appendix)

7.3 MATERIAL FINER THAN 0.075 MM (PERCENT SAND), ASTM C117 (See boring logs in the Appendix)

8.0 GEOTECHNICAL RECOMMENDATIONS

The following recommendations have been developed on the basis of the previously described project characteristics and subsurface conditions. If there are any changes in the project criteria, including general location, foundation elevation or loading, a review of the changes should be made by the geotechnical engineer.

8.1 FOUNDATION RECOMMENDATIONS

As illustrated on the logs, weathered sandstone was encountered in the borings at depths ranging from 9 to 11-ft. below the existing surface grades (elevation 538 to 541). Due to the soft overlying soils and anticipated leg loads, we recommend the foundations be placed on the sandstone bedrock. The foundations should be embedded into the sandstone a minimum of 3-ft.

We also recommend that the foundation contractor drill a 2-inch diameter pilot hole into the rock a minimum of 5-ft. below the bearing level of each foundation.

The sides of the holes should be probed with a feeler rod to insure there are no significant clay seams within the bedrock.

We recommend using a net allowable bearing pressure of 10,000-psf to design the foundations. This value assumes the foundations are bearing on sandstone with strengths equaling or exceeding that which was sampled during the field investigation. This loading, in our opinion, should provide a theoretical factor of safety of 3 against general shear failure.

Resistance to horizontal reactions at the base of the foundations can be resisted by friction between the base of the concrete foundations and the sandstone surface. We recommend using a coefficient of friction of 0.35 multiplied by the dead load weight of the steel structure. A factor of safety of at least 1.5 should be applied to this ultimate value when computing allowable lateral resistance.

8.2 CONSTRUCTION CONSIDERATIONS

Exposure to the environment may weaken the soil at the footing bearing level if the foundation excavation remains open too long. If the excavation is exposed to rain and is softened, the soft material should be removed and replaced with lean concrete or a greater thickness of foundation concrete.

The excavations should be properly sloped or benched as required by The Occupational Safety and Health Administration's (OSHA) Excavation and Trenching standard, *Title 29 of the Code of Federal Regulation (CFR), Part 1926.650, Subpart P.*

9.0 GENERAL CONDITIONS

This report has been prepared for the exclusive use for HRG, PLLC and the West Daviess County Water District, for the specific application to the subject project. All recommendations contained in this report have been made in accordance with generally accepted soil and foundation engineering practices.

The recommendations provided in this report were developed from the information obtained from the test borings, which indicate subsurface conditions only at these locations and at the particular time designated on the logs. The soil and rock conditions at other locations may differ from the boring sites. If the strength of the rock is found to be less at other locations during the foundation excavation process, additional recommendations and possibly field-testing may be required.

The scope of our services did not include any environmental assessment or investigation for the presence or absence of hazardous or toxic materials in the soil, groundwater or surface water within or beyond the site studied. Any statements in this report or on the test boring logs regarding odors, staining of soils or other unusual conditions observed are strictly for the information of our client.

APPENDIX

VICINITY MAP

PANTHER, KENTUCKY QUADRANGLE

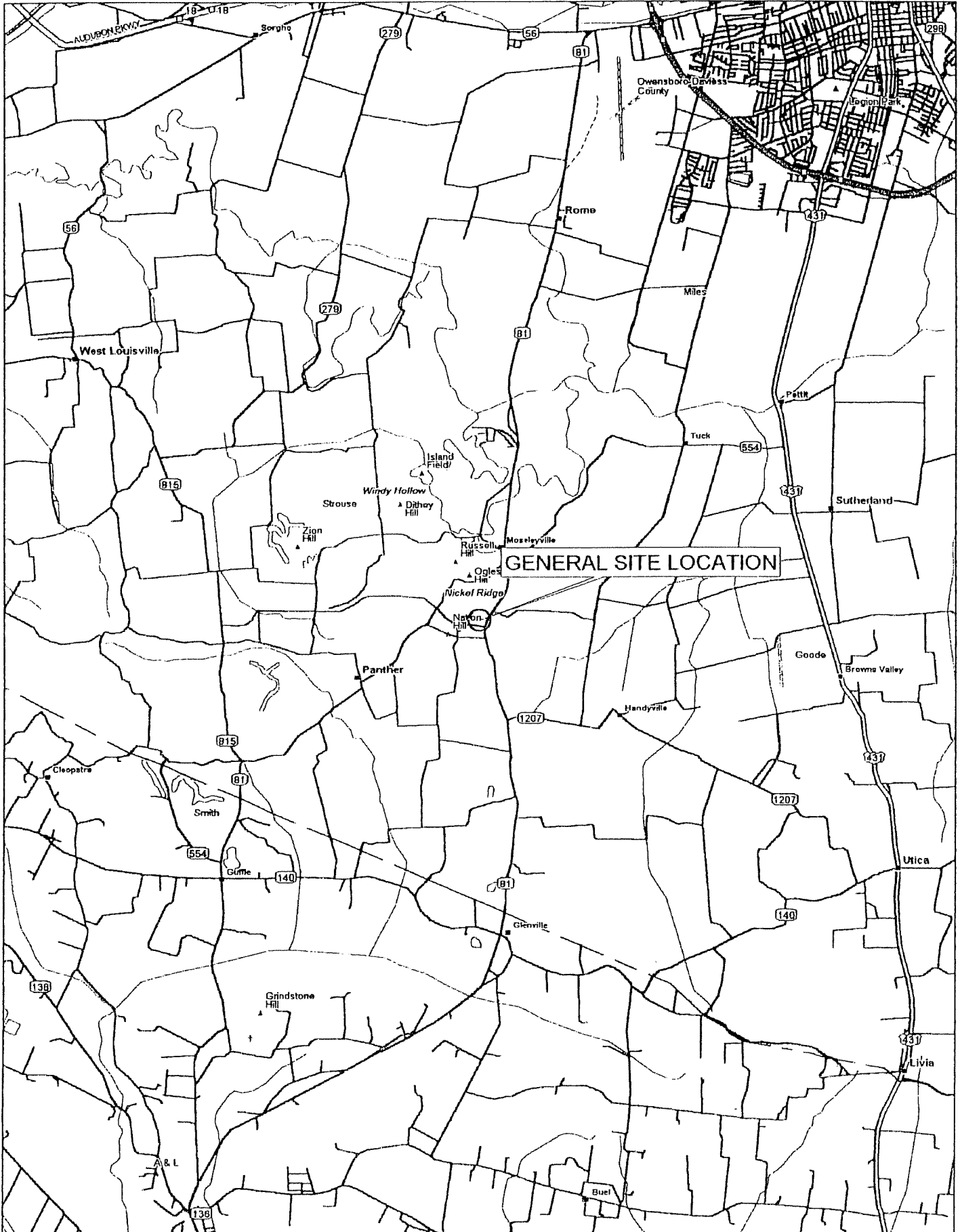
SITE PLAN WITH BORING LOCATIONS

BORING LOGS

2000 IBC/ 2002 KENTUCKY BUILDING CODE SPECTRAL RESPONSE
ANALYSIS FOR SEISMIC DESIGN

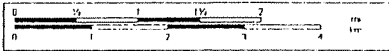
FIELD CLASSIFICATION SYSTEM

SOIL CLASSIFICATION CHART



GENERAL SITE LOCATION

Scale 1 : 100,000
1" = 1.58 mi



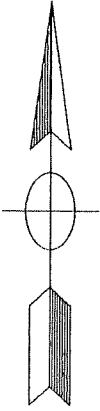
© 2001 DeLorme, Street Atlas USA® Deluxe, GDT, Inc., Rel. 01/2001
Zoom Level: 11-0 Datum: WGS84

PANTHER, KENTUCKY QUADRANGLE

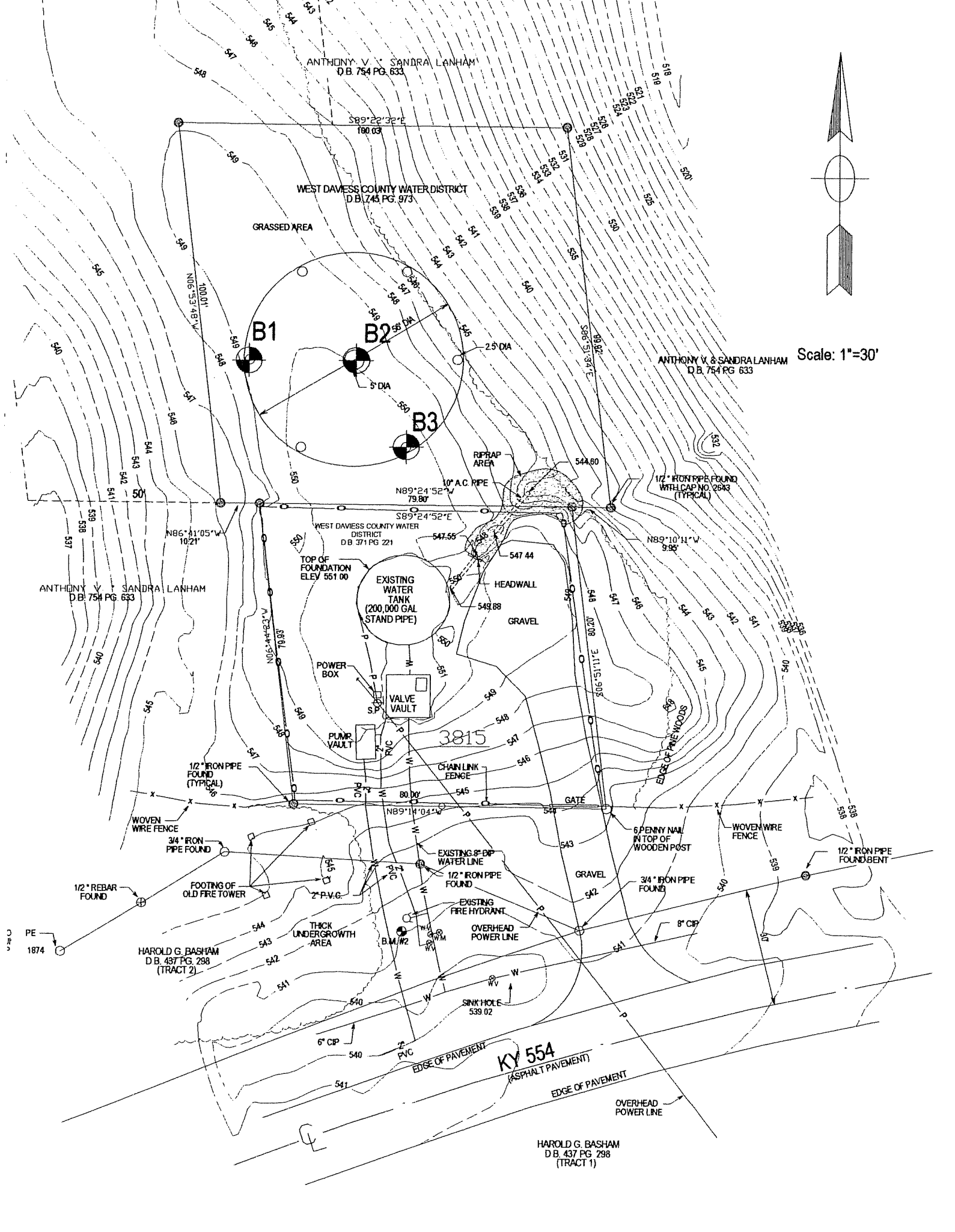


HTE
HANSON TESTING & ENGINEERING, INC.
GEOTECHNICAL AND MATERIALS ENGINEERING
EVANSVILLE, INDIANA

PROJECT: 500,000 Gallon Elevated Water Tank
West Daviess County Water District
CLIENT: HRG, PLLC
REPORT NO.: 154090



