

**OHIO COUNTY WATER
DISTRICT
OHIO COUNTY, KENTUCKY**

**SERIES III
WATER SYSTEM IMPROVEMENTS**

**GENERAL CONTRACT DOCUMENTS
AND SPECIFICATIONS**

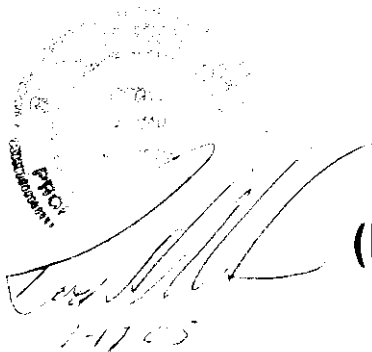
**NOVEMBER, 2002
(BID: FEBRUARY, 2003)**

HUNTER MARTIN & ASSOCIATES, INC.
ENGINEERS & SURVEYORS
3220 LONE OAK ROAD □ PADUCAH, KY. 42003 □ (502) 554-2737

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DISTRICT
OHIO COUNTY, KENTUCKY**

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ENGINEERS & SURVEYORS
3220 LONE OAK ROAD - PADUCAH, KY. 42003 (502) 554-2737

SET NO.

OHIO COUNTY WATER DISTRICT

OHIO COUNTY, KENTUCKY

SERIES III WATER SYSTEM IMPROVEMENTS

JANUARY 23, 2003

ADDENDUM NO. I

TO

GENERAL CONTRACT DOCUMENTS AND SPECIFICATIONS AND PLANS

NOVEMBER, 2002

(BID FEBRUARY, 2003)

1. SPECIFICATIONS:

BID:

DELETE: The Bid (Pages B-1 - B-5) in its entirety.

ADD: The Bid (Page B-1, ADDENDUM NO. I - B-5, [ADDENDUM NO. 1](#)).

SPECIAL CONDITIONS:

In Article SC-42, "BASIS OF BID", after the second paragraph, add the following paragraph:

"The OWNER, under a separate Contract, is requesting bids for materials only on this project. In the event that the OWNER furnishes materials for the job, the CONTRACTOR shall provide a list of materials required in a timely manner. The CONTRACTOR shall be responsible for picking up said materials at the OWNER'S supply yard located on U. S. Highway 231, just North of the City of Hartford."

HUNTER MARTIN & ASSOCIATES, INC.



Rod H. Martin, P.E.

ACKNOWLEDGMENT: This Addendum No. 1 is to be acknowledged on the BID, Page B-I, ADDENDUM NO. 1.

BID

Proposal of _____ (hereinafter called "BIDDER"), organized and existing under the laws of the State of _____

doing business as _____
(Insert "a corporation", "a partnership", or "an individual" as applicable.)

To **OHIO COUNTY WATER DISTRICT, 130 WASHINGTON STREET, HARTFORD, KENTUCKY 42347** (hereinafter called OWNER).

The BIDDER hereby proposes to perform all WORK for the installation of **SERIES III WATER SYSTEM IMPROVEMENTS** in strict accordance with the CONTRACT DOCUMENTS, within the time set forth herein, and at the prices stated below.

By submission of this BID, each BIDDER certifies, and in the case of a joint BID each party thereto certifies as to its own organization, that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this BID with any other BIDDER or with any competitor.

BIDDER hereby agrees to commence WORK under this contract on or before a date to be specified in the NOTICE TO PROCEED and to fully complete the PROJECT within 270 consecutive calendar days thereafter. BIDDER further agrees to pay as liquidated damages, the sum of \$1,000.00 for each consecutive calendar day thereafter.

BIDDER acknowledges receipt of the following ADDENDUM:

BIDDER, having examined the plans and specifications and being acquainted with and fully understanding (a) the extent and character of the work, (b) the location, arrangement and specified requirements, (c) existing and probable construction difficulties and hazards, (d) local conditions relative to labor, transportation, hauling and delivery, and (e) all other conditions affecting or which may be affected by the PROJECT hereby agrees to perform all the WORK described in the CONTRACT DOCUMENTS for the following unit prices and/or lump sums:

BID SCHEDULE LABOR AND MATERIALS

NOTE: BIDS SHALL INCLUDE SALES TAX AND ALL APPLICABLE TAXES AND FEES.
SEE SPECIAL CONDITIONS FOR EXPLANATION OF BID ITEMS.

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE BID	AMOUNT
1.	MOBILIZATION/DEMOBILIZATION	1	LS		
2.	WATER MAINS				
2.1	10" C900 DR 14 PVC or Ductile Iron	100	LF		
2.2	8" C900 DR 14 PVC or Ductile Iron	7,000	LF		
2.3	6" C900 DR 14 PVC or Ductile Iron	100	LF		
2.4	4" C900 DR 14 PVC or Ductile Iron	4,500	LF		
2.5	10" SDR 21 PVC or Ductile Iron	1,290	LF		
2.6	8" SDR 21 PVC or Ductile Iron	83,100	LF		
2.7	6" SDR 21 PVC or Ductile Iron	42,725	LF		
2.8	4" SDR 21 PVC or Ductile Iron	41,460	LF		
2.9	3" SDR 21 PVC	100	LF		
2.10	2" SDR 21 PVC	100	LF		
3.	FITTINGS				
3.1	Ductile Iron	4,600	LBS		
3.2	PVC, 3" and Smaller	15	EA.		
4.	VALVES WITH CAST IRON BOXES				
4.1	10" Gate Valve	1	EA.		
4.2	8" Gate Valve	35	EA.		
4.3	6" Gate Valve	18	EA.		
4.4	4" Gate Valve	16	EA.		
4.5	3" Gate Valve	11	EA.		
4.6	10" Butterfly Valve	1	EA.		
4.7	8" Butterfly Valve	1	EA.		
4.8	6" Butterfly Valve	1	EA.		
4.9	4" Butterfly Valve	1	EA.		
4.10	3" Butterfly Valve	1	EA.		
4.11	2" Ball Valve	2	EA.		
4.12	1-1/2" Ball Valve	1	EA.		
4.13	1" Ball Valve	1	EA.		
5.	TIE-INS				
5.1	10"	4	EA.		
5.2	8"	6	EA.		
5.3	6"	2	EA.		
5.4	4"	6	EA.		
5.5	3"	6	EA.		
5.6	2" & Smaller	2	EA.		
6.	FLUSH ASSEMBLY				
6.1	4" Flush	13	EA.		
6.2	2" Flush	17	EA.		
7.	BORES WITH CASING				
7.1	16" (For 10" Carrier)	50	LF		
7.2	14" (For 8" Carrier)	1,190	LF		
7.3	12" (For 6" Carrier)	360	LF		
7.4	10" (For 4" Carrier)	200	LF		
8.	CASING IN OPEN CUT				
8.1	16" (For 10" Carrier)	20	LF		
8.2	14" (For 8" Carrier)	60	LF		
8.3	12" (For 6" Carrier)	40	LF		
8.4	10" (For 4" Carrier)	40	LF		

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE BID	AMOUNT
9.	DIRECTIONAL BORE				
9.1	8" HDPE, DR 11	325	LF		
9.1	6" HDPE, DR 11	100	LF		
9.2	4" HDPE, DR 11	200	LF		
10.	SPECIAL FITTINGS				
10.1	6" X 6" Tapping Sleeve w/ Valve & Box	2	EA.		
10.2	8" X 2", 1-1/2" or 1" Service Saddle	3	EA.		
10.3	6" X 2", 1-1/2", or 1" Service Saddle	3	EA.		
10.4	4" X 1-1/2" or 1" Service Saddle	3	EA.		
10.5	10" Clamps or Couplings	1	EA.		
10.6	8" Clamps or Couplings	1	EA.		
10.7	6" Clamps or Couplings	1	EA.		
10.8	4" Clamps or Couplings	1	EA.		
10.9	3" Clamps or Couplings	1	EA.		
10.10	2" & Smaller Clamps or Couplings	1	EA.		
11.	AIR RELEASE VALE WITH BOX				
11.1	2" W/ 7/32" Oriface	6	EA.		
12.	METER SETTINGS				
12.1	5/8" X 3/4" Reconnect	248	EA.		
12.2	1" Reconnect	1	EA.		
13.	SERVICE LINE				
13.1	3/4" Plastic Open Cut	4,960	LF		
13.2	3/4" Plastic Bore W/ PVC Casing	4,440	LF		
13.3	1" Plastic Open Cut	100	LF		
13.4	1" Plastic Bore W/ PVC Casing	50	LF		
14.	CRUSHED STONE	3,000	CY		
15.	RIPRAP	85	CY		
16.	ASPHALT PAVEMENT REPLACEMENT	35	SY		
17.	CONCRETE PAVEMENT REPLACEMENT	5	CY		
18.	CONCRETE ENCASEMENT	40	LF		
19.	ADDITIONAL DEPTH (Greater Than 7')	1,000	LF		
20.	MARKER POSTS	705	EA.		
TOTAL BID - LABOR AND MATERIALS					

NOTE: The CONTRACT may be awarded based on the total bid for "MATERIALS AND LABOR" or on the total bid for "LABOR ONLY". It is understood that the OWNER may adjust the quantities of work to match available funds.

RESPECTFULLY SUBMITTED THIS _____ DAY OF _____, 20_____

IS BIDDER AN INDIVIDUAL, A PARTNERSHIP, OR A CORPORATION? _____

FIRM NAME

ADDRESS

PHONE NUMBER

SEAL (IF APPLICABLE)

ATTEST:

SIGNATURE

SIGNATURE

TITLE

PARTNERS OR CORPORATE OFFICERS:

TITLE

BID SCHEDULE LABOR ONLY

NOTE: BIDS SHALL INCLUDE ALL APPLICABLE TAXES AND FEES.
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3.	FITTINGS				
3.1	Ductile Iron	4,600	LBS		
3.2	PVC, 3" and Smaller	15	EA.		
4.	VALVES WITH CAST IRON BOXES				
4.1	10" Gate Valve	1	EA.		
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5.1	10"	4	EA.		
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6.	FLUSH ASSEMBLY				
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10.	SPECIAL FITTINGS				
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11.	AIR RELEASE VALE WITH BOX				
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12.	METER SETTINGS				
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15.	RIPRAP	85	CY		
16.	ASPHALT PAVEMENT REPLACEMENT	35	SY		
17.	CONCRETE PAVEMENT REPLACEMENT	5	CY		
18.	CONCRETE ENCASEMENT	40	LF		
19.	ADDITIONAL DEPTH (Greater Than 7')	1,000	LF		
20.	MARKER POSTS	705	EA.		
TOTAL BID - LABOR ONLY					

NOTE: The CONTRACT may be awarded based on the total bid for "MATERIALS AND LABOR" or on the total bid for "LABOR ONLY". It is understood that the OWNER may adjust the quantities of work to match available funds.

RESPECTFULLY SUBMITTED THIS _____ DAY OF _____, 20_____

IS BIDDER AN INDIVIDUAL, A PARTNERSHIP, OR A CORPORATION? _____

FIRM NAME

ADDRESS

PHONE NUMBER

SEAL (IF APPLICABLE)

ATTEST:

SIGNATURE

SIGNATURE

TITLE

PARTNERS OR CORPORATE OFFICERS:

TITLE

01110 COUNTY WATER DISTRICT

01410 COUNTY, KENTUCKY

SERIES III WATER SYSTEM IMPROVEMENTS

FEBRUARY 3, 2003

ADDENDUM NO. 2

TO

GENERAL CONTRACT DOCUMENTS AND SPECIFICATIONS AND PLANS

NOVEMBER, 2002

(BID FEBRUARY, 2003)

I. SPECIFICATIONS:

BID:

DELETE: The Bid (Pages B-I, ADDENDUM NO. 1 B-5, ADDENDUM NO. 1) in its entirety.

ADD: The attached Bid (Pages B-I, ADDENDUM NO. 2 B-7, ADDENDUM NO. 2).

SPECIAL CONDITIONS:

In Article SC-42, "BASIS OE BID", on Page SC-10, delete Item No. 9 in its entirety and replace with the following:

9. HDPE Pipe.

Payment for HDPE pipe shall be made at the unit price bid per lineal foot for the size and type of installation shown complete, including the pipe and concrete anchoring. Payment for ductile iron fittings shall be made under a separate bid item. Measurement for payment shall be the actual length of the installation, unless otherwise directed by the Engineer."

HUNTER MARTIN & ASSOCIATES, INC.



Rod H. Martin, P.E.

ACKNOWLEDGMENT: This Addendum No. 2 is to be acknowledged on the BID, Page 13-I, ADDENDUM NO. 2.

BID

Proposal of _____ (hereinafter called "BIDDER"), organized and existing under the laws of the State of _____

doing business as _____
(Insert "a corporation", "a partnership", or "an individual" as applicable.)

To **OHIO COUNTY WATER DISTRICT, 130 WASHINGTON STREET, HARTFORD, KENTUCKY 42347** (hereinafter called OWNER).

The BIDDER hereby proposes to perform all WORK for the installation of **SERIES III WATER SYSTEM IMPROVEMENTS** in strict accordance with the CONTRACT DOCUMENTS, within the time set forth herein, and at the prices stated below.

By submission of this BID, each BIDDER certifies, and in the case of a joint BID each party thereto certifies as to its own organization, that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this BID with any other BIDDER or with any competitor.

BIDDER hereby agrees to commence WORK under this contract on or before a date to be specified in the NOTICE TO PROCEED and to fully complete the PROJECT within 270 consecutive calendar days thereafter. BIDDER further agrees to pay as liquidated damages, the sum of \$1,000.00 for each consecutive calendar day thereafter.

BIDDER acknowledges receipt of the following ADDENDUM:

BIDDER, having examined the plans and specifications and being acquainted with and fully understanding (a) the extent and character of the work, (b) the location, arrangement and specified requirements, (c) existing and probable construction difficulties and hazards, (d) local conditions relative to labor, transportation, hauling and delivery, and (e) all other conditions affecting or which may be affected by the PROJECT hereby agrees to perform all the WORK described in the CONTRACT DOCUMENTS for the following unit prices and/or lump sums:

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE BID	AMOUNT
15.	RIPRAP	85	CY		
16.	ASPHALT PAVEMENT REPLACEMENT	35	SY		
17.	CONCRETE PAVEMENT REPLACEMENT	5	CY		
18.	CONCRETE ENCASEMENT	40	LF		
19.	ADDITIONAL DEPTH (Greater Than 7')	1,000	LF		
20.	MARKER POSTS	705	EA.		
TOTAL BID - LABOR AND MATERIALS					

NOTE: The CONTRACT may be awarded based on the total bid for "MATERIALS AND LABOR" or on the total bid for "LABOR ONLY". It is understood that the OWNER may adjust the quantities of work to match available

RESPECTFULLY SUBMITTED THIS _____ DAY OF

IS BIDDER AN INDIVIDUAL, A PARTNERSHIP, OR A CORPORATION?

_____ FIRM NAME

_____ SIGNATURE

_____ ADDRESS

_____ TITLE

_____ PHONE NUMBER

PARTNERS OR CORPORATE OFFICERS:

SEAL (IF APPLICABLE)

ATTEST:

_____ SIGNATURE

_____ TITLE

**BID SCHEDULE
LABOR AND MATERIALS**

NOTE: BIDS SHALL INCLUDE SALES TAX AND ALL APPLICABLE TAXES AND FEES.
SEE SPECIAL CONDITIONS FOR EXPLANATION OF BID ITEMS.

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE BID	AMOUNT
1.	MOBILIZATION/DEMobilIZATION	1	LS		
2.	WATER MAINS				
2.1	10" C900 DR 14 PVC or Ductile Iron	100	LF		
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2.3	6" C900 DR 14 PVC or Ductile Iron	100	LF		
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2.5	10" SDR 21 PVC or Ductile Iron	1,290	LF		
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2.8	4" SDR 21 PVC or Ductile Iron	41,460	LF		
2.9	3" SDR 21 PVC	100	LF		
2.10	2" SDR 21 PVC	100	LF		
3.	FITTINGS				
3.1	Ductile Iron	4,600	LBS		
3.2	PVC, 3" and Smaller	15	EA.		
4.	VALVES WITH CAST IRON BOXES				
4.1	10" Gate Valve	1	EA.		
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4.12	1-1/2" Ball Valve	1	EA.		
4.13	1" Ball Valve	1	EA.		
5.	TIE-INS				
5.1	10"	4	EA.		
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6.	FLUSH ASSEMBLY				
6.1	4" Flush	13	EA.		
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ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE BID	AMOUNT
7.	BORES WITH CASING				
7.1	16" (For 10" Carrier)	50	LF		
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7.3	12" (For 6" Carrier)	360	LF		
7.4	10" (For 4" Carrier)	200	LF		
7.5	12" (For 8" Carrier)	1,190	LF		XXXXX
7.6	10" (For 6" Carrier)	360	LF		XXXXX
7.7	8" (For 4" Carrier)	200	LF		XXXXX
8.	CASING IN OPEN CUT				
8.1	16" (For 10" Carrier)	20	LF		
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8.3	12" (For 6" Carrier)	40	LF		
8.4	10" (For 4" Carrier)	40	LF		
8.5	12" (For 8" Carrier)	60	LF		XXXXX
8.6	10" (For 6" Carrier)	40	LF		XXXXX
8.7	8" (For 4" Carrier)	40	LF		XXXXX
9.	HDPE PIPE				
9.1	8" HDPE, DR 11 (Directional Bore)	325	LF		
9.2	6" HDPE, DR 11 (Directional Bore)	100	LF		
9.3	4" HDPE, DR 11 (Directional Bore)	200	LF		
9.4	8" HDPE, DR 11 (Open Cut)	325	LF		XXXXX
9.5	6" HDPE, DR 11 (Open Cut)	100	LF		XXXXX
9.6	4" HDPE, DR 11 (Open Cut)	200	LF		XXXXX
10.	SPECIAL FITTINGS				
10.1	6" X 6" Tapping Sleeve w/ Valve & Box	2	EA.		
10.2	8" X 2", 1-1/2" or 1" Service Saddle	3	EA.		
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11.1	2" W/ 7/32" Oriface	6	EA.		
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12.1	5/8" X 3/4" Reconnect	248	EA.		
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13.	SERVICE LINE				
13.1	3/4" Plastic Open Cut	4,960	LF		
13.2	3/4" Plastic Bore W/ PVC Casing	4,440	LF		
13.3	1" Plastic Open Cut	100	LF		
13.4	1" Plastic Bore W/ PVC Casing	50	LF		
14.	CRUSHED STONE	3,000	CY		

**BID SCHEDULE
LABOR ONLY**

NOTE: BIDS SHALL INCLUDE ALL APPLICABLE TAXES AND FEES.
SEE SPECIAL CONDITIONS FOR EXPLANATION OF BID ITEMS.

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE BID	AMOUNT
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5.3	6"	2	EA.		
5.4	4"	6	EA.		
5.5	3"	6	EA.		
5.6	2" & Smaller	2	EA.		
6.	FLUSH ASSEMBLY				
6.1	4" Flush	13	EA.		
6.2	2" Flush	17	EA.		

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE BID	AMOUNT
7.	BORES WITH CASING				
7.1	16" (For 10" Carrier)	50	LF		
7.2	14" (For 8" Carrier)	1,190	LF		
7.3	12" (For 6" Carrier)	360	LF		
7.4	10" (For 4" Carrier)	200	LF		
7.5	12" (For 8" Carrier)	1,190	LF		XXXXXX
7.6	10" (For 6" Carrier)	360	LF		XXXXXX
7.7	8" (For 4" Carrier)	200	LF		XXXXXX
8.	CASING IN OPEN CUT				
8.1	16" (For 10" Carrier)	20	LF		
8.2	14" (For 8" Carrier)	60	LF		
8.3	12" (For 6" Carrier)	40	LF		
8.4	10" (For 4" Carrier)	40	LF		
8.5	12" (For 8" Carrier)	60	LF		XXXXXX
8.6	10" (For 6" Carrier)	40	LF		XXXXXX
8.7	8" (For 4" Carrier)	40	LF		XXXXXX
9.	HDPE PIPE				
9.1	8" HDPE, DR 11 (Directional Bore)	325	LF		
9.2	6" HDPE, DR 11 (Directional Bore)	100	LF		
9.3	4" HDPE, DR 11 (Directional Bore)	200	LF		
9.4	8" HDPE, DR 11 (Open Cut)	325	LF		XXXXXX
9.5	6" HDPE, DR 11 (Open Cut)	100	LF		XXXXXX
9.6	4" HDPE, DR 11 (Open Cut)	200	LF		XXXXXX
10.	SPECIAL FITTINGS				
10.1	6" X 6" Tapping Sleeve w/ Valve & Box	2	EA.		
10.2	8" X 2", 1-1/2" or 1" Service Saddle	3	EA.		
10.3	6" X 2", 1-1/2", or 1" Service Saddle	3	EA.		
10.4	4" X 1-1/2" or 1" Service Saddle	3	EA.		
10.5	10" Clamps or Couplings	1	EA.		
10.6	8" Clamps or Couplings	1	EA.		
10.7	6" Clamps or Couplings	1	EA.		
10.8	4" Clamps or Couplings	1	EA.		
10.9	3" Clamps or Couplings	1	EA.		
10.10	2" & Smaller Clamps or Couplings	1	EA.		
11.	AIR RELEASE VALE WITH BOX				
11.1	2" W/ 7/32" Oriface	6	EA.		
12.	METER SETTINGS				
12.1	5/8" X 3/4" Reconnect	248	EA.		
12.2	1" Reconnect	1	EA.		
13.	SERVICE LINE				
13.1	3/4" Plastic Open Cut	4,960	LF		
13.2	3/4" Plastic Bore W/ PVC Casing	4,440	LF		
13.3	1" Plastic Open Cut	100	LF		
13.4	1" Plastic Bore W/ PVC Casing	50	LF		
14.	CRUSHED STONE	3,000	CY		

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE BID	AMOUNT
15.	RIPRAP	85	CY		
16.	ASPHALT PAVEMENT REPLACEMENT	35	SY		
17.	CONCRETE PAVEMENT REPLACEMENT	5	CY		
18.	CONCRETE ENCASEMENT	40	LF		
19.	ADDITIONAL DEPTH (Greater Than 7')	1,000	LF		
20.	MARKER POSTS	705	EA.		
TOTAL BID - LABOR ONLY					

NOTE: The CONTRACT may be awarded based on the total bid for "MATERIALS AND LABOR" or on the total bid for "LABOR ONLY". It is understood that the OWNER may adjust the quantities of work to match available funds.

RESPECTFULLY SUBMITTED THIS _____ DAY OF
IS BIDDER AN INDIVIDUAL, A PARTNERSHIP, OR A CORPORATION?

FIRM NAME

ADDRESS

PHONE NUMBER

SEAL (IF APPLICABLE)

ATTEST:

SIGNATURE

SIGNATURE

TITLE
PARTNERS OR CORPORATE OFFICERS:

TITLE

OHIO COUNTY WATER DISTRICT

OHIO COUNTY, KENTUCKY

SERIES III WATER SYSTEM IMPROVEMENTS
LABOR AND MATERIALS

FEBRUARY 12, 2003

ADDENDUM NO. 3

TO

GENERAL CONTRACT DOCUMENTS AND SPECIFICATIONS AND PLANS

NOVEMBER, 2002
(BID FEBRUARY, 2003)

I. CONTRACT DOCUMENTS:

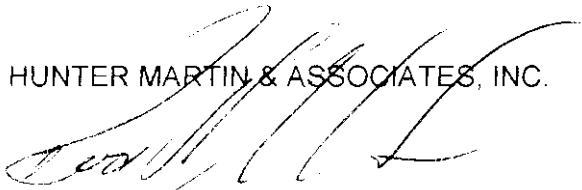
CLARIFICATION:

The Contract Documents call for mechanical joint restraining glands for all fittings. The Documents do not specify mechanical joint restraining glands for valves.

