



nesbitt engineering, inc.

227 N. Upper Street
Lexington, Kentucky 40507-1016
(859) 233-3111 (Phone)
(859) 259-2717 (Fax No.)

LETTER OF TRANSMITTAL

Date: 10/30/12
Job No. 998-30

TO:
Mr. Jeff Derouen
Public Service Commission
P.O. Box 615
Frankfort, KY 40602

Subject:
BCWD: Frozen Creek Waterline
Project

WE ARE SENDING YOU:

Estimate _____ Plans _____ Change Order _____
Report (s) x Copy of Letter _____ Other _____

COPIES	DATE	DESCRIPTION
1	10/23/2012	Copy of previously submitted application
11	October 2012	Copies of the Final Engineering Report

THESE ARE TRANSMITTED AS CHECKED BELOW:

____ For approval _____ Approved as Submitted ____ For Your Information and Files
____ For Your Use _____ Approved as Noted x For Your Necessary Action
____ As Requested _____ Returned for Corrections ____ For Review and Comment

REMARKS:
If you have any questions, please call me at your convenience.
Thanks.

SIGNED: Michael M. Steen
Michael M. Steen
Nesbitt Engineering, Inc.

RECEIVED

OCT 30 2012

PUBLIC SERVICE
COMMISSION

COPIES TO:
Nesbitt Engineering, Inc.

If enclosures are not as noted, kindly notify us at once.



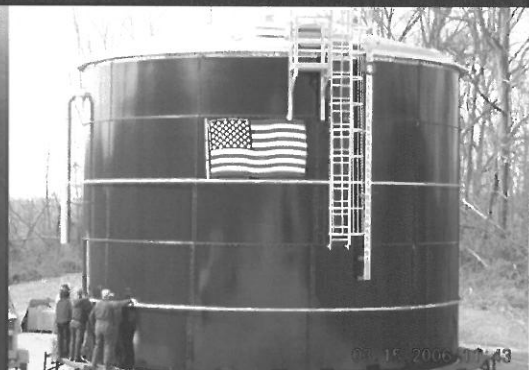
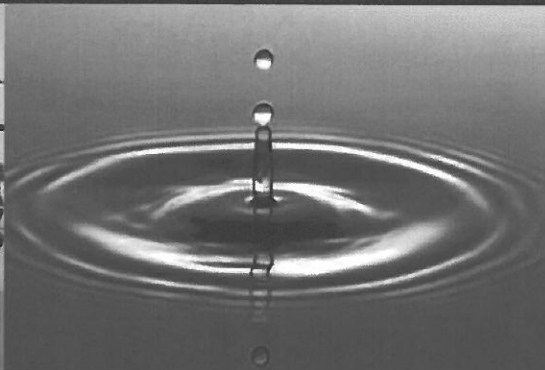
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ORIGINAL

October 2012

Breathitt County Water District Frozen Creek Waterline Extension Phase I

Preliminary Engineering Report Amended to Final



SUBMITTED TO:
Breathitt County Water District

PREPARED BY:
Nesbitt Engineering, Inc.
Lexington, KY

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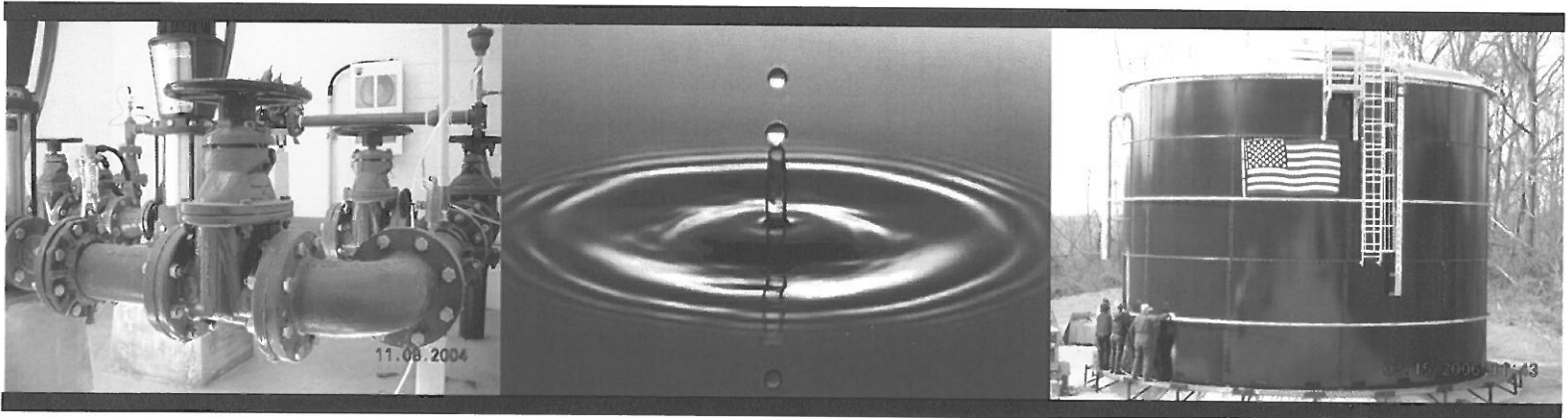
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227 North Upper Street
Lexington, KY 40507-1016

October 2012

Breathitt County Water District Frozen Creek Waterline Extension Phase I

Preliminary Engineering Report Amended to Final



Breathitt County Judge/Executive — Jason Richardson

Breathitt County Water District Commissioners

Bobby Thorpe, Chairman

Sammie Turner, Vice Chairman

Kash Noble, Treasurer

Eva Fugate, Secretary

Eugene Turner, Member

SUBMITTED TO:
Breathitt County Water District

PREPARED BY:
Nesbitt Engineering, Inc.
Lexington, KY

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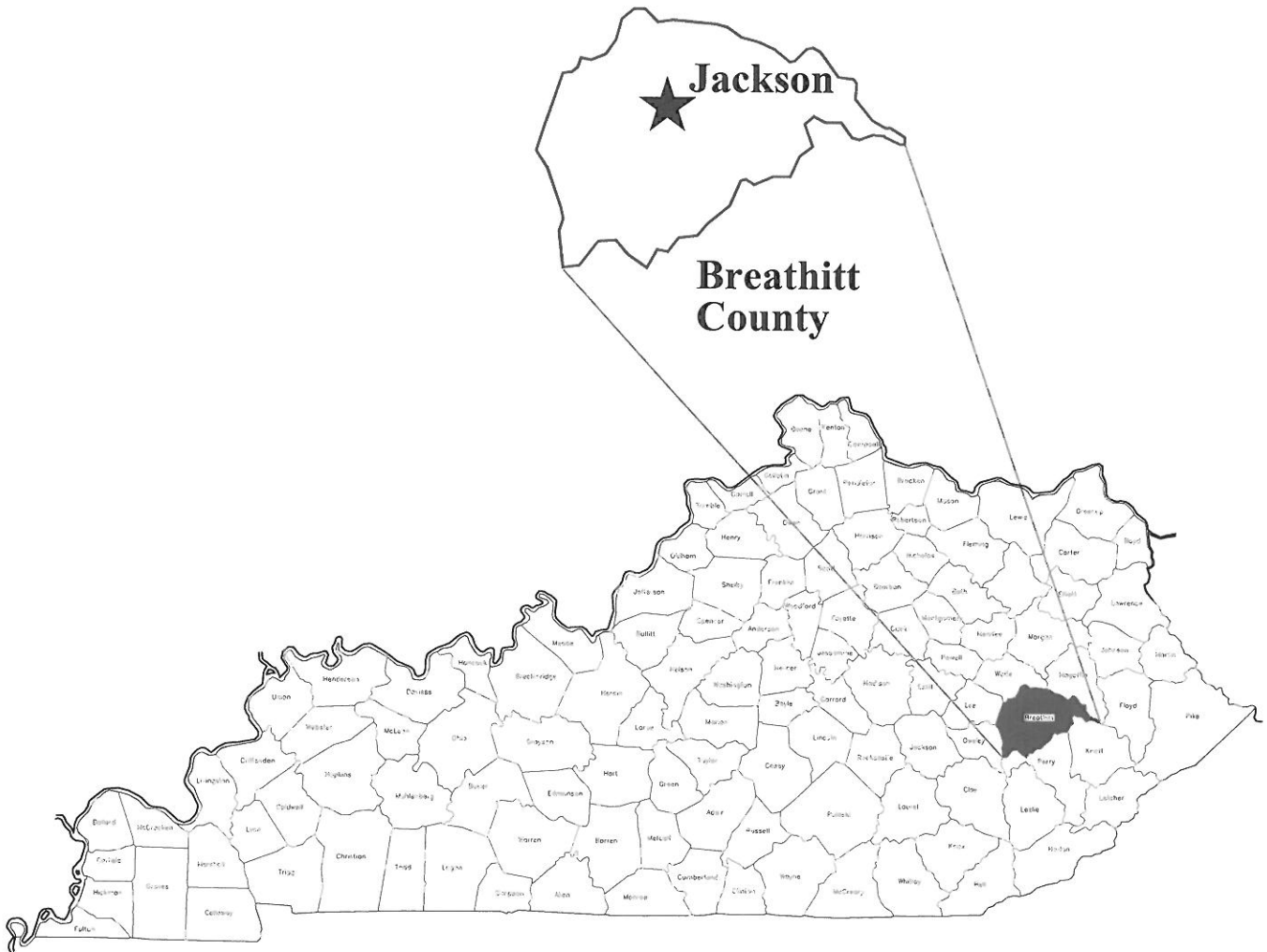
Chapter 1 - General

Breathitt County Water District (BCWD) is a Class "C" Water District organized in August 2003 by the Breathitt County Judge Executive. The County Judge Executive then appointed five commissioners to serve on the Water District's Board. These five commissioners then selected a Chairman from the appointed board.

Jackson, the county seat, operates an independent water system (Jackson Municipal Water Works), drawing water from the North Fork of the Kentucky River. The system currently serves approximately 2,000 households within the Jackson service area. The water treatment plant (WTP), capable of producing 2.5 MGD, is expected to supply the potable water product to the various county water line extensions. Daily production by Jackson Municipal Water Works is currently 800,000 gallons (33% of plant capacity) and their storage capacity is presently 925,000 gallons. This proposed project is a continuation of BCWD's efforts to deliver potable drinking water to all residents of Breathitt County outside Jackson's service area. Jackson's WTP is expected to have more than adequate capacity to supply the needed potable water for this proposed project.

Breathitt County, which encompasses the City of Jackson, is located in the eastern coalfields of Kentucky, approximately 85 miles south and east of Lexington on KY 15, and approximately 34 miles north of Hazard. Jackson, the county seat, is a fourth class city located near the center of Breathitt County. The County borders Wolfe, Lee, Owsley, Perry, Knott, and Magoffin Counties. (See Figure 1)

The 2010 US Census figure for Breathitt County is 13,878 persons. There are 5,494 occupied housing units in Breathitt County and therefore 2.47 persons per household. Currently (**October 2012**), the BCWD serves approximately **1,285** of these households.