Scale: 1"=30'



HANSON TESTING & ENGINEERING, INC.
 2731 EASTSIDE PARK DRIVE
 EVANSVILLE, INDIANA 47715

GEOTECHNICAL
 BORING LOG

REPORT NO.: 154090
 CLIENT: HRG, PLLC
 416 WEST THIRD STREET
 OWENSBORO, KENTUCKY 42301

Project: West Daviess County Water District
 Date of Tests: February 10, 2004
 Boring No.: B1
 Page No.: 1 of 5
 Drill Crew: KL, GR, SR
 Drill Rig: CME 55 – Truck Mounted

Boring Location: See Site Plan for boring location.
 Surface Elevation: 549.10
 Benchmark: Surface elevations measured by HRG, PLLC
 Depth of Water: N/A Time: Upon drilling completion.
 Depth of Water: N/A Time: After 24 hours.

DEPTH	MATERIAL DESCRIPTION	SPT	W, %	UCS, tsf	NOTES
1	Grass/ topsoil				
2	Brown clay, soft	3/3/2	26.9	1.0	
3					
4	Brown silty clay, soft	2/2/2	22.5	0.5	
5					
6					
7	Brown sandy silty clay, soft	2/2/3	14.0	0.5	
8					
9	Red and brown clayey sand, fine, loose	5/8/30	15.0	-----	Sand content = 70.3%
10					
11					
12	Tan, orange and light gray sandstone w/ clay binder, fine, weathered	48/50 at 1/2"	9.5	-----	
13					
14	Tan, orange and light gray sandstone w/ clay binder, fine, weathered				Core run began at 15'.
15					

SPT = STANDARD PENETRATION TEST, BLOWS PER 6-INCH INCREMENT - ASTM D1586. THE "N" VALUE EQUALS THE SUM OF THE LAST TWO 6-INCH INCREMENTS.

UCS = UNCONFINED COMPRESSIVE STRENGTH (HAND PENETROMETER).

W, % = NATURAL MOISTURE CONTENT.

HANSON TESTING & ENGINEERING, INC.
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GEOTECHNICAL
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Project: West Daviess County Water District
 Date of Tests: February 10, 2004
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 Page No.: 2 of 5
 Drill Crew: KL, GR, SR
 Drill Rig: CME 55 – Truck Mounted

Boring Location: See Site Plan for boring location.
 Surface Elevation: 549.10
 Benchmark: Surface elevations measured by HRG, PLLC

Depth of Water: N/A Time: Upon drilling completion.
 Depth of Water: N/A Time: After 24 hours.

DEPTH	MATERIAL DESCRIPTION	SPT	W, %	UCS, tsf	NOTES
16					RQD = 90% Recovery = 97%
17					Compressive strength = 35,640 psf
18					
19					
20	Tan, orange and light gray sandstone w/ clay binder, fine, weathered				Compressive strength = 35,640 psf Sand Content = 87.0%
21					
22					
23					
24					
25	Tan, orange and light gray sandstone w/ clay binder, fine, weathered				Core run terminated at 25'. Rotary drilling with water and air began at 25'.
26					
27					
28					
29					
30	Tan, orange and light gray sandstone w/ clay binder, fine, weathered				

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 Surface Elevation: 549.10
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 Depth of Water: N/A Time: Upon drilling completion.
 Depth of Water: N/A Time: After 24 hours.

DEPTH	MATERIAL DESCRIPTION	SPT	W, %	UCS, tsf	NOTES
31					
32					
33					
34					
35	Gray shale, weathered				
36					
37					
38					
39					
40	Gray sandy shale, weathered				
41					
42					
43					
44					
45	Gray sandy shale, weathered				

SPT = STANDARD PENETRATION TEST, BLOWS PER 6-INCH INCREMENT - ASTM D1586. THE "N" VALUE EQUALS THE SUM OF THE LAST TWO 6-INCH INCREMENTS.

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 Boring No.: B1
 Page No.: 4 of 5
 Drill Crew: KL, GR, SR
 Drill Rig: CME 55 – Truck Mounted

Boring Location: See Site Plan for boring location.
 Surface Elevation: 549.10
 Benchmark: Surface elevations measured by HRG, PLLC
 Depth of Water: N/A Time: Upon drilling completion.
 Depth of Water: N/A Time: After 24 hours.

DEPTH	MATERIAL DESCRIPTION	SPT	W, %	UCS, tsf	NOTES
46	-----				
47					
48					
49					
50	Gray shale, weathered				
51					
52					
53					
54	Gray shale, weathered				
55					
56					
57					
58					
59	Gray shale, weathered				
60					

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 Surface Elevation: 549.10
 Benchmark: Surface elevations measured by HRG, PLLC

Depth of Water: N/A Time: Upon drilling completion.
 Depth of Water: N/A Time: After 24 hours.

DEPTH	MATERIAL DESCRIPTION	SPT	W, %	UCS, tsf	NOTES
61	----- Gray sandy shale				
62					
63					
64					
65	/-----\ Coal				
66					
67					
68					
69	/-----\ Light gray sandy shale, weathered				
70					
71					
72					
73					
74	Light gray sandy shale, weathered				
75	----- Boring Terminated at 75 Feet				

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Project: West Daviess County Water District
 Date of Tests: February 10, 2004
 Boring No.: B2
 Page No.: 1 of 5
 Drill Crew: KL, GR, SR
 Drill Rig: CME 55 – Truck Mounted

Boring Location: See Site Plan for boring location.
 Surface Elevation: 550.00
 Benchmark: Surface elevations measured by HRG, PLLC
 Depth of Water: N/A Time: Upon drilling completion.
 Depth of Water: N/A Time: After 24 hours.

DEPTH	MATERIAL DESCRIPTION	SPT	W, %	UCS, tsf	NOTES
1	Grass/ topsoil				
2	Brown clay, soft Light brown silt, medium dense	4/7/7	13.6	2.0	
3					
4					
5	Light brown silt, medium dense	5/6/6	9.6	1.5	Sand content = 9.6
6	/-----\				
7					
8	Tan and light gray silty sand, medium dense	6/9/10	7.8	----	
9					
10	Tan, orange and light gray sandstone w/ clay binder, fine, weathered	45/50 at 1"	10.1	----	
11					
12					
13					
14					
15	Tan, orange and light gray sandstone w/ clay binder, fine, weathered	50 at 1"	7.8	----	

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Project: West Daviess County Water District
 Date of Tests: February 10, 2004
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 Page No.: 2 of 5
 Drill Crew: KL, GR, SR
 Drill Rig: CME 55 – Truck Mounted

Boring Location: See Site Plan for boring location.
 Surface Elevation: 550.00
 Benchmark: Surface elevations measured by HRG, PLLC

Depth of Water: N/A Time: Upon drilling completion.
 Depth of Water: N/A Time: After 24 hours.

DEPTH	MATERIAL DESCRIPTION	SPT	W, %	UCS, tsf	NOTES
16					Rotary drilling with water and air began at 15 ½'.
17					
18					
19					
20	Tan, orange and light gray sandstone w/ clay binder, fine, weathered				
21					
22					
23					
24					
25	Tan, orange and light gray sandstone w/ clay binder, fine, weathered				
26					
27	/-----\				
28					
29					
30	Gray shale, weathered				

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 Depth of Water: N/A Time: Upon drilling completion.
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DEPTH	MATERIAL DESCRIPTION	SPT	W, %	UCS, tsf	NOTES
31	Gray shale, weathered				
32					
33					
34					
35					
36					
37					
38					
39					
40	----- Gray sandy shale, weathered				
41					
42					
43	-----				
44					
45	Gray shale, weathered				

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HANSON TESTING & ENGINEERING, INC.
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 Depth of Water: N/A Time: Upon drilling completion.
 Depth of Water: N/A Time: After 24 hours.

DEPTH	MATERIAL DESCRIPTION	SPT	W, %	UCS, tsf	NOTES
46	Gray shale, weathered				
47					
48					
49					
50					
51	Gray shale, weathered				
52					
53					
54					
55					
56	Gray shale, weathered				
57					
58					
59					
60					

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Depth of Water: N/A Time: Upon drilling completion.
 Depth of Water: N/A Time: After 24 hours.

DEPTH	MATERIAL DESCRIPTION	SPT	W, %	UCS, tsf	NOTES
61					
62					
63					
64					
65	Gray shale, weathered /-----\ Coal				
66					
67					
68					
69	/-----\ Light gray sandy shale, weathered				
70					
71					
72					
73					
74	Light gray sandy shale, weathered				
75	Boring Terminated at 75 Feet				

SPT = STANDARD PENETRATION TEST, BLOWS PER 6-INCH INCREMENT - ASTM D1586. THE "N" VALUE EQUALS THE SUM OF THE LAST TWO 6-INCH INCREMENTS.

UCS = UNCONFINED COMPRESSIVE STRENGTH (HAND PENETROMETER).