Although joint restraint will be required for some valves, the Contractor/Supplier should prepare the bid without joint restraint for valves.

This does not apply to fittings.

HUNTER MARTIN & ASSOCIATES, INC.



Rod H. Martin, P.E.

ACKNOWLEDGMENT: This Addendum No. 3 is to be acknowledged on the BID, Page B-1, ADDENDUM NO. 2.

OHIO COUNTY WATER DISTRICT

OHIO COUNTY, KENTUCKY

SERIES III WATER SYSTEM IMPROVEMENTS

* * * * *

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ADVERTISEMENT FOR BIDS

OHIO COUNTY WATER DISTRICT

130 EAST WASHINGTON STREET

HARTFORD, KY 42347

Separate sealed BIDS for the construction of SERIES III WATER SYSTEM IMPROVEMENTS -
(INCLUDING APPROXIMATELY 181,330 LF OF 10", 8" AND 4" WATER MAINS AND
APPURTENANCES) will be received by

OHIO COUNTY WATER DISTRICT, 130 EAST WASHINGTON STREET, HARTFORD, KY 42347

at the office of OHIO COUNTY WATER DISTRICT until
2:00 P.M., FRIDAY, FEBRUARY 14, 20 03,

and then at said office publicly opened and read aloud.

The CONTRACT DOCUMENTS may be examined at the following locations:

HUNTER MARTIN & ASSOCIATES, INC., PADUCAH, KENTUCKY

OHIO COUNTY WATER DISTRICT, HARTFORD, KENTUCKY

ASSOCIATED GENERAL CONTRACTORS, PADUCAH, KENTUCKY

F. W. DODGE-CIG, EVANSVILLE, INDIANA

BUILDERS EXCHANGE OF LOUISVILLE, LOUISVILLE, KENTUCKY

TRI-STATE CONSTRUCTION NEWS, EVANSVILLE, INDIANA

Copies of the CONTRACT DOCUMENTS may be obtained at the office of HUNTER MARTIN & ASSOCIATES, INC., 3220 Lone Oak Road, Paducah, KY 42003, upon payment of \$ 100.00 for each set.

Any BIDDER, upon returning the CONTRACT DOCUMENTS promptly and in good condition, will be refunded the payment, and any non-bidder or subbidder upon so returning the CONTRACT DOCUMENTS will be refunded \$ 50.00.

The OWNER reserves the right to waive any informalities or to reject any or all bids.

Each BIDDER must deposit with his BID, security in the amount, form and subject to the conditions provided in the Information for Bidders.

No BIDDER may withdraw his BID within 100 days after the actual date of the opening thereof.

JANUARY 17, 2003

DATE

HENRY MORGAN, CHAIRMAN

TITLE

INFORMATION FOR BIDDERS

BIDS will be received by OHIO COUNTY WATER DISTRICT (herein called the "OWNER"), at 130 EAST WASHINGTON STREET, HARTFORD, KY 42347 until 2:00 P.M., FRIDAY, FEBRUARY 14, 20 03, and then BIDS shall be opened publicly and read aloud.

Each BID must be submitted in a sealed envelope, addressed to the OHIO COUNTY WATER DISTRICT. Each sealed envelope containing a BID must be plainly marked on the outside as BID FOR "SERIES III WATER SYSTEM IMPROVEMENTS" and the envelope shall bear on the outside the BIDDER'S name, address, and license number if applicable, and the name of the project for which the BID is submitted. If forwarded by mail, the sealed envelope containing the BID must be enclosed in another envelope addressed to the OHIO COUNTY WATER DISTRICT, 130 EAST WASHINGTON STREET, HARTFORD, KENTUCKY 42347.

All BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be fully completed and executed when submitted. Only one copy of the BID form is required.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID within **100 calendar days** after the actual date of the opening thereof. Should there be reasons why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the OWNER and the BIDDER.

BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID Schedule by examination of the site and a review of the drawings and specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

If requested, the OWNER shall provide to BIDDERS prior to BIDDING, all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve the CONTRACTOR from fulfilling any of the conditions of the contract.

Each BID shall be accompanied by a Bid Bond, payable to the OWNER, for 5 percent of the total amount of the BID. As soon as the BID prices have been compared, the OWNER will return the BONDS of all except the three lowest responsible BIDDERS. When the Agreement is executed, the bonds of the two remaining unsuccessful BIDDERS will be returned. The BID BOND of the successful BIDDER will be retained until the payment BOND and performance BOND have been executed and approved, after which it will be returned. A certified check may be used in lieu of a Bid Bond.

A PERFORMANCE BOND and a PAYMENT BOND, each in the amount of 100 percent of the CONTRACT PRICE with a corporate surety approved by the OWNER, shall be required for the faithful performance of the CONTRACT.

Attorneys-in-fact who sign BID BONDS, PAYMENT BONDS and PERFORMANCE BONDS must file with each BOND a certified and effective dated copy of their power of attorney.

The party to whom the contract is awarded will be required to execute the Agreement and obtain the performance BOND and payment BOND within 10 calendar days from the date when NOTICE OF AWARD is delivered to the BIDDER. The NOTICE OF AWARD shall be accompanied by the necessary Agreement and BOND forms. In case of failure of the BIDDER to execute the Agreement, the OWNER may consider the BIDDER in default, in which case the BID BOND accompanying the proposal shall become the property of the OWNER.

The OWNER within 10 calendar days of receipt of acceptable performance BOND, payment BOND and Agreement signed by the party to whom the Agreement was awarded shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by WRITTEN NOTICE withdraw the signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The NOTICE TO PROCEED shall be issued within 10 calendar days of the execution of the Agreement by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period, the time may be extended by mutual agreement between the OWNER AND CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the specified period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party. The CONTRACTOR shall commence work within 10 calendar days of receipt of the NOTICE TO PROCEED.

The OWNER may make such investigations as deemed necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement and to complete the WORK contemplated therein.

A conditional or qualified BID will not be accepted.

Award will be made to the lowest responsible, responsive BIDDER.

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the PROJECT shall apply to the contract throughout.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to its BID.

The low bidder shall supply the names and addresses of major material SUPPLIERS and SUBCONTRACTORS when required to do so by the OWNER.

The ENGINEER is HUNTER MARTIN & ASSOCIATES, INC., 3220 LONE OAK ROAD, PADUCAH, KENTUCKY 42003, (PHONE 502, 554-2737; FAX 502, 554-2738).

An inspection for prospective BIDDERS will leave from the office of OHIO COUNTY WATER DISTRICT ,
130 EAST WASHINGTON STREET, HARTFORD, KENTUCKY at 9:00 A.M. , FRIDAY ,
JANUARY 31 , 20 03 . BIDDERS interested in attending this inspection should contact the ENGINEER'S
office at (270) 554-2737 three days in advance so arrangements can be made for transportation through the project.

BID

Proposal of _____ (hereinafter called "BIDDER"), organized and existing under the laws of the State of _____

doing business as _____
(Insert "a corporation", "a partnership", or "an individual" as applicable.)

To **OHIO COUNTY WATER DISTRICT, 130 WASHINGTON STREET, HARTFORD, KENTUCKY 42347** (hereinafter called OWNER).

The BIDDER hereby proposes to perform all WORK for the installation of **SERIES III WATER SYSTEM IMPROVEMENTS** in strict accordance with the CONTRACT DOCUMENTS, within the time set forth herein, and at the prices stated below.

By submission of this BID, each BIDDER certifies, and in the case of a joint BID each party thereto certifies as to its own organization, that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this BID with any other BIDDER or with any competitor.

BIDDER hereby agrees to commence WORK under this contract on or before a date to be specified in the NOTICE TO PROCEED and to fully complete the PROJECT within 270 consecutive calendar days thereafter. BIDDER further agrees to pay as liquidated damages, the sum of \$1,000.00 for each consecutive calendar day thereafter.

BIDDER acknowledges receipt of the following ADDENDUM:

BIDDER, having examined the plans and specifications and being acquainted with and fully understanding (a) the extent and character of the work, (b) the location, arrangement and specified requirements, (c) existing and probable construction difficulties and hazards, (d) local conditions relative to labor, transportation, hauling and delivery, and (e) all other conditions affecting or which may be affected by the PROJECT hereby agrees to perform all the WORK described in the CONTRACT DOCUMENTS for the following unit prices and/or lump sums:

BID SCHEDULE LABOR AND MATERIALS

NOTE: BIDS SHALL INCLUDE SALES TAX AND ALL APPLICABLE TAXES AND FEES.
SEE SPECIAL CONDITIONS FOR EXPLANATION OF BID ITEMS.

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE BID	AMOUNT
1.	MOBILIZATION/DEMOBILIZATION	1	LS		
2.	WATER MAINS				
2.1	10" C900 DR 14 PVC or Ductile Iron	100	LF		
2.2	8" C900 DR 14 PVC or Ductile Iron	7,000	LF		
2.3	6" C900 DR 14 PVC or Ductile Iron	100	LF		
2.4	4" C900 DR 14 PVC or Ductile Iron	4,500	LF		
2.5	10" SDR 21 PVC or Ductile Iron	1,290	LF		
2.6	8" SDR 21 PVC or Ductile Iron	83,100	LF		
2.7	6" SDR 21 PVC or Ductile Iron	42,725	LF		
2.8	4" SDR 21 PVC or Ductile Iron	41,460	LF		
2.9	3" SDR 21 PVC	100	LF		
2.10	2" SDR 21 PVC	100	LF		
3.	FITTINGS				
3.1	Ductile Iron	4,600	LBS		
3.2	PVC, 3" and Smaller	15	EA.		
4.	VALVES WITH CAST IRON BOXES				
4.1	10" Gate Valve	1	EA.		
4.2	8" Gate Valve	35	EA.		
4.3	6" Gate Valve	18	EA.		
4.4	4" Gate Valve	16	EA.		
4.5	3" Gate Valve	11	EA.		
4.6	10" Butterfly Valve	1	EA.		
4.7	8" Butterfly Valve	1	EA.		
4.8	6" Butterfly Valve	1	EA.		
4.9	4" Butterfly Valve	1	EA.		
4.10	3" Butterfly Valve	1	EA.		
4.11	2" Ball Valve	2	EA.		
4.12	1-1/2" Ball Valve	1	EA.		
4.13	1" Ball Valve	1	EA.		
5.	TIE-INS				
5.1	10"	4	EA.		
5.2	8"	6	EA.		
5.3	6"	2	EA.		
5.4	4"	6	EA.		
5.5	3"	6	EA.		
5.6	2" & Smaller	2	EA.		
6.	FLUSH ASSEMBLY				
6.1	4" Flush	13	EA.		
6.2	2" Flush	17	EA.		
7.	BORES WITH CASING				
7.1	16" (For 10" Carrier)	50	LF		
7.2	14" (For 8" Carrier)	1,190	LF		
7.3	12" (For 6" Carrier)	360	LF		
7.4	10" (For 4" Carrier)	200	LF		
8.	CASING IN OPEN CUT				
8.1	16" (For 10" Carrier)	20	LF		
8.2	14" (For 8" Carrier)	60	LF		
8.3	12" (For 6" Carrier)	40	LF		
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ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE BID	AMOUNT
9.	DIRECTIONAL BORE				
9.1	8" HDPE, DR 11	325	LF		
9.1	6" HDPE, DR 11	100	LF		
9.2	4" HDPE, DR 11	200	LF		
10.	SPECIAL FITTINGS				
10.1	6" X 6" Tapping Sleeve w/ Valve & Box	2	EA.		
10.2	8" X 2", 1-1/2" or 1" Service Saddle	3	EA.		
10.3	6" X 2", 1-1/2", or 1" Service Saddle	3	EA.		
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10.5	10" Clamps or Couplings	1	EA.		
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10.10	2" & Smaller Clamps or Couplings	1	EA.		
11.	AIR RELEASE VALE WITH BOX				
11.1	2" W/ 7/32" Oriface	6	EA.		
12.	METER SETTINGS				
12.1	5/8" X 3/4" Reconnect	248	EA.		
12.2	1" Reconnect	1	EA.		
13.	SERVICE LINE				
13.1	3/4" Plastic Openn Cut	4,960	LF		
13.2	3/4" Plastic Bore W/ PVC Casing	4,440	LF		
13.3	1" Plastic Open Cut	100	LF		
13.4	1" Plastic Bore W/ PVC Casing	50	LF		
14.	CRUSHED STONE	3,000	CY		
15.	RIPRAP	85	CY		
16.	ASPHALT PAVEMENT REPLACEMENT	35	SY		
17.	CONCRETE PAVEMENT REPLACEMENT	5	CY		
18.	CONCRETE ENCASEMENT	40	LF		
19.	ADDITIONAL DEPTH (Greater Than 7')	1,000	LF		
20.	MARKER POSTS	705	EA.		
TOTAL BID - LABOR AND MATERIALS					

NOTE: The CONTRACT may be awarded based on the total bid for "MATERIALS AND LABOR" or on the total bid for "MATERIALS ONLY". It is understood that the OWNER may adjust the quantities of work to match available funds.

RESPECTFULLY SUBMITTED THIS _____ DAY OF _____, 20_____

IS BIDDER AN INDIVIDUAL, A PARTNERSHIP, OR A CORPORATION? _____

FIRM NAME

SIGNATURE

ADDRESS

TITLE

PHONE NUMBER

PARTNERS OR CORPORATE OFFICERS:

SEAL (IF APPLICABLE)

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RESPECTFULLY SUBMITTED THIS _____ DAY OF _____, 20_____

IS BIDDER AN INDIVIDUAL, A PARTNERSHIP, OR A CORPORATION? _____

FIRM NAME

SIGNATURE

ADDRESS

TITLE

PHONE NUMBER

PARTNERS OR CORPORATE OFFICERS:

SEAL (IF APPLICABLE)

ATTEST:

SIGNATURE

TITLE

BID BOND

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned, _____
 _____ as Principal, and
 _____ as Surety, are hereby held and firmly bound
 unto OHIO COUNTY WATER DISTRICT
 as Owner in the penal sum of _____
 _____ for the payment of which,
 well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and
 assigns.

Signed, this _____ day of _____, 19____.

The Condition of the above obligation is such that whereas the Principal has submitted to OHIO COUNTY
WATER DISTRICT a certain Bid, attached hereto and

hereby made a part hereof to enter into a contract in writing, for the

SERIES III WATER SYSTEM IMPROVEMENTS

NOW, THEREFORE,

- (a) If said Bid shall be rejected, or
- (b) If said Bid shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish a Bond for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bid,

then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its Bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Principal (L.S.)

By: _____

Surety

By: _____

IMPORTANT - Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located, and hold certificates of authority as acceptable sureties (31 CFR 223).

AGREEMENT

THIS AGREEMENT, made this _____ day of _____, **20** _____, by and between

OHIO COUNTY WATER DISTRICT, hereinafter called "OWNER" and

_____ doing business as

_____ hereinafter called "CONTRACTOR".

(an individual,) or (a partnership,) or (a corporation)

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The CONTRACTOR will commence and complete the PROJECT described as **SERIES III WATER SYSTEM IMPROVEMENTS** .
2. The CONTRACTOR will furnish all of the materials, supplies, tools, equipment, labor, and other services necessary for the construction and completion of the PROJECT described herein.
3. The CONTRACTOR will commence the work required by the CONTRACT DOCUMENTS within 10 calendar days after the date of the NOTICE TO PROCEED and will complete the same within **270** **calendar days** unless the period for completion is extended otherwise by the CONTRACT DOCUMENTS.
4. The CONTRACTOR agrees to perform all of the WORK described in the CONTRACT DOCUMENTS and comply with the terms therein for the sum of \$ _____ , or as shown in the BID schedule.

5. The term "CONTRACT DOCUMENTS" means and includes the following:

(A) GENERAL CONTRACT DOCUMENTS

- (1) ADVERTISEMENT FOR BIDS
- (2) INFORMATION FOR BIDDERS
- (3) BID
- (4) BID BOND
- (5) AGREEMENT
- (6) PERFORMANCE BOND
- (7) PAYMENT BOND
- (8) NOTICE OF AWARD
- (9) NOTICE TO PROCEED
- (10) CHANGE ORDER
- (11) GENERAL CONDITIONS
- (12) SPECIAL CONDITIONS

(B) SPECIFICATIONS prepared by **HUNTER MARTIN & ASSOCIATES, INC.** dated NOVEMBER, 2002 (BID: FEBRUARY, 2003).

(C) DRAWINGS prepared or issued by **HUNTER MARTIN & ASSOCIATES, INC.** dated NOVEMBER, 2002 (BID: FEBRUARY, 2003).

(D) ADDENDA:

No. _____ dated _____ 19 _____

No. _____ dated _____ 19 _____

No. _____ dated _____ 19 _____

6. The OWNER will pay to the CONTRACTOR in the manner and at such times as set forth in the General Conditions such amounts as required by the CONTRACT DOCUMENTS.

7. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

IN WITNESS WHEREOF, the parties hereto have executed or caused to be executed by their duly authorized officials, this Agreement in THREE copies each of which shall be deemed an original on the date first above written.

OWNER: OHIO COUNTY WATER DISTRICT

BY: _____

NAME: HENRY MORGAN
(Please Type)

TITLE: CHAIRMAN

(Seal)

ATTEST:

BY: _____

NAME: _____
(Please Type)

TITLE: _____

CONTRACTOR:

BY:

NAME:

(Please Type)

TITLE:

(Seal)

ATTEST:

BY:

NAME:

(Please Type)

TITLE:

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS: that

_____ (Name Of Contractor)

_____ (Address Of Contractor)

a _____ hereinafter called PRINCIPAL and
(Corporation, Partnership or Individual)

_____ (Name Of Surety)

hereinafter called SURETY, are held and firmly bound unto

OHIO COUNTY WATER DISTRICT

_____ (Name of Owner)

130 EAST WASHINGTON STREET, HARTFORD, KY 42347

_____ (Address of Owner)

hereinafter called OWNER in the total aggregate penal sum of _____
_____ Dollars (\$) in lawful money of the United States, for the
payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and
assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the PRINCIPAL entered into a certain contract with the
OWNER, dated the _____ day of _____, 20_____, a copy
of which is hereto attached and made a part hereof for the construction of:

SERIES III WATER SYSTEM IMPROVEMENTS

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the SURETY and during the one year guaranty period and if the PRINCIPAL shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said SURETY, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that it is expressly agreed that the BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the CONTRACT not increasing the contract price more than 20 per cent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the CONTRACT as so amended. The term "Amendment", wherever used in this BOND, and whether referring to this BOND, or the CONTRACT, shall include any alteration, addition, extension, or modification of any character whatsoever.

PROVIDED, FURTHER, that no final settlement between the OWNER and the PRINCIPAL shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in FOUR counterparts, each of which shall

Number

be deemed an original, this _____ day of _____, 20 02.

ATTEST:

Principal

By: _____ (s)

(SEAL)

(Address)

Witness to Principal

Address

ATTEST:

Surety

Witness to Surety

By: _____
Attorney-In-Fact

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of CONTRACT.
If CONTRACT is partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the Project is located.

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS: that

(Name Of Contractor)

(Address Of Contractor)

a _____ hereinafter called PRINCIPAL and
(Corporation, Partnership or Individual)

(Name Of Surety)

hereinafter called SURETY, are held and firmly bound unto

OHIO COUNTY WATER DISTRICT

(Name of Owner)

130 EAST WASHINGTON STREET, HARTFORD, KY 42347

(Address of Owner)

hereinafter called OWNER and unto all persons, firms, and corporations who or which may furnish labor, or who furnish materials to perform as described under the contract and to their successors and assigns in the total aggregate penal sum of _____

_____ (\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the PRINCIPAL entered into a certain contract with the OWNER, dated the _____ day of _____, 20_____, a copy of which is hereto attached and made a part hereof for the construction of:

SERIES III WATER SYSTEM IMPROVEMENTS

NOW, THEREFORE, if the PRINCIPAL shall promptly make payment to all persons, firms, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extensions or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and for all labor cost incurred in such WORK including that by a SUBCONTRACTOR, and to any mechanic or materialman lien holder whether it

acquires its lien by operation of State or Federal law; then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, that beneficiaries or claimants hereunder shall be limited to the SUBCONTRACTORS, and persons, firms, and corporations having a direct contract with the PRINCIPAL or its SUBCONTRACTORS.

PROVIDED, FURTHER, that the said SURETY for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of this contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no suit or action shall be commenced hereunder by any claimant: (a) unless claimant, other than one having a direct contract with the PRINCIPAL, shall have given written notice to any two of the following: the PRINCIPAL, the OWNER, or the SURETY above named within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the PRINCIPAL, OWNER, or SURETY, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer; (b) after the expiration of one (1) year following the date of which PRINCIPAL ceased work on said CONTRACT, is being understood, however, that if any limitation embodied in the BOND is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

PROVIDED, FURTHER, that it is expressly agreed that this BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20 per cent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the CONTRACT as so amended. The term "Amendment", wherever used in this BOND and whether referring to this BOND, or the CONTRACT, shall include any alteration, addition, extension or modification of any character whatsoever.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in FOUR counterparts, each of which shall

Number

be deemed an original, this _____ day of _____, 20 02.

ATTEST:

Principal

By: _____ (s)

(SEAL)

(Address)

Witness to Principal

Address

ATTEST:

Surety

Witness to Surety

By: _____
Attorney-In-Fact

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of CONTRACT.
If CONTRACT is partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the Project is located.

NOTICE OF AWARD

TO: _____

PROJECT DESCRIPTION: SERIES III WATER SYSTEM IMPROVEMENTS

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated JANUARY 17, 2003, and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of \$ _____.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND and Certificates of Insurance within 10 calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within 10 days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 20 ____.

OHIO COUNTY WATER DISTRICT
OWNER

BY: _____

TITLE: HENRY MORGAN, CHAIRMAN

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by _____

_____ this the _____ day of _____, 20 _____.

BY: _____

TITLE: _____

NOTICE TO PROCEED

TO: _____

DATE: _____

PROJECT: **SERIES III WATER SYSTEM
IMPROVEMENTS**

You are hereby notified to commence WORK in accordance with the Agreement dated _____ ,
20 _____ , on or before _____ , 20 _____ , and you are to complete the WORK within
270 consecutive calendar days thereafter. The date of completion of all WORK is therefore
_____ , 20 _____ .

OHIO COUNTY WATER DISTRICT
OWNER

BY: _____

TITLE: **HENRY MORGAN, CHAIRMAN**

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by _____

this the _____ day of _____, 20 _____.

BY: _____

TITLE: _____

CHANGE ORDER

ORDER NO.: _____

DATE: _____

AGREEMENT DATE: _____

NAME OF PROJECT: _____

OWNER: _____

CONTRACTOR: _____

The following changes are hereby made to the CONTRACT DOCUMENTS:

Justification:

Change to CONTRACT PRICE:

Original CONTRACT PRICE: \$ _____

Current CONTRACT PRICE adjusted by previous CHANGE ORDER \$ _____.