KENTUCKY



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1941

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ENGINEERS • SURVEYORS • SCIENTISTS

LOCATION MAP

BREATHITT COUNTY WATER DISTRICT

FIGURE 1

DRAWN BY:

kr

DISK/FILE NAME:

\PER FIGURE 1.DWG

JOB NO.:

998

DATE:

03/09/09

LAST PLOT DATE:

SCALE:

NOT TO SCALE

Chapter 2 - Project Planning Area

The project area for the proposed waterline extension project includes KY 1812 starting at the area known as Panbowl Branch then proceeding to KY 15 and ultimately tying into the district's existing waterline on KY 205. Also included is KY 378 from KY 1812 to Lower Taulbee road.

Location – The location of the proposed project is as indicated on the sections of U.S.G.S. Topographical map included as **Attachment 1**.

Environmental Resources Present – This project is located within the boundaries of Breathitt County.

Growth Areas & Population Trends – According to figures obtained from the Kentucky State Data Center in Louisville, Breathitt County is projected to decrease in population. Thus, the intentions of this project do not take growth into consideration for the design.

Existing Facilities

Location Map – Location of the existing water distribution facilities as identified on **Attachment 2**.

History – The City of Jackson owns and operates the only water treatment plant in Breathitt County. Breathitt County Water District has multiple purchase points with master meters located at each purchase point throughout the BCWD's distribution system. All of BCWD distribution system has been constructed in the last 10 years.

Condition of Facilities – The district's existing water distribution system is in excellent condition with all of the system being less than 10 years old. Tanks have been constructed throughout the distribution system to provide adequate pressures and storage within the service area.

Financial Status of any Existing Facilities – The district operates all water infrastructure facilities in a financially solvent manner. Audits are performed on an annual basis and rates are reviewed as necessary by an outside consultant to insure adequate financial resources to operate and maintain the system.

Need for Project

Health, Sanitation & Security – This project intends to extend potable water to existing residents that currently have no access to public potable water. Most of the residents within the project area have well water for domestic use. Well water, in the project area, is extremely hard and contains noticeable amounts of iron. Salty water may be found from 50 feet to several hundred feet below the level of the principal valley bottoms. Where spring supply water, the yield is rarely more than 5 GPM. A more reliable and healthy source for water is needed for the residents.

System O & M – Operation and maintenance of the new water system improvements will be provided by the existing, certified and licensed staff of the Breathitt County Water District.

Growth – Growth is not considered a significant factor in the need for the proposed project.

Chapter 3 - Proposed Project-Project Cost-Rates

Proposed Project – The proposed Frozen Creek Waterline Extension Phase I project consists of construction of a new duplex pump station, 132,000 gallon water storage tank, waterlines and appurtenances.

Project Cost – On October 12, 2012 the district received sealed bids for the project. **Attachment 3** displays the certified bid tabulations for these contracts. Based upon the low bid that was received **Attachment 4** details the project budget.

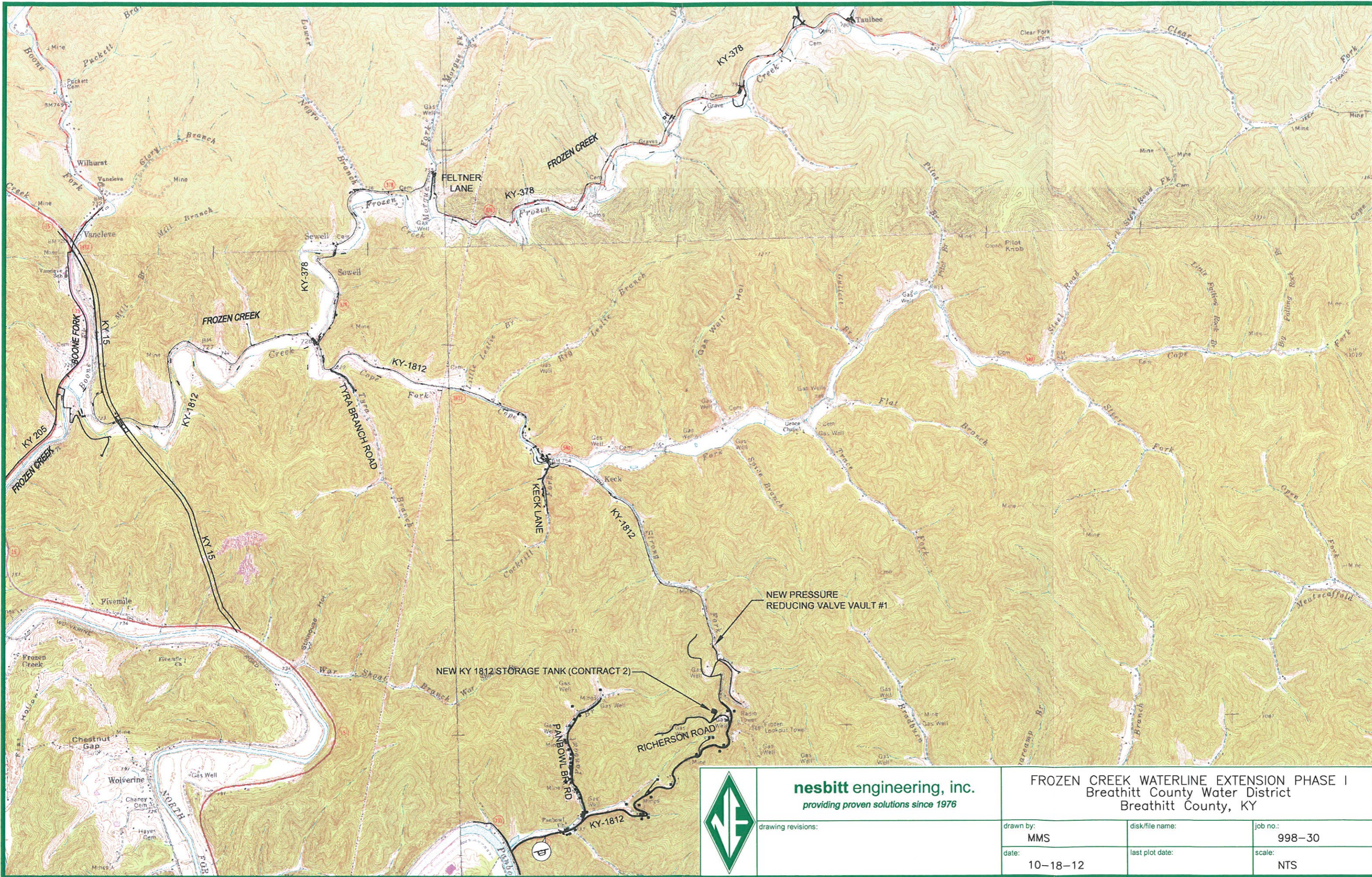
Rates – Rates have not been adjusted as a result of this project.

Chapter 4 - Conclusions & Recommendations

It is recommended that the Breathitt County Water District award the Frozen Creek Waterline Extension Project – Phase I, Contracts 1 & 2 to the certified low bidders.

Attachment 1

Project Map



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FROZEN CREEK WATERLINE EXTENSION PHASE I
 Breathitt County Water District
 Breathitt County, KY

drawing revisions:

drawn by:

disk/file name:

job no.:

MMS

998-30

date:

last plot date:

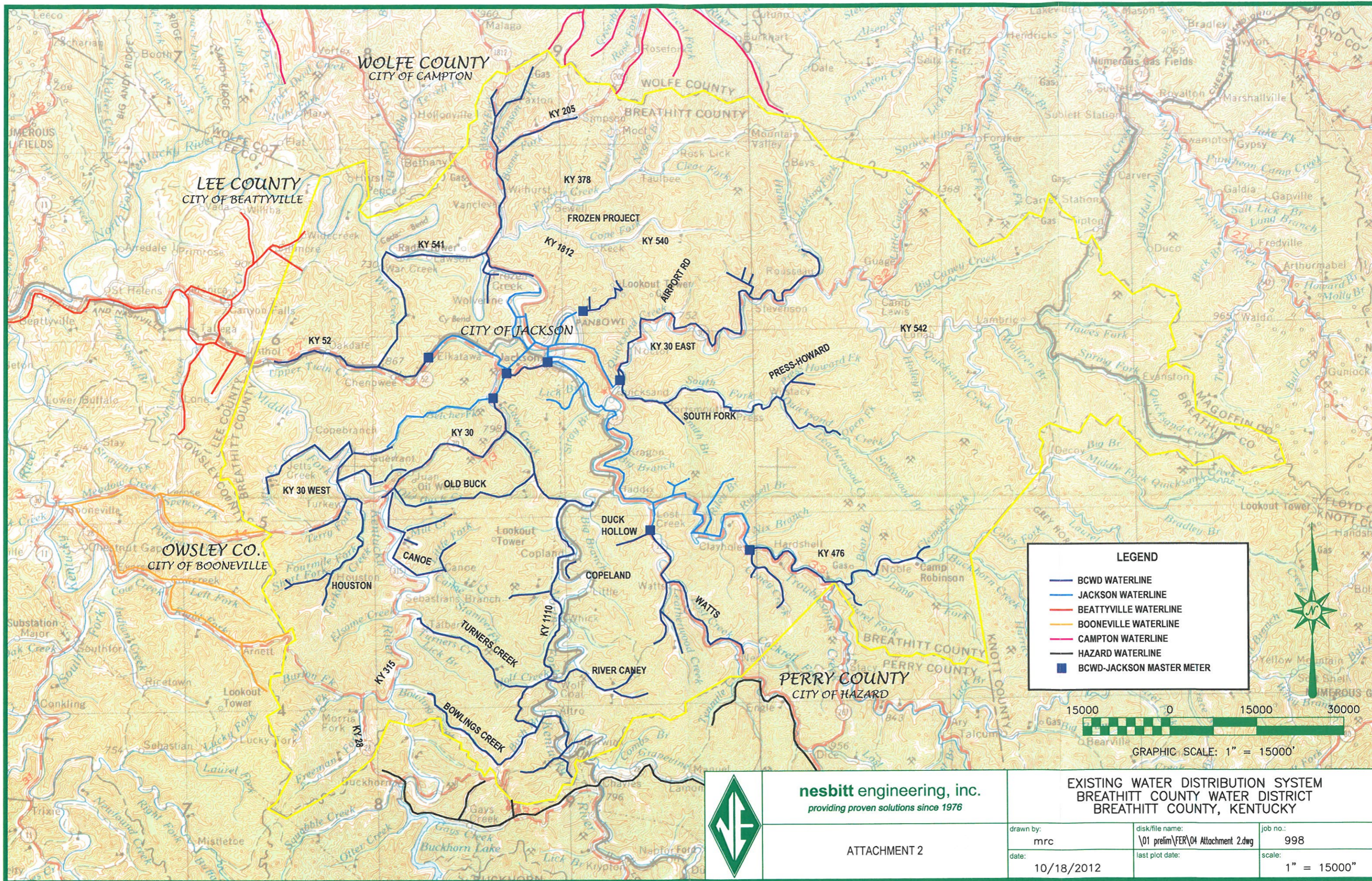
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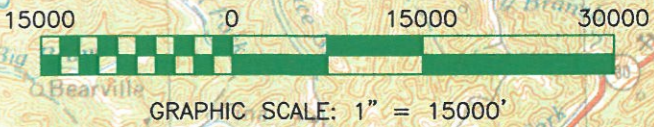
Attachment 2

Existing BCWD Water Distribution System



LEGEND

- BCWD WATERLINE
- JACKSON WATERLINE
- BEATTYVILLE WATERLINE
- BOONEVILLE WATERLINE
- CAMPTON WATERLINE
- HAZARD WATERLINE
- BCWD-JACKSON MASTER METER



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**EXISTING WATER DISTRIBUTION SYSTEM
 BREATHITT COUNTY WATER DISTRICT
 BREATHITT COUNTY, KENTUCKY**

ATTACHMENT 2

drawn by: mrc	disk/file name: \\01 prelin\FER\04 Attachment 2.dwg	job no.: 998
date: 10/18/2012	last plot date:	scale: 1" = 15000"

Attachment 3

Certified Bid Tabulation and Letter of Recommendation Contract 1 & 2



October 16, 2012

Mr. Bobby Thorpe, Jr., Chairman
Breathitt County Water District
1137 Main Street
Jackson, KY 41339

RE: Award of Construction Contract –Frozen Creek Waterline Extension Phase I
Contract 1– Waterlines

Dear Mr. Thorpe:

On October 12, 2012, at the Breathitt County Courthouse, bids were received on the above referenced project. A total of three (3) sealed bids were received. After the bids were read aloud a Certified Bid Tabulation was prepared and distributed to all parties involved.