W, % = NATURAL MOISTURE CONTENT.

HANSON TESTING & ENGINEERING, INC.
 2731 EASTSIDE PARK DRIVE
 EVANSVILLE, INDIANA 47715

GEOTECHNICAL
 BORING LOG

REPORT NO.: 154090
 CLIENT: HRG, PLLC
 416 WEST THIRD STREET
 OWENSBORO, KENTUCKY 42301

Project: West Daviess County Water District
 Date of Tests: February 11, 2004
 Boring No.: B3
 Page No.: 1 of 5
 Drill Crew: KL, GR, SR
 Drill Rig: CME 55 – Truck Mounted

Boring Location: See Site Plan for boring location.
 Surface Elevation: 550.80
 Benchmark: Surface elevations measured by HRG, PLLC

Depth of Water: N/A Time: Upon drilling completion.
 Depth of Water: N/A Time: After 24 hours.

DEPTH	MATERIAL DESCRIPTION	SPT	W, %	UCS, tsf	NOTES
1	Crushed limestone/ topsoil				
2	Brown clay, soft Light brown silt, medium dense	3/6/5	19.4	1.5	
3					
4	Light brown and gray silt, medium dense	5/5/6	10.6	1.75	
5					
6					
7					
8	Light brown and gray silt, medium dense	5/8/10	8.1	2.0	
9	Tan, orange and light gray silty sand, medium dense				
10	Tan, orange and light gray sandstone w/ clay binder, fine, weathered	20/50 at 1"	6.2		
11					
12					
13					
14					
15	Tan, orange and light gray sandstone w/ clay binder, fine, weathered	50 at 1"	7.8		

SPT = STANDARD PENETRATION TEST, BLOWS PER 6-INCH INCREMENT - ASTM D1586. THE "N" VALUE EQUALS THE SUM OF THE LAST TWO 6-INCH INCREMENTS.

UCS = UNCONFINED COMPRESSIVE STRENGTH (HAND PENETROMETER).

W, % = NATURAL MOISTURE CONTENT.

HANSON TESTING & ENGINEERING, INC.
 2731 EASTSIDE PARK DRIVE
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GEOTECHNICAL
 BORING LOG

REPORT NO.: 154090
 CLIENT: HRG, PLLC
 416 WEST THIRD STREET
 OWENSBORO, KENTUCKY 42301

Project: West Daviess County Water District
 Date of Tests: February 11, 2004
 Boring No.: B3
 Page No.: 2 of 5
 Drill Crew: KL, GR, SR
 Drill Rig: CME 55 – Truck Mounted

Boring Location: See Site Plan for boring location.
 Surface Elevation: 550.80
 Benchmark: Surface elevations measured by HRG, PLLC

Depth of Water: N/A Time: Upon drilling completion.
 Depth of Water: N/A Time: After 24 hours.

DEPTH	MATERIAL DESCRIPTION	SPT	W, %	UCS, tsf	NOTES
16					Rotary drilling with water and air began at 15 1/2'.
17					
18					
19					
20	Tan, orange and light gray sandstone w/ clay binder, fine, weathered				
21					
22					
23					
24					
25	Tan, orange and light gray sandstone w/ clay binder, fine, weathered				
26					
27					
28					
29	/-----\ Gray shale, weathered				
30					

SPT = STANDARD PENETRATION TEST, BLOWS PER 6-INCH INCREMENT - ASTM D1586. THE "N" VALUE EQUALS THE SUM OF THE LAST TWO 6-INCH INCREMENTS.

UCS = UNCONFINED COMPRESSIVE STRENGTH (HAND PENETROMETER)

W, % = NATURAL MOISTURE CONTENT.

HANSON TESTING & ENGINEERING, INC.
 2731 EASTSIDE PARK DRIVE
 EVANSVILLE, INDIANA 47715

GEOTECHNICAL
 BORING LOG

REPORT NO.: 154090
 CLIENT: HRG, PLLC
 416 WEST THIRD STREET
 OWENSBORO, KENTUCKY 42301

Project: West Daviess County Water District
 Date of Tests: February 11, 2004
 Boring No.: B3
 Page No.: 3 of 5
 Drill Crew: KL, GR, SR
 Drill Rig: CME 55 – Truck Mounted

Boring Location: See Site Plan for boring location.
 Surface Elevation: 550.80
 Benchmark: Surface elevations measured by HRG, PLLC

Depth of Water: N/A Time: Upon drilling completion.
 Depth of Water: N/A Time: After 24 hours.

DEPTH	MATERIAL DESCRIPTION	SPT	W, %	UCS, tsf	NOTES
31					
32					
33					
34					
35	Gray shale, weathered				
36					
37	/-----\				
38	Gray sandy shale, weathered				
39	-----				
40	Gray shale, weathered				
41					
42					
43					
44					
45	Gray shale, weathered				

SPT = STANDARD PENETRATION TEST, BLOWS PER 6-INCH INCREMENT - ASTM D1586. THE "N" VALUE EQUALS THE SUM OF THE LAST TWO 6-INCH INCREMENTS.

UCS = UNCONFINED COMPRESSIVE STRENGTH (HAND PENETROMETER).

W, % = NATURAL MOISTURE CONTENT.

HANSON TESTING & ENGINEERING, INC.
 2731 EASTSIDE PARK DRIVE
 EVANSVILLE, INDIANA 47715

GEOTECHNICAL
 BORING LOG

REPORT NO.: 154090
 CLIENT: HRG, PLLC
 416 WEST THIRD STREET
 OWENSBORO, KENTUCKY 42301

Project: West Daviess County Water District
 Date of Tests: February 11, 2004
 Boring No.: B3
 Page No.: 4 of 5
 Drill Crew: KL, GR, SR
 Drill Rig: CME 55 – Truck Mounted

Boring Location: See Site Plan for boring location.
 Surface Elevation: 550.80
 Benchmark: Surface elevations measured by HRG, PLLC
 Depth of Water: N/A Time: Upon drilling completion.
 Depth of Water: N/A Time: After 24 hours.

DEPTH	MATERIAL DESCRIPTION	SPT	W, %	UCS, tsf	NOTES
46	Gray shale, weathered				
47					
48					
49					
50					
51	Gray shale, weathered				
52					
53					
54					
55					
56	Gray shale, weathered				
57					
58					
59					
60					

SPT = STANDARD PENETRATION TEST, BLOWS PER 6-INCH INCREMENT - ASTM D1586. THE "N" VALUE EQUALS THE SUM OF THE LAST TWO 6-INCH INCREMENTS.

UCS = UNCONFINED COMPRESSIVE STRENGTH (HAND PENETROMETER).

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HANSON TESTING & ENGINEERING, INC.
 2731 EASTSIDE PARK DRIVE
 EVANSVILLE, INDIANA 47715

GEOTECHNICAL
 BORING LOG

REPORT NO.: 154090
 CLIENT: HRG, PLLC
 416 WEST THIRD STREET
 OWENSBORO, KENTUCKY 42301

Project: West Daviess County Water District
 Date of Tests: February 11, 2004
 Boring No.: B3
 Page No.: 5 of 5
 Drill Crew: KL, GR, SR
 Drill Rig: CME 55 – Truck Mounted

Boring Location: See Site Plan for boring location.
 Surface Elevation: 550.80
 Benchmark: Surface elevations measured by HRG, PLLC
 Depth of Water: N/A Time: Upon drilling completion.
 Depth of Water: N/A Time: After 24 hours.

DEPTH	MATERIAL DESCRIPTION	SPT	W, %	UCS, tsf	NOTES
61	Gray shale, weathered				
62					
63					
64					
65	/-----\ Coal				
66					
67					
68	/-----\ Light gray sandstone w/ limestone seams, fine, hard				
69					
70					
71					
72					
73					
74	/-----\ Light gray shale, weathered				
75	Boring Terminated at 75 Feet				

SPT = STANDARD PENETRATION TEST, BLOWS PER 6-INCH INCREMENT - ASTM D1586. THE "N" VALUE EQUALS THE SUM OF THE LAST TWO 6-INCH INCREMENTS.

UCS = UNCONFINED COMPRESSIVE STRENGTH (HAND PENETROMETER).

W, % = NATURAL MOISTURE CONTENT.

West Daviess County Water District

MCE Parameters - Conterminous 48 States

Latitude = 37.65033, Longitude = -087.19817

Data are based on the 0.10 deg grid set

Period (sec)	SA (%g)	
0.2	055.3	Map Value, Soil Factor of 1.0
1.0	019.4	Map Value, Soil Factor of 1.0

MCE Parameters x Specified Soil Factors

0.2	055.3	Soil Factor of 1.00
1.0	019.4	Soil Factor of 1.00

MCE Parameters - Conterminous 48 States

Latitude = 37.65033, Longitude = -087.19817

Data are based on the 0.10 deg grid set

Period (sec)	SA (%g)	
0.2	055.3	Map Value, Soil Factor of 1.0
1.0	019.4	Map Value, Soil Factor of 1.0

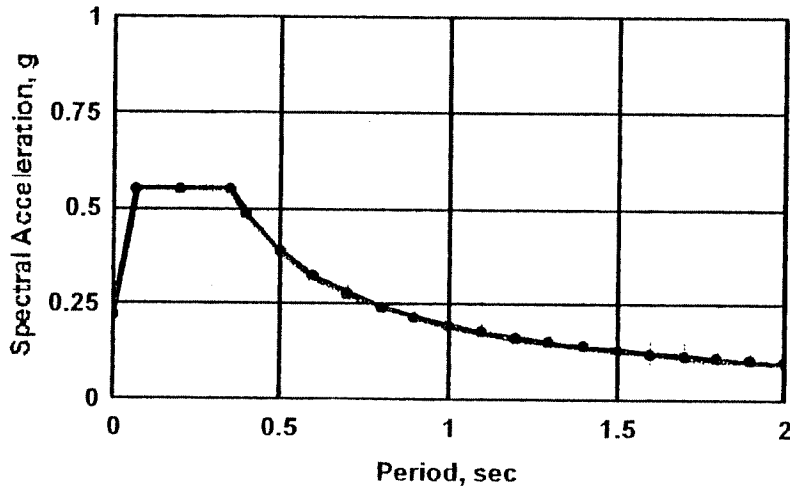
MCE SPECTRUM x SOIL FACTORS

Fa = 1.00

Fv = 1.00

Period (sec)	SA (%g)	
0.000	022.1	0.4FaSs
0.070	055.3	To
0.200	055.3	T=0.2, FaSs
0.351	055.3	Ts
0.400	048.6	
0.500	038.9	
0.600	032.4	
0.700	027.8	
0.800	024.3	
0.900	021.6	
1.000	019.4	T=1.0, FvS1
1.100	017.7	
1.200	016.2	
1.300	015.0	
1.400	013.9	
1.500	013.0	
1.600	012.1	
1.700	011.4	
1.800	010.8	
1.900	010.2	
2.000	009.7	