The CONTRACT PRICE due to this CHANGE ORDER will be _____ by:
(Increased / Decreased)
\$ _____.

The new CONTRACT PRICE including this CHANGE ORDER will be \$ _____
_____.

Change to CONTRACT TIME:

The CONTRACT TIME will be _____ by _____ calendar days.
(Increased / Decreased)

The date for completion of all work will be _____.
(Date)

Requested by: _____ OWNER

Recommended by: _____ ENGINEER

Accepted by: _____ CONTRACTOR

GENERAL CONDITIONS

- | | |
|--|--|
| 1. Definitions | 17. Subsurface Conditions |
| 2. Additional Instructions and Detail Drawings | 18. Suspension of Work, Termination, and Delay |
| 3. Schedules, Reports, and Records | 19. Payments to Contractor |
| 4. Drawings and Specifications | 20. Acceptance of Final Payment as Release |
| 5. Shop Drawings | 21. Insurance |
| 6. Materials, Services, and Facilities | 22. Contract Security |
| 7. Inspection and Testing | 23. Assignments |
| 8. Substitutions | 24. Indemnification |
| 9. Patents | 25. Separate Contracts |
| 10. Surveys, Permits, Regulations | 26. Subcontracting |
| 11. Protection of Work, Property, Persons | 27. Engineer's Authority |
| 12. Supervision by Contractor | 28. Land and Rights-of-Way |
| 13. Changes in the Work | 29. Guaranty |
| 14. Changes in Contract Price | 30. Arbitration |
| 15. Time for Completion and Liquidated Damages | 31. Taxes |
| 16. Correction of Work | |

1. DEFINITIONS.

- 1.1. Wherever used in the CONTRACT DOCUMENTS, the following terms shall have the meanings indicated and shall be applicable to both the singular and plural thereof:
- 1.2. ADDENDA - Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the CONTRACT DOCUMENTS, DRAWINGS and SPECIFICATIONS, by additions, deletions, clarifications, or corrections.
- 1.3. BID - The offer or proposal of the BIDDER submitted on the prescribed form setting forth the prices for the WORK to be performed.
- 1.4. BIDDER - Any person, firm, or corporation submitting a BID for the WORK.
- 1.5. BONDS - Bid, Performance, and Payment Bonds and other instruments of surety, furnished by the CONTRACTOR and the CONTRACTOR'S surety in accordance with the CONTRACT DOCUMENTS.
- 1.6. CHANGE ORDER - A written order to the CONTRACTOR authorizing an addition, deletion, or revision in the WORK within the general scope of the CONTRACT DOCUMENTS, or authorizing an adjustment in the CONTRACT PRICE or CONTRACT TIME.
- 1.7. CONTRACT DOCUMENTS - The CONTRACT, including Advertisement For BIDS, Information for BIDDERS, BID, BID BOND, AGREEMENT, PAYMENT BOND, PERFORMANCE BOND, NOTICE OF AWARD, NOTICE TO PROCEED, CHANGE ORDER, DRAWINGS, SPECIFICATIONS, and ADDENDA.
- 1.8. CONTRACT PRICE - The total monies payable to the CONTRACTOR under the terms and conditions of the CONTRACT DOCUMENTS.
- 1.9. CONTRACT TIME - The number of calendar days stated in the CONTRACT DOCUMENTS for the completion of the WORK.

- 1.10. DEVELOPER - A corporation, association, partnership, or an individual for whom the WORK is to be performed.
- 1.11. CONTRACTOR - The person, firm, or corporation with whom the OWNER has executed the Agreement.
- 1.12. DRAWINGS - The parts of the CONTRACT DOCUMENTS which show the characteristics and scope of the WORK to be performed and which have been prepared or approved by the ENGINEER.
- 1.13. ENGINEER - The person, firm, or corporation named as such in the CONTRACT DOCUMENTS.
- 1.14. FIELD ORDER - A written order affecting a change in the WORK not involving an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, issued by the ENGINEER to the CONTRACTOR during construction.
- 1.15. NOTICE OF AWARD - The written notice of the acceptance of the BID from the OWNER to the successful BIDDER.
- 1.16. NOTICE TO PROCEED - Written communication issued by the OWNER to the CONTRACTOR authorizing him/her to proceed with the WORK and establishing the date for commencement of the WORK.
- 1.17. OWNER - A public or quasi-public body or authority, corporation, association, partnership, or an individual for whom the WORK is to be performed.
- 1.18. PROJECT - The undertaking to be performed as provided in the CONTRACT DOCUMENTS.
- 1.19. RESIDENT PROJECT REPRESENTATIVE - The authorized representative of the OWNER who is assigned to the PROJECT site or any part thereof.
- 1.20. SHOP DRAWINGS - All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a SUBCONTRACTOR, manufacturer, SUPPLIER or distributor, which illustrate how specific portions of the WORK shall be fabricated or installed.
- 1.21. SPECIFICATIONS - A part of the CONTRACT DOCUMENTS consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.
- 1.22. SUBCONTRACTOR - An individual, firm, or corporation having a direct contract with the CONTRACTOR or with any other SUBCONTRACTOR for the performance of a part of the WORK at the site.
- 1.23. SUBSTANTIAL COMPLETION - That date certified by the ENGINEER when the construction of the PROJECT or a specified part thereof is sufficiently completed, in accordance with the CONTRACT DOCUMENTS, so that the PROJECT or specified part can be utilized for the purposes for which it is intended.
- 1.24. SUPPLEMENTAL GENERAL CONDITIONS - Modifications to General Conditions required by a Federal agency for participation in the PROJECT and approved by the agency in writing prior to inclusion in the CONTRACT DOCUMENTS, or such requirements that may be imposed by applicable state laws.
- 1.25. SUPPLIER - Any person or organization who supplies materials or equipment for the WORK, including that fabricated to a special design, but who does not perform labor at the site.

- 1.26. WORK - All labor necessary to produce the construction required by the CONTRACT DOCUMENTS, and all materials and equipment incorporated or to be incorporated in the PROJECT.
- 1.27. WRITTEN NOTICE - Any notice to any party of the AGREEMENT relative to any part of this AGREEMENT in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at their last given address, or delivered in person to said party or their authorized representative on the WORK.

2. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS.

- 2.1. The CONTRACTOR may be furnished additional instructions and detail drawings, by the ENGINEER, as necessary to carry out the WORK required by the CONTRACT DOCUMENTS.
- 2.2. The additional drawings and instructions thus supplied will become a part of the CONTRACT DOCUMENTS. The CONTRACTOR shall carry out the WORK in accordance with the additional detail drawings and instructions.

3. SCHEDULES, REPORTS AND RECORDS.

- 3.1. The CONTRACTOR shall submit to the OWNER such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data where applicable as are required by the CONTRACT DOCUMENTS for the WORK to be performed.

With each succeeding progress payment request, the progress schedule shall be reviewed and revised (if necessary) and shall show the per cent complete of each major feature of the work.

- 3.2. Prior to the first partial payment estimate, the CONTRACTOR shall submit construction progress schedules showing the order in which the CONTRACTOR proposes to carry on the WORK, including dates at which the various parts of the WORK will be started, estimated date of completion of each part and, as applicable:
 - 3.2.1. The dates at which special detail drawings will be required; and
 - 3.2.2. Respective dates for submission of SHOP DRAWINGS, the beginning of manufacture, the testing and the installation of materials, supplies and equipment.
- 3.3. The CONTRACTOR shall also submit a schedule of payments that the CONTRACTOR anticipates will be earned during the course of the WORK.

4. DRAWINGS AND SPECIFICATIONS.

- 4.1. The intent of the DRAWINGS and SPECIFICATIONS is that the CONTRACTOR shall furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the WORK in accordance with the CONTRACT DOCUMENTS and all incidental work necessary to complete the PROJECT in an acceptable manner, ready for use, occupancy or operation by the OWNER.
- 4.2. In case of conflict between the DRAWINGS and SPECIFICATIONS, the SPECIFICATIONS shall govern. Figure dimensions on DRAWINGS shall govern over general DRAWINGS.
- 4.3. Any discrepancies found between the DRAWINGS and SPECIFICATIONS and site conditions or any inconsistencies or ambiguities in the DRAWINGS or SPECIFICATIONS shall be immediately reported to the ENGINEER, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. WORK done by the CONTRACTOR after discovery of such discrepancies, inconsistencies or ambiguities shall be done at the CONTRACTOR'S risk.

5. SHOP DRAWINGS.

- 5.1. The CONTRACTOR shall provide SHOP DRAWINGS of all mechanical and electrical equipment and all appearance items. The ENGINEER shall promptly review all SHOP DRAWINGS. The ENGINEER'S approval of any SHOP DRAWING shall not release the CONTRACTOR from responsibility for deviations from the CONTRACT DOCUMENTS. The approval of any SHOP DRAWING which substantially deviates from the requirement of the CONTRACT DOCUMENTS shall be evidenced by a CHANGE ORDER.
- 5.2. When submitted for the ENGINEER'S review, SHOP DRAWINGS shall bear the CONTRACTOR'S certification that he has reviewed, checked and approved the SHOP DRAWINGS and that they are in conformance with the requirements of the CONTRACT DOCUMENTS.
- 5.3. Portions of the WORK requiring a SHOP DRAWING or sample submission shall not begin until the SHOP DRAWING or submission has been approved by the ENGINEER. A copy of each approved SHOP DRAWING and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ENGINEER.

6. MATERIALS, SERVICES AND FACILITIES.

- 6.1. It is understood that, except as otherwise specifically stated in the CONTRACT DOCUMENTS, the CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the WORK within the specified time.
- 6.2. Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the WORK. Stored materials and equipment to be incorporated in the WORK shall be located so as to facilitate prompt inspection.
- 6.3. Manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.
- 6.4. Materials, supplies, and equipment shall be in accordance with samples submitted by the CONTRACTOR and approved by the ENGINEER.
- 6.5. Materials, supplies, or equipment to be incorporated into the WORK shall not be purchased by the CONTRACTOR or the SUBCONTRACTOR subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

7. INSPECTION AND TESTING.

- 7.1. All materials and equipment used in the construction of the PROJECT shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the CONTRACT DOCUMENTS.
- 7.2. The OWNER shall provide all inspection and testing services not required by the CONTRACT DOCUMENTS.
- 7.3. The CONTRACTOR shall provide at the CONTRACTOR'S expense the testing and inspection services required by the CONTRACT DOCUMENTS.
- 7.4. If the CONTRACT DOCUMENTS, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any WORK to specifically be inspected, tested, or approved by someone other than the CONTRACTOR, the CONTRACTOR will give the ENGINEER timely notice of readiness. The CONTRACTOR will then furnish the ENGINEER the required certificates of inspection, testing or approval.

- 7.5. Inspections, tests, or approvals by the ENGINEER or others shall not relieve the CONTRACTOR from the obligation to perform the WORK in accordance with the requirements of the CONTRACT DOCUMENTS.
- 7.6. The ENGINEER and the ENGINEER'S representatives will at all times have access to the WORK. In addition, authorized representatives and agents of any participating Federal or State agency shall be permitted to inspect all work, materials, payrolls, records or personnel, invoices of materials, and other relevant data and records. The CONTRACTOR will provide proper facilities for such access and observation of the WORK and also for any inspection or testing thereof.
- 7.7. If any WORK is covered contrary to the written instructions of the ENGINEER, it must, if requested by the ENGINEER, be uncovered for the ENGINEER'S observation and replaced at the CONTRACTOR'S expense.
- 7.8. If the ENGINEER considers it necessary or advisable that covered WORK be inspected or tested by others, the CONTRACTOR, at the ENGINEER'S request, will uncover, expose or otherwise make available for observation, inspection or testing as the ENGINEER may require, that portion of the WORK in question, furnishing all necessary labor, materials, tools and equipment. If it is found that such WORK is defective, the CONTRACTOR will bear all the expense of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, if, however, such WORK is not found to be defective, the CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate CHANGE ORDER shall be issued.

8. SUBSTITUTIONS.

- 8.1. Whenever a material, article, or piece of equipment is identified on the DRAWINGS or SPECIFICATIONS by reference to brand name or catalogue numbers, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the CONTRACT DOCUMENTS by reference to brand name or catalogue number, and if, in the opinion of the ENGINEER, such material, article, or piece of equipment is of equal substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Any cost differential shall be deductible from the CONTRACT PRICE and the CONTRACT DOCUMENTS shall be appropriately modified by CHANGE ORDER. The CONTRACTOR warrants that if substitutes are approved, no major changes in the function or general design of the PROJECT will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the CONTRACT PRICE or CONTRACT TIME.

9. PATENTS.

- 9.1. The CONTRACTOR shall pay all applicable royalties and license fees, and shall defend all suits or claims for infringement of any patent rights and save the OWNER harmless from loss on account thereof, except that the OWNER shall be responsible for any such loss when a particular process, design, or product of a particular manufacturer or manufacturers is specified; however, if the CONTRACTOR has reason to believe that the design, process or product specified is an infringement of a patent, the CONTRACTOR shall be responsible for such loss unless the CONTRACTOR promptly gives such information to the ENGINEER.

10. SURVEYS, PERMITS, REGULATIONS.

- 10.1. The OWNER shall furnish all boundary surveys and establish all base lines for locating the principal component parts of the WORK together with a suitable number of bench marks adjacent to the WORK as shown in the CONTRACT DOCUMENTS. From the information provided by the

OWNER , unless otherwise specified in the CONTRACT DOCUMENTS, the CONTRACTOR shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, stakes for pipe locations and other working points, lines, elevations and cut sheets.

- 10.2. The CONTRACTOR shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, shall be charged with the resulting expense and shall be responsible for any mistake that may be caused by their unnecessary loss or disturbance.
- 10.3. Permits and licenses of a temporary nature necessary for the prosecution of the WORK shall be secured and paid for by the CONTRACTOR unless otherwise stated in the SUPPLEMENTAL GENERAL CONDITIONS. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the OWNER, unless otherwise specified. The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the WORK as drawn and specified. If the CONTRACTOR observes that the CONTRACT DOCUMENTS are at variance therewith, the CONTRACTOR shall promptly notify the ENGINEER in writing, and any necessary changes shall be adjusted as provided in Section 13, CHANGES IN THE WORK.

11. PROTECTION OF WORK, PROPERTY, AND PERSONS.

- 11.1. The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the WORK. The CONTRACTOR will take all necessary precautions for the safety of, will provide the necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the WORK and other persons who may be affected thereby, all the WORK and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
- 11.2. The CONTRACTOR will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. The CONTRACTOR will erect and maintain, as required by the conditions and progress of the WORK, all necessary safeguards for safety and protection. The CONTRACTOR will notify owners of adjacent utilities when prosecution of the WORK may affect them. The CONTRACTOR will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or part, by the CONTRACTOR, any SUBCONTRACTOR or anyone directly or indirectly employed by any of them or anyone directly or indirectly employed by any of them or anyone of whose acts any of them may be liable, except damage or loss attributable to the fault of the CONTRACT DOCUMENTS or to the acts or omissions of the OWNER , of the ENGINEER or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the CONTRACTOR.
- 11.3. In emergencies affecting the safety of persons or the WORK or property at the site or adjacent thereto, the CONTRACTOR, without special instructions or authorization from the ENGINEER or OWNER, shall act to prevent threatened damage, injury or loss. The CONTRACTOR will give the ENGINEER prompt WRITTEN NOTICE of any significant changes in the WORK or deviations from the CONTRACT DOCUMENTS caused thereby, and a CHANGE ORDER shall thereupon be issued covering the changes and deviations involved.

12. SUPERVISION BY CONTRACTOR.

- 12.1. The CONTRACTOR will supervise and direct the WORK. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the WORK a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given the supervisor shall be as binding as if given to the CONTRACTOR. The

supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the WORK.

13. CHANGES IN THE WORK.

- 13.1. The OWNER may at any time, as the need arises, order changes within the scope of the WORK without invalidating the AGREEMENT. If such changes increase or decrease the amount due under the CONTRACT DOCUMENTS, or in the time required for performance of the WORK, an equitable adjustment shall be authorized by CHANGE ORDER.
- 13.2. The ENGINEER also may, at any time, by issuing a FIELD ORDER, make changes in the details of the WORK. The CONTRACTOR shall proceed with the performance of any changes in the WORK so ordered by the ENGINEER unless the CONTRACTOR believes that such FIELD ORDER entitles the CONTRACTOR to a change in CONTRACT PRICE or TIME, or both, in which event the CONTRACTOR shall give the ENGINEER WRITTEN NOTICE thereof within 7 days after the receipt of the ordered change. Thereafter, the CONTRACTOR shall document the basis for the change in CONTRACT PRICE or TIME within 30 days. The CONTRACTOR shall not execute such changes pending the receipt of an executed CHANGE ORDER or further instruction from the OWNER.

14. CHANGES IN CONTRACT PRICE.

- 14.1. The CONTRACT PRICE may be changed only by a CHANGE ORDER. The value of any WORK covered by a CHANGE ORDER or of any claim for increase or decrease in the CONTRACT PRICE shall be determined by one or more of the following methods in the order of precedence listed below:
 - a. Unit prices previously approved.
 - b. An agreed lump sum.

15. TIME FOR COMPLETION AND LIQUIDATED DAMAGES.

- 15.1. The date of beginning and the time for completion of the WORK are essential conditions of the CONTRACT DOCUMENTS and the WORK embraced shall be commenced on a date specified in the NOTICE TO PROCEED.
- 15.2. The CONTRACTOR will proceed with the WORK at such rate of progress to insure full completion within the CONTRACT TIME. It is expressly understood and agreed, by and between the CONTRACTOR and the OWNER, that the CONTRACT TIME for the completion of the WORK described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the WORK.
- 15.3. If the CONTRACTOR shall fail to complete the WORK within the CONTRACT TIME, or extension of time granted by the OWNER, then the CONTRACTOR will pay to the OWNER the amount for liquidated damages as specified in the BID for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the CONTRACT DOCUMENTS.
- 15.4. The CONTRACTOR shall not be charged with liquidated damages or any excess cost when the delay in completion of the WORK is due to the following and the CONTRACTOR has promptly given WRITTEN NOTICE of such delay to the OWNER or ENGINEER.
 - 15.4.1. To any preference, priority or allocation order duly issued by the OWNER .
 - 15.4.2. To unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, including but not restricted to, acts of God, or of the public enemy, acts of the OWNER, acts of another CONTRACTOR in the performance of a contract

with the OWNER, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather; and

- 15.4.3. To any delays of SUBCONTRACTORS occasioned by any of the causes specified in paragraphs 15.4.1 and 15.4.2 of this article.

16. CORRECTION OF WORK.

- 16.1. The CONTRACTOR shall promptly remove from the premises all WORK rejected by the ENGINEER for failure to comply with the CONTRACT DOCUMENTS, whether incorporated in the construction or not, and the CONTRACTOR shall promptly replace and re-execute the WORK in accordance with the CONTRACT DOCUMENTS and without expense to the OWNER and shall bear the expense of making good all WORK of other CONTRACTORS destroyed or damaged by such removal or replacement.
- 16.2. All removal and replacement WORK shall be done at the CONTRACTOR'S expense. If the CONTRACTOR does not take action to remove such rejected WORK within 10 days after receipt of WRITTEN NOTICE, the OWNER may remove such WORK and store the materials at the expense of the CONTRACTOR.

17. SUBSURFACE CONDITIONS.

- 17.1. The CONTRACTOR shall promptly, and before such conditions are disturbed, except in the event of an emergency, notify the OWNER by WRITTEN NOTICE of:
- 17.1.1. Subsurface or latent physical conditions at the site differing materially from those indicated in the CONTRACT DOCUMENTS; or
- 17.1.2. Unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in WORK of the character provided for in the CONTRACT DOCUMENTS.
- 17.2. The OWNER shall promptly investigate the conditions, and if it is found that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the WORK, an equitable adjustment shall be made and the CONTRACT DOCUMENTS shall be modified by a CHANGE ORDER. Any claim of the CONTRACTOR for adjustment hereunder shall not be allowed unless the required WRITTEN NOTICE has been given; provided that the OWNER may, if the OWNER determines the facts so justify, consider and adjust any such claims asserted before the date of final payment.

18. SUSPENSION OF WORK, TERMINATION, AND DELAY.

- 18.1. The OWNER may suspend the WORK or any portion thereof for a period of not more than 90 days or such further time as agreed upon by the CONTRACTOR, by WRITTEN NOTICE to the CONTRACTOR and the ENGINEER which shall fix the date on which WORK shall be resumed. The CONTRACTOR will resume that WORK on the date so fixed. The CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to any suspension.
- 18.2. If the CONTRACTOR is adjudged bankrupt or insolvent, or makes a general assignment for the benefit of its creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of its property, or if CONTRACTOR files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or repeatedly fails to make prompt payments to SUBCONTRACTORS or for labor, materials or equipment or disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the WORK or disregards the authority of the ENGINEER or otherwise violates any provision of the CONTRACT DOCU-

MENTS, then the OWNER may, without prejudice to any other right or remedy and after giving the CONTRACTOR and its surety a minimum of 10 days from delivery of a WRITTEN NOTICE, terminate the services of the CONTRACTOR and take possession of the PROJECT and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the WORK by whatever method the OWNER may deem expedient. In such case, the CONTRACTOR shall not be entitled to receive any further payment until the WORK is finished. If the unpaid balance of the CONTRACT PRICE exceeds the direct and indirect costs of completing the PROJECT, including compensation for additional professional services, such excess SHALL BE PAID TO THE CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a CHANGE ORDER.

- 18.3. Where the CONTRACTOR'S services have been so terminated by the OWNER, said termination shall not affect any right of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies by the OWNER due the CONTRACTOR will not release the CONTRACTOR from compliance with the CONTRACT DOCUMENTS.
- 18.4. After 10 days from delivery of WRITTEN NOTICE to the CONTRACTOR and the ENGINEER, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the PROJECT and terminate the CONTRACT. In such case, the CONTRACTOR shall be paid for all WORK executed and any expense sustained plus reasonable profit.
- 18.5. If, through no act or fault of the CONTRACTOR, the WORK is suspended for a period of more than 90 days by the OWNER or under an order of court or other public authority, or the ENGINEER fails to act on any request for payment within 30 days after it is submitted, or the OWNER fails to pay the CONTRACTOR substantially the sum approved by the ENGINEER or awarded by arbitrators within 30 days of its approval and presentation, then the CONTRACTOR may, after 10 days from delivery of a WRITTEN NOTICE to the OWNER and the ENGINEER terminate the CONTRACT and recover from the OWNER payment for all WORK executed and all expenses sustained. In addition and in lieu of terminating the CONTRACT if the ENGINEER has failed to act on a request for payment or if the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon 10 days written notice to the OWNER and the ENGINEER stop the WORK until paid all amounts then due, in which event and upon resumption of the WORK, CHANGE ORDERS shall be issued for adjusting the CONTRACT PRICE or extending the CONTRACT TIME or both to compensate for the costs and delays attributable to the stoppage of the WORK.
- 18.6. If the performance of all or any portion of the WORK is suspended, delayed, or interrupted as a result of a failure of the OWNER or ENGINEER to act within the time specified in the CONTRACT DOCUMENTS, or if no time is specified, within a reasonable time, an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, shall be made by CHANGE ORDER to compensate the CONTRACTOR for the costs and delays necessarily caused by the failure of the OWNER or ENGINEER.