The low bidder for the contract was The BRC Group LLC. Based upon reference checks performed on the low bidder, we conclude that, The BRC Group LLC qualifies as a responsive and responsible bidder. Therefore, NEI recommends that the Breathitt County Water District award the construction contract, as referenced above to The BRC Group LLC in the amount of \$1,999,795.00.

Issuance of the “Notice of Award” for this contract is recommended pending concurrence of the board and all funding agencies. Please feel free to call me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Nesbitt', with a long horizontal line extending to the right.

Paul D. Nesbitt, P.E.
Project Engineer

C: Estill McIntosh, Superintendent;
The BRC Group LLC.

p:\breathitt\998-30 per frozen\bidding\contract 1\contract award.docx

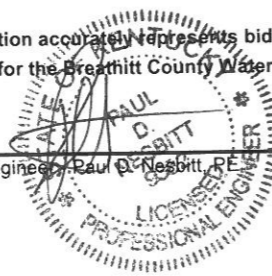
Breathitt County Water District
Frozen Creek Waterline Extension Phase I, Contract 1 - Waterlines
Bid Opening - 1:00 PM Local Time, October 12, 2012

Certified Bid Tabulation

Item #	Item	Unit	Quantity	The BRC Group LLC London, KY		G&W Construction Co. Inc Morehead, KY		Cumberland Pipeline LLC Russell Springs, KY	
				Unit Cost	Total Cost	Unit Cost	Total Cost	Unit Cost	Total Cost
1	Tie to Existing Waterline w/ Tapping Sleeve & Valve	LS	2	\$ 7,000.00	\$ 14,000.00	\$ 3,805.72	\$ 7,611.44	\$ 2,420.00	\$ 4,840.00
2	8" PVC DR 14 Waterline	LF	57800	\$ 14.00	\$ 809,200.00	\$ 16.97	\$ 980,866.00	\$ 24.50	\$ 1,416,100.00
3	6" PVC DR 14 Waterline	LF	20	\$ 300.00	\$ 6,000.00	\$ 12.84	\$ 256.80	\$ 24.80	\$ 496.00
4	4" PVC DR 14 Waterline	LF	4060	\$ 9.50	\$ 38,570.00	\$ 9.01	\$ 36,580.60	\$ 17.84	\$ 72,430.40
5	2" PVC DR 14 Waterline	LF	760	\$ 10.00	\$ 7,600.00	\$ 6.87	\$ 5,221.20	\$ 15.38	\$ 11,688.80
6	8" D.I. CL350 W/ Nitrile Gaskets Waterline	LF	738	\$ 40.00	\$ 29,520.00	\$ 28.78	\$ 21,239.64	\$ 37.39	\$ 27,593.82
7	10" DR 9 HDPE Directional Drill	LF	2600	\$ 150.00	\$ 390,000.00	\$ 108.48	\$ 282,048.00	\$ 145.20	\$ 377,520.00
8	6" DR 9 HDPE Directional Drill	LF	360	\$ 120.00	\$ 43,200.00	\$ 86.47	\$ 31,129.20	\$ 92.82	\$ 33,415.20
9	12.25" I.D. Steel Casing Directional Drilled w/ Carrier Pipe	LF	300	\$ 200.00	\$ 60,000.00	\$ 154.16	\$ 46,248.00	\$ 177.30	\$ 53,190.00
10	8" D.I.M.J. Gate Valve & Box	EA	35	\$ 1,200.00	\$ 42,000.00	\$ 1,133.28	\$ 39,664.80	\$ 977.00	\$ 34,195.00
11	6" D.I.M.J. Gate Valve & Box	EA	1	\$ 900.00	\$ 900.00	\$ 844.66	\$ 844.66	\$ 697.00	\$ 697.00
12	4" D.I.M.J. Gate Valve & Box	EA	8	\$ 750.00	\$ 6,000.00	\$ 679.12	\$ 5,432.96	\$ 565.00	\$ 4,520.00
13	Combination Air Relief Valve	EA	5	\$ 1,500.00	\$ 7,500.00	\$ 570.07	\$ 2,850.35	\$ 765.00	\$ 3,825.00
14	Flow Monitoring Pit	EA	5	\$ 2,000.00	\$ 10,000.00	\$ 920.82	\$ 4,604.10	\$ 945.00	\$ 4,725.00
15	Flushing Hydrant Assembly, Type 1	EA	16	\$ 3,500.00	\$ 56,000.00	\$ 2,991.87	\$ 47,869.92	\$ 3,335.00	\$ 53,360.00
16	Flushing Hydrant Assembly, Type 3	EA	5	\$ 2,000.00	\$ 10,000.00	\$ 1,529.48	\$ 7,647.40	\$ 1,927.00	\$ 9,635.00
17	5/8" x 3/4" Meters Only (Orion Radio Read Profiler)	EA	26	\$ 350.00	\$ 9,100.00	\$ 236.08	\$ 6,138.08	\$ 206.10	\$ 5,358.60
18	5/8" x 3/4" Tandem Setter Meter Tub w/priv (installed)	EA	74	\$ 800.00	\$ 59,200.00	\$ 673.93	\$ 49,870.82	\$ 747.00	\$ 55,278.00
19	Install Single Setter Meter Tubs (supplied by owner)	EA	30	\$ 800.00	\$ 24,000.00	\$ 245.00	\$ 7,350.00	\$ 375.00	\$ 11,250.00
20	3/4" CI 200 service line	LF	4200	\$ 7.00	\$ 29,400.00	\$ 4.23	\$ 17,766.00	\$ 6.40	\$ 26,880.00
21	1" CI 200 service line	LF	1500	\$ 7.75	\$ 11,625.00	\$ 5.34	\$ 8,010.00	\$ 6.52	\$ 9,780.00
22	Hwy Xing Bore & Jack w/ 10.75" steel casing w/ Carrier Pipe	LF	145	\$ 185.00	\$ 26,825.00	\$ 109.84	\$ 15,926.80	\$ 122.25	\$ 17,726.25
23	Hwy Xing Bore & Jack w/ 12.75" steel casing w/ Carrier Pipe	LF	260	\$ 198.00	\$ 51,480.00	\$ 117.92	\$ 30,659.20	\$ 172.25	\$ 44,785.00
24	Hwy Xing Bore & Jack w/ 16" steel casing w/ Carrier Pipe	LF	35	\$ 325.00	\$ 11,375.00	\$ 167.92	\$ 5,877.20	\$ 258.00	\$ 9,030.00
25	Waterline Marker	EA	20	\$ 265.00	\$ 5,300.00	\$ 71.00	\$ 1,420.00	\$ 65.00	\$ 1,300.00
26	Relocate Existing Master Meter Vault	LS	1	\$ 8,000.00	\$ 8,000.00	\$ 7,955.59	\$ 7,955.59	\$ 5,500.00	\$ 5,500.00
27	Pressure Reducing Valve & Vault	EA	2	\$ 6,500.00	\$ 13,000.00	\$ 15,313.91	\$ 30,627.82	\$ 14,637.50	\$ 29,275.00
28	Duplex Booster Station w/ Trailer Mounted Generator	EA	1	\$ 100,000.00	\$ 100,000.00	\$ 342,085.83	\$ 342,085.83	\$ 246,500.00	\$ 246,500.00
29	Scada Telemetry Package	LS	1	\$ 110,000.00	\$ 110,000.00	\$ 30,332.50	\$ 30,332.50	\$ 70,000.00	\$ 70,000.00
30	Remove Existing Hydro pneumatic Pump Station	LS	1	\$ 10,000.00	\$ 10,000.00	\$ 4,000.00	\$ 4,000.00	\$ 7,500.00	\$ 7,500.00
Total Base Bids (Items 1 through 30)					\$ 1,999,795.00		\$ 2,078,134.91		\$ 2,648,394.07

I hereby certify that the above tabulation accurately represents bids, received, opened and read in the Breathitt County Court House for the Breathitt County Water District on October 12, 2012.

Project Engineer, Paul D. Nesbitt, P.E.



10/15/12
Date



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 Lexington, KY 40507-1016



October 15, 2012

Mr. Bobby Thorpe, Jr., Chairman
Breathitt County Water District
1137 Main Street
Jackson, KY 41339

RE: Award of Construction Contract –Frozen Creek Waterline Extension Phase I
Contract 2 – Water Storage Tank

Dear Mr. Thorpe:

On October 12, 2012, at the Breathitt County Courthouse, bids were received on the above referenced project. A total of five (5) sealed bids were received. After the bids were read aloud a Certified Bid Tabulation was prepared and distributed to all parties involved.

The low bidder for the contract was American Structures, Inc. Based upon on previous reference checks and recent experience with the low bidder, we conclude that, American Structures, Inc. qualifies as a responsive and responsible bidder. Therefore, NEI recommends that the Breathitt County Water District award the construction contract, as referenced above to American Structures, Inc. in the amount of \$ 292,522.00.

Issuance of the "Notice of Award" for this contract is recommended pending concurrence of the board and all funding agencies. Please feel free to call me if you have any questions.

Sincerely,

Paul D. Nesbitt, P.E.
Project Engineer

C: Estill McIntosh, Superintendent;
American Structures., Inc.