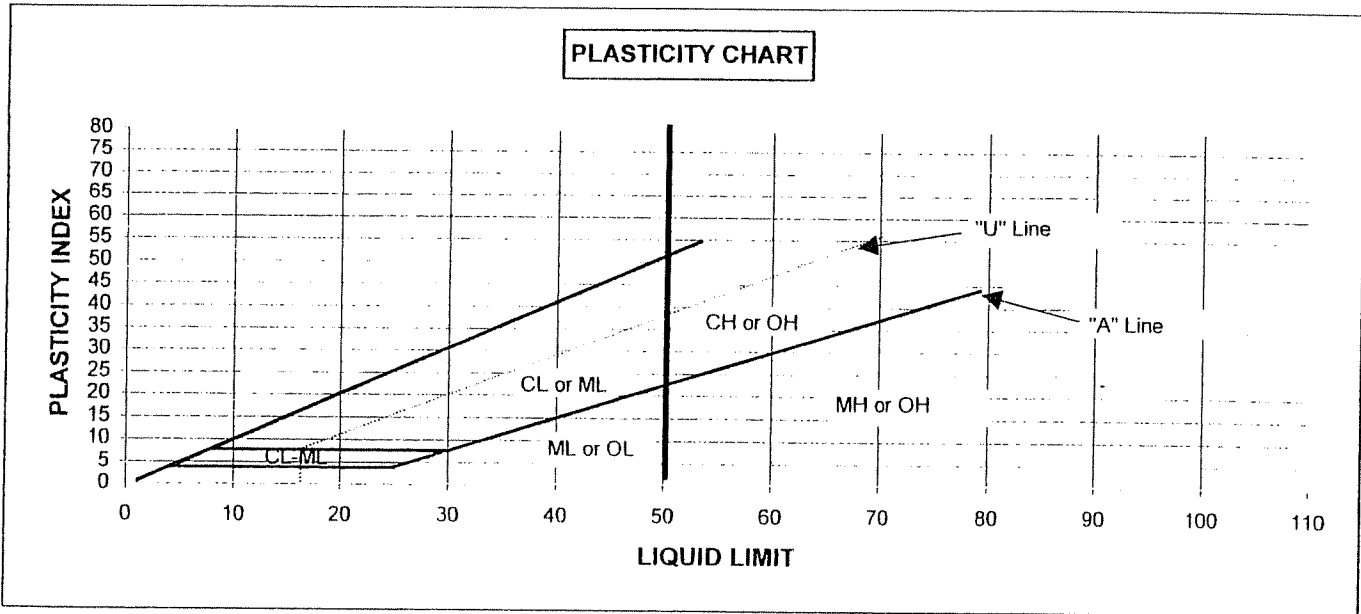
Maximum Considered Earthquake Ground Motion
 Fa = 1.00 F1 = 1.00
 Latitude = 37.65033 deg Longitude = -087.19817 deg



Period, sec	Sa, g
0.00	0.221
0.07	0.553
0.20	0.553
0.35	0.553
0.40	0.486
0.50	0.389
0.60	0.324
0.70	0.278
0.80	0.243
0.90	0.216
1.00	0.194
1.10	0.177
1.20	0.162
1.30	0.150
1.40	0.139
1.50	0.130
1.60	0.121
1.70	0.114
1.80	0.108
1.90	0.102
2.00	0.097

Soil Classification Chart

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests				Soil Classification	
				Group Symbol	Group Name
Coarse-Grained Soils More than 50% retained on #200 sieve	Gravels More than 50% of coarse fraction retained on #4 sieve	Clean Gravels Less than 5% fines	$Cu \geq 4$ and $1 < Cc \leq 3$ $Cu >$ and/or $1 > Cc > 3$	GW	Well graded gravel
		Gravels with fines more than 12% fines	Fines classify as ML or MH Fine classify as CL or CH	GP GM GC	Poorly graded gravel Silty gravel Clayey gravel
	Sands 50% or more of coarse fraction passes #4 sieve	Clean sands less than 5% fines	$Cu \geq 6$ and $1 < Cc \leq 3$ $Cu < 6$ and/or $1 > Cc > 3$	SW SP	Well graded sand Poorly graded sand
		Sands with fines More than 12% fines	Fines classify as ML or MH Fines classify as CL or CH	SM SC	Silty sand Clayey sand
Fined-Grained Soils 50% or more passes the #200 sieve		Silt and Clays Liquid Limit less than 50	Inorganic PI > 7 and plots on or above "A" line PI < 4 or plots on or above "A" line	CL ML	Lean clay Silt
	Organic LL (oven dried) < 0.75 LL (not dried)		OL	Organic clay/silt	
	Silt and Clays Liquid Limit 50 or more	Inorganic PI plots on or above "A" line PI plots below "A" line	CH MH	Fat clay Elastic clay	
		Organic LL (oven dried) < 0.75 LL (not dried)	OH	Organic clay/silt	
Highly organic soils	Primarily organic matter, dark in color, and organic odor			PT	Peat



HANSON TESTING & ENGINEERING, INC.
EVANSVILLE, INDIANA

FIELD CLASSIFICATION SYSTEM FOR SOIL EXPLORATION

NON-COHESIVE SOILS

DENSITY

Very Loose	5 blows/ft. or less
Loose	6 to 10 blows/ft.
Medium Dense	11 to 30 blows/ft.
Dense	31 to 50 blows/ft.
Very dense	51 blows/ft. or more

PARTICLE SIZE IDENTIFICATION

Boulders	8" diameter or more
Cobbles	3" to 8" diameter
Gravel	Coarse 1" to 3" Medium 1/2" to 1" Fine 1/4" to 1/2"
Sand	Coarse 2.00mm to 4.75 mm Medium 0.42mm to 2.00mm Fine .074mm to 0.42mm
Silt	.005mm to .074mm
Clay	<.005mm

COHESIVE SOILS

CONSISTENCY

Very Soft	3 blows/ft. or less
Soft	4 to 5 blows/ft.
Medium Stiff	6 to 10 blows/ft.
Stiff	11 to 15 blows/ft.
Very Stiff	16 to 30 blows/ft.
Hard	31 lows/ft. or more

PLASTICITY

Degree of Plasticity	Plasticity Index
None to slight	0-4
Slight	5-7
Medium	8-20
High	Over 20

Degree of <u>Expansion</u>	Percentage of <u>Swell</u>	Approximate <u>Plasticity Index (PI)</u>
Nonexpansive	2 or less	0 to 10
Moderately expansive	2 to 4	10 to 20
Highly expansive	more than 4	More than 20

ROCK QUALITY DESIGNATION

<u>RQD</u>	<u>ROCK QUALITY</u>
0-25	Very Poor
25-50	Poor
50-75	Fair
75-90	Good
90-100	Excellent

Classifications on logs are made by visual inspection of samples.

Standard Penetration Test - Driving a 2.0" O.D., 1-3/8" I.D. sampler a distance of 18 inches into undisturbed soil with a 140 pound hammer free falling a distance of 30 inches. The number of hammer blows for making the test is recorded on the drilling log in 6-inch increments. The sum of the last two 6-inch increments is considered the "N" value.

Groundwater observations were made at the end of the day's drilling unless otherwise noted. Porosity of the soil strata, weather conditions, site topography, etc. may cause changes in the water levels indicated on the logs.

APPENDIX C

**KY STATE CLEARINGHOUSE
REVIEW COMMENTS**

FOR SPEC

RECEIVED DEC 23 2003



Ernie Fletcher
GOVERNOR

COMMONWEALTH OF KENTUCKY
OFFICE OF THE GOVERNOR
DEPARTMENT FOR LOCAL
GOVERNMENT

1024 CAPITAL CENTER DRIVE, SUITE 340
FRANKFORT, KENTUCKY 40601-8204
TEL (502) 573-2382



COMMISSIONER

December 18, 2003

Ms. Jan Kuegel
3400 Bittel Road
Owensboro, KY 42301

RE: West Daviess County Water District - Panther Elevated Water Storage Tank –
WX21059009
SAI# KY20031008-1511

Dear Ms. Kuegel:

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 utilized 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 or federal agency.



TDD (800) 247-2510
TOLL FREE (800) 346-5606


AN EQUAL OPPORTUNITY EMPLOYER M/F/D

FAX: (502) 573-2512
WEB SITE: <http://www.kylocalgov.com>

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
Kentucky State Clearinghouse

Attachments

Cc: Green River ADD
KIA

The Natural Resources has made the following advisory comment pertaining to State Application Identifier Number KY200310081511

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.

PRIOR APPROVALS

The proposed project is subject to Division of Water (DOW) jurisdiction because the following are or appear to be involved: Water distribution lines and appurtenances

Prior approval must be obtained from the DOW before construction can begin on the above matters. The applicant must cite this State Application Identifier (SAI) when submitting plans and specifications to the DOW. It is beneficial if applicants make prior contact with the DOW before submitting plans and specifications. DOW forms can be downloaded from <http://water.nr.state.ky.us/dow>.

WATER SUPPLY

The proposed project (SAI 0310081511) is by and for the benefit of the water distribution system of the West Daviess County Water District (WDCWD). The WDCWD is served by the water treatment and distribution system of the Owensboro Water Treatment Plant (OWTP). The proposed project should not have any impact on the OWTP since the proposed project does not seek additional demand.

In accordance with 401 KAR 8:030, the DOW requires the facility to have a properly certified operator that is in direct responsible charge of the facility at all times.

WATER RESOURCES

Daviess County received funding under KRS 151.118 to develop a long-range water supply plan pursuant to KRS 151.114. The water management plan is being amended by the Daviess County Water Management Council to include this proposed project. The WX number for this project is WX21059009.