19. PAYMENT TO CONTRACTOR.

- 19.1. At least 10 days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the ENGINEER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the WORK but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER as will establish the OWNER'S title to the material and equipment and protect the OWNER'S interest therein, including applicable insurance. The ENGINEER will, within 10 days after receipt of each partial payment estimate, either indicate in writing approval of payment, and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing the reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the

necessary corrections and resubmit the partial payment estimate. The OWNER will, within 10 days of presentation of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate less the retainage. The retainage shall be an amount equal to 10 percent of said estimate until 50 percent of the work has been completed. At 50 percent completion, further partial payments shall be made in full to the CONTRACTOR and no additional amounts may be retained unless the ENGINEER certifies that the job is not proceeding satisfactorily, but amounts previously retained shall not be paid to the CONTRACTOR. At 50 percent completion or any time thereafter when the progress of the WORK is not satisfactory, additional amounts may be retained but in no event shall the total retainage be more than 10 percent of the value of the work completed. Upon substantial completion of the work, any amount retained may be paid to the CONTRACTOR. When the WORK has been substantially completed except for WORK which cannot be completed because of weather conditions, lack of materials or other reasons which, in the judgment of the OWNER, are valid reasons for noncompletion, the OWNER may make additional payments, retaining at all times an amount sufficient to cover the estimated cost of the WORK still to be completed.

- 19.2. The request for payment may also include an allowance for the cost of such major materials and equipment which are suitably stored either at or near the site.
- 19.3. Prior to SUBSTANTIAL COMPLETION, the OWNER, with the approval of the ENGINEER and with the concurrence of the CONTRACTOR, may use any completed or substantially completed portions of the WORK. Such use shall not constitute an acceptance of such portions of the WORK.
- 19.4. The OWNER shall have the right to enter the premises for the purpose of doing work not covered by the CONTRACT DOCUMENTS. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the WORK, or the restoration of any damaged WORK except such as may be caused by agents or employees of the OWNER.
- 19.5. Upon completion and acceptance of the WORK, the ENGINEER shall issue a certificate attached to the final payment request that the WORK has been accepted under the conditions of the CONTRACT DOCUMENTS. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be paid to the CONTRACTOR within 30 days of completion and acceptance of the WORK.
- 19.6. The CONTRACTOR will indemnify and save the OWNER or the OWNER'S agents harmless from all claims growing out of the lawful demand of SUBCONTRACTORS, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the WORK. The CONTRACTOR shall, at the OWNER'S request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so, the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed in accordance with the terms of the CONTRACT DOCUMENTS, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, the CONTRACTOR'S Surety, or any third party. In paying any unpaid bills of the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the CONTRACT DOCUMENTS by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.
- 19.7. If the OWNER fails to make payment 30 days after approval by the ENGINEER, in addition to other remedies available to the CONTRACTOR, there shall be added to each such payment interest at the maximum legal rate commencing on the first day after said payment is due and continuing until the payment is received by the CONTRACTOR.

20. ACCEPTANCE OF FINAL PAYMENT AS RELEASE.

- 20.1. The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and all liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this WORK and for every act and neglect of the OWNER and others relating to or arising out of this WORK. Any payment, however, final or otherwise, shall not release the CONTRACTOR or its sureties from any obligations under the CONTRACT DOCUMENTS or the PERFORMANCE and PAYMENT BONDS.

21. INSURANCE.

- 21.1. The CONTRACTOR shall purchase and maintain such insurance as will protect it from claims set forth below which may arise out of, or result from the CONTRACTOR'S execution of the WORK, whether such execution be by the CONTRACTOR, any SUBCONTRACTOR, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:
- 21.1.1. Claims under workmen's compensation, disability benefit and other similar employee benefit acts;
 - 21.1.2. Claims for damages because of bodily injury, occupational sickness or disease, or death of employees;
 - 21.1.3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than employees;
 - 21.1.4. Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the CONTRACTOR, or (2) by any other person; and
 - 21.1.5. Claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom.
- 21.2. Certificates of Insurance acceptable to the OWNER shall be filed with the OWNER prior to commencement of the WORK. These Certificates shall contain a provision that coverages afforded under the policies will not be canceled unless at least 15 days prior WRITTEN NOTICE has been given to the OWNER.
- 21.3. The CONTRACTOR shall procure and maintain, at the CONTRACTOR'S own expense, during the CONTRACT TIME, liability insurance as hereinafter specified:
- 21.3.1. CONTRACTOR'S General Public Liability and Property Damage Insurance including vehicle coverage issued to the CONTRACTOR and protecting the CONTRACTOR from all claims for personal injury, including death, and all claims for destruction of or damage to property, arising out of or in connection with any operations under the CONTRACT DOCUMENTS, whether such operations be by the CONTRACTOR or by any SUBCONTRACTOR employed by the CONTRACTOR or anyone directly or indirectly employed by the CONTRACTOR or by a SUBCONTRACTOR employed by the CONTRACTOR. Insurance shall be written with a limit of liability of not less than \$500,000 for all damages arising out of bodily injury, including death, at any time resulting therefrom, sustained by any one person in any one accident; and a limit of liability of not less than \$500,000 aggregate for any such damages sustained by two or more persons in any one accident. Insurance shall be written with a limit of liability of not less than \$200,000 for all property damage sustained by any one person in any one accident; and a limit of liability of not less than \$200,000 aggregate for any such damage sustained by two or more persons in any one accident.

- 21.3.2. The CONTRACTOR shall acquire and maintain, if applicable, Fire and Extended Coverage Insurance upon the PROJECT to the full insurable value thereof for the benefit of the OWNER, the CONTRACTOR, and SUBCONTRACTORS as their interest may appear. This provision shall in no way release the CONTRACTOR or CONTRACTOR'S surety from obligations under the CONTRACT DOCUMENTS to fully complete the PROJECT.
- 21.4. The CONTRACTOR shall procure and maintain, at the CONTRACTOR'S own expense, during the CONTRACT TIME, in accordance with the provisions of the laws of the state in which the WORK is performed, Workmen's Compensation Insurance, including occupational disease provisions, for all of the CONTRACTOR'S employees at the site of the PROJECT and in case any WORK is sublet, the CONTRACTOR shall require such SUBCONTRACTOR similarly to provide Workmen's Compensation Insurance, including occupational disease provisions for all of the latter's employees unless such employees are covered by the protection afforded by the CONTRACTOR. In case any class of employees engaged in hazardous work under this contract at the site of the PROJECT is not protected under Workmen's Compensation statute, the CONTRACTOR shall provide, and shall cause each SUBCONTRACTOR to provide adequate and suitable insurance for the protection of its employees not otherwise protected.
- 21.5. The CONTRACTOR shall secure, if applicable, "All Risk" type Builder's Risk Insurance for WORK to be performed. Unless specifically authorized by the OWNER, the amount of such insurance shall not be less than the CONTRACT PRICE totaled in the BID. The policy shall cover not less than the losses due to fire, explosion, hail, lightning, vandalism, malicious mischief, wind, collapse, riot, aircraft, and smoke during the CONTRACT TIME and until the WORK is accepted by the OWNER. The policy shall name as the insured the CONTRACTOR, and the OWNER.

22. CONTRACT SECURITY.

- 22.1. The CONTRACTOR shall within 10 days after the receipt of the NOTICE OF AWARD furnish the OWNER with a PERFORMANCE BOND and a PAYMENT BOND in penal sums equal to the amount of the CONTRACT PRICE, conditioned upon the performance by the CONTRACTOR of all undertakings, covenants, terms, conditions and agreements of the CONTRACT DOCUMENTS, and upon the prompt payment by the CONTRACTOR to all persons supplying labor and materials in the prosecution of the WORK provided by the CONTRACT DOCUMENTS. Such BONDS shall be executed by the CONTRACTOR and a corporate bonding company licensed to transact such business in the state in which the WORK is to be performed and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these BONDS shall be borne by the CONTRACTOR. If at any time a surety on any such BOND is declared bankrupt or loses its right to do business in the state in which the WORK is to be performed or is removed from the list of Surety Companies accepted on Federal Bonds, CONTRACTOR shall within 10 days after notice from the OWNER to do so, substitute an acceptable BOND (or BONDS) in such form and sum and signed by such other surety or sureties as may be satisfactory to the OWNER. The premium on such BOND shall be paid by the CONTRACTOR. No further payment shall be deemed due nor shall be made until the new surety or sureties have furnished an acceptable BOND to the OWNER.

23. ASSIGNMENTS.

- 23.1. Neither the CONTRACTOR nor the OWNER shall sell, transfer, assign, or otherwise dispose of the Contract or any portion thereof, or of any right, title or interest therein, or any obligations thereunder, without written consent of the other party.

24. INDEMNIFICATION.

- 24.1. The CONTRACTOR will indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the WORK, provided that any such claims,

damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use resulting therefrom; and is caused in whole or in part by any negligent or willful act or omission of the CONTRACTOR, and SUBCONTRACTOR, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

- 24.2. In any and all claims against the OWNER or the ENGINEER, or any of their agents or employees, by any employee of the CONTRACTOR, any SUBCONTRACTOR, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any SUBCONTRACTOR under workmen's compensation acts, disability benefit acts or other employee benefits acts.
- 24.3. The obligation of the CONTRACTOR under this paragraph shall not extend to the liability of the ENGINEER, its agents or employees arising out of the preparation or approval of maps, DRAWINGS, opinions, reports, surveys, CHANGE ORDERS, designs or SPECIFICATIONS.

25. SEPARATE CONTRACTS.

- 25.1. The OWNER reserves the right to let other contracts in connection with this PROJECT. The CONTRACTOR shall afford other CONTRACTORS reasonable opportunity for the introduction and storage of their materials and the execution of their WORK, and shall properly connect and coordinate the WORK with theirs. If the proper execution or results of any part of the CONTRACTOR'S WORK depends upon the WORK of any other CONTRACTOR, the CONTRACTOR shall inspect and promptly report to the ENGINEER any defects in such WORK that render it unsuitable for such proper execution and results.
- 25.2. The OWNER may perform additional WORK related to the PROJECT or the OWNER may let other contracts containing provisions similar to these. The CONTRACTOR will afford the other CONTRACTORS who are parties to such Contracts (or the OWNER, if the OWNER is performing the additional WORK) reasonable opportunity for the introduction and storage of materials and equipment and the execution of WORK, and shall properly connect and coordinate the WORK with theirs.
- 25.3. If the performance of additional WORK by other CONTRACTORS or the OWNER is not noted in the CONTRACT DOCUMENTS prior to the execution of the CONTRACT, written notice thereof shall be given to the CONTRACTOR prior to starting any such additional WORK. If the CONTRACTOR believes that the performance of such additional WORK by the OWNER or others involves it in additional expense or entitles it to an extension of the CONTRACT TIME, the CONTRACTOR may make a claim thereof as provided in Sections 14 and 15.

26. SUBCONTRACTING.

- 26.1. The CONTRACTOR may utilize the services of specialty SUBCONTRACTS on those parts of the WORK which, under normal contracting practices, are performed by specialty SUBCONTRACTORS.
- 26.2. The CONTRACTOR shall not award WORK to SUBCONTRACTOR(S), in excess of 50 percent of the CONTRACT PRICE, without prior written approval of the OWNER.
- 26.3. The CONTRACTOR shall be fully responsible to the OWNER for the acts and omissions of its SUBCONTRACTORS, and of persons either directly or indirectly employed by them, as the CONTRACTOR is for the acts and omissions of persons directly employed by the CONTRACTOR.
- 26.4. The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the WORK to bind SUBCONTRACTORS to the CONTRACTOR by the terms of the CONTRACT DOCUMENTS insofar as applicable to the WORK of SUBCONTRACTORS and to give the

CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provision of the CONTRACT DOCUMENTS.

- 26.5. Nothing contained in this CONTRACT shall create any contractual relationship between any SUBCONTRACTOR and the OWNER.

27. ENGINEER'S AUTHORITY.

- 27.1. The ENGINEER shall act as the OWNER'S representative during the construction period, shall decide questions which may arise as to quality and acceptability of materials furnished and WORK performed, and shall interpret the intent of the CONTRACT DOCUMENTS in a fair and unbiased manner. The ENGINEER will make visits to the site and determine if the WORK is proceeding in accordance with the CONTRACT DOCUMENTS.
- 27.2. The CONTRACTOR will be held strictly to the intent of the CONTRACT DOCUMENTS in regard to the quality of materials, workmanship, and execution of the WORK. Inspections may be made at the factory or fabrication plant of the source of material supply.
- 27.3. The ENGINEER will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.
- 27.4. The ENGINEER shall promptly make decisions relative to interpretation of the CONTRACT DOCUMENTS.

28. LAND AND RIGHTS-OF-WAY.

- 28.1. Prior to issuance of the NOTICE TO PROCEED, the OWNER shall obtain all land and rights-of-way necessary for carrying out and for the completion of the WORK to be performed pursuant to the CONTRACT DOCUMENTS, unless otherwise mutually agreed.
- 28.2. The OWNER shall provide to the CONTRACTOR information which delineates and describes the lands owned and rights-of-way acquired.
- 28.3. The CONTRACTOR shall provide at its own expense and without liability to the OWNER any additional land and access thereto that the CONTRACTOR may desire for temporary construction facilities, or for storage of materials.

29. GUARANTEE.

- 29.1. The CONTRACTOR shall guarantee all materials and equipment furnished and WORK performed for a period of 1 year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and guarantees for a period of 1 year from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or other WORK that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The PERFORMANCE BOND shall remain in full force and effect through the guarantee period.

30. ARBITRATION BY MUTUAL AGREEMENT.

- 30.1. All claims, disputes, and other matters in question arising out of, or relating to, the CONTRACT DOCUMENTS or the breach thereof, except for claims which have been waived by making an acceptance of final payment as provided by Section 20, may be decided by arbitration if the parties mutually agree. Any agreement to arbitrate shall be specifically enforceable under the prevailing

arbitration law. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in any court having jurisdiction thereof.

- 30.2. Notice of the request for arbitration shall be filed in writing with the other party to the CONTRACT DOCUMENTS and a copy shall be filed with the ENGINEER. Request for arbitration shall in no event be made on any claim, dispute, or other matter in question which would be barred by the applicable statute of limitations.
- 30.3. The CONTRACTOR will carry on the WORK and maintain the progress schedule during any arbitration proceedings, unless otherwise mutually agreed in writing.

31. TAXES.

- 31.1. The CONTRACTOR will pay all sales, consumer, use, and other similar taxes required by the laws of the place where the WORK is performed.

SPECIAL CONDITIONS

SC-1. GENERAL.

The following Special Conditions, particular to this project, are intended to complement or supplement the preceding General Conditions and shall be of like import.

SC-2. OWNERSHIP.

The completed facilities shall be owned, operated and maintained by OHIO COUNTY WATER DISTRICT hereinafter referred to as the OWNER. All workmanship and materials shall be in conformance with the OWNER'S requirements. Acceptance of this project and final payment therefor shall be contingent thereon. The OWNER'S representatives shall have the right of access to the WORK in progress and the right to inspect said WORK.

SC-3. AFFIDAVIT OF PAYMENT.

Upon completion of the WORK, but before the acceptance thereof by the OWNER, the CONTRACTOR shall furnish proof in documentary form that all claims, liens, or other obligations incurred by him and all of his contractors in connection with the performance of the WORK have been properly paid and settled. This information shall be in affidavit form and shall bear the authorization of the surety company, if applicable.

SC-4. CONTRACT DOCUMENTS.

The following CONTRACT DOCUMENTS shall govern the materials furnished and the WORK to be performed on this contract:

GENERAL CONTRACT DOCUMENTS AND SPECIFICATIONS ENTITLED "OHIO COUNTY WATER DISTRICT, OHIO COUNTY, KENTUCKY, SERIES III WATER SYSTEM IMPROVEMENTS, NOVEMBER, 2002 (BID: FEBRUARY, 2003)."

CONTRACT DRAWINGS BEING PLANS SHEETS COVER THROUGH X ENTITLED "OHIO COUNTY WATER DISTRICT, OHIO COUNTY, KENTUCKY, SERIES III WATER SYSTEM IMPROVEMENTS, NOVEMBER, 2002 (BID: FEBRUARY, 2003)".

ADDENDA (IF APPLICABLE) TO BE ACKNOWLEDGED IN THE BID.

The CONTRACTOR shall be furnished, without cost, THREE COPIES of all CONTRACT DOCUMENTS with any addenda thereto. Additional copies, if required, may be obtained from the ENGINEER at cost.

SC-5. CLAIMS BY THE CONTRACTOR.

If the CONTRACTOR believes he is entitled to a change in the contract price or time, or both, he shall give the ENGINEER written notice and documentation of the basis for the claim within 7 days of the cause of such claim. The ENGINEER will, within 7 days of such claim notice, either prepare a change order for processing or notify the CONTRACTOR in writing of the reason for rejection. Also see GC-13 and GC-14.

If the ENGINEER'S decision is not acceptable, the CONTRACTOR, within 7 days after the ENGINEER'S response, shall notify the OWNER of his intention to pursue the claim.

As the OWNER has limited funds for this project and must operate within its established budget, no claim shall be recognized or admissible for legal process unless presented as described.

SC-6. PROJECT INSPECTION.

The OWNER may employ supervisors or inspectors to inspect materials furnished and the WORK performed to see that they are in accordance with the Plans, Specifications, and the OWNER'S standards.

Suggestions by or approval of any plan or method of WORK by the OWNER'S representative shall imply consent, but adoption of any such plan or method shall be at the CONTRACTOR'S own risk and responsibility.

PROJECT INSPECTION, TESTS OR APPROVALS BY THE OWNER'S REPRESENTATIVE OR OTHERS SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OBLIGATIONS TO PERFORM THE WORK IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH HEREIN.

Inspectors, and other properly authorized representatives of the OWNER, shall be free always to perform their duties. Intimidation or attempted intimidation of any one of them by the CONTRACTOR or by any of his employees shall be sufficient reason for dismissal of said employee or annulment of the contract.

SC-7. ENVIRONMENTAL PROTECTION.

The CONTRACTOR shall minimize siltation and bank erosion during construction and shall restore disturbed areas to present or better conditions. All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant, or of other classification, must show approval by either EPA or USDA. Use of all such chemicals and disposal of residue shall be in strict conformance with the instructions.

SC-8. MATERIALS, EQUIPMENT AND WORKMANSHIP.

Unless otherwise specified, all materials and equipment shall be new and shall be of standard quality for the use intended. Reference to a proprietary product of a particular manufacturer or vendor is to establish a standard of quality. The CONTRACTOR may furnish with his bid the name and identifying information of each item upon which his bid is based and if this information is not submitted, he shall be obligated to furnish the product specified.

Approval of samples, shop drawings, etc. shall not mean final acceptance and they shall be subject to inspection and test on delivery and installation. The CONTRACTOR shall repair, replace, and/or adjust any materials or equipment found defective or not operating properly for 1 year after completion and acceptance of his WORK.

The CONTRACTOR shall always require strict discipline and good order among his employees and shall not employ on the WORK any unfit person or anyone not skilled in the WORK assigned to him. Any careless, untrustworthy, or incompetent workers shall be removed upon the request of the ENGINEER or his representative.

SC-9. MATERIALS COMPATIBILITY.

All materials must be compatible with the OWNER'S existing materials concerning interchangeability and appearance unless otherwise specifically approved.

SC-10. SAMPLES.

It shall be the CONTRACTOR'S responsibility to obtain and submit samples of "appearance" materials to the ENGINEER for approval as to color, texture, etc.

SC-11. CONSTRUCTION PROCEDURE.

A complete organization, equipment and ample materials shall be on hand before WORK commences. They shall be satisfactory for securing the quality of WORK specified and for continuous progress for the earliest possible completion of the project.

The CONTRACTOR shall provide and maintain a local project or field office and field telephone throughout the term of the project. A representative of the CONTRACTOR should be available to receive notices and messages during working hours and a local telephone shall be maintained for 24 hour emergency calls.

The Resident Inspector shall be permitted access to and use of the CONTRACTOR'S field office to maintain his records and his communications.

Prior to commencement of WORK, the CONTRACTOR shall:

- a. Notify the ENGINEER of the project superintendent's name and telephone number.
- b. Contact utility companies for location and protection of their facilities.
- c. Notify the ENGINEER, 3 days in advance, of when construction will commence.

No underground WORK shall be covered until it has been inspected by the OWNER'S representative.

SC-12. PROGRESS SCHEDULE.

Prior to commencement of WORK, the CONTRACTOR shall submit a Progress Schedule for the ENGINEER'S approval. The schedule shall show the sequence of the WORK for continuous progress. It shall be used for coordination of the OWNER'S operations, for the Inspector's scheduling, and as a basis for justifying a time extension, if required.

The Progress Schedule shall be revised (as required) and updated at the time each payment request is submitted as outlined in the General Conditions.

SC-13. SALVAGED MATERIALS.

Salvaged materials shall remain the property of the OWNER, unless otherwise shown, and shall be removed from the site to the OWNER'S storage yard, or as otherwise directed.

SC-14. RIGHTS-OF-WAY.

The OWNER shall furnish all land and rights-of-way required on this project. He shall obtain all permits and easements for crossings or occupancy of highways, railroads and other public and private property. No WORK shall be begun until the CONTRACTOR has a copy of said permit or easement and can comply with all requirements thereof.

SC-15. PERMITS.

Unless otherwise noted, the CONTRACTOR shall be responsible for the cost of all electric service hookups, Building Permits, Electrical Inspection Permits, Plumbing Permits, etc. and shall arrange for such permits to prevent delay in his WORK.

The CONTRACTOR shall also be responsible for the cost of running new electrical service, if required.

SC-16. WORKING HOURS.

WORK shall not exceed 40 hours per week and no WORK will be done between the hours of 6:00 P.M. and 7:00 A.M. nor on Saturdays, Sundays or legal holidays, without the written approval or permission of the ENGINEER in each case.

SC-17. CLEANUP AND RESTORATION.

The CONTRACTOR shall continuously maintain cleanup operations along the line of WORK and near any structures. Cleanup shall include the removal of all refuse, rubbish, scrap materials and debris and the finish dressing (hand raking, if necessary) of all areas to the satisfaction of the ENGINEER. Restoration shall include maintenance of any settled trenches and landscaping, if required. No item of WORK shall be considered complete until cleanup and restoration are accomplished and, if not satisfactory in the opinion of the ENGINEER, payment may be withheld until such cleanup and restoration are accomplished.

The Contractor shall protect all shrubbery and shall be responsible for replacing any damaged shrubbery to the property owner's satisfactions. Restoration shall be in accordance with Specification 14.

SC-18. MAINTENANCE OF TRAFFIC AND SAFETY.

The CONTRACTOR shall, at his own expense, provide and maintain suitable accommodations for public and private travel near his WORK. Adequate warning signs, lights, barricades and other safety devices shall be maintained and shall comply with the requirements of any governing agency.

The local fire department, school district, etc. shall be notified of all detours and route changes.

SC-19. EXISTING UTILITIES.