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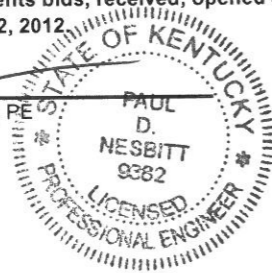
Breathitt County Water District
Frozen Creek Waterline Extension Phase I, Contract 2 - Ground Water Storage Tank
Bid Opening - 1:00 PM Local Time, October 12, 2012

Certified Bid Tabulation

Item #	Item	Unit	Quantity	American Structure Inc Menomonie, WI 54751		Welding Inc Charleston, WV 25302		Caldwell Tanks, Inc Louisville, KY 40232-5770		KY Glass Lined Tank Systems Lexington, KY 40583		The BRC Group LLC London, KY 40741	
				Unit Cost	Total Cost	Unit Cost	Total Cost	Unit Cost	Total Cost	Unit Cost	Total Cost	Unit Cost	Total Cost
1	132,000 Gallon Ground Storage Tank (Complete)	LS	1	\$ 283,222.00	\$ 283,222.00	\$ 320,000.00	\$ 320,000.00	\$ 351,445.00	\$ 351,445.00	\$ 354,720.00	\$ 354,720.00	\$ 485,500.00	\$ 485,500.00
2	Access Road (Complete)	LS	1	\$ 9,300.00	\$ 9,300.00	\$ 34,000.00	\$ 34,000.00	\$ 17,500.00	\$ 17,500.00	\$ 89,778.00	\$ 89,778.00	\$ 187,000.00	\$ 187,000.00
Total Base Bids (Items 1 through 2)					\$ 292,522.00		\$ 354,000.00		\$ 368,945.00		\$ 444,498.00		\$ 672,500.00

I hereby certify that the above tabulation accurately represents bids, received, opened and read in the Breathitt County Court House for the Breathitt County Water District on October 12, 2012.

Project Engineer - Paul D. Nesbitt, PE



10/15/12
Date



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Attachment 4

As Bid Budget

BREATHITT COUNTY WATER DISTRICT

Breathitt County, Kentucky

Attachment 4 - As-Bid Project Budget

Frozen Creek Waterline Phase I

Contract #1 Waterlines (As Bid)	\$ 1,999,795.00
Contract #2 Water Storage Tank (As Bid)	\$ 292,522.00
Total Construction Cost =	\$ 2,292,317.00
Engineering	
Design	\$ 46,984.65
Construction	\$ 34,496.16
Resident Observation	\$ 101,425.86
Additional Services	\$ 18,111.25
Project Contingencies	\$ 506,665.08
Total - Opinion of Probable Project Costs =	\$ 3,000,000.00
Funding Sources	
Abandoned Mine Lands (Grant)	\$ 3,000,000.00
Total - Funding Available	\$ 3,000,000.00



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Attachment 5

Abandoned Mine Lands Memorandum of Agreement (Grant)

FEDERALLY FUNDED

MEMORANDUM OF AGREEMENT

BETWEEN THE

COMMONWEALTH OF KENTUCKY

ENERGY AND ENVIRONMENT CABINET

AND

BEATHITT COUNTY WATER DISTRICT

**FROZEN CREEK PHASE I (AML) WATER SUPPLY
CONSTRUCTION PROJECT
BREATHITT COUNTY KENTUCKY**

THIS MEMORANDUM OF AGREEMENT (the AGREEMENT) is made and entered into this first day of July 2012, by and between the Commonwealth of Kentucky, the Energy and Environment Cabinet, with an address of Capital Plaza Tower, Frankfort, Kentucky 40601, hereinafter known as “the Cabinet,” and “ Breathitt County Water District”. , with an address of 1137 Main Street, Jackson, Ky. 41307, hereinafter known as “District”.

WITNESSETH

WHEREAS, a groundwater contamination study known as “Ky. Hwy. 1812 Frozen Creek AML Groundwater Contamination Study” performed by Kentucky Division of Abandoned Mine Lands (AML) found that groundwater in an area that included: Ky. Hwy. 1812 “Frozen Creek” and Ky. Hwy. 378 in Northwestern Breathitt County have been impacted by AML-eligible mining; and

WHEREAS, the study identified impacts from pre-law and interim coal mining as factors contributing to the reported groundwater problems; and

WHEREAS, approximately 325 residences located in the study area described above are within the affected area, and a vast majority of those were found to be AML-eligible; and

WHEREAS, the Cabinet and the entered Agreement Design MOA #PO2 128 11000005295 with an effective date of July 01, 2011, which provided funds for, among other things, the preparation of plans and specifications for an extension of water service into the affected area; and

WHEREAS, the Cabinet and the District wish to begin preparations for an extension of water service into the previously described area, to provide relief to the AML-affected residents;

NOW, THEREFORE, in consideration of the mutual covenants and conditions contained herein, and for other good and valuable consideration, the receipt, mutuality and sufficiency of which is hereby acknowledged by the parties to this AGREEMENT, the Cabinet and the “Breathitt County Water District”, hereby COVENANT AND AGREE as follows:

1. OBLIGATIONS OF THE CABINET

1.1 The Cabinet shall undertake the following obligations:

- A. When requested to do so, the Cabinet shall forward the written report of any archaeological survey to the Kentucky Heritage Council and the Office of State Archaeology, University of Kentucky, for review.
- B. The Cabinet shall review and concur, if acceptable, with proposed contracts for preparation of plans and specifications prepared by Nesbitt Engineering, Co. Inc..
- C. The Cabinet shall provide Request for Payment forms to the “District”.
- D. The Cabinet shall participate in monthly progress meetings, as necessary, and review monthly project financial and status reports received from the “ District”.
- E. The Cabinet shall process payments to the “District” promptly after receipt of monthly Requests for Payment and progress reports.

- F. The Cabinet shall participate in the final inspection of the Project.
- G. The Cabinet shall provide an affidavit form entitled, "Campaign Finance Law Compliance" to be included in the bid documents.

1.2 The Cabinet has been awarded a Federal grant to be used toward completion of the Project, and the following information pertains to that award:

- A. Catalog of Federal Domestic Assistance (CFDA) Number: 15.252,
- B. CFDA Title: Abandoned Mine Lands Reclamation (AMLR) Program,
- C. Award Name and Grant Number: 2012 Ky. Abandoned Mine Lands Grant, 31st Annual Grant Year
- D. Federal Awarding Agency: Office of Surface Mining Reclamation and Enforcement, Department of the Interior
- E. Applicable Compliance Requirements: Additional compliance requirements for this Project are contained in Circular A-133, a copy of which the Cabinet has provided to the District.

2. OBLIGATIONS OF THE DISTRICT

2.1 The District shall undertake the following obligations:

- A. The District has or shall provide to the Cabinet completed design drawings, technical specifications and other construction-related documents in both paper and electronic format.

B. The District has or shall submit the necessary contract documents to the Cabinet's Division of Water for its review and approval in accordance with Chapter 224 of the Kentucky Revised Statutes. The District shall obtain all other required permits or certifications.

C. The District shall comply with the provisions of Section 106 of the National Historical Preservation Act of 1966, as amended (16 U.S.C. § 470); Executive Order No. 11593, which relates to the identification and protection of historic properties; and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§ 469(a)(1) et. seq.). In particular, an archaeological survey shall be performed for all areas, such as tank sites and pump stations, proposed for disturbance outside of highway rights-of-way, unless the site and access thereto have previously been disturbed. Three copies of the written report resulting from such an archaeological survey shall be submitted to the Cabinet's Division of Abandoned Mine Lands.

D. The District shall provide adequate construction supervision during the period of contract performance. The District shall provide a copy of any contract for construction supervision to the Cabinet's Division of Abandoned Mine Lands for review and approval prior to execution.

E. The District shall submit, on a monthly basis, a Project status report to the Cabinet's Division of Abandoned Mine Lands. The report shall include a financial report prepared while construction activities are ongoing. A "Request for Payment" form with an itemization of eligible Project costs attached shall accompany monthly reports. The District Chairman or his designee shall sign the Request for Payment forms.

F. The District shall establish a special Project identification code for all work performed under this AGREEMENT and records shall be maintained of all related work, whether performed by The City, other governmental agencies, or private companies.

G. The District shall establish a separate bank account of Federal receipts, and shall mail monthly bank statements to the Cabinet as follows: Finance Branch, Office of Administrative and Information Support, 4th Floor, Capitol Plaza Tower, Frankfort, Kentucky 40601.

H. The District has or shall submit Tabulation of Construction Bids and any Notices of Award to the Division of Abandoned Mine Lands.

I. The District and any of its subcontractors shall maintain records in accordance with 30 C.F.R. 886.24, which is incorporated into this AGREEMENT by reference. Project-related records shall be available for inspection and audit by the Cabinet.

J. The District shall submit copies of Resident Inspector Daily Reports and Progress Meeting Minutes to the Division of Abandoned Mine Lands.

K. The District shall submit As-Built plans upon completion of the Project.

L. The District shall submit a written “close-out” report for the Project citing any problems occurring during the performance period of the contract, and the resolution of any problems.

M. The District shall schedule a “final” inspection with the Cabinet upon completion of Project construction work.

N. The District shall procure all engineering or construction contracts in accordance with applicable state and federal laws and regulations. Specifically, The District agrees to comply with all pertinent provisions of KRS 45A, “Kentucky Model Procurement Code”.

O. The District shall have an audit performed in accordance with OMB Circular A-133, “Audits of State and Local Governments”. A copy of the audit report shall be provided to the Cabinet within 30 days after completion of the audit, but no later than nine months after the end of the audit period.

P. The District shall obtain prior Cabinet approval for acquisition of equipment under this MOA. Requests for equipment acquisition authorization, other than that implicit to the water supply project, shall be submitted to: Office of Administrative and Information Services, 4th Floor, Capital Plaza Tower, Frankfort, Kentucky 40601.

Q. The District shall require all consultants and contractors to carry Workers Compensation and Public Liability Insurance, with single limit coverage of at least \$1,000,000.00. Proof of insurance shall be submitted to the Cabinet upon request.

R. The District has or shall submit the names of the low bidder for the construction contract and all subcontracts to the Cabinet so that the Cabinet may conduct an Office of Surface Mining Applicant Violator System review. The Cabinet may reject the low bidder or any subcontractor if the review identifies the low bidder or subcontractor as a mining violator. The District shall provide the Cabinet with a copy of each contractor/subcontractor’s federal ID#, mailing address and phone number.

S. 43CFR12 is incorporated by reference.

T. The District shall require each bidder to sign and submit to the Division of Abandoned Mine Lands a Campaign Finance Law Compliance affidavit in accordance with KRS 45A.110 and KRS 45A.115. Failure by the bidder to provide the affidavit shall be grounds for disqualification

2.2 The District shall retain all records relating to the Project until such records are audited by the Cabinet, or for three years after submitting the close-out report to the federal Office of Surface Mining, whichever first occurs. The District shall advise the Cabinet in writing if the Project is to be administered by another governmental entity on its behalf and the Project-related records will be maintained at an alternate site.

2.3 The District shall cooperate fully with the Cabinet in order to facilitate the obligations set out in this AGREEMENT including, but not limited to, allowing the Cabinet to inspect all records pertaining to the project at any time.

2.4 The District shall complete the Project no later than June 30, 2015, unless the Cabinet grants a written extension.

3. MUTUALITY OF OBLIGATIONS

3.1 The obligations imposed upon the parties to this AGREEMENT are for the benefit of the parties and the timely fulfillment of each and every obligation in accordance with this AGREEMENT is necessary. The failure of any party to fulfill any of its obligations under this AGREEMENT shall constitute a breach of this AGREEMENT, and shall entitle the other party

to commence appropriate legal or equitable action to enforce its rights under this AGREEMENT, unless the fulfillment of such obligation is waived or modified by the affected party. All waivers shall be in writing, signed by the affected party, and a waiver of one breach shall not constitute a waiver of any other breach.