WATR QUALITY

Stormwater Discharge

The WDCWD may need to apply for a Kentucky Pollutant Discharge Elimination System (KPDES) stormwater discharge permit regarding the proposed project's drainage (stormwater) construction if the area disturbed is equal to or greater than 1 acre.

Kentucky Division for Air Quality Regulation 401 KAR 63:010 Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the Fugitive Emissions Fact Sheet located at http://www.air.ky.gov/e_clearinghouse.html.

Kentucky Division for Air Quality Regulation 401 KAR 63:005 states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the Open Burning Fact Sheet located at http://www.air.ky.gov/e_clearinghouse.html

All solid waste generated by this project must be disposed at a permitted facility.

During projects such as this, non-regulated underground storage tanks may be encountered as well as asbestos, lead paint, and other contamination. If this occurs, whatever is encountered must be properly reported and addressed.

The Transportation has made the following advisory comment pertaining to State Application Identifier Number KY200310081511

Greer, Daryl:

The Division of Planning has no comments on this project.

Hall (D2), Nick:

The Kentucky Department of Highways is responsible for controlling both public and private usage of right-of-way of the State road system. Any firm, individual, or governmental agency desiring access to a State road or desiring to perform any type of work (including signage) on State right-of-way must obtain a permit from the Department.

To obtain the necessary permits and/or discuss the details of this project, please contact our District Office in Madisonville at the following address/number:

Mr. Kenny Potts, Traffic Branch Manager
Kentucky Department of Highways
1840 North Main Street
P. O. Box 600
Madisonville, Kentucky 42431
Telephone (270) 824-7080
Fax (270) 824-7091

Waldner, David:

If applicable, must secure KYTC permit for right of way encroachment

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 KY200310081511

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.

WEST DAVIESS COUNTY WATER DISTRICT
PANTHER HILL TANK PROJECT

SECTION 12

WAGE RATES

<u>Section</u>	<u>Item</u>	<u>Page</u>
12.1	Wage Rates	WR-2

12.1. WAGE RATES

In accordance with the provisions of KRS 337.010, this project will contain Kentucky Department of Labor prevailing wage rate requirements. No Federal funds are anticipated for use on this project. Therefore, prevailing Federal wage rates **WILL NOT** be required on the Project.

Copies of the wage rate determination as prepared by the Kentucky Department of Labor for application on this project are attached and hereby incorporated as an integral portion of the Project Specifications as **Appendix 'D'**.

APPENDIX D

**KENTUCKY PREVAILING WAGE
RATE REQUIREMENTS**

ERNIE FLETCHER
GOVERNOR



LaJuana S. Wilcher
Secretary

Commonwealth of Kentucky
Environmental and Public Protection Cabinet
Department of Labor
1047 US HWY 127 S STE 4
FRANKFORT, KY 40601
(502) 564-3070

June 30, 2004

James Riney
HRG PLLC Surv. & Eng.
416 West Third St.
Owensboro KY 42301

Re: West Daviess Co. Water Dist., Panther Hill Elevated Water Tank

Advertising Date as Shown on Notification: July 1, 2004

Dear James Riney:

This office is in receipt of your written notification on the above project as required by KRS 337.510 (1).

I am enclosing a copy of the current prevailing wage determination number CR 2-009, dated December 8, 2003 for DAVIESS County. This schedule of wages shall be attached to and made a part of the specifications for the work, printed on the bidding blanks, and made a part of the contract for the construction of the public works between the public authority and the successful bidder or bidders.

The determination number assigned to this project is based upon the advertising date contained in your notification. There may be modifications to this wage determination prior to the advertising date indicated. In addition, if the contract is not awarded within 90 days of this advertising date or if the advertising date is modified, a different set of prevailing rates of wages may be applicable. It will be the responsibility of the public authority to contact this office and verify the correct schedule of the prevailing rates of wages for use on the project. Your project number is as follows: 030-H-00208-03-2, Heavy/Highway

Sincerely,

A handwritten signature in cursive script, appearing to read "Patty Lacy".

Patty Lacy
Prevailing Wage Specialist

COMMISSIONER'S CURRENT REVISION
KENTUCKY PREVAILING WAGE DETERMINATION
LOCALITY NO. 009

Determination No. CR-2-009

Project No. 030-H-00208-03-2

Date of Determination: December 8, 2003

Type: ___ Bldg ___x___ HH

This schedule of the prevailing rate of wages for Locality No. 009, which includes Daviess and McLean Counties, has been determined in accordance with the provisions of KRS 337.505 to 337.550. This determination shall be referred to as Prevailing Wage Determination No. CR-2-009.

Apprentices shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request to any interested person.

Overtime is to be computed at not less than one and one-half (1 1/2) times the indicated BASE RATE for all hours worked in excess of eight (8) per day, or in excess of forty (40) per week. However, KRS 337.540 permits an employee and employer to agree, in writing, that the employee will be compensated at a straight time base rate for hours worked in excess of eight (8) hours in any one workday, but not more than ten (10) hours worked in any one workday, if such written agreement is prior to the over eight (8) hours in a workday actually being worked, or where provided for in a collective bargaining agreement. The fringe benefit rate is to be paid for each hour worked at a straight time rate for all hours worked. Fringe benefit amounts are applicable for all hours worked except when otherwise noted. Welders will receive rate for craft in which welding is incidental.

No laborer, workman or mechanic shall be paid at a rate less than that of the General Laborer except those classified as bona fide apprentices registered with the Kentucky State Apprenticeship Supervisor unless otherwise specified in this schedule of wage rates.

NOTE: The type of construction shall be determined by applying the following definitions.

BUILDING CONSTRUCTION

Building construction is the construction of sheltered enclosures with walk-in access for the purpose of housing persons, machinery, equipment, or supplies. It includes all construction of such structures, the installation of utilities and the installation of equipment, both above and below grade level, as well as incidental grading, utilities and paving.

CR-2-009
December 8, 2003

CLASSIFICATIONS

RATE AND FRINGE BENEFITS

DAVISS COUNTY:

CEMENT MASONS:

BASE RATE \$11.20
FRINGE BENEFITS .71

ELECTRICIANS:

Electricians:

BASE RATE \$22.95
FRINGE BENEFITS 10.46

Heliarc Welding & Cablesplacers:

BASE RATE \$23.75
FRINGE BENEFITS 10.46

When workmen are requested to work from swinging seats or on radio and television towers, tanks, smoke stacks, structural steel and bridges and where a man can fall 35 feet or more, but not including outside linework, the rate of pay shall be twenty-five percent (25%) above the base rate. Structural steel is defined to mean unprotected, unfloored raw steel.

ELEVATOR CONSTRUCTORS:

Elevator Mechanics:

BASE RATE \$25.105
FRINGE BENEFITS 6.93

GLAZIERS:

BASE RATE \$19.11
FRINGE BENEFITS 3.88

Add \$.35 for glaziers working on a scaffold 30 ft. or more above ground or any permanent part of a structure

IRONWORKERS:

BASE RATE \$23.50
FRINGE BENEFITS 10.48

LABORERS:

BUILDING GROUP 1

General laborers, watchman, water boy, wrecking labor on building and structures, clearing right-of-way and building site, carpenter tender, deck hand flagging traffic, truck spotters and dumpers, axe and cross cut saw filer, concrete pudlers and form strippers, asbestos abatement laborers, toxic waste removal laborer, lead abatement laborer

BASE RATE \$16.82
FRINGE BENEFITS 7.66

December 8, 2003

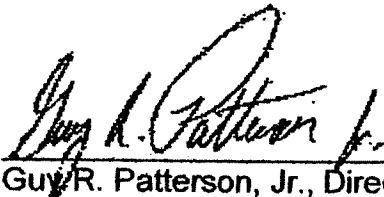
CR-2-009

HIGHWAY CONSTRUCTION

Highway construction includes the construction, alteration or repair of roads, streets, highways, runways, taxiways, alleys, trails, paths, parking areas, and other similar projects not incidental to building or heavy construction. It includes all incidental construction in conjunction with the highway construction project.

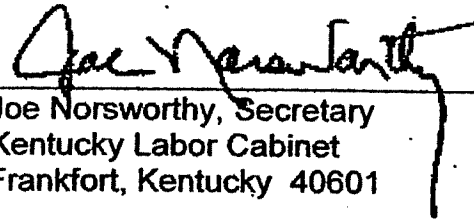
HEAVY CONSTRUCTION

Heavy projects are those projects that are not properly classified as either "building" or "highway". For example, dredging projects, water and sewer line projects, dams, flood control projects, sewage treatment plants and facilities, and water treatment plants and facilities are considered heavy.



Guy R. Patterson, Jr., Director
Employment Standards,
Apprenticeship & Training
Kentucky Labor Cabinet

&



Joe Norsworthy, Secretary
Kentucky Labor Cabinet
Frankfort, Kentucky 40601

CR-2-009
December 8, 2003

CLASSIFICATIONS **RATE AND FRINGE BENEFITS**

ASBESTOS/INSULATION WORKERS: BASE RATE \$24.35
FRINGE BENEFITS 8.76

ASBESTOS & LEAD ABATEMENT WORKERS: BASE RATE \$15.55
FRINGE BENEFITS 4.55

BOILERMAKERS: BASE RATE \$27.15
FRINGE BENEFITS 13.54

BRICKLAYERS: BASE RATE \$20.76
FRINGE BENEFITS 5.51

CARPENTERS:

Carpenters: BUILDING BASE RATE \$18.05
FRINGE BENEFITS 6.64

HEAVY & HIGHWAY BASE RATE \$21.45
FRINGE BENEFITS 6.13

Divers: HEAVY & HIGHWAY BASE RATE \$32.55
FRINGE BENEFITS 6.13

Piledrivermen: BUILDING BASE RATE \$18.30
FRINGE BENEFITS 6.64

HEAVY & HIGHWAY BASE RATE \$21.70
FRINGE BENEFITS 6.13

MCLEAN COUNTY:

CEMENT MASONS: BASE RATE \$12.92
FRINGE BENEFITS 4.35

Add \$.25 to base rate for 50-75 feet above finished grade level; 75-100 feet above finished grade level; and each additional 50 feet thereafter above finished grade level.