It shall be the CONTRACTOR'S sole responsibility to learn the exact location of all utilities; to notify the utility OWNER; to protect all utilities through his operations; and to pay for any damage that may occur.

The exact location of existing utilities, either aboveground or underground, shall be determined by the CONTRACTOR far enough in advance of the WORK to permit adjustments in alignment or protection of the utility. Existing utilities, if shown on the Plans, are only approximate to alert the CONTRACTOR of their existence.

If the CONTRACTOR fails to locate existing utilities far enough in advance to permit realignment of the WORK, relocation of the existing utility or of the WORK shall be at his expense.

SC-20. MAINTAINING WATER SERVICE.

The CONTRACTOR shall maintain water service to all customers throughout construction and shall organize his WORK for the least inconvenience to all customers and residents. All customers whose water service will be interrupted shall be notified by the CONTRACTOR, in advance, and service shall be restored as soon as possible.

SC-21. SEQUENCE OF WORK.

The entire system shall remain in operation throughout construction and bypass pumping shall be employed when required to maintain service without backup into any house service lines.

The CONTRACTOR shall be responsible for any damage which may occur due to insufficient maintenance of service.

It is understood that the CONTRACTOR may implement two or more crews to complete the construction. However, the primary focus of the CONTRACTOR'S efforts shall be to complete the improvements in the Pleasant Ridge, Maxwell and Heflin Area first.

SC-22. PROGRESS PAYMENTS.

The cut-off date for figuring monthly partial payments shall be the 5th day of the month and requests for partial payment shall be submitted for the ENGINEER'S approval no later than the 10th day of the month. Payment of said estimate shall be made within two weeks after the District's meeting.

Payrolls, with the necessary certification, shall be submitted to the proper authorities in accordance with the applicable regulations and a copy of the transmittal letter and one copy of the payroll shall be submitted to the OWNER. One copy of the transmittal letter shall be submitted to the ENGINEER.

SC-23. QUANTITIES OF ESTIMATE.

The quantities of WORK covered by unit prices in the bid are the ENGINEER'S estimates of the WORK to be done and may increase or decrease to complete the WORK contemplated by this project. The CONTRACTOR agrees that payment for any increases or decreases in the quantities shall be based on the unit price bid and that payment shall be made only for the actual WORK performed.

The CONTRACTOR shall verify all quantities before preparing his bid or placing his order.

SC-24. FINAL ADJUSTING CHANGE ORDER.

At the end of this project, a final adjusting change order shall be prepared to show over-runs and under-runs to balance all of the quantities.

SC-25. RECORDS.

The CONTRACTOR shall be responsible for maintaining a set of Record Plans showing the size, type of material and location of all new construction and of any existing facilities located during the WORK.

An extra set of Plans shall be furnished for records and shall be submitted to the ENGINEER at the end of the project for the OWNER'S permanent record.

SC-26. "OR EQUAL" CLAUSE.

It shall be the CONTRACTOR'S responsibility to furnish substantiating data that any product is equal to or better than the proprietary product specified.

SC-27. PROTECTION OF PROPERTY AND PUBLIC LIABILITY.

The CONTRACTOR shall assume full responsibility for the protection of all public and private property both above and below ground where WORK under this project is being performed.

The CONTRACTOR shall indemnify and save harmless the OWNER, the OWNER'S Representatives and the ENGINEER from and against all losses and all claims, demands, payments, suits, actions, recoveries, and judgments of every nature and description brought against him due to any act or omission of the said CONTRACTOR, his agents, or employees in the execution of the WORK or in its protection.

Said responsibilities shall apply despite the location of the damage and it shall be the CONTRACTOR'S sole responsibility to make such corrections and adjustments to the satisfaction of those whose property or premises have been damaged by his operation.

SC-28. LIABILITY.

The OWNER or ENGINEER shall not be liable for the safety of persons or property on or about a construction project site, or for the construction techniques, procedures, sequences and schedules, or for the conduct, action, errors, or omissions of the CONTRACTOR, his subcontractors, or his material suppliers, their agents or employees.

Further, it is the CONTRACTOR'S responsibility to protect and save harmless the OWNER and ENGINEER from any suits arising out of claims including the hiring, at his own expense, of the necessary professional help to defend the OWNER and ENGINEER.

The CONTRACTOR is also referred to the General Conditions regarding liability, protection of property, etc.

SC-29. EMERGENCIES.

In an emergency that threatens loss or injury to persons or property, the CONTRACTOR will be allowed to act diligently without previous instructions from the ENGINEER.

Wherever, in the opinion of the ENGINEER, an emergency exists and immediate action is considered necessary, the performance of emergency WORK under the direction of the ENGINEER, with or without notice to the CONTRACTOR, shall in no way relieve the CONTRACTOR of responsibility for damage that may occur.

SC-30. SAFETY AND SANITARY REGULATIONS.

The CONTRACTOR shall comply with all local, State and Federal safety and sanitary regulations that may apply on this project.

SAFETY ON AND AROUND THE JOB SITE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

SC-31. TRENCH SETTLEMENT.

The CONTRACTOR shall be responsible for all trench settlement for 1 year after final acceptance by the OWNER.

SC-32. SHOP DRAWINGS.

In accordance with the General Conditions, the CONTRACTOR shall submit EIGHT copies of Shop Drawings for all materials furnished and certify to their compliance with the Specifications. The CONTRACTOR'S certification shall be as follows:

PROJECT TITLE	_____
CONTRACT:	_____
BID ITEM NO.:	_____
WE CERTIFY THAT THIS SHOP DRAWING SUBMITTAL IS IN COMPLIANCE WITH THE PLANS AND SPECIFICATIONS FOR THE ABOVE PROJECT.	
NO EXCEPTION:	_____
EXCEPTION:	_____
APPROVED BY:	_____
DATE:	_____

TWO COPIES of the approved shop drawings shall be returned to the CONTRACTOR.

SC-33. WAGE DETERMINATION.

WORK on this project shall be subject to prevailing wage rates for public works that are current at the time of bidding and are included herein.

The CONTRACTOR, in preparing his bid, agrees to the terms of the prevailing wage rates as part of this project without additional compensation.

SC-34. WEATHER CONDITIONS.

No portion of the WORK shall be constructed under conditions that would adversely affect the quality or efficiency thereof. The CONTRACTOR shall be responsible for protecting his WORK and materials against damage or injury from the weather.

SC-35. TIME EXTENSIONS FOR ABNORMAL WEATHER.

This section specifies the procedure for the determination of time extensions due to abnormal and unforeseeable weather as outlined in the General Conditions, Section 15.4.2. Reference is also made to Section 15.4 regarding prompt written notice.

For the purposes of this section the term "adverse weather day" shall mean a day when construction cannot proceed due to precipitation (not wet conditions caused by precipitation), provided the CONTRACTOR is prevented from working for 50 percent or more of his normal WORK day.

The listing below defines the monthly anticipated adverse weather days (including weekends and holidays) and shall form the "base line" for monthly (or portion thereof) weather time evaluation.

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
12	12	10	10	10	8	8	8	7	10	11	11

Upon acknowledgment of the Notice To Proceed, the CONTRACTOR shall keep an accurate and detailed record of actual adverse weather days monthly (including weekends and holidays) and this shall be compared to the anticipated adverse weather days listed above.

Time extensions shall be granted only where adverse weather affects WORK shown on the Progress Schedule.

At the end of each month, the CONTRACTOR shall request from the ENGINEER, in writing, a time extension based on the number of actual adverse days that exceeded the anticipated adverse days. Supporting documentation shall be furnished.

The ENGINEER shall review the information and notify the CONTRACTOR whether the request is justified. If the request is justified, a change order will be processed later.

SC-36. PRECONSTRUCTION CONFERENCE.

The CONTRACTOR shall attend a preconstruction conference with the OWNER, ENGINEER, and any other interested parties prior to commencement of WORK. Construction procedures and requirements shall be outlined and discussed in detail.

SC-37. CORRECTION OF WORK.

The ENGINEER shall be the final judge of the quality and suitability of the WORK, materials, processes of manufacture, and methods of construction for the purpose for which they are used. Should they fail to meet the ENGINEER'S approval, they shall be corrected prior to acceptance of the extension.

SC-38. PATENTS, LICENSE AND ROYALTY FEES.

It shall be the CONTRACTOR'S responsibility to satisfy all of the demands and conditions pertaining to any patents used in this project.

SC-39. INSURANCE.

The CONTRACTOR shall have and maintain, during the life of this project, workmen's compensation insurance, public liability insurance, property damage insurance and automobile liability insurance in legal and/or reasonable limits of liability.

SC-40. LAWS AND ORDINANCES.

The CONTRACTOR shall always observe and comply with all ordinances, laws and regulations and shall protect and indemnify the OWNER and the OWNER'S agents against any claims or liability arising from or based on any violation of same.

SC-41. GUARANTEE.

The CONTRACTOR shall guarantee all materials and equipment furnished and Work performed for a period of 1 year from the date of Substantial Completion. The CONTRACTOR warrants and guarantees for a period of 1 year from the date of Substantial Completion of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or other Work that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

SC-42. BASIS OF BID.

The bid, and all the items and sub-items thereof, shall be made on the attached form that shall be filled out completely. All the costs of the WORK and payment therefor shall be included in the lump-sum and unit prices set forth in the proposal form. No item of WORK that is required by the CONTRACT DOCUMENTS shall be paid for outside of, or in addition to, the prices submitted on the proposal form unless specifically authorized by a proper change order and unit prices shall control.

The Bid Schedule includes a Bid for "Labor and Materials" and for "Labor Only". The following is to clarify the basis of bidding. For the "Labor Only" form, the cost of materials shall be omitted:

1. Mobilization/Demobilization.

Mobilization/Demobilization cost on this project shall be shown as one lump sum and may include the cost of insurance, bonds, site office, moving equipment, etc. Mobilization/demobilization shall not exceed 4 per cent of the total construction cost. Payment of mobilization/demobilization shall be as follows:

70% with the first monthly estimate.

30% when the project is 95 percent complete.

2. Water Mains.

Payment for water mains (including jointing materials) shall be at the unit price bid per lineal foot, for each size and type of pipe, and shall include excavation, furnishing, laying, tracer wire, connections, embedment, testing, disinfecting and backfilling. Measurement for payment will be straight through with no deduction for the length of fittings.

3. Fittings.

Payment for iron fittings shall be at the unit price bid per pound based on published weights for compact (AWWA C153) M.J. fittings not including accessories and cement linings. Unit prices shall be the one average price bid per pound for the fitting size shown (largest pipe size of fitting) and shall include furnishing and installation complete.

Payment for PVC fittings (3 inches and smaller) shall be at the average unit price bid.

Payment shall include anchorage and thrust restraint.

4. Valves W/Cast Iron Box.

Payment for valves with the valve box shall be at the unit price bid for each size and type shown and shall include furnishing and installation complete. The price shall include valve box adaptors, valve stem extensions, concrete collar, concrete support, etc.

5. Tie-ins.

Payment for a tie-in, where shown on the Plans, shall be for labor and equipment to tie into an existing line with standard fittings and shall be based on the size of the existing main. Payment for all materials required shall be made under a separate bid item. A wet tie-in made with special fittings (tapping sleeves, inserting valves, saddles, etc.) shall be included in the cost of the special.

6. Flush Assembly.

Payment for a flush assembly shall be at the unit price bid for the size shown and shall include all work and materials from the branch of the tee installed in the main through the end of the flush assembly. The OWNER shall furnish the meter box for installation by the Contractor.

7. Bore With Casing.

Payment for a bore with casing shall be made at the unit price bid per lineal foot for the size casing required and shall include the bore, casing and installation complete. Payment for the carrier pipe (same material as other mains) shall be made under a separate bid item. Measurement will be made by the minimum length of casing required by the permit or specified by the Engineer.

8. Casing In Open Cut.

Payment for casing installed in open cut shall be made at the unit price bid per lineal foot for the size casing required and shall include the casing and installation complete. Payment for the carrier pipe (same material as other mains) shall be made under a separate bid item. Measurement will be made by the minimum length of casing required by the permit or specified by the Engineer.

9. Directional Bore.

Payment for a directional bore shall be made at the unit price bid per lineal foot for the size shown and shall include the P.E. carrier pipe, bore and installation complete. Payment for ductile iron fittings shall be made under a separate bid item. Measurement for payment shall be the length of bore, unless otherwise directed by the Engineer.

10. Special Fittings.

Payment for special fittings, tapping sleeves, inserting valves, service saddles, clamps, couplings, etc. shall be made at the unit price bid for each size and/or type and shall include furnishing and installation complete.

11. Air Release Valve With Box.

Payment for air release valves with box shall be at the unit price bid for each valve and shall include the box and cover, all accessories and installation complete.

12. Meter Settings.

Payment for meter reconnections shall be made at the unit price bid for each size meter and shall include the service clamp, corporation stop, meter valve and connection to the existing meter setting complete. Payment shall also include relocation of existing meters if required.

If required for a reconnect, the OWNER shall furnish the meter, box, yoke, pressure reducing valve and customer cut-off valve.

Payment for the new service line shall be made under a separate bid item.

13. Service Lines.

Payment for service lines shall be at the unit price bid for the size and type material used and for the type of installation (bore or open cut) and shall include tracer wire. Measurement, where a bore is required, will be for the length of the bore required plus any additional service line in open cut.

14. Crushed Stone.

Payment for all grades of crushed stone in place, at authorized locations, shall be at the unit price bid per cubic yard. Authorized locations include resurfacing, special foundations and backfill under permanent surface. Measurement for payment for resurfacing shall be based on the normal trench width plus one foot times the length of the surface crossed times a compacted thickness of 6 inches. Measurement for payment for special foundations and backfill under a permanent surface shall be based on the normal trench width times the length required times the depth as directed by the Engineer. Payment shall not be made for replacement due to settlement or for pipe embedment.

15. Riprap.

Payment for 150# grade of riprap stone in place, at authorized locations, shall be at the unit price bid per cubic yard. Authorized locations include ditch and creek crossing as directed by the engineer.

16. Asphalt Pavement Replacement.

Payment for asphalt pavement replacement shall be at the unit price bid per square yard for 2 inch compacted thickness. Measurement of the area for payment shall be based on the normal trench width plus 2 feet times the length of the surface crossed. Payment for other depths, approved by the Engineer, shall be proportioned. Payment shall not include replacement due to settlement.

17. Concrete Pavement Replacement.

Payment for concrete pavement replacement, at authorized locations, shall be at the unit price bid per cubic yard of concrete in place and shall include all materials and finishing to match the existing surfaces. Measurement for payment shall be based on the normal trench width plus one foot times the length of the surface crossed times the depth required to match the existing surface or as directed by the Engineer. Replacement due to settlement shall be at the Contractor's expense.

18. Concrete Encasement.

Payment for concrete pipe encasement shall be made at the unit price bid per lineal foot in place, at authorized locations.

19. Additional Depth.

Payment for additional depth required to install the water mains between 7'-1" and 15' deep shall be paid for at the unit price bid per lineal foot of main installed at the extra depth. Payment shall include additional excavation, shoring, etc., but shall not include pipe which shall be paid under a separate bid item. Additional depth shall be paid for at authorized locations only.

20. Marker Posts.

Payment for marker posts shall be at the unit price bid for each marker post and shall include furnishing and installation complete



RECEIVED JAN 13 2003

PAUL E. PATTON
GOVERNOR

DIVISION OF EMPLOYMENT STANDARDS,
APPRENTICESHIP AND TRAINING

JOE NORSWORTHY
SECRETARY

LABOR CABINET
1047 US HWY 127 S STE 4
FRANKFORT KY 40601-4381

GUY R. "PAT" PATTERSON, JR.
DIRECTOR

January 10, 2003

Rod Martin
Hunter Martin & Associates
3220 Lone Oak Rd
Paducah, KY 42003

Re: Ohio County Water District, Water System Improve Series III

Advertising Date as Shown on Notification: January 17, 2003

Dear Rod Martin:

This office is in receipt of your written notification on the above project as required by KRS 337.510 (1).

I am enclosing a copy of the current prevailing wage determination number CR 1 006, dated September 20, 2002 for OHIO County. This schedule of wages shall be attached to and made a part of the specifications for the work, printed on the bidding blanks, and made a part of the contract for the construction of the public works between the public authority and the successful bidder or bidders.

The determination number assigned to this project is based upon the advertising date contained in your notification. There may be modifications to this wage determination prior to the advertising date indicated. In addition, if the contract is not awarded within 90 days of this advertising date or if the advertising date is modified, a different set of prevailing rates of wages may be applicable. It will be the responsibility of the public authority to contact this office and verify the correct schedule of the prevailing rates of wages for use on the project. Your project number is as follows: 092-H-00037-02-1, Heavy/Highway

Sincerely,


Patricia A. Lacy
Prevailing Wage Specialist



An Equal Opportunity Employer M/F/D

INTERNET ADDRESS:
<http://www.kylabor.net>

PHONE: (502) 564-3070
FAX: (502) 564-2248



SC-12

COMMISSIONER'S CURRENT REVISION
KENTUCKY PREVAILING WAGE DETERMINATION
LOCALITY NO. 006 **NOTICE**

THIS DETERMINATION APPLIES TO
PROJECT NO. 092 K 00037021
TYPE BUILDING _____
TYPE HVY/HWY X

Determination No. CR-1-006

Date of Determination: September 20, 2002

This schedule of the prevailing rate of wages for Locality No. 006, which includes Hopkins, Muhlenberg, Ohio Counties, has been determined in accordance with the provisions of KRS 337.505 to 337.550. This determination shall be referred to as Prevailing Wage Determination No. CR-1-006.

Apprentices shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request to any interested person.

Overtime is to be computed at not less than one and one-half (1 1/2) times the indicated BASE RATE for all hours worked in excess of eight (8) per day, or in excess of forty (40) per week. However, KRS 337.540 permits an employee and employer to agree, in writing, that the employee will be compensated at a straight time base rate for hours worked in excess of eight (8) hours in any one workday, but not more than ten (10) hours worked in any one workday, if such written agreement is prior to the over eight (8) hours in a workday actually being worked, or where provided for in a collective bargaining agreement. The fringe benefit rate is to be paid for each hour worked at a straight time rate for all hours worked. Fringe benefit amounts are applicable for all hours worked except when otherwise noted. Welders will receive rate for craft in which welding is incidental.

No laborer, workman or mechanic shall be paid at a rate less than that of the General Laborer except those classified as bona fide apprentices registered with the Kentucky State Apprenticeship Supervisor unless otherwise specified in this schedule of wage rates.

NOTE: The type of construction shall be determined by applying the following definitions.

BUILDING CONSTRUCTION

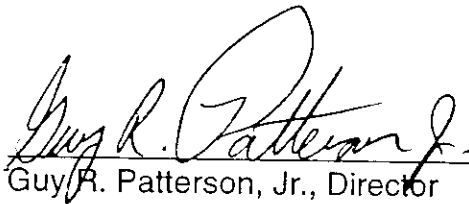
Building construction is the construction of sheltered enclosures with walk-in access for the purpose of housing persons, machinery, equipment, or supplies. It includes all construction of such structures, the installation of utilities and the installation of equipment, both above and below grade level, as well as incidental grading, utilities and paving.

HIGHWAY CONSTRUCTION

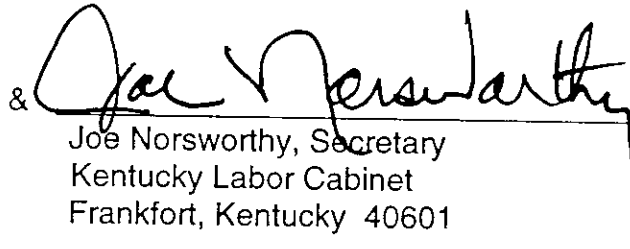
Highway construction includes the construction, alteration or repair of roads, streets, highways, runways, taxiways, alleys, trails, paths, parking areas, and other similar projects not incidental to building or heavy construction. It includes all incidental construction in conjunction with the highway construction project.

HEAVY CONSTRUCTION

Heavy projects are those projects that are not properly classified as either "building" or "highway". For example, dredging projects, water and sewer line projects, dams, flood control projects, sewage treatment plants and facilities, and water treatment plants and facilities are considered heavy.



Guy R. Patterson, Jr., Director
Employment Standards,
Apprenticeship & Training
Kentucky Labor Cabinet



Joe Norsworthy, Secretary
Kentucky Labor Cabinet
Frankfort, Kentucky 40601

CLASSIFICATIONS RATE AND FRINGE BENEFITS

ASBESTOS/INSULATION WORKERS: BASE RATE \$23.55
FRINGE BENEFITS 8.66

ASBESTOS & LEAD ABATEMENT WORKERS: BASE RATE \$15.55
FRINGE BENEFITS 4.55

BOILERMAKERS: BASE RATE \$24.65
FRINGE BENEFITS 12.94

BRICKLAYERS: BASE RATE \$22.00

CARPENTERS:

Carpenters: BUILDING BASE RATE \$18.05
FRINGE BENEFITS 6.64

HEAVY & HIGHWAY BASE RATE \$19.95
FRINGE BENEFITS 5.43

Divers: HEAVY & HIGHWAY BASE RATE \$31.05
FRINGE BENEFITS 5.43

Piledrivermen: BUILDING BASE RATE \$18.30
FRINGE BENEFITS 6.64

HEAVY & HIGHWAY BASE RATE \$20.70
FRINGE BENEFITS 5.43

CEMENT MASONS: BASE RATE \$17.25
FRINGE BENEFITS 8.04

Add \$.25 to base rate for 50-75 feet above finished grade level; 75-100 feet above finished grade level; and each additional 50 feet thereafter.

CLASSIFICATIONS RATE AND FRINGE BENEFITS

ELECTRICIANS:

Electrician:	BASE RATE	\$23.25
	FRINGE BENEFITS	9.00

Heliarc Welding & Cablesplicers:	BASE RATE	\$23.50
	FRINGE BENEFITS	9.00

When workmen are requested to work from swinging seats or on radio and television towers, tanks, smoke stacks, structural steel and bridges and where a man can fall 35 feet or more, but not including outside linework, the rate of pay shall be twenty-five percent (25%) above the base rate. Structural steel is defined to mean unprotected, unfloored raw steel.