3.2 In the event of a material breach by either party to this AGREEMENT, the other party may terminate this AGREEMENT, as provided in paragraph 8 herein, without further obligation to the other party. The rights of the parties to this AGREEMENT to pursue remedies for breach of any of the provisions hereof shall survive the termination, expiration or cancellation of this AGREEMENT.

3.3 Except as otherwise provided in this AGREEMENT, the parties to this AGREEMENT shall be solely responsible for any costs incurred in fulfilling their obligations under this AGREEMENT.

4. METHOD OF PAYMENT

4.1 The maximum amount of compensation to the District from the Cabinet pursuant to this AGREEMENT is Three Million Dollars (\$3,000,000.00), unless subsequently amended in writing. Any funds not expended pursuant to this AGREEMENT shall revert to or remain with the Cabinet. The District shall be reimbursed only for actual expenses incurred pursuant to this AGREEMENT. Payment shall be based on the percentage of the project that has been completed at the time that the request for payment is made.

4.2 Payments on this instrument shall not be authorized for services rendered after Government Contract Review Subcommittee disapproval of this instrument, unless the decision of the Committee is overridden by the Secretary of the Finance and Administration Cabinet or the agency head, if the agency has been granted delegation authority.

4.3 The parties agree that the Cabinet's funds are appropriated by the United States Congress from funds allocated to Kentucky pursuant to Section 402(g)(2) of Public Law 95-87. **The parties further agree and understand that this AGREEMENT will only become effective upon approval of the Project by the U. S. Office of Surface Mining (OSM).** The Catalog of Federal Domestic Assistance number for this Project is CFDA #15-252.

5. TERM OF AGREEMENT

This AGREEMENT shall be effective on July 01, 2012 or upon approval by the Government Contract Review Subcommittee if that constitutes a different date, and shall expire on June 30, 2015 or upon the final completion of the Project as specified in Sections 1 and 2 of this AGREEMENT, whichever first occurs, unless extended in writing by the parties or terminated earlier in accordance with the terms hereof.

6. ASSURANCES

The parties shall comply with:

6.1 The Common Rule, which is incorporated by reference into this AGREEMENT.

6.2 The Anti-Drug Abuse Act (P.L. 100-690), which requires recipients of Federal funds to certify that they have met requirements designed to promote a drug-free workplace.

- 6.3 Federal statutes relating to nondiscrimination, including but not limited to:
- A. Title VI of the Civil Rights Act of 1964 (P.L. 88-352), which prohibits discrimination on the basis of race, color, or national origin;
 - B. Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§ 1681-1683 and 1685-1686), which prohibits discrimination on the basis of sex;
 - C. Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §§ 794), which prohibits discrimination on the basis of handicaps;
 - D. The Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 6101-6107), which prohibits discrimination on the basis of age;
 - E. The Drug Abuse Prevention, Treatment and Rehabilitation Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse;
 - F. The Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism;
 - G. §§ 523 527 of the Public Health Service Act of 1912 (42 U.S.C. 290 dd-3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records;
 - H. Any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made;
 - I. Any other nondiscrimination statute(s) that apply to this AGREEMENT.

6.4 Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646), which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of federal or federally-assisted programs.

6.5 The Hatch Act (5 U.S.C. §§ 1501-1508 and 7324-7328), which limits the political activities of employees whose principal employment activities are funded in whole or in part with federal funds.

6.6 The Copeland Act (40 U.S.C. § 276(c) and 18 U.S.C. § 874) and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 327-333), regarding labor standards for federally-assisted construction sub-agreements.

6.7 The flood insurance purchases requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234), which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000.00 or more.

6.8 The parties shall further:

- A. Comply with environmental quality control measures pursuant to the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order No. 11514;
- B. Notify violating facilities pursuant to Executive Order No. 11738;
- C. Protect wetlands pursuant to Executive Order no. 11990;
- D. Evaluate flood hazards in flood plains in accordance with Executive Order No. 11988;

E. Ensure actions comply with state implementation plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§ 7401 et seq.);

F. Protect underground sources of drinking water pursuant to the Safe Drinking Water Act of 1974, as amended (P.L. 93-523);

G. Comply with the Endangered Species Act of 1973, as amended (P.L. 93-205); and

H. Comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§ 1271 et seq).

6.9 The parties shall comply with the Executive Branch Code of Ethics (KRS Chapter 11A) and all state statutes relating to nondiscrimination.

6.10 The parties certify, by the signatures of duly authorized representatives hereinafter affixed, that they are legally entitled to enter into this AGREEMENT and that they shall not be violating, either directly or indirectly, any conflict of interest statute of the Commonwealth of Kentucky by performance of this AGREEMENT. Further, the parties promise that they presently have no conflict of interest, in any manner or degree, with the performance of services required to be performed under this AGREEMENT, and that no persons having any such conflict of interest shall be employed.

7. CHOICE OF LAW AND FORUM

7.1 All questions as to the execution, validity, interpretation, construction, and performance of this AGREEMENT or any of its terms shall be governed by the laws of the Commonwealth of Kentucky.

7.2 Any suit, action or other proceeding regarding the execution, validity, interpretation, construction, or performance of this AGREEMENT shall be filed in the Franklin Circuit Court of the Commonwealth of Kentucky.

8. CANCELLATION

Either party has the right to terminate or cancel this AGREEMENT without cause upon thirty days prior written notice to the other party, or for cause at any time without prior written notice.

9. MISCELLANEOUS PROVISIONS

9.1 The headings set forth in this AGREEMENT are for convenience of reference only, and the words contained therein shall in no way be intended to explain, modify, amplify or aid in the interpretation, construction or meaning of the provisions of this AGREEMENT.

9.2 The terms and conditions of this AGREEMENT shall be binding upon and shall inure to the benefit of the parties hereto and their successors and assigns. This provision shall not be construed to permit assignment by any party of any of its rights or duties under this AGREEMENT, which assignment shall be prohibited except with the prior written consent of all parties hereto. Such consent shall not be unreasonably withheld.

9.3 This AGREEMENT sets forth the entire understanding of the parties with respect to the subject matter hereof, supersedes all existing agreements among them concerning the subject matter hereof, and may be modified only by a written instrument duly executed by each of the parties hereto.

9.4 Time is of the essence in the performance of each of the terms and conditions of this AGREEMENT.

9.5 All notices, requests, demands, waivers, and other communications given as provided in this AGREEMENT shall be in writing, sent by First Class Mail, deemed effective upon mailing, and addressed as follows:

If to the Cabinet: Energy and Environment Cabinet
Department for Natural Resources:
Division of Abandoned Mine Lands
Mark A. Meade, Acting Director
2521 Lawrenceburg Road
Frankfort KY 40601

If to the District: Breathitt County Water District
Chairman, Bobby Thorpe Jr.
1137 Main Street
Jackson, Ky. 41307
Phone # 606-666-3800

9.6 Either party to this AGREEMENT may change the address at which it is to receive notices, requests, demands, waivers, and other communications, on the condition that party first provides written notice of that change of address to the other party.

9.7 Nothing in this AGREEMENT shall be interpreted as guaranteeing the rights of any person or governmental agency other than the parties to this AGREEMENT.

9.8 If a provision of this AGREEMENT or the application thereof to any person or circumstance shall be declared to be invalid or unenforceable to any extent, the remainder of this AGREEMENT and the application of such provision to other persons or circumstances shall not be affected thereby and shall be enforced to the fullest extent permitted by law.

9.9 This AGREEMENT may be executed simultaneously in two or more counterparts, each of which shall be deemed an original and all of which together shall constitute but one and the same instrument. It shall not be necessary that any single counterpart hereof be executed by all parties hereto so long as at least one counterpart is executed by each party.

9.10 Except to the extent otherwise expressly specified in this AGREEMENT, all remedies specified herein are in addition to, and not in lieu of, other remedies available to the parties both at law and in equity.

**10. ACCESS TO CONTRACTOR'S BOOKS, DOCUMENTS, PAPERS,
RECORDS, OR OTHER EVIDENCE DIRECTLY
PERTINENT TO THE CONTRACT**

The Cabinet and the Finance and Administration Cabinet may audit or review all documentation and records pertaining to the Project pursuant to the provisions of KRS 45A.150, and may make other inspections pursuant to the provisions of KRS 45A.150. The Cabinet, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence which is directly pertinent to this AGREEMENT for the purpose of financial audit or program review. Furthermore, any books, documents papers, records, or other evidence provided to the Cabinet, the Finance and Administration Cabinet, the Auditor of Public Accounts, or the Legislative Research Commission that are directly pertinent

to this AGREEMENT shall be subject to public disclosure regardless of the proprietary nature of the information, unless specific information is identified and exempted and agreed to by the Secretary of the Finance and Administration Cabinet as meeting the provisions of KRS 61.878(1)(c) prior to the execution of the AGREEMENT. The Secretary of the Finance and Administration Cabinet shall not restrict the public release of any information which would otherwise be subject to public release if a state government agency was providing the services.

Funding Out Provision:

The state agency may terminate this contract if funds are not appropriated to the contracting agency or are not otherwise available for the purpose of making payments without incurring any obligation for payment after the date of termination, regardless of the terms of the contract. The state agency shall provide the contractor thirty (30) calendar days written notice of termination of the contract.

Certification

The state agency certifies that it is in compliance with the provisions of KRS 45A.695. "Access to contractor's books, documents, papers, records, or other evidence directly pertinent to the contract." The contractor, as defined in KRS 45A.030(9) agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this contract for the purpose of financial audit or program review. Records and other prequalification information confidentially disclosed as part of the bid process shall not be deemed as directly pertinent to the contract and shall be exempt from disclosure as provided in KRS 61.878(1)(c). The contractor also recognizes that any books, documents, papers, records, or other evidence, received during a financial audit or program review shall be subject to the Kentucky Open Records Act, KRS 61.870 to 61.884.

IN WITNESS WHEREOF, the Cabinet and the Breathitt Co Water District have executed this AGREEMENT, to become effective upon approval by the Government Contract Review Subcommittee.

Breathitt County Water District:

I hereby acknowledge that I was informed of, understand, and agree to comply with applicable compliance requirements, as set forth in this MEMORANDUM OF AGREEMENT. I further acknowledge receipt of circular A-133 from the Energy and Environment Cabinet.

AGREED TO BY:

Chairman, Bobby Thorpe Jr.

Date: _____

APPROVED AS TO FORM AND LEGALITY:

County Attorney, Brandon Miller

Date: _____

ENERGY AND ENVIRONMENT CABINET:

APPROVAL RECOMMENDED BY:

Steve Hohmann
Commissioner, Department for Natural Resources

Date: _____

APPROVED AS TO FORM AND LEGALITY:

Executive Director, Office of Legal Services

Date: _____

AGREED TO BY:

Leonard K. Peters, Secretary

Date: _____

Attachment 6

DOW Construction Approval



STEVEN L. BESHEAR
GOVERNOR

LEONARD K. PETERS
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE, 4TH FLOOR
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

November 7, 2011

Mr. Bobby Thorpe
Breathitt Co Water District
1137 Main St Ste 305
Jackson (Breathitt), KY 41339


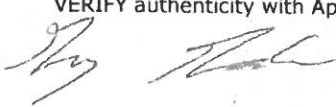
RE: Breathitt Co Water District
AI # 45303, APE20110002
PWSID # 0131012-11-002
Permit: Frozen Creek Water line Project
Breathitt County, KY

Dear Mr. Thorpe:

We have reviewed the plans and specifications for the above referenced project. The plans include the construction of approximately 4,000 LF of 8-inch DI, 69,000 LF of 8-inch PVC, 37,500 LF of 6-inch PVC, 55,000 LF of 4-inch PVC, 2 pumps of 500 GPM with 560 TDH, 2 pumps of 16 GPM with 225 TDH, a 39,000 Gallon Storage Tank, a 88,000 Gallon Storage Tank and a 132,000 Gallon KY 1812 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 attached construction permit.