CLASSIFICATIONS RATE AND FRINGE BENEFITS

ASBESTOS/INSULATION WORKERS:		BASE RATE	\$24.35
		FRINGE BENEFITS	8.76

ASBESTOS & LEAD ABATEMENT WORKERS:		BASE RATE	\$15.55
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December 8, 2003
CR-2-009
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Frankfort, Kentucky 40601

CR-2-009
December 8, 2003

CLASSIFICATIONS **RATE AND FRINGE BENEFITS**

DAVISS COUNTY:

CEMENT MASONS: BASE RATE \$11.20
FRINGE BENEFITS .71

ELECTRICIANS:

Electricians: BASE RATE \$22.95
FRINGE BENEFITS 10.46

Heliarc Welding & Cablesplicers: BASE RATE \$23.75
FRINGE BENEFITS 10.46

When workmen are requested to work from swinging seats or on radio and television towers, tanks, smoke stacks, structural steel and bridges and where a man can fall 35 feet or more, but not including outside linework, the rate of pay shall be twenty-five percent (25%) above the base rate. Structural steel is defined to mean unprotected, unfloored raw steel.

ELEVATOR CONSTRUCTORS:

Elevator Mechanics: BASE RATE \$25.105
FRINGE BENEFITS 6.93

GLAZIERS: BASE RATE \$19.11
FRINGE BENEFITS 3.88

Add \$.35 for glaziers working on a scaffold 30 ft. or more above ground or any permanent part of a structure

IRONWORKERS: BASE RATE \$23.50
FRINGE BENEFITS 10.48

LABORERS:

BUILDING GROUP 1

General laborers, watchman, water boy, wrecking labor on building and structures, clearing right-of-way and building site, carpenter tender, deck hand flagging traffic, truck spotters and dumpers, axe and cross cut saw filer, concrete pudlers and form strippers, asbestos abatement laborers, toxic waste removal laborer, lead abatement laborer

BASE RATE \$16.82
FRINGE BENEFITS 7.66

COMMISSIONER'S CURRENT REVISION
KENTUCKY PREVAILING WAGE DETERMINATION
LOCALITY NO. 009

Determination No. CR-2-009

Date of Determination: December 8, 2003

This schedule of the prevailing rate of wages for Locality No. 009, which includes Daviess and McLean Counties, has been determined in accordance with the provisions of KRS 337.505 to 337.550. This determination shall be referred to as Prevailing Wage Determination No. CR-2-009.

Apprentices shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request to any interested person.

Overtime is to be computed at not less than one and one-half (1 1/2) times the indicated BASE RATE for all hours worked in excess of eight (8) per day, or in excess of forty (40) per week. However, KRS 337.540 permits an employee and employer to agree, in writing, that the employee will be compensated at a straight time base rate for hours worked in excess of eight (8) hours in any one workday, but not more than ten (10) hours worked in any one workday, if such written agreement is prior to the over eight (8) hours in a workday actually being worked, or where provided for in a collective bargaining agreement. The fringe benefit rate is to be paid for each hour worked at a straight time rate for all hours worked. Fringe benefit amounts are applicable for all hours worked except when otherwise noted. Welders will receive rate for craft in which welding is incidental.

No laborer, workman or mechanic shall be paid at a rate less than that of the General Laborer except those classified as bona fide apprentices registered with the Kentucky State Apprenticeship Supervisor unless otherwise specified in this schedule of wage rates.

NOTE: The type of construction shall be determined by applying the following definitions.

BUILDING CONSTRUCTION

Building construction is the construction of sheltered enclosures with walk-in access for the purpose of housing persons, machinery, equipment, or supplies. It includes all construction of such structures, the installation of utilities and the installation of equipment, both above and below grade level, as well as incidental grading, utilities and paving.

COMMISSIONER'S CURRENT REVISION
KENTUCKY PREVAILING WAGE DETERMINATION
LOCALITY NO. 009

Determination No. CR-2-009

Project No. 030-H-00208-03-2

Date of Determination: December 8, 2003

Type: Bldg HH

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December 8, 2003

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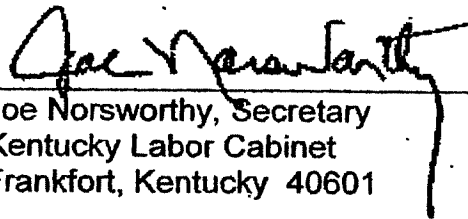
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Kentucky Labor Cabinet

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Joe Norsworthy, Secretary
Kentucky Labor Cabinet
Frankfort, Kentucky 40601

CR-2-009
December 8, 2003

CLASSIFICATIONS	RATE AND FRINGE BENEFITS
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ASBESTOS/INSULATION WORKERS:	BASE RATE	\$24.35
	FRINGE BENEFITS	8.76

ASBESTOS & LEAD ABATEMENT WORKERS:	BASE RATE	\$15.55
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CARPENTERS:

Carpenters:	BUILDING	BASE RATE	\$18.05
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	HEAVY & HIGHWAY	BASE RATE	\$21.45
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MCLEAN COUNTY:

CEMENT MASONS:	BASE RATE	\$12.92
	FRINGE BENEFITS	4.35

Add \$.25 to base rate for 50-75 feet above finished grade level; 75-100 feet above finished grade level; and each additional 50 feet thereafter above finished grade level.

CLASSIFICATIONS

RATE AND FRINGE BENEFITS

DAVISS COUNTY:

CEMENT MASONS:	BASE RATE	\$11.20
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	FRINGE BENEFITS	10.46

Heliarc Welding & Cablesplacers:	BASE RATE	\$23.75
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When workmen are requested to work from swinging seats or on radio and television towers, tanks, smoke stacks, structural steel and bridges and where a man can fall 35 feet or more, but not including outside linework, the rate of pay shall be twenty-five percent (25%) above the base rate. Structural steel is defined to mean unprotected, unfloored raw steel.

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GLAZIERS:	BASE RATE	\$19.11
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Add \$.35 for glaziers working on a scaffold 30 ft. or more above ground or any permanent part of a structure

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LABORERS:

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General laborers, watchman, water boy, wrecking labor on building and structures, clearing right-of-way and building site, carpenter tender, deck hand flagging traffic, truck spotters and dumpers, axe and cross cut saw filer, concrete pudlers and form strippers, asbestos abatement laborers, toxic waste removal laborer, lead abatement laborer

BASE RATE	\$16.82
FRINGE BENEFITS	7.66

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 December 8, 2003

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December 8, 2003
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LABORERS:

BUILDING GROUP 1

General laborers, watchman, water boy, wrecking labor on building and structures, clearing right-of-way and building site, carpenter tender, deck hand flagging traffic, truck spotters and dumpers, axe and cross cut saw filer, concrete pudlers and form strippers, asbestos abatement laborers, toxic waste removal laborer, lead abatement laborer

	BASE RATE	\$16.82
	FRINGE BENEFITS	7.66

CLASSIFICATIONS RATE AND FRINGE BENEFITS
LABORERS: (Continued)

BUILDING GROUP 2

All power driven tools, hod carriers, mason tenders, finishing tenders, mortar mixers, jack hammer, vibrators, soil compactors, wagon drill, core drill, test drill, well drill, concrete pump machine, tunnel boring machine, men in tunnel and crib ditch work, signal men, riprap rock setters and handlers, asphalt rakers, tampers and smoothers, pipe layers, grout pump man, chain saw, pipe clearing, doping and wrapping, swampers and straight cable hooking, cement guns, grade checkers machine excavating, tool room checkers, batch plant scale man, sand hog free air, sand hog compressed air, cutting torch man on salvage work, road form setters, brick slingers, hand spikers, power buggy, handling of creosote material, sandblasters, curing of concrete and apply hardner, air and gas tampers, concrete saw, power post hold diggers and green cut men on concrete work, pavement breakers, multi-craft tender

BASE RATE \$17.02
FRINGE BENEFITS 7.66

BUILDING GROUP 3

Powderman, blasters

BASE RATE \$17.32
FRINGE BENEFITS 7.66

HEAVY HIGHWAY GROUP 1

Aging and curing of concrete (any mode or method), asbestos abatement worker, asphalt plant laborers, asphalt laborers, batch truck dumpers, carpenter tenders, cement mason tenders, cleaning of machines, concrete laborers, demolition laborers, dredging laborers, drill helper, environmental laborer - nuclear, radiation, toxic and hazardous waste - Level D, flagmen, grade checkers, all hand digging and hand back filling, highway marker placers, landscaping laborers, mesh handlers and placers, puddler, railroad laborers, rip-rap and grouters, right of way laborers, sign, guard rail and fence installers (all types), signal men, sound barrier installer, storm and sanitary sewer laborers, swampers, truck spotters and dumpers, and wrecking of concrete forms:

HEAVY & HIGHWAY BASE RATE \$16.88
FRINGE BENEFITS 8.03

HEAVY HIGHWAY GROUP 2

Batter board men (sanitary and storm sewer), brickmason tenders, mortar mixer operator, burner and welder, bushhammers, chain saw operator, concrete saw operators, deckhand scow man, dry cement handlers, environmental laborers - nuclear, radiation, toxic and hazardous waste - Level C, forklift operators for masonry, form setters, green concrete cutting, hand operated grouter and grinder machine operator, jack hammers, lead paint abatement, pavement breakers, paving joint machine, pipe layers-laser operators (non-metallic), plastic pipe fusion, power driven Georgia buggy or wheelbarrow, power post hole diggers, precast manhole setters, walk-behind tampers, walk-behind trenchers, sand blasters, concrete chippers, surface grinders, vibrator operators, wagon drillers:

HEAVY & HIGHWAY BASE RATE \$17.13
FRINGE BENEFITS 8.03

CLASSIFICATIONS

RATE AND FRINGE BENEFITS

LABORERS: (Continued)

HEAVY HIGHWAY GROUP 3

Air track driller (all types), asphalt lute man and rakers, gunnite nozzle man, gunnite operators and mixers, grout pump operator, powder man and blaster, side rail setters, rail paved ditches, screw operators, tunnel laborers (free air), and water blasters:

HEAVY & HIGHWAY	BASE RATE	\$17.18
	FRINGE BENEFITS	8.03

HEAVY HIGHWAY GROUP 4

Caisson workers (free air), cement finishers, environmental laborer - nuclear, radiation, toxic and hazardous waste - Levels A and B, miners and drillers (free air), tunnel blasters, and tunnel muckers (free air):