ELEVATOR CONSTRUCTORS:	BASE RATE	\$22.42
	FRINGE BENEFITS	6.12

ELEVATOR CONSTRUCTOR HELPERS:	BASE RATE	\$15.69
	FRINGE BENEFITS	6.12

GLAZIERS:	BASE RATE	\$18.41
	FRINGE BENEFITS	3.88

Add \$.35 for glaziers working on a scaffold 30 ft. or more above ground or any permanent part of a structure

IRONWORKERS:	BASE RATE	\$23.05
	FRINGE BENEFITS	9.90

LABORERS:

BUILDING GROUP 1:

General laborers, watchman, water boy, wrecking labor on building and structures, clearing of right-of-way and building site, carpenter tender, deck hand flagging traffic, truck spotters and dumpers, axe and cross cut saw filer, concrete puddlers and form strippers, asbestos abatement laborers, toxic waste removal laborer, lead abatement laborer:

BUILDING	*BASE RATE	\$16.12
	FRINGE BENEFITS	7.36

CLASSIFICATIONS RATE AND FRINGE BENEFITS
 LABORERS: (Continued)

BUILDING GROUP 2:

All power driven tools, hod carriers, mason tenders, finishing tenders, mortar mixers, jack hammer, vibrators, soil compactors, wagon drill, core drill, test drill, well drill, concrete pump machine, tunnel boring machine, men in tunnel and crib ditch work, signal men, riprap rock setters and handlers, asphalt rakers, tampers and smoothers, pipe layers, grout pump man, chain saw, pipe clearing, doping and wrapping, swampers and straight cable hooking, cement guns, grade checkers machine excavating, tool room checkers, batch plant scale man, sand hog free air, sand hog compressed air, cutting torch man on salvage work, road form setters, brick slingers, hand spikers, power buggy, handling of creosote material, sandblasters, curing of concrete and apply hardener, air and gas tampers, concrete saw, power post hole diggers and green cut men on concrete work, pavement breakers, multi-craft tender:

BUILDING	*BASE RATE	\$16.32
	FRINGE BENEFITS	7.36

BUILDING GROUP 3:

Powderman and Blaster:

BUILDING	*BASE RATE	\$17.32
	FRINGE BENEFITS	7.36

*Add the following amounts to the laborers' base rate: \$1.00 for work with toxic waste, Level A; \$.50 for work with toxic waste, Level B; and \$.25 for work with toxic waste, Level C and chemically treated materials. There is no additional amount for work with toxic waste, Level D

HEAVY HIGHWAY GROUP 1:

Aging and curing of concrete (any mode or method), asbestos abatement worker, asphalt plant laborers, asphalt laborers, batch truck dumpers, carpenter tenders, cement mason tenders, cleaning of machines, concrete laborers, demolition laborers, dredging laborers, drill helper, environmental laborer - nuclear, radiation, toxic and hazardous waste - Level D, flagmen, grade checkers, all hand digging and hand back filling, highway marker placers, landscaping laborers, mesh handlers and placers, puddler, railroad laborers, rip-rap and grouters, right of way laborers, sign, guard rail and fence installers (all types), signal men, sound barrier installer, storm and sanitary sewer laborers, swampers, truck spotters and dumpers, and wrecking of concrete forms:

HEAVY & HIGHWAY	BASE RATE	\$16.34
	FRINGE BENEFITS	7.28

HEAVY HIGHWAY GROUP 2:

Batter board men (sanitary and storm sewer), brickmason tenders, mortar mixer operator, burner and welder, bushhammers, chain saw operator, concrete saw operators, deckhand scow man, dry cement handlers, environmental laborers - nuclear, radiation, toxic and hazardous waste - Level C, forklift operators for masonry, form setters, green concrete cutting, hand operated grouter and grinder machine operator, jack hammers, lead paint abatement, pavement breakers, paving joint machine, pipe layers-laser operators (non-metallic), plastic pipe fusion, power driven Georgia buggy or wheelbarrow, power post hole diggers, precast manhole setters,

CLASSIFICATIONS RATE AND FRINGE BENEFITS
LABORERS: (Continued)

walk-behind tampers, walk-behind trenchers, sand blasters, concrete chippers, surface grinders, vibrator operators, wagon drillers:

HEAVY & HIGHWAY	BASE RATE	\$16.59
	FRINGE BENEFITS	7.28

HEAVY HIGHWAY GROUP 3:

Air track driller (all types), asphalt lutean and rakers, gunnite nozzleman, gunnite operators and mixers, grout pump operator, powderman and blaster, side rail setters, rail paved ditches, screw operators, tunnel laborers (free air), and water blasters:

HEAVY & HIGHWAY	BASE RATE	\$16.64
	FRINGE BENEFITS	7.28

HEAVY HIGHWAY GROUP 4:

Caisson workers (free air), cement finishers, environmental laborer - nuclear, radiation, toxic and hazardous waste - Levels A and B, miners and drillers (free air), tunnel blasters, and tunnel muckers (free air):

HEAVY & HIGHWAY	BASE RATE	\$17.24
	FRINGE BENEFITS	7.28

MARBLE, TILE & TERRAZZO:

Finishers:	BASE RATE	\$12.33
	FRINGE BENEFITS	2.65

Workers:	BASE RATE	\$18.13
	FRINGE BENEFITS	3.25

MILLWRIGHTS:	BASE RATE	\$20.70
	FRINGE BENEFITS	9.62

OPERATING ENGINEERS:

BUILDING CLASS A:

Auto Patrol, Batch Plant, Bituminous Paver, Cableway, Central Compressor Plant, Clamshell, Concrete Mixer (21 cu. ft. or over), Concrete Pump, Crane, Crusher Plant, Derrick, Derrick Boat, Ditching and Trenching Machine, Dragline, Dredge Operator, Dredge Engineer, Elevating Grader and all types of Loaders, Forklift (regardless of lift height), Hoe-Type Machine, Hoist (1 drum when used for stack or chimney construction or repair), Hoisting Engine (2 or more drums), Locomotive, Motor Scraper, Carry-all Scoop, Bulldozer, Heavy Duty Welder, Mechanic, Orangepeel Bucket, Piledriver, Power Blade, Motor Grader, Roller (bituminous), Scarifier, Shovel, Tractor Shovel, Truck Crane, Winch Truck, Push Dozer, Highlift, All types of Boom Cats, Core Drill, Hopto, Tow or Push Boat, A-Frame Winch Truck, Concrete Paver, Gradeall,

CLASSIFICATIONS RATE AND FRINGE BENEFITS
OPERATING ENGINEERS: (Continued)

Hoist, Hyster, Pumpcrete, Ross Carrier, Boom, Tail Boom, Rotary Drill, Hydro Hammer, Mucking Machine, Rock Spreader attached to equipment, Scoopmobile, KeCal Loader, Tower Cranes (French, German and other types), Hydrocrane, Backfiller, Gurries, sub-Grader, Tunnel Mining Machines including Moles, Shields, or similar types of Tunnel Mining Equipment:

BUILDING	*BASE RATE	\$20.60
	FRINGE BENEFITS	8.40

*Operators on cranes with boom one-hundred fifty feet (150') and over including jib, shall receive (\$1.00) above base rate. All cranes with piling leads will receive \$.50 above base rate regardless of boom length

BUILDING CLASS B:

All Air Compressors (over 900 cfm), Bituminous Mixer, Joint Sealing Machine, Concrete Mixer (under 21 cu. ft), Form Grader, Roller (rock), tractor (50 HP and over), Bull Float, Finish Machine, Outboard Motor Boat, Flexplane, Fireman, Boom Type Tamping Machine, Greaser on Grease Facilities servicing Heavy Equipment, Switchman or brakeman, Mechanic Helper, Whirley Oiler, Self-Propelled Compactor, Tractair and Road Widening Trencher and Farm Tractor with Attachments (except backhoe, highlift and endloader), Elevator (regardless of ownership when used for hoisting any building materials), Hoisting Engineer (1 drum or buck hoist), Firebrick Masonry Excluded, Well Points, Grout Pump, Throttle-Valve Man, Tugger, Electric Vibrator Compactor and Caisson Drill Helper:

BUILDING	BASE RATE	\$17.86
	FRINGE BENEFITS ¹	8.40

BUILDING CLASS C:

Bituminous Distributor, Cement Gun, Conveyor, Mud Jack, Paving Joint Machine, Roller (earth), Tamping Machine, Tractors (under 50 HP), Vibrator, Oiler, Concrete Saw, Burlap and Curing Machine, Truck Crane Oiler, Hydro-Seeder, Power Form handling Equipment, Deckhand Steersman, Hydraulic Post Driver and Drill Helper:

BUILDING	BASE RATE	\$17.09
	FRINGE BENEFITS	8.40

HEAVY HIGHWAY CLASS A:

A-Frame Winch Truck, Auto Patrol, Backfiller, Batcher Plant, Bituminous Paver, Bituminous Transfer Machine, All types of Boom Cats, Bulldozer, Cableway, Carry-All Scoop, Carry Deck Crane, Central Compressor Plant Operator, Clamshell, Concrete Mixer (21 cu. ft. or over), Concrete Paver, Truck-Mounted Concrete Pump, Core Drills, Crane, Crusher Plant, Derrick, Derrick Boat, Ditching and Trenching Machine, Dragline, Dredge Operator, Dredge Engineer, Earth Movers, Elevating Grader and all types of Loaders, Grade-All, Gurries, Heavy Equipment Robotics Operator/Mechanic, Highlift, Hoe-Type Machine, Hoist (two or more drums), Hoisting Engine (two or more drums), Horizontal Directional Drill Operator, Hydraulic Boom Truck, Hydrocrane, Hyster, KeCal Loader, Letourneau, Locomotive, Mechanic, Mechanically Operated Laser Screed, Mechanic Welder, Mucking Machine, Motor Scraper, Orangepeel Bucket, Piledriver, Power Blade, Pumpcrete, Push Dozer, Rock Spreader attached to Equipment, All

CLASSIFICATIONS RATE AND FRINGE BENEFITS
OPERATING ENGINEERS: (Continued)

Rotary Drills, Roller (bituminous), Scarifier, Scoopmobile, Shovel, Side Boom, Subgrader, Tailboom, Telescoping Type Forklift, Tow or Push Boat, Tower Cranes (French, German and other types), Tractor Shovel, Truck Crane, Tunnel Mining Machines including Moles, Shields, or Similar types of Tunnel Mining Equipment:

HEAVY & HIGHWAY **BASE RATE \$20.85
FRINGE BENEFITS 8.40

**Operators on cranes with booms one hundred fifty feet (150') and over including jib shall receive \$.50 above base rate.

HEAVY HIGHWAY CLASS B:

All Air Compressors (over 900 cu. ft. per min.), Bituminous Mixer, Boom Type Tamping Machine, Bull Float, Concrete Mixer (under 21 cu. ft.), Electric Vibrator Compactor/Self-Propelled Compactor, Elevator (on drum or buck hoist), Elevator (regardless of ownership when used to hoist building material), Finish Machine, Firemen, Flex-Plane, Forklift (regardless of lift height), Form Grader, Hoist (one drum), Joint Sealing Machine, Mechanic Helper, Outboard Motor Boat, Power Sweeper (riding type), Roller (rock), Ross Carrier, Skid Mounted or Trailer Mounted Concrete Pumps, Switchman or Brakeman, Throttle Valve Man, Tractair and Road Widening Trencher, Tractor (50 HP and over), Truck Crane Oiler, Tugger, Welding Machine, Well Points, and Whirley Oiler:

HEAVY & HIGHWAY BASE RATE \$18.43
FRINGE BENEFITS 8.40

HEAVY HIGHWAY CLASS B2:

Greaser on Grease Facilities servicing Heavy Equipment:

HEAVY & HIGHWAY BASE RATE \$18.81
FRINGE BENEFITS 8.40

HEAVY HIGHWAY CLASS C:

Bituminous Distributor, Burlap and Curing Machine, Caisson Drill and Core Drill Helper (track or skid mounted), Cement Gun, Concrete Saw, Conveyor, Deckhand Oiler, Grout Pump, Hydraulic Post Driver, Hydro Seeder, Mud Jack, Oiler, Paving Joint Machine, Power Form Handling Equipment, Pump, Roller (earth), Steermen, Tamping Machine, Tractors (under 50 H.P.) and Vibrator:

HEAVY & HIGHWAY BASE RATE \$18.17
FRINGE BENEFITS 8.40

BUILDING & HEAVY HIGHWAY: Employees assigned to work below ground level are to be paid ten percent (10%) above base wage rate. This does not apply to open cut work.

CLASSIFICATIONS RATE AND FRINGE BENEFITS

PAINTERS:

Brush, Roller & Paperhangers:	BUILDING	*BASE RATE	\$20.00
		FRINGE BENEFITS	6.28
	HEAVY & HIGHWAY	BASE RATE	\$19.15
		FRINGE BENEFITS	4.88
Drywall Finishers & Plasterers:	BUILDING	*BASE RATE	\$20.25
		FRINGE BENEFITS	6.28
	HEAVY & HIGHWAY	BASE RATE	\$19.40
		FRINGE BENEFITS	4.88

Spray, Sandblast, Power Tools, Waterblast, Steam Cleaning; Brush & Roller of Mastics, Creosotes, Kwinch Koate and Coal Tar Epoxy:

BUILDING	*BASE RATE	\$21.00
	FRINGE BENEFITS	6.28
HEAVY & HIGHWAY	BASE RATE	\$20.15
	FRINGE BENEFITS	4.88

Spray of Mastics, Creosotes, Kwinch Koate and Coal Tar Epoxy:

BUILDING	*BASE RATE	\$22.00
	FRINGE BENEFITS	6.28
HEAVY & HIGHWAY	BASE RATE	\$21.15
	FRINGE BENEFITS	4.88

*Add \$.75 per hour to base rate for employee working forty (40) feet or more above ground or floor -- \$1.50 per hour to base rate for employee working seventy-five (75) feet or more above ground or floor -- \$2.50 per hour to base rate for employee working one hundred (100) feet or more above ground or floor

PLUMBERS & PIPEFITTERS: BASE RATE \$23.29

FRINGE BENEFITS 7.73

Men working 35 feet above ground or floor, or in a tunnel shall received \$.25 per hour above the base rate add an additional \$.25 per hour for each additional 25 feet

CLASSIFICATIONS RATE AND FRINGE BENEFITS

HOPKINS & MUHLENBERG COUNTIES:

ROOFERS:	BASE RATE	\$13.13
	FRINGE BENEFITS	1.60

OHIO COUNTY:

ROOFERS:	BASE RATE	\$16.90
	FRINGE BENEFITS	4.95

SHEETMETAL WORKERS:	BASE RATE	\$23.81
	FRINGE BENEFITS	10.89

SPRINKLER FITTERS:	BASE RATE	\$24.80
	FRINGE BENEFITS	8.55

BUILDING TRUCK DRIVERS:

Truck Helper and Warehouseman:

BUILDING	BASE RATE	\$10.06
	*FRINGE BENEFITS	1.33

Driver - 3 tons and under, Greaser, Tire Changer and Mechanic Helper:

BUILDING	BASE RATE	\$10.18
	*FRINGE BENEFITS	1.33

Driver - over 3 tons, Drivers, Semi-Trailer or Pole Trailer; Dump Trucks, Tandem Axle; Farm Tractor when used to pull building material or equipment:

BUILDING	BASE RATE	\$10.29
	*FRINGE BENEFITS	1.33

Drivers, Concrete Mixer Trucks (all types, hauling on job sites only); Truck Mechanics:

BUILDING	BASE RATE	\$10.36
	*FRINGE BENEFITS	1.33

Drivers, Euclid and other Heavy Earth Moving Equipment and Low Boy, Winch Truck and A-Frame Truck and Monorail Truck when used to transport building materials, Forklift Truck when used inside warehouse or storage area:

BUILDING	BASE RATE	\$10.46
	*FRINGE BENEFITS	1.33

*TRUCK DRIVER Fringe benefits - Apply to each employee (whose name appears on the payroll that week) who has been employed a minimum of twenty (20) work days within any ninety (90) consecutive day period for that employer.

CLASSIFICATIONS RATE AND FRINGE BENEFITS
HEAVY HIGHWAY TRUCK DRIVERS:

Truckhelper and warehouseman, mobile batch truck helper:
HEAVY & HIGHWAY BASE RATE \$17.78
 **FRINGE BENEFITS 2.28

Greaser, tire changer and mechanic helper:
HEAVY & HIGHWAY BASE RATE \$17.83
 **FRINGE BENEFITS 2.28

Truck mechanic: HEAVY & HIGHWAY BASE RATE \$18.06
 **FRINGE BENEFITS 2.28

Driver-single axle dump and flatbed truck, semi-trailer or pole trailer when used to pull building materials and equipment, tandem axle dump truck, driver of distributors, driver on mixer trucks (all types):
HEAVY & HIGHWAY BASE RATE \$18.13
 **FRINGE BENEFITS 2.28

Driver-Euclid and other heavy earthmoving equipment and low-boy, articulator, cat truck, 5-axle wheel loader truck and A-Frame truck when used in transporting materials, Ross Carrier, forklift truck when used to transport building materials, driver on pavement breakers:
HEAVY & HIGHWAY BASE RATE \$18.14
 **FRINGE BENEFITS 2.28

**TRUCK DRIVER FRINGE BENEFITS apply to employees who have been employed a minimum of twenty (20) workdays within any ninety (90) consecutive day period of that employer.

SPECIFICATION 1

DISTRIBUTION SYSTEM AND PIPING

1-1. GENERAL.

This Specification pertains to furnishing all materials and construction of the complete distribution system. The intent herein is to be in accordance with the AWWA and the National Sanitation Foundation Standards that shall complement these Specifications.

In an existing system all materials must be compatible with the existing materials with regard to wrench sizes, operation, interchangeability and appearance (fire hydrants) unless otherwise specifically shown or approved.

1-2. MATERIALS.

1-2.1. DISTRIBUTION MAINS.

Distribution mains and fittings of a particular material shall be the product of one manufacturer. Jointing materials, including rubber gaskets, packing glands, flanges, bolts, lubricants, solvents, etc., shall be as recommended by the pipe manufacturer, shall comply with AWWA Standards and shall withstand a safe working pressure of not less than 150 psi, unless otherwise shown.

a. Iron Pipe.

Ductile iron pipe shall be AWWA C151 (ANSI A21.51). All iron pipe shall have cement-mortar lining conforming with AWWA C104 (ANSI A21.4). Jointing shall be with push-on or mechanical joints for Class 50 (150 psi working pressure) pipe.

b. Plastic Pipe.

Plastic pipe shall conform with ASTM D 2241 polyvinyl chloride (PVC) pressure pipe, 1-1/2 inches through 12 inches and shall bear the National Sanitation Foundation seal. Unless otherwise shown the pipe shall be SDR21, pressure rated at 200 psi. Jointing shall be with rubber ring gaskets.

PVC pipe, 14 inches through 30 inches, shall have an integral bell and spigot joints and shall be in accordance with AWWA C905. Pipe shall be DR18 unless otherwise shown.

PVC pipe used shall be manufactured by one of the following companies:

National Pipe & Plastics, Inc.
J-M Manufacturing Company, Inc.
Bristolpipe
Diamond Plastics Corporation
North American Pipe Corporation
Northern Pipe Products, Inc.
Contech Construction Products
Freedom Plastics, Inc.
IPEX, Inc.

Lamson Vylon Pipe
PW Pipe
Royal Pipe Systems
Uponor ETI Company
CertainTeed Corporation

c. High Density Polyethylene Pipe.

High density, polyethylene pipe (HDPE) shall be in accordance with AWWA C906 and shall have ductile iron pipe outside diameters. The working pressure rating shall be as specified on the Plans.

1-2.2. FITTINGS.

All fittings larger than 3 inches shall be gray iron or ductile iron. All fittings, 3 inches and smaller, shall be PVC.

Iron fittings shall comply with AWWA C110 (ANSI A21.10) or AWWA C153 (ANSI A21.53) and the inside of the fittings shall be cement-mortar lined in accordance with AWWA C104. The outside coating shall be bituminous material approximately one mil thick. Rubber gaskets shall conform with AWWA C111 (ANSI A21.11).

Mechanical joint restraint devices shall be as manufactured by the company furnishing the ductile iron pipe, Uni-Flange, EBAA Iron Sales, Inc. or equal.

1-2.3. VALVES.

a. Manufacturer.

All valves shall be Mueller or M & H, unless otherwise shown or approved.

b. Gate Valves.

Gate valves larger than 2 inches shall be iron body, bronze mounted, with a nonrising stem and shall comply with AWWA C500 (double-disc) or AWWA C509 (resilient-seated). Valves below ground shall be wrench operated; valves above grade shall be wheel or lever operated; and all valves shall operate clockwise to close. All valves, 2 inches and smaller, shall be bronze body.

c. Butterfly Valves.

Butterfly valves, 2 inches through 20 inches, shall conform with AWWA C504 and shall have a minimum working pressure or rating of 150 psi. They shall have semi-steel or cast iron bodies with lug end connections for use with flanged CIP. The shaft seal shall be hycar and the seat shall be neoprene. They shall have bronze discs, 416 stainless steel shafts and bronze bearings. Valves below ground shall operate with a square nut through a worm gear. For valves above grade, the actuator shall be of the lever type with 10 position or adjustable memory stops as shown on the Plans. All valves shall close clockwise and open counterclockwise.

Butterfly valves shall be installed in the distribution system with flanged to mechanical joint connecting pieces.

d. Ball Valves.

Unless otherwise shown, valves for 2 inch lines or smaller shall be ball valves. Ball valves shall be brass or bronze and shall be approved specifically for potable water use. Ball valves shall be as manufactured by Ford.

e. Valve Boxes.

Valve boxes shall be cast iron. All valve boxes shall be adjustable with a minimum adjustment of 3 inches either higher or lower. Boxes shall have a 5-1/4 inch shaft diameter and the covers shall be cast iron with the word "WATER" cast in the top surface.

Valve boxes may be extended with the use of PVC pipe, if needed, provided the PVC pipe is located adjacent to the valve and both sections of the cast iron box are utilized.

The Contractor shall install an 18" x 4" square or circular concrete pad around each box and a valve marker post at the box. Installation of the pad and marker post shall be made after proper time has elapsed to permit settling and upon written authorization by the Engineer.

f. Valve Box Adaptors.

Valve box adaptors shall be properly sized for the type and size valve used. The valve box adaptor shall be identical to those manufactured by Adaptor, Inc., or equal.

g. Valve Stem Extensions.

Valve stem extensions shall be 7/8 inch diameter hot rolled steel, as manufactured by The General Engineering Co., or equal. Extensions shall be supplied with the alignment washer and shall be securely attached to the valve with two or more set screws.

h. Valve Wrenches.

Three valve wrenches, approximately 6 feet in length, shall be furnished for each different type and/or size required.

i. Air Valves.

Air valves, either air release or combination air release and air vacuum, shall have a cast iron body, stainless steel trim and floats and a working pressure of 300 psi. They shall be direct acting or simple lever-type with full ported valves; parts shall be interchangeable; and they shall not require special tools for maintenance. The size and type air valve shall be as shown on the Plans.

All air valves shall be mounted upright on the main with a service clamp and shall have a shutoff valve between the air valve and the main. They shall be installed in a 30 inch I.D. by 30 inch deep valve box (CMP, PVC, clay or concrete) having a cast iron frame and solid lid, Neenah Foundry R-5900 series, or equal.

The box shall be centered on the valve, shall be set plumb with the top slightly above grade and shall be filled from the bottom of the main to 4 inches below the shutoff valve with No. 57 crushed stone.

1-2.4. FIRE HYDRANTS.

Fire hydrants shall be three-way with two 2-1/2 inch hose nozzles and one 4-1/2 inch pumper nozzle and shall comply with AWWA C502. Hose connections and operating nuts shall be National Standard. The minimum valve opening shall be 5-1/4 inches, shall close with the pressure and shall remain closed if the hydrant barrel is broken or damaged. The hydrant shall have a replaceable, breakable flange or section. The operating nut shall be a pentagon shape, shall operate counterclockwise to open, and an "open" direction arrow shall be cast in the bonnet. The normal depth of bury shall be 42 inches. Three hydrant wrenches and one replaceable, breakable flange shall be furnished.

All hydrants shall be painted with a primer coat equal to Rustoleum No. 960 primer and a finish coat of "Fire Hydrant Red" equal to Rustoleum No. 1210.