If you have any questions concerning this project, please contact Mr. Hamid Beygzadeh, P.E at 502-564-8158 x4822.

Sincerely,

E-Signed by Greg Goode
VERIFY authenticity with ApproveIt 


Greg Goode, PE
Supervisor, Engineering Section
Water Infrastructure Branch
Division of Water

GG:HB

Enclosures

C: Nesbitt Engineering Inc
Breathitt County Health Department
Public Service Commission
Division of Plumbing

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GACT0000000018 (Frozen Creek Water line) 4,000 LF of 8-inch DI, 69,000 LF of 8-inch PVC, 37,500 LF of 6-inch PVC, and 55,000 LF of 4-inch PVC, 2 pumps, 500 GPM, 560 TDH and 2 pumps, 16 GPM, 225 TDH, 39,000 Gallon Panbowl storage Tank, 88,000 Gallon Graham storage Tank, and 132,000 Gallon ky 1812 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 the new or relocated water line(s). Take samples at connection points to existing lines, at 1 mile intervals, and at dead ends without omitting any branch of the new or relocated water line. Sample bottles shall be clearly identified as "special" construction tests. [401 KAR 8:100 Section 1(7), 401 KAR 8:150 Section 4, Recommended Standards for Water Works 8.5.6] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.
M-2	Coliform	The presence or absence of total Coliform monitored by sampling and analysis as needed shall be determined for the new storage structure(s). 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.
M-3	Coliform	The presence or absence of total Coliform monitored by sampling and analysis as needed shall be determined for the new pump(s). If the pump(s) are independent of (not directly connected to) the new or relocated lines, take at least 1 sample at the discharge side pitcock. Otherwise, no additional sampling beyond the sampling required for new or relocated lines shall be required in association with the pump(s). Sample bottles shall be clearly identified as "special" construction tests. [401 KAR 8:100 Section 1(7)] 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)]

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GACT0000000018 (continued):

Submittal/Action Requirements:

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)]
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 2 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)]

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Narrative Requirements:

Condition

No. Condition

- T-4 Final approval of facility. Upon completion of construction, the person who presented the plans shall certify in writing that the project has been completed in accordance with the "approved" plans and specifications. The public water supply shall operate the facility consistent with the approved plans and specifications. Any proposed change to the approved plan shall be submitted to the cabinet for approval. The public water supply shall not implement any change to the approved plan without the prior written approval of the cabinet. [401 KAR 8:100 Section 401 KAR 8:100(1)(8)]
- T-5 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)]

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GTSP000000001 (water storage tank group) 39,000 Gallon Panbowl storage Tank, 132,000 Gallon ky 1812 storage Tank, and 88,000 Gallon Graham 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	Depth	Water Depth \geq 50 percent of the total water depth should be above grade. [Recommended Standards for Water Works 7.0.2.b] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-3	Distance	Sewers, drains, standing water and similar sources of possible contamination shall be a Distance \geq 50 ft from ground-level storage structures. The only exception allowed is for gravity sewers. Gravity sewers are allowed within 50 ft of ground-level storage structures only if they are a) greater than 20 ft from all ground-level storage structures and b) constructed of water main pipe pressure tested in place to 50 psi without leakage. [Recommended Standards for Water Works 7.0.2.b] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-4	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-5	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) located on the outside of the tank so that any discharge is visible. [Recommended Standards for Water Works 7.0.7] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.

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Limitation Requirements:

Condition No.	Parameter	Condition
L-6	Height	Tanks shall have manholes that are a) framed a Height ≥ 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.

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 storage structure. The design of storage structures 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 structures are constructed,include ladders, ladder guards and balcony railings (where applicable),locate entrance hatches in safe places, andconsider confined space entry requirements. [Recommended Standards for Water Works 7.0.12]
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>

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Narrative Requirements:

Additional Limitations:

Condition No.	Condition
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, pump mountings, control ports, and piping for inflow and outflow. For steel tanks, any pipes running through the roof or sidewall must be welded or properly gasketed. For concrete tanks, any pipes running through the roof or sidewall shall be connected to standard wall castings which were poured in place during the forming of the concrete and which should have seepage rings imbedded in the concrete. [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>
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>

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Narrative Requirements:

Additional Limitations:

Condition No.	Condition
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: Ground level storage tanks and standpipes shall be equipped with separate inlet/outlet pipes installed on opposite sides of the tank. A check valve shall be installed in the outlet pipe to insure turnover of the water. The inlet pipe</p> <ol style="list-style-type: none">shall be installed near the overflow elevation andshall not interfere with the overflow discharge. [401 KAR 8:100 Section 1(7)]
T-15	<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-16	<p>Additional Limitations: The bottom of the structure shall be above</p> <ol style="list-style-type: none">the maximum flood level andthe groundwater level. [Recommended Standards for Water Works 7.0.2]
T-17	<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>
T-18	<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>

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Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-19	<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-20	<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-21	<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-22	<p>Additional Limitations: The area around the storage structure shall be graded in a manner that will prevent surface water from standing within 50 ft of the storage structure. [Recommended Standards for Water Works 7.0.16]</p>
T-23	<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-24	<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]

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Narrative Requirements:

Additional Limitations:

Condition

No. Condition

T-25 **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)]

T-26 **Additional Limitations:**
Paints and coatings
a) shall meet NSF standard 61,
b) shall be acceptable to the Division of Water,
c) shall be properly applied and cured, and
d) shall not transfer any substance to the water which will be toxic or cause tastes or odors (following curing).
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]

T-27 **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
1) remove all scaffolding, planks, tools, rags, and other items that are not part of the structural or operational facilities of the storage structure,
2) clean thoroughly by sweeping, scrubbing, using high-pressure water jets, or some equivalently effective means, and
3) use chlorine or chlorine compounds as subsequently described.
Finalize disinfection by
a) chlorination method 1, described in detail at AWWA Standard C652 Section 4.3.1,
b) chlorination method 2, described in detail at AWWA Standard C652 Section 4.3.2, or
c) chlorination method 3, described in detail at AWWA Standard C652 Section 4.3.3.
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]

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GTSP0000000001 (continued):

Narrative Requirements:

Condition No.	Condition
T-28	If applicable, chlorination method 1 generally requires 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 b) 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-29	If applicable, chlorination method 2 generally requires 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-30	If applicable, chlorination method 3 generally requires 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)]

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PORT0000000028 (Frozen Creek Water line) 4,000 LF of 8-inch DI, 69,000 LF of 8-inch PVC, 37,500 LF of 6-inch PVC, and 55,000 LF of 4-inch PVC:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Depth	A continuous and uniform bedding shall be provided in the trench for all buried pipe. Backfill material shall be tamped in layers around the pipe and to a sufficient height above the pipe to adequately support and protect the pipe. Stones found in the trench shall be removed for a Depth ≥ 6 in below the bottom of the pipe. [Recommended Standards for Water Works 8.5.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-2	Depth	All water lines shall be covered to a Depth ≥ 30 in to prevent freezing. [Recommended Standards for Water Works 8.5.3, 401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-3	Diameter	All water lines shall have Diameter ≥ 3 in. [Recommended Standards for Water Works 8.1.4] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-4	Diameter	Water lines with Diameter < 6 in shall not have fire hydrants. [Recommended Standards for Water Works 8.1.5] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-5	Distance	Water lines shall have a sufficient quantity of valves so that inconvenience and sanitary hazards will be minimized during repairs. A valve spacing Distance ≤ 1.0 mi should be utilized. [Recommended Standards for Water Works 8.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-6	Distance	Hydrant drains shall not be connected to sanitary sewers or storm drains and shall be located a Distance > 10 ft from sanitary sewers and storm drains. [Recommended Standards for Water Works 8.3.4] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-7	Distance	Except when not practical, water lines shall be laid a horizontal Distance ≥ 10 ft from any existing or proposed sewer. The distance shall be measured edge to edge. In cases where it is not practical to maintain a 10 foot separation, water lines may be installed closer to a sewer provided that the water lines shall be laid in a separate trench or on an undisturbed shelf located on one side of the sewer at such an elevation that the bottom of the water line is at least 18 inches above the top of the sewer. [Recommended Standards for Water Works 8.6.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.

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Limitation Requirements:

Condition No.	Parameter	Condition
L-8	Distance	<p>When water lines and sewers cross,</p> <ol style="list-style-type: none">1) water lines shall be laid such that eithera) the the top of the water line is a vertical Distance ≥ 18 in below the bottom of the sewer line orb) the bottom of the water line is a vertical Distance ≥ 18 in above the top of the sewer line,2) 1 full length of the water pipe shall be located so that both joints of the water pipe will be as far from the sewer as possible, and3) special structural support for the water and sewer pipes may be required. [Recommended Standards for Water Works 8.6.3] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-9	Distance	<p>The open end of an air relief pipe from automatic valves shall be extended a Distance ≥ 1.0 ft above grade and provided with a screened, downward-facing elbow. The pipe from a manually operated valve shall be extended to the top of the pit. Use of manual air relief valves is recommended wherever possible. [Recommended Standards for Water Works 8.4.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.</p>
L-10	Pressure	<p>Pipes shall not be installed unless all points of the distribution system remain designed for ground level Pressure ≥ 20 psi under all conditions of flow. [Recommended Standards for Water Works 8.1.1] This requirement is applicable during the following months: All Year. Statistical basis: Minimum..</p>
L-11	Pressure	<p>Pressure ≥ 30 psi must be available on the discharge side of all meters. [401 KAR 8:100 Section 4(2)] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.</p>
L-12	Residual Disinfection	<p>New or relocated water lines shall be thoroughly disinfected (in accordance with AWWA Standard C651) upon completion of construction and before being placed into service. To disinfect the new or relocated lines use chlorine or chlorine compounds in such amounts as to produce an initial disinfectant concentration of at least 50 ppm and a Residual Disinfection ≥ 25 ppm at the end of 24 hours. Follow the line disinfection with thorough flushing and place the lines into service if, and only if, Coliform monitoring applicable to the line does not show the presence of Coliform.</p> <p>If Coliform is detected, repeat flushing of the line and Coliform monitoring. If Coliform is still detected, repeat disinfection and flushing as if the line has never been disinfected. Continue the described process until monitoring does not show the presence of Coliform. [401 KAR 8:150 Section 4(1), Recommended Standards for Water Works 8.5.6] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.</p>

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Limitation Requirements:

Condition No.	Parameter	Condition
L-13	Velocity	Each blow-off or flush hydrant shall be sized so that Velocity \geq 2.5 ft/sec can be achieved in the water main served by the blow-off or hydrant during flushing. [Recommended Standards for Water Works 8.1.6.b, 401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.