HEAVY & HIGHWAY	BASE RATE	\$17.78
	FRINGE BENEFITS	8.03

MCLEAN COUNTY:

MARBLE, TILE & TERRAZZO WORKERS:

BASE RATE	\$14.25
FRINGE BENEFITS	1.20

DAVISS COUNTY:

MARBLE, TILE & TERRAZZO WORKERS:

BASE RATE	\$13.00
FRINGE BENEFITS	.28

MILLWRIGHTS:

BASE RATE	\$21.15
FRINGE BENEFITS	10.24

OPERATING ENGINEERS:

BUILDING CLASS A:

Auto patrol, batcher plant, bituminous paver, cableway, carrydeck crane, central compressor plant, clamshell, concrete mixer (21 cu. ft. or over), concrete pump, crane, crusher plant, derrick, derrick boat, ditching and trenching machine, dragline, dredge operator, dredge engineer, elevating grader and all types of loaders, heavy equipment robotics operator/mechanic, hoe type machine, hoist (1 drum when used for stack or chimney construction or repair), hoisting engine (2 or more drums), horizontal directional drill operator, hydraulic boom trucks, locomotive, mechanically operated laser screed, motor scraper, carry-all scoop, bulldozer, heavy duty welder, mechanic, orange peel bucket, overhead crane, piledriver, power blade, motor grader, roller (bituminous), scarifier, shovel, tractor shovel, truck crane, winch truck, push dozer, highlift, forklift (regardless of lift height and except when used for masonry construction), telescoping type forklift, all types of boom cats, core drill, hopto, tow or push boat, A-frame winch truck, concrete paver, gradeall, hoist, hyster, pumpcrete, Ross carrier, boom, tail boom, rotary drill, hydro hammer, mucking machine, rock spreader attached to equipment, scoopmobile, KeCal loader, tower cranes (French, German and other types), hydrocrane, backfiller, gurries, sub-grader, tunnel mining machines including moles, shields, or

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December 8, 2003

CLASSIFICATIONS

RATE AND FRINGE BENEFITS

OPERATING ENGINEERS: (Continued)

similar types of tunnel mining equipment:

BUILDING	*BASE RATE	\$20.95
	FRINGE BENEFITS	9.15

*Operators on cranes with boom 150 feet and over including jib, shall receive \$1.00 above base rate; 225 feet and over including jib shall receive \$1.50 above rate. All operators on cranes with piling leads will receive \$1.00 above base rate regardless of boom length.

BUILDING CLASS B:

All air compressors (over 900 cu. ft. per min.), bituminous mixer, joint sealing machine, concrete mixer (under 21 cu. ft.), form grader, roller (rock), tractor (50 HP and over), bull float, finish machine, outboard motor boat, flexplane, fireman, boom type tamping machine, truck crane oiler, greaser on grease facilities servicing heavy equipment, switchman or brakeman, mechanic helper, whirley oiler, self-propelled compactor, tractair and road widening trencher and farm tractor with attachments (except backhoe, highlift and endloader), elevator (regardless of ownership when used for hoisting any building material), hoisting engine (1-drum or buck hoist, forklift (when used for masonry construction, firebrick masonry excluded), well points, grout pump, throttle-valve man, tugger, and electric vibrator compactor:

BUILDING	BASE RATE	\$18.21
	FRINGE BENEFITS ¹	9.15

BUILDING CLASS C:

Bituminous Distributor, Cement Gun, Conveyor, Mud Jack, Paving Joint Machine, Roller (earth), Tamping Machine, Tractors (under 50 HP), Vibrator, Oiler, Concrete Saw, Burlap and Curing Machine, Truck Crane Oiler, Hydro-Seeder, Power Form handling Equipment, Deckhand Steersman, Hydraulic Post Driver and Drill Helper:

BUILDING	BASE RATE	\$17.44
	FRINGE BENEFITS	9.15

HEAVY HIGHWAY CLASS A:

A-Frame Winch Truck, Auto Patrol, Backfiller, Batch Plant, Bituminous Paver, Bituminous Transfer Machine, All types of Boom Cats, Bulldozer, Cableway, Carry-All Scoop, Carry Deck Crane, Central Compressor Plant Operator, Clamshell, Concrete Mixer (21 cu. ft. or over), Concrete Paver, Truck-Mounted Concrete Pump, Core Drills, Crane, Crusher Plant, Derrick, Derrick Boat, Ditching and Trenching Machine, Dragline, Dredge Operator, Dredge Engineer, Earth Movers, Elevating Grader and all types of Loaders, Grade-All, Gurries, Heavy Equipment Robotics Operator/Mechanic, Highlift, Hoe-Type Machine, Hoist (two or more drums), Hoisting Engine (two or more drums), Horizontal Directional Drill Operator, Hydraulic Boom Truck, Hydrocrane, Hyster, KeCal Loader, Letourneau, Locomotive, Mechanic, Mechanically Operated Laser Screed, Mechanic Welder, Mucking Machine, Motor Scraper, Orangepeel Bucket, Piledriver, Power Blade, Pumpcrete, Push Dozer, Rock Spreader attached to Equipment, All Rotary Drills, Roller (bituminous), Scarifier, Scoopmobile, Shovel, Side Boom, Subgrader,

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December 8, 2003

CLASSIFICATIONS

RATE AND FRINGE BENEFITS

OPERATING ENGINEERS: (Continued)

Tailboom, Telescoping Type Forklift, Tow or Push Boat, Tower Cranes (French, German and other types), Tractor Shovel, Truck Crane, Tunnel Mining Machines including Moles, Shields, or

HEAVY & HIGHWAY

*BASE RATE \$21.10
FRINGE BENEFITS 9.15

*Operators on cranes with booms one hundred fifty feet (150') and over including jib shall Receive \$.50 above base rate.

HEAVY HIGHWAY CLASS B:

All Air Compressors (over 900 cu. ft. per min.), Bituminous Mixer, Boom Type Tamping Machine, Bull Float, Concrete Mixer (under 21 cu. ft.), Electric Vibrator Compactor/Self-Propelled Compactor, Elevator (one drum or buck hoist), Elevator (regardless of ownership when used to hoist building material), Finish Machine, Firemen, Flex-Plane, Forklift (regardless of lift height), Form Grader, Hoist (one drum), Joint Sealing Machine, Mechanic Helper, Outboard Motor Boat, Power Sweeper (riding type), Roller (rock), Ross Carrier, Skid Mounted or Trailer Mounted Concrete Pumps, Switchman or Brakeman, Throttle Valve Man, Tractair and Road Widening Trencher, Tractor (50 HP and over), Truck Crane Oiler, Tugger, Welding Machine, Well Points, and Whirley Oiler:

HEAVY & HIGHWAY

*BASE RATE \$18.68
FRINGE BENEFITS 9.15

HEAVY HIGHWAY CLASS B2:

Greaser on Grease Facilities servicing Heavy Equipment:

HEAVY & HIGHWAY

*BASE RATE \$19.06
FRINGE BENEFITS 9.15

HEAVY HIGHWAY CLASS C:

Bituminous Distributor, Burlap and Curing Machine, Caisson Drill and Core Drill Helper (track or skid mounted), Cement Gun, Concrete Saw, Conveyor, Deckhand Oiler, Grout Pump, Hydraulic Post Driver, Hydro Seeder, Mud Jack, Oiler, Paving Joint Machine, Power Form Handling Equipment, Pump, Roller (earth), Steermen, Tamping Machine, Tractors (under 50 H.P.) and Vibrator:

HEAVY & HIGHWAY

*BASE RATE \$18.42
FRINGE BENEFITS 9.15

*Employees assigned to work below ground level are to be paid ten percent (10%) above base wage rate. This does not apply to open cut work.

PAINTERS:

Painters (BUILDING)

Brush, roller, and paperhangers

*BASE RATE \$20.30
FRINGE BENEFITS 6.88

CR-2-009

December 8, 2003

CLASSIFICATIONS

RATE AND FRINGE BENEFITS

Painters (BUILDING, continued):

Drywall finishers and plasterers

BASE RATE \$20.55
FRINGE BENEFITS 6.88

Spray, sandblast, power tools, waterblast, steam cleaning, brush and roller of mastics, creosotes, Kwinch Koate, and coal tar epoxy

FRINGE BENEFITS 6.88

Spray of mastics, creosotes, Kwinch Koate, and coal tar epoxy

BASE RATE \$22.30
FRINGE BENEFITS 6.88

Painters (HEAVY & HIGHWAY)

BASE RATE \$23.45
FRINGE BENEFITS 7.84

PLUMBERS AND PIPEFITTERS:

BASE RATE \$23.42
FRINGE BENEFITS 8.85

ROOFERS:

BASE RATE \$12.00

SHEETMETAL WORKERS:

BASE RATE \$24.61
FRINGE BENEFITS 11.32

SPRINKLER FITTERS:

BASE RATE \$25.05
FRINGE BENEFITS 9.65

MCLEAN COUNTY ONLY:

TRUCK DRIVERS:

BUILDING

BASE RATE \$10.77

DAVISS COUNTY ONLY:

TRUCK DRIVERS:

BUILDING

BASE RATE \$10.00

CR-2-009
December 8, 2003

CLASSIFICATIONS RATE AND FRINGE BENEFITS

DAVISS & MCLEAN COUNTY:

TRUCK DRIVERS HEAVY & HIGHWAY:

Greaser, Tire changer:	HEAVY & HIGHWAY	BASE RATE	\$18.53
		FRINGE BENEFITS	8.80

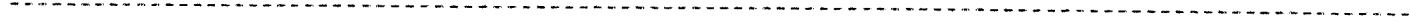
Truck Mechanic:	HEAVY & HIGHWAY	BASE RATE	\$18.76
		FRINGE BENEFITS	8.80

Single axle dump & flatbed, terrain vehicle when used to haul materials, semi-trailer or pole trailer when used to pull building materials & equipment, tandem axle dump, distributor, & mixer:

HEAVY & HIGHWAY	BASE RATE	\$18.83
	FRINGE BENEFITS	8.80

Euclid, other heavy earthmoving equipment & lowboy, articulator cat truck & 5 axle vehicle, winch & a-frame when used in transporting materials, ross carrier; fork lift truck when used to transport building materials, & drivers on pavement breaker:

HEAVY & HIGHWAY	BASE RATE	\$18.84
	FRINGE BENEFITS	8.80



SECTION 13

**METHOD OF MEASUREMENT AND
BASIS OF PAYMENT**

<u>Section</u>	<u>Item</u>	<u>Page</u>
13.1	Method of Measurement and Basis of Payment	MM/BP-2

13.1. METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Bid Item No. 1

Payment for this Bid Item shall be a lump sum payment for all clearing, grubbing and excavation as verified by and as approved by the Engineer. Removal items shall include but not be limited to all trees, vegetation, topsoil, foundations, structures, debris, old drainage items/ditch pavement, stumps, brush and undergrowth and incidentals.