1-2.5. FLUSH ASSEMBLIES.

Flush assemblies shall be sized as shown on the Plans and in accordance with the Standard Drawings. Unless otherwise shown, flush assemblies shall be set perpendicular to the main by use of a tee.

The tee shall be "main size" by "flush" size and the number of fittings shall be minimized. Thrust restraint for all fittings shall be with mechanical joint restraint and concrete blocking.

1-2.6. TAPPING, CUT-IN AND REPAIR MATERIALS.

a. Tapping Sleeves.

Tapping sleeves shall be Class 125 (ASA B16.1) similar to Mueller H-615. Stainless steel tapping sleeves may be used in lieu of ductile iron.

b. Tapping Crosses.

The tapping crosses shall be Class 125 (ASA B16.1) similar to Mueller H-715.

c. Tapping Valves.

Tapping valves shall be Class 125 (ASA B16.1) similar to Mueller H-667 for mechanical joint pipe or H-642 for asbestos cement pipe.

d. Split Repair Sleeves.

Split repair sleeves shall have 150 psi working pressure similar to Mueller H-777 for asbestos cement pipe and 200 psi working pressure similar to Mueller H-785 for mechanical joint pipe.

e. Cut-In Sleeves and Valves.

Cut-in sleeves shall be similar to Mueller H-840, or equal, and cut-in valves shall be similar to Mueller H-862, or equal.

f. Inserting Valves.

Inserting valves shall be similar to Mueller H-800.

g. Repair Clamps.

Repair clamps shall be stainless steel with stainless steel bolts, fully gasketed and pressure rated to match or exceed the pipe on which it is to be installed. Unless otherwise directed, repair clamps shall be used only on PVC pipe and shall be similar to Mueller 500 Series.

h. Service Saddles.

All service clamps or saddles shall be epoxy coated or stainless steel.

1-2.7. SERVICE LINES.

a. Plastic Pipe.

Plastic pipe and fittings for service lines shall conform with AWWA C901 for polyethylene pipe and AWWA C902 for polybutylene pipe, shall have a pressure rating of 200 psi and shall bear the National Sanitation Foundation seal.

b. Copper Pipe.

Copper pipe for service lines shall conform with ASTM B-88, "Type K".

c. Service Line Accessories.

Corporation stops, curb stops, service fittings, etc., shall be of the finest quality bronze or brass as manufactured by Ford.

d. Crossings.

All service lines crossing a dedicated road right-of-way shall be installed in casing. For ¾" and 1" services, the casing shall be plastic provided no joints are located under the roadway. Otherwise, casing shall be steel or as designated otherwise.

1-2.8. SERVICE METERS.

All new meters and service lines installed for new customers shall be made by the Owner. Reconnections or relocation of a service for an existing customer shall be made by the Contractor.

For a reconnection or relocation, the service meter, yoke, box, pressure reducing valve and customer cutoff valve shall be furnished by the Owner, unless specifically shown otherwise. The Contractor shall be responsible for the proper installation and connection to the service line.

The Contractor shall also accurately record the serial number and the initial reading of each meter set with reference to the service address as well as the date the meter was set. Records shall be turned over to the Owner.

1-2.9. CASING PIPE.

Casing pipe shall be seamless or continuous welded steel pipe having a minimum wall thickness of 0.25 inches and a minimum yield strength of 35,000 psi.

1-2.10. WATER MAIN LOCATORS.

a. Tracer Wire.

Tracer wire shall be 12 gauge insulated copper wire and shall be suitable for underground installation. The tracer wire shall be securely attached to all valves, fire hydrants, flush hydrants, etc. Splices shall be made in a manner to insure conductivity.

b. Marker Posts.

Marker posts shall be located adjacent to valves and along mains at a minimum spacing of approximately 300 feet and at all property barriers (fences, etc.) and as directed by the Engineer. Additionally, markers shall be placed at both ends of all highway, railroad and creek crossings.

Marker posts shall be 2 inch SDR 21 PVC pipe installed with 2 foot bury and a 2 inch SDR 21 PVC cap on top. A decal marked "WATER MAIN" or "WATER VALVE" shall be provided by the Owner for installation on the post by the Contractor.

1-2.11. RIVER CROSSING PIPE.

River crossing pipe shall be ductile iron or high density, polyethylene pipe, as shown on the Plans.

Ductile iron pipe shall be Class 5 ductile iron, 0.42 metal thickness and shall be boltless, similar to "Usiflex" as manufactured by U. S. Pipe, or equal.

High density, polyethylene pipe shall be in accordance with AWWA C906 and shall have a working pressure rating as specified on the Plans.

1-3. CONSTRUCTION.

1-3.1. RESPONSIBILITY FOR MATERIALS.

The Contractor shall be responsible for all materials furnished by him and shall replace at his own expense all materials found defective or not complying with these Specifications. His responsibility shall be in effect for 1 year after acceptance by the Owner.

The Contractor shall be responsible for any materials furnished to him by the Owner that are lost, stolen or damaged while in his possession.

1-3.2. ALIGNMENT AND GRADE.

The water line shall be located as shown on the Plans and shall be parallel with streets and property lines where possible. It shall have a minimum cover of 42 inches. Through areas where an adjacent roadbed is in a cut section, the main shall be laid to a minimum depth of 36 inches below the centerline crown elevation of the adjacent road or street but shall not exceed a depth of 7 feet. Exceptions to this requirement (deeper or more shallow) shall be authorized, in specific cases, by the Engineer. There shall be no additional compensation for laying depths up to 7 feet. Bends shall be used at any abrupt changes in direction and lines shall be a minimum distance of 5 feet from any pavement.

1-3.3. TRENCH PREPARATION.

The trench shall be dug to the alignment and grade required and shall be braced and drained for safe, efficient working conditions. Excavation shall not exceed pipe laying at the end of the working period. All pipe line trench excavation shall be considered unclassified and the cost for excavation of any material (earth, sand, gravel, rock, concrete, etc.) shall be borne by the Contractor.

a. Width.

The trench width shall be the nominal diameter of the pipe being laid plus an additional 16 inches. Open cuts across paved surfaces shall be cut in straight, neat lines approximately 12 inches wider than the trench being dug.

b. Bell Holes.

Bell holes shall be provided for properly jointing the pipe and to maintain a 2 inch clearance around the pipe joint.

c. Excavation to Grade.

The trench shall be excavated to provide a uniform and continuous bearing and support for the pipe on solid ground at every point between bell holes. Any excavation below the specified grade shall be corrected with approved material, thoroughly compacted as directed by the Engineer. The finished subgrade shall be prepared accurately by means of hand tools.

d. Unsuitable Foundation.

Where the bottom of the trench at subgrade is found unstable or to include ashes, cinders, refuse, vegetable or other organic materials, or large pieces or fragments of inorganic material that in the judgment of the Engineer should be removed, the Contractor shall excavate and remove such unsuitable material to the width and depth ordered by the Engineer. The subgrade shall then be constructed by backfilling with an approved material, thoroughly compacted in 4 inch layers to provide a uniform and continuous support for the pipe at the specified grade.

e. Clearance in Rock.

Ledge rock, boulders and large stones shall be removed to provide a clearance of at least 6 inches below and on each side of all pipe valves and fittings for pipes 24 inches in diameter or less and 9 inches for pipes larger than 24 inches in diameter. The subgrade shall then be constructed in accordance with Item d above.

1-3.4. CROSSINGS AND OCCUPANCY.

The Contractor shall comply with all provisions of the permits for any crossings or parallel occupancy.

For a crossing requiring boring and jacking, the Contractor shall be responsible for maintaining line and grade. Where casing is required, a continuous steel casing, with continuous welds, shall be installed by advancing the casing as the hole is being bored. The carrier pipe shall not rest on the bells or hubs and shall be supported inside the casing with manufactured plastic skids. Skid support spacing shall not exceed 4.7

feet for 4 inch pipe; 6.3 feet for 6 inch pipe; 7.4 feet for 8 inch pipe; 8.5 feet for 10 inch pipe; 9.6 feet for 12 inch pipe and 12 feet for 18 inch through 27 inch pipe.

Casing end seals shall be installed on all casings and shall be secured to the casing and carrier pipe with stainless steel bands in such a manner as to prevent damage to the seal if there is any pipe movement. The seals shall be made of oil and water resistant rubber and shall be similar to those manufactured by Maloney Pipeline Products, or equal.

For crossings not requiring casing, the bore shall be made with one continuous section of pipe having no joints under the pavement.

Open cuts shall not be closer than 5 feet from the edge of the pavement on either side or in accordance with the permit.

1-3.5. EXISTING MAINS AND VALVES.

Where there are existing mains along the route of a new main, the existing main and services shall be protected and maintained at the Contractor's expense. If an existing main is to remain in service, it shall not have a "dead end" but shall be connected to form a grid or loop or as directed by the Engineer.

All materials for connections of existing service lines to the new main, after testing and disinfection, must be kept clean and free from all contamination during the changeover. All customers whose water service will be interrupted shall be notified and service shall be restored when possible.

Any main or service line to be abandoned shall be disconnected and capped or plugged at its connections to the live mains. Existing valves, in the abandoned main at its connection to the live main, shall be removed.

UNDER NORMAL CIRCUMSTANCES, THE CONTRACTOR SHALL NOT OPERATE AN EXISTING VALVE. EXISTING VALVES ARE TO BE OPERATED BY THE OWNER.

1-3.6. TIE-INS TO EXISTING MAINS.

All tie-ins to existing mains must be kept clean and free from all contamination while the cutting-in and connecting are being done. The Contractor shall determine the type of existing pipe at each tie-in location to verify the materials required for the most economical method (for the Owner) of making the tie-in. The method of making the tie-in shall be subject to the Engineer's approval.

The following conditions shall apply to all tie-ins.

- a. The Owner shall be notified 48 hours in advance of all tie-ins.
- b. If service is to be interrupted, all affected customers shall be notified by the Contractor and service shall be restored as soon as possible.
- c. The trench or excavation shall be kept completely dry by providing a sump and by pumping, if necessary.
- d. Excavation around the existing main shall be sufficient to allow thorough cleaning with a wire brush and disinfection with a strong chlorine solution to a point 12 inches either side of the fitting(s) being installed.

- e. The inside of all valves and fittings shall be clean and shall be thoroughly swabbed with a strong chlorine solution before being placed in the existing line.
- f. All connections shall be valved for the new main being installed. This valve shall remain tightly closed until disinfection of the new main has been completed.

1-3.7. PIPE LAYING.

Pipe shall be laid continuously with the bell ends facing in the direction of laying. The trench shall be dewatered and every precaution shall be taken to prevent foreign material from entering the pipe during installation. All pipe must be perfectly clean before placing in the line.

All phases of installation, including handling, cutting, laying, aligning, and jointing, shall be in strict compliance with the manufacturer's recommendations and with the AWWA Standards.

At times when pipe laying is not in progress, the open ends of pipe shall be sealed by a water-tight plug. If water is in the trench, the seal shall remain in place until the trench is pumped completely dry.

Two methods of anchorage and thrust restraint shall be provided for all fittings. The methods shall consist of concrete blocking and mechanical joint restraining glands that comply with all applicable provisions of AWWA/ANSI C101 and C11/A2.11.

Concrete shall be a minimum of Class B and shall be poured against undisturbed soil. Concrete blocking shall not obstruct fitting connections and all fittings shall be wrapped in plastic prior to placement of concrete.

Prior to backfilling, anchorage and thrust restraint shall be documented and verified by the Engineer.

1-3.8. VALVES AND FITTINGS.

All valves and fittings, not otherwise shown on the Plans, shall be mechanical-joint. Valves shall be set level and the valve box shall be centered over the operating nut by using a valve box adaptor. All boxes shall be thoroughly tamped in a plumb position. The top surface of the valve box shall be level with the street or slightly above grade when installed in fields or yards.

The top of all valve operating nuts shall be within 36 inches of the ground surface.

Existing valves or appurtenances to be abandoned shall be removed from the line.

1-3.9. FIRE HYDRANTS.

All hydrants shall be set plumb and truly vertical with the pumper connection on the street side. Cast-in-place concrete thrust blocks bearing squarely against undisturbed soil shall be placed, using care not to obstruct the hydrant barrel drains. Not less than 7 cubic feet of coarse gravel or crushed stone shall be placed from the bottom of the trench to at least 6 inches above the waste opening and 1 foot around the elbow to facilitate drainage. The hydrant nozzles shall be at least 12 inches above the established grade or ground line.

1-3.10. METER SETTINGS.

All meters shall be set level and the meter box shall be centered over the meter and thoroughly tamped in a plumb position. Five feet of service line, with a cap on the end, shall be stubbed out on the customer side of the meter. The top of the meter box cover shall be slightly above grade to prevent the entrance of surface water

1-3.11. HYDROSTATIC TEST.

All distribution and piping systems shall be hydrostatically tested in accordance with Specification 12.

1-3.12. DISINFECTION.

All existing facilities exposed to contamination and new piping, materials and equipment shall be disinfected in strict accordance to Specification 12.

1-3.13. BACKFILLING.

Pipe embedment from the bottom of the trench to the centerline of the pipe shall be with fine earth or sand. It shall be placed by hand on both sides of the pipe simultaneously.

Pipe embedment from the centerline of the pipe to a point 18 inches above the top of the pipe shall consist of finely divided earth or sand free from rocks, boulders or wet or sticky masses. This embedment shall be evenly spread and carefully compacted.

Backfilling to grade under a roadway or other permanent structure shall be with a compacted granular material (sand or DGA) and to the satisfaction of the Engineer. Other backfilling to grade, not shown on the Plans, may be altered to fit the particular situation and tamping may not be required, but the Contractor shall be responsible for all settlement for 1 year.

Tracer wire shall be placed directly above the pipe and care shall be taken to avoid shifting during backfilling. At the valve boxes, the wire shall be located outside the box up to the top of the bottom section and then run inside the box up to the surface.

1-3.14. SERVICE LINES.

Service lines shall be connected after the main has been tested, approved, and disinfected. The minimum size service line shall be 3/4 inch and shall be connected to the main with a corporation stop. For PVC and AC main sizes 6 inches and smaller and for cast iron pipe 4 inches and smaller, connections shall be made with a service clamp or saddle. For larger size mains, the connection shall be made with a corporation stop having a tapered thread similar to the Mueller H-15000 series or having a rubber sealing sleeve similar to the "Hays-Seal", or equal. For 1 inch and 2 inch service lines, connection to the main shall be made with a double-strap service clamp. Larger service lines or mains shall be connected with a tapping sleeve or by installation of fittings in the main.

The service lines shall be run perpendicular to the main in a straight line to the meter box.

1-3.15. CREEK CROSSINGS.

Creek crossings, where possible, shall be made by gradually increasing the depth of the pipe to provide the specified cover at the lowest point. Crossings requiring the use of bends shall be approved by the Engineer. Payment for crossings shall be at the unit prices bid for the various items used including encasement, as directed.

1-3.16. SPOT EXCAVATION.

Spot excavation shall be a pay item for mobilization, all work and equipment to cover the cost for location of water mains and appurtenances and for excavation to install a valve or other appurtenance at the isolated location (where other work is not being done) as shown on the Plans and as directed by the Engineer.

Spot excavation shall include backfilling in accordance with Article 1-3.13 of this Specification.

The Contractor shall use extreme care to prevent damage to existing mains and appurtenances and the final 6 inches above the main shall be hand excavated. Valve boxes accidentally damaged during spot excavation shall be replaced at the expense of the Owner, but other damage to existing facilities shall be the responsibility of the Contractor.

If a working valve or other item is located, the Contractor shall adjust the valve box height but shall only be paid for spot excavation plus the unit price bid for any new materials used.

Payment for this item shall be at the lump sum bid and excavation at a noncontiguous location shall constitute a separate pay item.

1-3.17. RECORDS.

The Contractor shall be responsible for maintaining a set of Record Plans showing the size, type of material and location of all new construction and of any existing water facilities located during the work. These Record Plans must always be available to the Engineer and shall be furnished to the Engineer at the end of construction for the Owner's permanent record.

SPECIFICATION 3

CONCRETE WORK

3-1. GENERAL.

This Specification shall include all labor, equipment and materials to complete the concrete work on this project. The Contractor shall supply the Engineer with a certificate for each design mix from the ready mix supplier for approval before ordering.

3-2. MATERIALS.

3-2.1. CONCRETE.

a. General.

Cement for all concrete shall conform with standard specifications for "portland cement", ASTM Designation C-150, Type I.

Fine aggregate shall consist of sand having clean, sound, hard, durable particles and shall be free from clay and organic impurities. The gradation shall be as follows: 100% passing a 3/8 inch sieve; 85-100% passing a No. 4 sieve; 40-80% passing a No. 16 sieve; 5-25% passing a No. 50 sieve; 0-5% passing a No. 100 sieve.

Coarse aggregate shall be crushed stone or washed gravel having hard, strong, durable qualities and shall be free from adherent coatings and laminated, soft or disintegrated pieces. Coarse aggregate for concrete shall be as follows: 100% passing a 1-1/2 inch sieve; 95-100% passing a 1 inch sieve; 25-60% passing a 1/2 inch sieve; 0-10% passing a No. 4 sieve; 0-5% passing a No. 8 sieve.

Water shall be clear, clean and free from injurious substances.

The concrete shall have 6% air plus or minus 1-1/2%. Admixtures containing more than 0.1% shall not be used.

b. Classification.

(1) Structural Concrete.

Structural concrete shall be Class A and is defined as floors, walls, roofs, foundations, footings, etc., having reinforcing steel and requiring form work.

(2) Plain Concrete.

Plain concrete shall be Class B and shall be used only if specified with or without WWF and minor forms.

(3) Encasement Concrete.

Concrete for encasement may be Class C.

c. **Strength.**

Concrete mixes shall be as follows:

- Class A - 3,500 psi in 28 days with 6 bags of cement (minimum).
- Class B - 2,500 psi in 28 days with 5 bags of cement (minimum).
- Class C - 4 bag mix for encasement only (no test required).

d. **Consistency.**

Concrete shall be proportioned to give a plastic, workable mix meeting the strength requirements by the absolute volume method. Slump tests shall be made in accordance with ASTM Designation C-143. The slump shall not exceed 4 inches for concrete vibrated in place or 5 inches (authorized by Engineer only) for hand consolidation in very thin walls.

3-2.2. REINFORCEMENT.

Bars for concrete reinforcement shall conform with ASTM Designation A-615, Grade 60 (yield strength 60,000 psi) for deformed bars and ASTM Designation A-185 for welded wire fabric (WWF). All reinforcement shall be free from rust, scale, grease or other coatings that might destroy or reduce its bond with the concrete.

3-2.3. JOINT FILLERS.

Preformed fillers shall be furnished in a single piece for the full depth and width required for the joint unless otherwise authorized. When use of more than one piece is authorized for a joint, the abutting ends shall be fastened securely and held accurately to shape.

All joint fillers shall conform with AASHTO Standards and be as approved by the ENGINEER.

3-2.4. JOINT SEALERS.

a. **Hot-poured elastic.**

Hot-poured elastic joint sealers shall conform with ASTM D 3405 and all applicable Kentucky Transportation Cabinet, Department of Highways Standard Specifications and/or Illinois Department of Transportation Standard Specifications.

b. **Preformed Compression Joint Sealers with Lubricant Adhesive.**

Preformed compression joint sealers shall be of approved shapes and sizes for the joints to be sealed. The sealers shall conform with ASTM D 2628. The lubricant adhesive shall be compatible with the sealer, concrete, and steel. The sealer manufacturer shall recommend a lubricant adhesive which will be compatible with and which will meet the requirements of ASTM D 2835.

3-3. CONSTRUCTION.

3-3.1. REINFORCEMENT.

The clear distance between parallel bars shall not be less than 1-1/2 times the diameter of the bars. Bars shall have a minimum of 3 inches of concrete covering

where concrete is cast directly against the ground; 2 inches of covering where concrete is exposed to earth, water or weathering conditions; and for concrete not exposed to ground or the weather, the reinforcement steel covering shall be not less than 1-1/2 inches for beams, girders, and columns and not less than 3/4 inch for slabs and walls.

Welded wire fabric in slabs shall be placed 1-1/2 inches from the bottom of 4 inch slabs and 2 inches from the bottom of 6 inch slabs.

Splices, where required in the reinforcement steel, shall be Class C in accordance with ACI-318. Chairs, ties, spacers, etc., shall be used to secure reinforcement in place throughout the concreting operation.

3-3.2. EMBEDDED ITEMS.

Sleeves, conduit, bolts, anchors, waterstops, etc., shall be securely anchored in place and thoroughly cleaned before placing the concrete.

3-3.3. FORMS.

Forms shall be secured in place to withstand the placing and the weight of the concrete without bulging, sagging, or deflecting from the line and grade. Forms shall be tight enough to prevent the leakage of mortar, shall be clean from all dirt, debris, etc., and shall be properly coated with a nonstaining mineral form oil for easy removal. Forms shall not be removed until the concrete has sufficient strength, and during removal, care shall be taken so as not to chip corners or damage the concrete.

3-3.4. PLACING CONCRETE.

Concrete may not be placed when the air temperature is 40 degrees F and falling. Concrete placed during hot weather shall be cooled by frequent spraying and protected from curing too rapidly.

Concrete shall be placed within 45 minutes after water has been added. The maximum free-fall in placing concrete shall be 5 feet. A mechanical vibrator shall be used to cause the concrete to flow or settle but care shall be taken to prevent overvibrating and segregation of the aggregate.

Vibrators shall not be used to transport concrete within form work.

3-3.5. JOINTS.

All joints, longitudinal and transverse, shall conform with all details shown on the Plans, and shall be installed at the locations so indicated, or as directed.

Saw-cut joints shall be cut to the depth and width indicated on the Plans and shall be of uniform width throughout. The sawing equipment shall be capable of cutting the joint in strict conformity with the required alignment and depth, and shall be so operated. Transverse saw cuts for joints to be sealed with preformed compression joint seals shall be one continuous cut across the pavement being sawed. Water may be sprayed on the saw blades during the cutting. The joints shall not be sawed until the concrete has hardened to the extent that tearing and raveling will not occur, but as soon thereafter as deemed necessary to preclude random cracking.

All sawed joints shall be thoroughly flushed with clean water or cleaned with compressed air immediately after sawing so the vertical surfaces of the joint will be clean and allow proper adherence of the joint sealer to the surfaces.

All joints shall be protected from intrusion of injurious foreign material until sealed. Temporary seals, when used, shall consist of an acceptable material designed for this use firmly embedded in the joint. The material shall be placed 1/4 inch below the pavement surface and shall be sufficiently strong and durable to resist intrusion of incompressible materials, and to permit complete removal after its usefulness has ended.

3-3.6. FINISHING.

All exposed concrete surfaces, not otherwise specified, shall have a wood float finish to the lines and grades shown.

Walls, after removal of the forms, shall be rubbed to a reasonable smoothness, eliminating fins, cavities, honeycomb, and other defects on the exposed surfaces. Pointing and rubbing shall be with a mortar of sand and cement and shall be kept moist for 24 hours.

Floors shall have a monolithic, smooth, dense trowel finish.

3-3.7. CURING.

All fresh concrete shall be adequately protected from injurious weather conditions until properly cured. It shall be protected from the sun, heavy rain, flowing water, freezing, or mechanical injury. It shall be kept wet for not less than 7 days and during cold weather shall be maintained at temperatures between 50 degrees F and 70 degrees F for at least 5 days.