Monitoring Requirements:

Condition No.	Parameter	Condition
M-1	leaks	The presence or absence of leaks monitored by physical testing as needed shall be determined in all types of installed pipe. Pressure testing and leakage testing shall be in accordance with the latest edition of AWWA Standard C600. [Recommended Standards for Water Works 8.5.5] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.

Narrative Requirements:

Asbestos (Friable):

Condition No.	Condition
T-1	Asbestos (Friable): If the existing water line to be tapped is asbestos concrete, then the contractor shall conform to OSHA regulations governing the handling of hazardous waste during the process of tapping the asbestos concrete line. Pieces of asbestos concrete resulting from the tap shall be double bagged, placed in a rigid container and disposed of in an approved landfill. [401 KAR 8:100 Section 1(7)]

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PORT0000000028 (continued):

Narrative Requirements:

Additional Limitations:

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

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Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-10	Additional Limitations: No water pipe shall pass through or come in contact with any part of a sewer manhole. [Recommended Standards for Water Works 8.6.6]
T-11	Additional Limitations: If water lines cross a stream or wetland, the provisions in the attached Water Quality Certification shall apply. If you have any questions please contact the Water Quality Certification Supervisor of the Water Quality Branch at (502) 564-2225. [401 KAR 8:100 Section 1(7)]

Subfluvial Pipe Crossings:

Condition No.	Condition
T-12	Subfluvial Pipe Crossings: For subfluvial pipe crossings, a floodplain construction permit will not be required pursuant to KRS 151.250 if the following requirements of 401 KAR 4:050 Section 2 are met. 1) No material may be placed in the stream or in the flood plain of the stream to form construction pads, coffer dams, access roads, etc. during construction of pipe crossings. 2) Crossing trenches shall be backfilled as closely as possible to the original contour. 3) All excess material resulting from construction displacement in a crossing trench shall be disposed of outside the flood plain. 4) For erodible channels, there shall be at least 30 inches of backfill on top of all pipe or conduit points in the crossing. 5) For nonerodible channels, pipes or conduits in the crossing shall be encased on all sides by at least 6 inches of concrete with all pipe or conduit points in the crossing at least 6 inches below the original contour of the channel. [401 KAR 8:100 Section 1(7)]
T-13	Subfluvial Pipe Crossings: For subfluvial pipe crossings greater than 15 feet in width, 1) the pipe shall be of special construction, having flexible, restrained, or welded watertight joints, and 2) valves shall be provided at both ends of water crossings so that the section can be isolated for testing or repair. Valves shall a) be easily accessible, b) not be subject to flooding, and c) if closest to the supply source, be in a manhole with permanent taps made on each side of the valve to allow insertion of a small meter to determine leakage and for sampling purposes. [Recommended Standards for Water Works 8.7.2]

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PORT0000000029 (Booster Pump Station) 2 pumps, 500 GPM, 560 TDH:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Pressure	Pump stations shall be located or controlled so that intake Pressure \geq 20 psi is maintained during normal pump operation. [Recommended Standards for Water Works 6.4.b] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-2	Pressure	Pump stations shall be located or controlled so that an automatic cutoff or a low pressure controller maintains a Pressure \geq 10 psi in the suction line under all operating conditions. [Recommended Standards for Water Works 6.4.c] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-3	Residual Disinfection	New pumps shall be thoroughly disinfected (in accordance with AWWA Standard C651) upon completion of construction and before being placed into service. To disinfect new pumps use chlorine or chlorine compounds in such amounts as to produce an initial disinfectant concentration of at least 50 ppm and a Residual Disinfection \geq 25 ppm at the end of 24 hours. Follow the disinfection with thorough flushing and place each pump into service if, and only if, Coliform monitoring applicable to the pump does not show the presence of Coliform. If Coliform is detected, repeat flushing of the pump and Coliform monitoring. If Coliform is still detected, repeat disinfection and flushing as if the pump has never been disinfected. Continue the described process until monitoring does not show the presence of Coliform. [401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-4	Slope	Pumping facilities shall be located and designed to maintain the sanitary quality of pumped water. As part of this, all pump station floors shall have Slope \geq 3 in per 10 ft to a suitable drain. [Recommended Standards for Water Works 6.2.e, Recommended Standards for Water Works 6.0, Recommended Standards for Water Works 6.1] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-5	Air Change Rate	Ventilation shall conform to existing local and/or state codes. At a minimum forced ventilation shall produce an Air Change Rate \geq 6 air change(s)/hr. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 6.2.5] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.

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PORT0000000029 (continued):

Limitation Requirements:

Condition No.	Parameter	Condition
L-6	Height	Pumping stations shall not be subject to flooding. To this end, 1) grading around stations shall lead surface drainage away and 2) stations shall be elevated or protected to a Height \geq 3 ft above the highest of the following: a) the 100-year flood elevation, or b) the highest recorded flood elevation. [Recommended Standards for Water Works 6.1.1, Recommended Standards for Water Works 6.0] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-7	Height	When a pump station has pits or compartments which must be entered, stairways or ladders shall be provided between all floors. Stairs shall have risers with a Height \leq 9 in, handrails on both sides, and treads with non-slip material wide enough for safety. [Recommended Standards for Water Works 6.2.3] This requirement is applicable during the following months: All Year. Statistical basis: Maximum.

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-1	Additional Limitations: Pumping stations shall be so located that the proposed site will meet the requirements for hydraulics of the system. [Recommended Standards for Water Works 6.1]
T-2	Additional Limitations: Pumping stations shall be readily accessible at all times for servicing and repairs. [Recommended Standards for Water Works 6.1.1.b, Recommended Standards for Water Works 6.4.3]
T-3	Additional Limitations: Pumping stations shall be designed to prevent vandalism and protect against entrance of animals or unauthorized persons. [Recommended Standards for Water Works 6.1.1.d]
T-4	Additional Limitations: Pumping stations shall be of durable construction with outward-opening doors. [Recommended Standards for Water Works 6.2.b]

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PORT000000029 (continued):

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-5	Additional Limitations: Pumping stations shall be fire and weather resistant. [Recommended Standards for Water Works 6.2.b]
T-6	Additional Limitations: Pumping stations shall have suitable pump gland discharges so that drainage from the glands is not onto the floor. [Recommended Standards for Water Works 6.2.f]
T-7	Additional Limitations: If underground structures are present at pumping stations, they shall be waterproofed. [Recommended Standards for Water Works 6.2.d]
T-8	Additional Limitations: Pumping stations shall have adequate space for the installation of additional pumps. [Recommended Standards for Water Works 6.2.a]
T-9	Additional Limitations: Pumping stations shall have adequate space for the safe servicing of all equipment. [Recommended Standards for Water Works 6.2.a]
T-10	Additional Limitations: Pump stations shall have crane-ways, hoist beams, eyebolts, or other adequate facilities for servicing or removal of pumps, motors or other heavy equipment. [Recommended Standards for Water Works 6.2.2.a]
T-11	Additional Limitations: Pump stations shall have openings as needed for removal of heavy or bulky equipment. [Recommended Standards for Water Works 6.2.2.b]
T-12	Additional Limitations: Pump stations shall have a convenient tool board, or other facilities as needed, for proper maintenance of equipment. [Recommended Standards for Water Works 6.2.2.c]
T-13	Additional Limitations: In areas where excess moisture could cause safety hazards or damage to equipment, dehumidification shall be provided. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 6.2.6]
T-14	Additional Limitations: Electrical controls shall be located above grade. [Recommended Standards for Water Works 6.6.5]

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PORT000000029 (continued):

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-15	Additional Limitations: All electrical equipment and work shall conform with the applicable state and local electrical codes and the National Electrical Code. [Recommended Standards for Water Works 6.5, Recommended Standards for Water Works 6.2.7]
T-16	Additional Limitations: Pump stations shall be adequately lighted throughout. [Recommended Standards for Water Works 6.2.7]
T-17	Additional Limitations: All automatic pump stations shall be provided with automatic signaling apparatus which will report when the station is out of service. All remote controlled stations shall be electrically operated and controlled and shall have signaling apparatus of proven performance. [Recommended Standards for Water Works 6.5]
T-18	Additional Limitations: Automatic or remote control pump stations shall be located or shall have control devices setup so that the range between start and cutoff pressure prevents excessive pump cycling. [Recommended Standards for Water Works 6.4.d]
T-19	Additional Limitations: Equipment shall be provided or other arrangements made to prevent surge pressures from activating controls which switch on pumps or activate other equipment outside the normal design cycle of operation. [Recommended Standards for Water Works 6.6.5]
T-20	Additional Limitations: Provisions shall be made to prevent energizing the motor in the event of a backspin cycle. [Recommended Standards for Water Works 6.6.5]
T-21	Additional Limitations: Pump stations shall be provided with enough heat to prevent freezing of equipment or treatment processes. [Recommended Standards for Water Works 6.2.4]
T-22	Additional Limitations: Pump stations shall have at least 2 pumps. Pumps shall be sized so that if any single pump is out service, the remaining pump or pumps shall be capable of providing the peak demand on the station. [Recommended Standards for Water Works 6.3, Recommended Standards for Water Works 6.4.1]
T-23	Additional Limitations: Provisions shall be made for pump alternation. [Recommended Standards for Water Works 6.6.5]

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PORT0000000029 (continued):

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-24	<p>Additional Limitations: Pumps shall</p> <ul style="list-style-type: none">a) have ample capacity to supply the peak demand against the required distribution system pressure without dangerous overloading,b) be driven by prime movers able to meet the maximum horsepower condition of the pumps,c) be provided readily available spare parts and tools, andd) be served by control equipment that is properly protected against temperatures to be encountered. [Recommended Standards for Water Works 6.3]
T-25	<p>Additional Limitations: Pumps, their prime movers and accessories shall be controlled in such a manner that they will operate at rated capacity without dangerous overload. [Recommended Standards for Water Works 6.6.5]</p>
T-26	<p>Additional Limitations: Pump stations shall be located or controlled so that a bypass is available. [Recommended Standards for Water Works 6.4.e]</p>
T-27	<p>Additional Limitations: Pump stations shall contain indicating and totalizing metering of the total water pumped. Each pump shall have</p> <ul style="list-style-type: none">a) a standard pressure gauge on its discharge line andb) a compound gauge on its suction line. <p>Each pump should have a means for measuring the instantaneous volume per time discharge. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 6.4.2, Recommended Standards for Water Works 6.6.3]</p>
T-28	<p>Additional Limitations: Pumps shall be adequately valved to permit satisfactory operation, maintenance and repair of the equipment. Each pump shall have a positive-acting check valve on the discharge side between the pump and the shut-off valve. [Recommended Standards for Water Works 6.6.1]</p>

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PORT0000000029 (continued):

Narrative Requirements:

Additional Limitations:

Condition

No. Condition

- T-29 **Additional Limitations:**
Piping for pumps shall, in general,
- 1) be designed so that the friction losses will be minimized,
 - 2) not be subject to contamination,
 - 3) have watertight joints,
 - 4) be protected against surge or water hammer,
 - 5) be provided with restraints where necessary, and
 - 6) a) be such that each pump has an individual suction line or
b) be manifolded such that the lines insure similar hydraulic and operating conditions. [Recommended Standards for Water Works 6.6.2]
- T-30 **Additional Limitations:**
To ensure continuous service when the primary power is interrupted, power supplied to pump stations shall be
- a) from at least 2 independent sources or
 - b) from a primary source with a standby or auxiliary source provided.
- If standby power is provided by onsite generators or engines, the fuel storage and fuel line must be designed to protect the water supply from contamination.
[Recommended Standards for Water Works 6.6.6]