Payment shall be full compensation for all labor, equipment, materials, clearing, grubbing, removal, disposal and incidentals necessary to clear the site in order to complete the project in accordance with the Contract Documents.

Bid Item No. 2

Payment for this Bid Item shall be a lump sum payment for a 500,000 gallon multi-leg elevated welded steel water storage tank (56' dia x 30' bowl height) in place, ready for use as verified by and as approved by the Engineer. Payment shall include all tank accessories and incidental hardware as well as hydrostatic testing and tank disinfection.

Lump Sum payment shall be full compensation for all labor, equipment, materials, handtools, furnishing, transporting, placing, tank and foundation design, foundation and foundation excavation, DGA subgrade materials, fill and outlet pipe to a point 5 feet outside the tank foundation perimeter, exterior ladders and platform assembly, interior and riser ladders, safety cage and anti-climb device, welding, weld testing, roof vent, riser manway, roof manways, level indicator gauge, overflow piping (including horizontal sections at ground level), headwall/concrete flume, stainless steel discharge guard/screen, interior silt trap, gaskets and sealing compounds, subgrade aggregate, backfilling and dressing, tank testing, sterilization and de-chlorination of sterilization water, and incidentals necessary to complete the elevated water storage tank in accordance with the Contract Documents.

Bid Item No. 3

Payment for this Bid Item shall be for each hot tap of the respective size as verified and approved by the Engineer. Payment shall include stainless steel sleeve, tapping valve and valve stem/valve box extensions.

Payment shall be full compensation for all labor, equipment, tools, tapping machine, placing sleeve and valve, pressure testing sleeve prior to making tap, excavation, concrete blocking, materials, actual line tapping and incidentals necessary to complete the work in accordance with the Contract Documents.

Bid Item No. 4

Payment for this Bid Item shall be per linear foot of the respective size of in-place ductile iron water main (all mechanical joints) as verified by and approved by the Engineer.

Payment shall be full compensation for all labor, equipment, mechanical joints, materials, fittings, sleeves, plugs, transportation, excavation, placing, testing, sterilization, backfilling, hauling and disposal of excess excavation materials, concrete thrust blocks and anchoring, and incidentals necessary to install the respective size ductile iron water main in accordance with the Contract Documents.

Bid Item No. 5

Payment for this Bid Item shall be for each additional 8" x 8" x 8" ductile iron water main fittings in-place as verified by and as approved by the Engineer. This Bid Item does NOT include tee fitting locations already identified on the construction plans.

Payment shall be full compensation for all labor, equipment, materials, excavation, installation, backfilling, and incidentals necessary to install the fittings as directed by the Engineer.

Bid Item No. 6

Payment for this Bid Item shall be per linear foot for all chain link fence 6-foot in height with barb wire security strands as verified and approved by the Engineer. The fence shall be constructed along a true line as shown on the Contract Plans. Payment per linear foot shall include tie-ins to existing fence, existing fence sections removal and incidental hardware.

Payment shall be full compensation for all labor, equipment, materials, hand tools and incidentals necessary to furnish and place the fencing (including required temporary fencing) in accordance with the Contract Documents.

Bid Item No. 7

Payment for this Bid Item shall be per ton for final driveway (includes drives, parking areas, etc.) DGA materials in-place approved by the Engineer and as verified by proper weight tickets. This Bid Item shall NOT include temporary drive access materials placed during construction.

Payment per ton of driveway DGA materials shall be full compensation for existing materials removal, excavation, disposal, labor, equipment, materials, furnishing, placing and incidentals necessary to provide existing drives, new drives and parking, etc. in compliance with the Contract Documents.

WEST DAVIESS COUNTY WATER DISTRICT
PANTHER HILL TANK PROJECT

BID SCHEDULE

Bid Schedule

Bid unit prices shall be submitted in both written and numerical form. Total Bid Price shall be submitted in numerical form only. In the event of discrepancy, the written form will take precedence and be used in tabulating the total project bid.

Bid Item #1

Lump Sum for **clearing, grubbing and excavation** including all labor, materials, equipment, and incidentals; complete, in place and ready for use.

At _____ Dollars and _____ Cents
\$ _____
Lump Sum

Bid Item #2

Lump Sum for **500,000 gallon multi-leg elevated welded steel water storage tank (56' dia. x 30' bowl ht.)** including all labor, materials, equipment, and incidentals; complete, in place and ready for use.

At _____ Dollars and _____ Cents
\$ _____
Lump Sum

Bid Item #3

1 each for **10"x 10"x 10" stainless steel tapping sleeve, valve & valve box (hot tap)** including all labor, materials, equipment, and incidentals; complete, in place and ready for use.

At _____ Dollars and _____ Cents
(Per Each)
\$ _____ \$ _____
Per Each Total

WEST DAVIESS COUNTY WATER DISTRICT
PANTHER HILL TANK PROJECT

Bid Item #4

100 l.f. of **10" D.I.P. waterline (all mechanical joints)** including all labor, materials, equipment, and incidentals; complete, in place and ready for use.

At _____ Dollars and _____ Cents
(Per Linear Foot)

\$ _____ \$ _____
Per Linear Foot Total

Bid Item #5

2 each 10" **ductile iron (MJ) fittings** including all labor, materials, equipment, and incidentals; complete, in place and ready for use.

At _____ Dollars and _____ Cents
(Per Each)

\$ _____ \$ _____
Per Each Total

Bid Item #6

300 l.f. of **6-ft. high chain link fence** including all labor, materials, equipment, and incidentals; complete, in place and ready for use.

At _____ Dollars and _____ Cents
(Per Linear Foot)

\$ _____ \$ _____
Per Linear Foot Total

Bid Item #7

50 tons of **DGA drive/parking area rock** including all labor, materials, equipment, and incidentals; complete, in place and ready for use.

At _____ Dollars and _____ Cents
(Per Ton)

\$ _____ \$ _____
Per Ton Total

WEST DAVIESS COUNTY WATER DISTRICT
PANTHER HILL TANK PROJECT

TOTAL PROJECT BID: \$ _____

The above unit prices shall include all labor, materials, equipment, safety and occupational regulations, overhead, profit, insurance, and all incidentals necessary to complete the work specified, complete, in place and ready to use.

Bidder acknowledges receipt of the following Addenda:

Addendum #1 Dated _____
Addendum #2 Dated _____
Addendum #3 Dated _____

Bidder understands that the Owner reserves the right to reject any and all bids and to waive any informalities in the bidding.

The bidder agrees that this bid shall be good and may not be withdrawn for a period of Ninety (90) calendar days following the scheduled closing time for receiving bids.

Upon receipt of written notice of the acceptance of this bid, bidder will execute the contract agreement attached within ten (10) days and deliver a Surety Bond or Bonds as required by the project specifications. The bid security attached in the sum of (insert bid bond dollar amount **or** percentage of total bid)

_____ (\$ _____)
is to become the property of the Owner in the event the contract and bond are not executed within the time setforth hereinabove, as liquidated damages resulting from the delay and additional expense to the Owner caused thereby.

Respectfully submitted:

By _____
Title

Business Address & Zip Code

WEST DAVIESS COUNTY WATER DISTRICT
PANTHER HILL TANK PROJECT

SUBCONTRACTORS LISTING

All subcontractors performing work in fulfillment of this bid must be listed on this page with the information requested.

<u>NAME</u>	<u>ADDRESS</u>	<u>PHONE</u>	<u>FAX</u>	<u>CRAFT</u>
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
9.	_____	_____	_____	_____
10.	_____	_____	_____	_____

STATEMENT REQUIRED PURSUANT TO KRS45A.395

The provisions of KRS45A.395 require that any bidder or offeror submit a sworn statement in conformity with such statute as a prerequisite to a determination that such bidder or offeror is a responsible bidder.

The undersigned, individually and as the _____ (office or title) of _____ (bidder or offeror) states under penalty of perjury that neither he (she), nor, to the best of his (her) knowledge, anyone acting on behalf of Bidder or Offeror, has knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky and that the award of a contract to the Bidder or Offeror will not violate any provision of the campaign finance laws of the Commonwealth. "Knowingly" means, with respect to conduct or to a circumstance described by a statute defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.

This the _____ day of _____, 2004.

(Company Name)

By: _____
(Typed or printed name) (Signature)

Title: _____

VENDOR'S STATEMENT PURSUANT TO KRS45A.343

45A.343 Local Public Agency may adopt provisions of KRS 45A.345 to 45A.460—
Effect of adoption – Contracts required to mandate revealing of violations of and compliance with specified KRS chapters – Effect of nondisclosure or noncompliance. (KRS 136 – Corporate taxes; KRS 139 – Sales & use taxes; KRS 141 – Income taxes; KRS 337 – Wage and hour; KRS 338 – Occupational safety; KRS 341 – Unemployment; KRS 342 – Workers Comp.)

The undersigned, as a duly authorized officer of _____,
pursuant to KRS45A.343 states;

1. To the best of my knowledge, information and belief, _____
has not been finally determined to have violated any of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, or 342 that apply to it within the five year period preceding this statement.
2. _____ acknowledges that it will be required to be in compliance with those provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 that apply to it for the duration of the Contract to be entered into with the _____.
3. _____ acknowledges that if it fails to reveal any final determination of violation of KRS Chapters 136, 139, 141, 337, 338, 341, or 342, or to comply with the applicable provisions of those statutes for the duration of the aforesaid Contract, such shall be grounds for _____ to:
 - a. Cancel its contract with _____, and
 - b. Disqualify _____ from eligibility for future contracts awarded by _____ for a period of two years.

This the _____ day of _____, 2004.

(Company Name)

By: _____
(Typed or printed name) (Signature)

Title: _____