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PORT0000000030 (Hydropneumatic Booster Pump) 2 pumps,16 GPM, 225 TDH:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Pressure	Pump stations shall be located or controlled so that intake Pressure ≥ 20 psi is maintained during normal pump operation. [Recommended Standards for Water Works 6.4.b] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-2	Pressure	Pump stations shall be located or controlled so that an automatic cutoff or a low pressure controller maintains a Pressure ≥ 10 psi in the suction line under all operating conditions. [Recommended Standards for Water Works 6.4.c] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-3	Residual Disinfection	New pumps shall be thoroughly disinfected (in accordance with AWWA Standard C651) upon completion of construction and before being placed into service. To disinfect new pumps use chlorine or chlorine compounds in such amounts as to produce an initial disinfectant concentration of at least 50 ppm and a Residual Disinfection ≥ 25 ppm at the end of 24 hours. Follow the disinfection with thorough flushing and place each pump into service if, and only if, Coliform monitoring applicable to the pump does not show the presence of Coliform. If Coliform is detected, repeat flushing of the pump and Coliform monitoring. If Coliform is still detected, repeat disinfection and flushing as if the pump has never been disinfected. Continue the described process until monitoring does not show the presence of Coliform. [401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-4	Slope	Pumping facilities shall be located and designed to maintain the sanitary quality of pumped water. As part of this, all pump station floors shall have Slope ≥ 3 in per 10 ft to a suitable drain. [Recommended Standards for Water Works 6.2.e, Recommended Standards for Water Works 6.0, Recommended Standards for Water Works 6.1] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-5	Air Change Rate	Ventilation shall conform to existing local and/or state codes. At a minimum forced ventilation shall produce an Air Change Rate ≥ 6 air change(s)/hr. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 6.2.5] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.

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PORT0000000030 (continued):

Limitation Requirements:

Condition No.	Parameter	Condition
L-6	Height	Pumping stations shall not be subject to flooding. To this end, 1) grading around stations shall lead surface drainage away and 2) stations shall be elevated or protected to a Height \geq 3 ft above the highest of the following: a) the 100-year flood elevation, or b) the highest recorded flood elevation. [Recommended Standards for Water Works 6.1.1, Recommended Standards for Water Works 6.0] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-7	Height	When a pump station has pits or compartments which must be entered, stairways or ladders shall be provided between all floors. Stairs shall have risers with a Height \leq 9 in, handrails on both sides, and treads with non-slip material wide enough for safety. [Recommended Standards for Water Works 6.2.3] This requirement is applicable during the following months: All Year. Statistical basis: Maximum.

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-1	Additional Limitations: Pumping stations shall be so located that the proposed site will meet the requirements for hydraulics of the system. [Recommended Standards for Water Works 6.1]
T-2	Additional Limitations: Pumping stations shall be readily accessible at all times for servicing and repairs. [Recommended Standards for Water Works 6.1.1.b, Recommended Standards for Water Works 6.4.3]
T-3	Additional Limitations: Pumping stations shall be designed to prevent vandalism and protect against entrance of animals or unauthorized persons. [Recommended Standards for Water Works 6.1.1.d]
T-4	Additional Limitations: Pumping stations shall be of durable construction with outward-opening doors. [Recommended Standards for Water Works 6.2.b]

Distribution-Major Construction

Breathitt Co Water District

Facility Requirements

Activity ID No.: APE20110002

PORT0000000030 (continued):

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-5	Additional Limitations: Pumping stations shall be fire and weather resistant. [Recommended Standards for Water Works 6.2.b]
T-6	Additional Limitations: Pumping stations shall have suitable pump gland discharges so that drainage from the glands is not onto the floor. [Recommended Standards for Water Works 6.2.f]
T-7	Additional Limitations: If underground structures are present at pumping stations, they shall be waterproofed. [Recommended Standards for Water Works 6.2.d]
T-8	Additional Limitations: Pumping stations shall have adequate space for the installation of additional pumps. [Recommended Standards for Water Works 6.2.a]
T-9	Additional Limitations: Pumping stations shall have adequate space for the safe servicing of all equipment. [Recommended Standards for Water Works 6.2.a]
T-10	Additional Limitations: Pump stations shall have crane-ways, hoist beams, eyebolts, or other adequate facilities for servicing or removal of pumps, motors or other heavy equipment. [Recommended Standards for Water Works 6.2.2.a]
T-11	Additional Limitations: Pump stations shall have openings as needed for removal of heavy or bulky equipment. [Recommended Standards for Water Works 6.2.2.b]
T-12	Additional Limitations: Pump stations shall have a convenient tool board, or other facilities as needed, for proper maintenance of equipment. [Recommended Standards for Water Works 6.2.2.c]
T-13	Additional Limitations: In areas where excess moisture could cause safety hazards or damage to equipment, dehumidification shall be provided. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 6.2.6]
T-14	Additional Limitations: Electrical controls shall be located above grade. [Recommended Standards for Water Works 6.6.5]

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

Activity ID No.: APE20110002

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PORT0000000030 (continued):

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-15	<p>Additional Limitations: All electrical equipment and work shall conform with the applicable state and local electrical codes and the National Electrical Code. [Recommended Standards for Water Works 6.5, Recommended Standards for Water Works 6.2.7]</p>
T-16	<p>Additional Limitations: Pump stations shall be adequately lighted throughout. [Recommended Standards for Water Works 6.2.7]</p>
T-17	<p>Additional Limitations: All automatic pump stations shall be provided with automatic signaling apparatus which will report when the station is out of service. All remote controlled stations shall be electrically operated and controlled and shall have signaling apparatus of proven performance. [Recommended Standards for Water Works 6.5]</p>
T-18	<p>Additional Limitations: Automatic or remote control pump stations shall be located or shall have control devices setup so that the range between start and cutoff pressure prevents excessive pump cycling. [Recommended Standards for Water Works 6.4.d]</p>
T-19	<p>Additional Limitations: Equipment shall be provided or other arrangements made to prevent surge pressures from activating controls which switch on pumps or activate other equipment outside the normal design cycle of operation. [Recommended Standards for Water Works 6.6.5]</p>
T-20	<p>Additional Limitations: Provisions shall be made to prevent energizing the motor in the event of a backspin cycle. [Recommended Standards for Water Works 6.6.5]</p>
T-21	<p>Additional Limitations: Pump stations shall be provided with enough heat to prevent freezing of equipment or treatment processes. [Recommended Standards for Water Works 6.2.4]</p>
T-22	<p>Additional Limitations: Pump stations shall have at least 2 pumps. Pumps shall be sized so that if any single pump is out service, the remaining pump or pumps shall be capable of providing the peak demand on the station. Additionally, pumps shall be sized so that the pump station is capable of providing at least 10 times the average demand of the area served by the station. [Recommended Standards for Water Works 6.3, Recommended Standards for Water Works 6.4.1, Recommended Standards for Water Works 7.2.2.a]</p>

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

Activity ID No.: APE20110002

PORT0000000030 (continued):

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-23	Additional Limitations: Provisions shall be made for pump alternation. [Recommended Standards for Water Works 6.6.5]
T-24	Additional Limitations: Pumps shall <ol style="list-style-type: none">have ample capacity to supply the peak demand against the required distribution system pressure without dangerous overloading,be driven by prime movers able to meet the maximum horsepower condition of the pumps,be provided readily available spare parts and tools, andbe served by control equipment that is properly protected against temperatures to be encountered. [Recommended Standards for Water Works 6.3]
T-25	Additional Limitations: Pumps, their prime movers and accessories shall be controlled in such a manner that they will operate at rated capacity without dangerous overload. [Recommended Standards for Water Works 6.6.5]
T-26	Additional Limitations: Pump stations shall be located or controlled so that a bypass is available. [Recommended Standards for Water Works 6.4.e]
T-27	Additional Limitations: Pump stations shall contain indicating and totalizing metering of the total water pumped. Each pump shall have <ol style="list-style-type: none">a standard pressure gauge on its discharge line anda compound gauge on its suction line. Each pump should have a means for measuring the instantaneous volume per time discharge. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 6.4.2, Recommended Standards for Water Works 6.6.3]
T-28	Additional Limitations: Pumps shall be adequately valved to permit satisfactory operation, maintenance and repair of the equipment. Each pump shall have a positive-acting check valve on the discharge side between the pump and the shut-off valve. [Recommended Standards for Water Works 6.6.1]

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

Activity ID No.: APE20110002

PORT000000030 (continued):

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-29	<p>Additional Limitations: Piping for pumps shall, in general,</p> <ol style="list-style-type: none">1) be designed so that the friction losses will be minimized,2) not be subject to contamination,3) have watertight joints,4) be protected against surge or water hammer,5) be provided with restraints where necessary, and6) a) be such that each pump has an individual suction line or b) be manifolded such that the lines insure similar hydraulic and operating conditions. [Recommended Standards for Water Works 6.6.2]
T-30	<p>Additional Limitations: To ensure continuous service when the primary power is interrupted, power supplied to pump stations shall be</p> <ol style="list-style-type: none">a) from at least 2 independent sources orb) from a primary source with a standby or auxiliary source provided. <p>If standby power is provided by onsite generators or engines, the fuel storage and fuel line must be designed to protect the water supply from contamination. [Recommended Standards for Water Works 6.6.6]</p>

Attachment 7

Cost of Operation

Breathitt County Water District

Frozen Creek Waterline Extension Phase I
998-30

ATTACHMENT # 7

Electrical Rates - AEP (Tariff 215-Medium General Service)

Monthly Basic Fee	\$ 13.50
Usage Rate	\$ 0.09862 per KWH for first 200 KWH
	\$ 0.08460 per KWH after first 200 KWH
Demand Factor	\$ 1.64 per KWH

Pump Data

Average Flow Rate	200	gpm
Horsepower	125	
Efficiency	75%	
Hours of Operation	6.00	hours/day

Demand of Customers

Estimated Customers	104	Homes
New - Total Estimate Flow	15,600	gallons/day

Opinion of Probable Cost of Operation						
Proposed Operating Conditions						
New Production Cost						
Purchase Price per 1,000 gallons (Purchased from the City of Jackson)						\$ 2.90
Total - Proposed Annual Cost of Purchased Water						\$ 16,512.60
Operation Costs						
Pumping Costs						
Frozen Creek Booster Station Electric Consumption	829	KWH per Day	302,544	KWH per year		
Total Project Electric Consumption	829	KWH per Day	302,544	KWH per year		
	Monthly Basic Fee (\$13.50 x 12 months)				\$	162.00
	Usage Rate (200 KW x \$0.09862 + ((80,679 KW - 200 KW) x \$0.0846))				\$	29,836.93
	Demand Charge (61.43 KW x \$1.64 x 12 months)				\$	1,208.94
Total - Proposed Annual Pumping Cost						\$ 31,207.88
Total - Proposed Annual Production & Operation Costs						\$ 47,720.48