3-3.8. TESTING.

Excessive honeycomb, poor alignment, excessive roughness or unevenness, leaking where watertightness is required, or deficient test results may be causes for rejection. The Contractor shall be responsible for collecting, curing and testing of 4 cylinders per 100 cubic yards or part thereof and/or for each separate day's pour all in accordance with generally accepted standards. The Engineer shall be furnished 3 certified copies of all test results.

SPECIFICATION 8

GENERAL EQUIPMENT STIPULATIONS

8-1. SCOPE.

This Specification covers the obligations and responsibilities of the Contractor, his suppliers or vendors and the manufacturers for mechanical and electrical equipment, instruments and devices about this Contract.

8-2. MATERIALS AND WORKMANSHIP.

The materials and equipment furnished under this contract shall be constructed and finished in a workmanlike manner. Materials shall be suitable for the service intended and selected and fabricated following the best engineering practice. All materials and equipment shall be new.

All exposed surfaces of machines shall be finished smooth and shall be painted with a sufficient number of undercoats to provide a smooth, uniform surface. They shall then be finished with a high grade lacquer or spar enamel in an approved and efficient manner. Polished and machined metal surfaces and electrical equipment, not subject to painting, shall be protected from corrosion, moisture, or damage during shipment and erection.

8-3. SOURCE OF EQUIPMENT AND MATERIALS.

Wherever equipment or materials are specified or shown on the Plans by using the proprietary product of a particular manufacturer or vendor, it is to establish a standard of quality, operation and appearance. Acceptance or approval of a substitute is only for conformance with the design concept of the project for compliance with the information given in the Contract Documents and does not relieve the Contractor of his responsibility for the satisfactory configuration, operation, use or appearance intended.

8-4. EQUIPMENT TO OPERATE IN STRUCTURES AS DESIGNED.

It is the intent of the Plans, Specifications, and Contract that equipment shall be furnished which can be installed and operated properly in the structures as designed and shown on the Plans. The Owner will assume no responsibility for any alteration in, addition to, enlargement of, or any other change from the shape, size, arrangement and dimensions of any structure as designed and detailed, where such alteration, etc., is required for the installation and proper operation of any alternate equipment. Acceptance of alternate equipment will be contingent on any such alterations, additions, enlargements or other changes being made at the sole cost and expense of the Contractor, which shall be included in his base bid.

8-5. PATENTS AND PATENT ROYALTIES.

All royalties and fees for and in connection with patented articles, devices, apparatus, machines, and other equipment (but not including royalties, fees, or other costs in connection with any patented process required by the Owner in the design of the work or operation thereof) shall be included in the price or prices quoted by the equipment supplier to, and paid by, the Contractor.

8-6. EQUIPMENT GUARANTEE.

Each item of mechanical and electrical equipment, instrument, and device, furnished for and in connection with the contract, shall be guaranteed against (a) faulty or inadequate design by the manufacturer or supplier of such item, (b) improper assembly, (c) defective materials or workmanship, or both, and (d) leakage, breakage, or other failure that might occur, under normal and proper operation of the equipment under specified conditions, for one year from and after the date of acceptance of the work by the Owner, and each item of equipment or part thereof thus proving defective within the 1 year guarantee period shall be replaced, without cost to the Owner.

8-7. LUBRICATION.

All bearings and other points of contact of all equipment shall be provided with adequate lubrication and complete lubrication instructions shall be supplied for each piece of equipment. Sufficient lubricants of the proper grade and quality shall be furnished and installed to fill all oil or grease cups, containers, and reservoirs and properly lubricate all equipment for initial startup and operation and until acceptance by the Owner.

8-8. ELECTRICAL EQUIPMENT.

All electrical equipment furnished under these Specifications shall be constructed and rated in accordance with the "Standards of AIEE" and shall pass temperature and insulation tests as recommended therein for the operating conditions required. All other electrical work shall conform with Specification 9, "Electrical and Control Work".

8-9. SPECIAL TOOLS AND ACCESSORIES.

With each piece of equipment or machine having parts and requiring periodic repairs and adjustment, there shall be furnished all special tools, wrenches and accessories required for removing worn parts and for making such adjustments. There shall also be furnished all gauges, indicators, lubricating devices, etc., necessary for proper operation of machines whether or not such accessories are specified.

8-10. SATISFACTORY OPERATION.

All mechanical equipment furnished by the Contractor shall operate satisfactorily without excessive wear, excessive lubrication, or undue attention required from its operator. All rotating parts shall be in true rotational balance and operate without vibration caused by mechanical defects or misalignment of parts.

8-11. INSTALLATION AND OPERATION INSTRUCTIONS.

The Contractor shall obtain from the equipment manufacturer, and deliver to the Engineer, not less than 9 copies of all necessary shop drawings, instructions and specifications relative to foundation requirements or piping connections, assembly, installation alignment, checking and placing in operation of each item of mechanical and electrical equipment furnished by him. Also, 9 copies of all instructions relative to maintenance and operation and drawings and descriptive data necessary for identification of parts for ordering replacements shall be furnished.

8-12. PLACING EQUIPMENT IN SERVICE.

The Contractor shall be responsible for the proper installation, alignment, and operating condition of all equipment and processes furnished. He shall furnish a written statement to the Engineer certifying that the equipment or process furnished (1) has been properly installed, packed and lubricated; (2) is in

accurate alignment, secure and free from any undue stress; and (3) has been operated under normal conditions and that its operation is satisfactory and proper.

He shall provide the services of a manufacturer's or supplier's representative who is completely familiar with the operation of the equipment, who shall check over and verify the complete installation, start the equipment in operation, adjust and test all units and instruct the Owner's regular operator in the proper care and operation of said equipment.

SPECIFICATION 12

TESTING AND DISINFECTING

12-1. SCOPE.

The work under this Specification consists of testing and disinfecting of all water mains and appurtenances, plant equipment, pumping facilities, and storage facilities. Testing and disinfection shall be done by the CONTRACTOR in the presence of the ENGINEER. The cost of testing and disinfecting (including water, chemicals, equipment, etc.) shall be included in the unit and/or lump-sum prices bid. No additional payment shall be made for performance of these items.

12-2. TESTING.

All testing shall be done at the CONTRACTOR'S expense and in accordance with AWWA Standards and manufacturers' recommendations, unless otherwise specified. Any defects in materials or workmanship shall be corrected and retesting shall be at the CONTRACTOR'S expense.

12-2.1. DISTRIBUTION SYSTEM AND APPURTENANCES.

Hydrostatic tests shall be performed on all newly laid pipe and shall consist of a pressure and leakage test. The test shall be run before disinfection and before making service connections. The CONTRACTOR shall furnish the water, pump, piping, meters, connections, and all the necessary apparatus and labor to conduct the test. All pipe shall be tested in accordance with AWWA C600 unless otherwise specified.

Hydrostatic tests shall be performed between all valved and end sections; on shorter sections where practical; and as required to meet the test restrictions contained herein. The test shall be run only after concrete blocking has properly cured (5 days for regular cement and 2 days for high-early strength cement). All fittings, hydrants, plugs, etc., shall be properly blocked and protected.

The testing method described in this section is specific for water pressure testing and is not to be applied for air pressure testing due to the serious safety hazards involved.

a. Test Restrictions.

1. The test pressure, as measured at the point where the highest pressure occurs during normal operation, shall be at least equal to the maximum pressure rating of the pipe.

For systems using different classes of pipe, a separate test shall be run on each section at the respective pressure rating of the pipe being tested. The CONTRACTOR may, at his option and risk, test different sections of pipe simultaneously provided the higher test pressure is used and all other conditions are met.

2. The duration of the test shall be at least 2 hours.
3. The test pressure shall not vary more than 5 psi for the duration of the test.

4. The test pressure shall not exceed the pipe or thrust-restraint design pressures nor be more than twice the rated pressure of the valves or hydrants.

b. Pressurization.

Initial filling of the main to be tested shall be at a rate such that the velocity in the main does not exceed 1 fps. The CONTRACTOR shall take great care to assure that all air is expelled from the main. Where air vents are not located at high points, corporation stops shall be installed as required to expel the air during the filling process. After completion of the test, the corporation stops shall be removed at the discretion of the ENGINEER or used for service line connections, if practical.

Pressurization of the main shall begin only after the main is completely filled with water and all air is removed. Pressure shall be applied through a corporation stop set by the CONTRACTOR. Testing shall not begin until the test pressure has stabilized.

c. Examination.

All exposed pipe, fittings, valves, hydrants, joints, etc., shall be examined during the test. Any visible leaks or defects shall be corrected despite the results of the leakage test and the test shall be repeated until it is satisfactory to the ENGINEER.

d. Leakage.

Leakage is defined as the amount of water that must be added to the test section to maintain the test pressure. The duration of the test shall be 2 hours. At the end of the test, the Contractor shall meter and record accurately the amount of water required to restore the test pressure in the section being tested. The allowable leakage shall be determined by the following formula:

$$L = S \cdot D \cdot [P^{0.5}] / 133,200$$

Where,

L	=	Allowable leakage, in gallons per hour
S	=	Length of the test section, in feet
D	=	Diameter of the pipe being tested, in inches
$P^{0.5}$	=	Square root of the average test pressure

If the test shows any section with leakage greater than the allowable, the leak shall be located and repaired and the section retested.

12-2.2. OTHER TESTS.

The conductivity of installed tracer wire shall be demonstrated prior to acceptance by the Owner. Testing of the tracer wire shall be made after all tie-ins, service connections, main abandonment and clean up are complete.

Other tests, as required for equipment, storage facilities, etc., shall be conducted in accordance with the applicable specifications.

12-3. DISINFECTION.

All existing facilities exposed to possible contamination and all new facilities shall be thoroughly disinfected and tested for the absence of coliform organisms before placing or replacing into service. All disinfection shall be with chlorine or chlorine compounds in such amounts as to produce a concentration of at least 50 mg/1 and a residual of at least 25 mg/1 at the end of 24 hours.

Disinfection shall be in accordance with State Regulations.

12-3.1. GENERAL.

The general procedure for disinfection is outlined as follows:

- a. The CONTRACTOR shall prevent any contaminating materials from coming into contact with the facilities by utilizing good construction procedure.
- b. All mains shall be flushed by the OWNER prior to placement in service.
- c. The CONTRACTOR shall chlorinate any residual contamination that may remain.
- d. The OWNER shall determine the bacteriological quality of the water through certified laboratory testing and the CONTRACTOR shall rechlorinate as needed.

12-3.2. FORMS OF CHLORINE.

The forms of chlorine that may be used in the disinfection process are liquid chlorine, sodium hypochlorite solution, and calcium hypochlorite granules or tablets. The procedure for use and handling of the chlorine shall be in strict compliance with all AWWA and applicable safety standards.

Liquid chlorine contains 100 per cent available chlorine and is produced by mixing chlorine gas with water and injecting the solution into the facilities being disinfected. Direct feed of chlorine gas into the main shall not be permitted.

Sodium hypochlorite is in liquid form and contains approximately 5 to 15 per cent available chlorine. It is fed into the facilities by hand-pouring and mixing with the incoming water or by pumping a solution of known strength into the facilities.

Calcium hypochlorite is in either granular or tablet form and contains approximately 65 per cent available chlorine by weight. It is fed into the facilities by hand-pouring or pumping as described above. One pound of calcium hypochlorite added to 8.5 gallons of water produces a 1 per cent solution.

12-3.3. PREVENTIVE AND CORRECTIVE MEASURES DURING CONSTRUCTION.

It is essential that the facilities are thoroughly clean prior to disinfection and good construction procedures shall be used.

If, in the opinion of the ENGINEER, it appears that all dirt and debris cannot be removed hydraulically, the facilities shall be mechanically cleaned and swabbed with a 1 per cent hypochlorite disinfecting solution.

In cases of pipe contamination by flooding during installation, the main shall be flushed until clean and disinfected so that a 25 mg/1 solution is maintained at the end of a 24 hour period. After cleaning and disinfecting, construction may resume.

12-3.4. DISINFECTION OF NEW MAINS.

Two methods of disinfecting mains are offered and the CONTRACTOR shall be responsible for selecting the method best suited for the conditions encountered.

a. Preliminary Flushing.

Preliminary flushing shall be provided by the OWNER as requested by the CONTRACTOR. The CONTRACTOR shall coordinate his work with the OWNER and shall give 48 hours notification.

Preliminary flushing to remove visible evidence of contamination shall be at a rate to produce a velocity of 2.5 fps within the main unless it is determined by the ENGINEER that conditions do not permit the flow. As a guide, Table 12-1 shows the required flow and number of openings to produce a flushing velocity of 2.5 fps in various size mains at 40 psi residual pressure.

TABLE 12-1 REQUIRED FLOW AND OPENINGS TO FLUSH PIPELINES* (40 PSI Residual Pressure In Water Main)				
Pipe Diameter Inches	Flow Required To Produce 2.5 fps Velocity in Main GPM	TYPE OF DISCHARGE OUTLET		
		Size of Main, ** Tap On Inches	Hydrant Outlets	
			Number	Size, Inches
4	100	0-15/16	1	2-1/2
6	220	1-3/8	1	2-1/2
8	390	1-7/8	1	2-1/2
10	610	2-5/16	1	2-1/2
12	880	2-13/16	1	2-1/2
16	1,565	2-5/8	2	2-1/2

* With a 40 psi pressure in the main with the hydrant flowing to atmosphere, a 2-1/2 inch hydrant outlet will discharge approximately 1,000 GPM. A 4-1/2 inch hydrant outlet will discharge approximately 2,500 GPM.

** Size of tap on main, with no significant length of discharge piping.

b. Methods of Application.

All sections being disinfected shall be properly valved or otherwise disconnected to prevent the strong chlorine solution from entering the mains in active service. All valves and hydrants within the section shall be operated to assure contact with the disinfectant.

Two acceptable methods of application are as follows:

1. Tablet Method.

This method may be used only when the pipes and appurtenances are kept clean and dry during construction and for mains smaller than 24 inches in diameter. It shall not be used on solvent welded plastic or screwed joint steel pipe.

Under this method, hydrostatic tests will be run while disinfection is taking place. If any leaks are detected and the main is either partially or completely drained to make the necessary repairs, the CONTRACTOR shall start the disinfection over using the continuous feed method.

During construction, 5-g calcium hypochlorite tablets shall be placed in each section of pipe and one tablet in each hydrant, hydrant branch and other appurtenances. The number of tablets to place in each pipe section shall be sufficient to produce a concentration of 50 mg/l. As a guide, Table 12-2 is presented. The tablets shall be attached to the inside top of the pipe with an adhesive such as Permatex No. 1 or equal.

Pipe Diameter, Inches	Length Of Pipe Section				
	13 Feet or Less	18 Feet	20 Feet	30 Feet	40 Feet
4	1	1	1	2	2
6	2	2	2	3	4
8	2	3	3	5	6
10	3	5	5	7	9
12	5	6	7	10	14
16	8	12	14	20	26

Preliminary flushing of the main is eliminated for this method. The mains shall be filled as specified herein and chlorinated water shall remain in the main for 24 hours unless the water temperature is less than 41 degrees Fahrenheit, in which case the contact time shall be extended to 48 hours. After the required contact time, and verification of the 25 mg/l residual, final flushing of the main shall take place as specified.

2. Continuous Feed Method.

This method is suitable for general applications. Initial filling, testing and preliminary flushing shall be in accordance with the procedures previously set forth.

The main shall be refilled at a constant measured rate while injecting chlorinated solution into the main at a point no further than 10 feet downstream from the beginning. The chlorine shall be continuously fed into the main at a constant rate such that the water in the main has a concentration of at least 50 mg/l free chlorine. Measurements shall be taken at regular intervals along the new main to assure that this concentration is maintained. The contact time shall be 24 hours and the free chlorine residual at the end of the contact period shall not be less than 25

mg/1 as specified. After verification of the residual, final flushing may take place.

Table 12-3 gives the amount of chlorine required to produce 50 mg/1 in 100 feet of pipe for the diameters shown.

Pipe Diameter Inches	100 Per Cent Chlorine Pounds	1 Per Cent Chlorine Solution Gallons
4	.027	0.33
6	.061	0.73
8	.108	1.30
10	.170	2.04
12	.240	2.88
16	.435	5.20

12-3.5. MISCELLANEOUS DISINFECTION.

All cutting into or repairing of existing mains and all pumps, valves and appurtenances in a treatment plant, coming into contact with a potable water, shall be thoroughly cleaned and then shall be swabbed or sprayed with a 1 per cent hypochlorite solution before installation. Flushing, the most practical means of removing contamination introduced during repairs, shall be started when the repairs are completed and shall be continued until discolored water is eliminated.

12-3.6. DISINFECTION OF STORAGE FACILITIES.

Two methods of disinfecting storage facilities are offered and it shall be the CONTRACTOR'S responsibility to select the method best suited for the conditions.

a. Method 1.

For this method, the storage facility shall be slowly filled to the overflow with potable water to which enough chlorine has been added to provide a concentration of at least 50 mg/1 and a residual of 25 mg/1 at the end of the 24 hour contact period. The chlorine shall be introduced into the water as early during the filling operation as possible. Approximately 60 pounds of high test hypochlorite will produce 50 mg/1 in 100,000 gallons of water.

After verification of the residual, the facility may be flushed as specified herein.

b. Method 2.

For this method, a solution of 250 mg/1 available chlorine shall be applied directly to all surfaces of the storage facility that come in contact with the potable water including inlet piping. The solution shall be applied with suitable brushes or spray equipment and the necessary safety precautions shall be taken.

The spraying procedure shall be repeated within 1 hour of completion of the initial spraying. After completion of the second spraying and within 30 minutes of completion, the tank shall be drained and the filling procedure started.

12-3.7. FINAL FLUSHING.

The CONTRACTOR shall notify the OWNER 48 hours in advance of beginning disinfection. After the specified contact time, the CONTRACTOR shall request verification of the chlorine residual by the OWNER and the OWNER shall flush the mains as required. Flushing shall be done in a manner to protect the environment and the chlorinated water shall be neutralized with a reducing agent, if necessary. Water remaining in the main or storage facilities shall have a chlorine concentration no higher than that generally prevailing in the system but no less than 1 mg/l.

12-3.8. BACTERIOLOGICAL TESTS.

After final flushing, and before the new main is placed in service, a sample or samples shall be collected from the ends of the lines by the OWNER and submitted to an approved laboratory to show the absence of coliform organisms. The results shall conform with the applicable State Standards. State Regulations regarding the method of collecting samples, the number of samples required and any other conditions, more stringent than those specified, shall prevail.

The OWNER AND ENGINEER shall be furnished with a copy of the State approved bacteriological test report before the facilities are put into service.

12-3.9. REDISINFECTION.

If the initial disinfection fails to produce satisfactory results, the facility shall be reflashed and resampled. If the additional samples reveal contamination, the facility shall be drained and rechlorinated at the CONTRACTOR'S expense.

SPECIFICATION 14

ASSOCIATED MISCELLANEOUS WORK

14-1. GENERAL.

This Specification covers the furnishing of all labor, materials and equipment for associated miscellaneous work to be incorporated in the project. All materials and equipment shall be new and unused and workmanship shall be of the highest quality and in accordance with the best standard practice to result in a finished product ready for the use intended.

Payment for associated miscellaneous work, unless itemized in the proposal, shall be included in the lump sum or unit price of the particular work item and there shall be no additional payment.

14-2. LANDSCAPING.

This work shall include final grading, seedbed preparation and seeding and/or planting for replacement of areas disturbed during the work and for other sites or areas designated for landscaping. No item of work shall be considered complete until completion of landscaping.

Seeding and planting shall be done during the proper season and moisture conditions established by good horticultural practices to insure the best results. The CONTRACTOR shall be responsible for a good stand of grass and healthy plants for one year.

14-2.1. FINAL GRADING AND SEEDBED PREPARATION.

Final grading shall be to the lines, grades and elevations shown on the Plans. Surface drainage shall be away from any structures and no low spots shall exist.

Six inches of topsoil, free from roots, stones and other objectionable material, suitable for top dressing of a seedbed shall be used in all areas designated for landscaping where gravel, stones, clay and other unsuitable materials exist as determined by the ENGINEER.

After final grading and application of topsoil, if required, the CONTRACTOR shall take soil samples (by the approved method) from all areas of differing soil conditions as directed by the ENGINEER. These samples shall be taken to the local farm bureau for a soil analysis that shall form the basis for lime, nitrogen, phosphoric acid and potash to be used for the particular seeds and/or plantings.

The agricultural lime and fertilizer shall be applied uniformly over the area and the seedbed shall be prepared to a minimum depth of three inches. All clods, rocks, roots and other undesirable material shall be removed. Gentle berms shall be constructed around the various units and all areas shall be dressed by hand to form a satisfactory seedbed as approved by the ENGINEER.

14-2.2. SEEDING AND PLANTING.

Seeding and planting shall be performed immediately after the seedbed has been prepared and seed shall be uniformly distributed over the area to be seeded.

All plants and trees shall be delivered to the site balled or potted, shall have a healthy appearance and shall be guaranteed by the nursery. All seed shall be delivered to the

site in sealed bags certified to show the percentage of purity and germination. Lawn replacement of areas disturbed during the work shall be of the same grass variety as the original lawn. If this cannot be determined, a certified lawn mixture shall be furnished and the application rate of any grass variety shall be as recommended on the container or tag. Any other areas where the seed variety is not specified shall be seeded with Kentucky 31 fescue at the rate of 35 pounds per acre. No seed shall have a test date of more than 120 days before the date of the seeding.

Mulch consisting of wheat or rye straw, or threshed fescue straw, shall be applied uniformly over all seeded areas at the rate of 2 tons per acre. The mulch shall be stabilized (especially on slopes) by stakes and twine; a weighted disk set straight; or any method approved by the ENGINEER.

14-3. ROADWAYS AND BLACKTOPPING.

This work applies to repairing an existing bituminous concrete road or drive or construction of a new bituminous concrete road or drive. This consists of the base course, prime or tack coat and surface course.

14-3.1. SEASONAL AND WEATHER LIMITATIONS.

No bituminous concrete shall be laid between November 15 and April 1, nor when the temperature is below 40 degrees F except by written permission of the ENGINEER, nor when the underlying course is wet, nor when other weather conditions are unsuitable.

14-3.2. BASE COURSE.

The base course shall be 8 inches of compacted bank gravel or 6 inches of compacted dense grade crushed stone. Either base course used shall be approved for highway use. The base course shall be accurately graded to provide adequate drainage both off of and away from the roadbed. New surfaces shall be uniformly crowned at 1/2 inch per foot unless otherwise shown on the Plans. The base course shall be compacted by a roller weighing not less than 3 tons.

14-3.3. REPAIRS TO EXISTING SURFACES.

Where an existing surface is destroyed and repairs are specified, the entire area so disturbed shall be thoroughly cleaned and the base course (specified above) shall be compacted in 4 inch layers to the required depth for making the new surface level with the existing surface.

14-3.4. PRIME COAT.

A prime coat to seal and stabilize the surface of the base shall be liquid asphalt MC-1, liquid asphalt RC-2, or CBAE primer L and shall be applied, as specified, at the rate of 0.3 gallons per square yard.

14-3.5. TACK COAT.

A tack coat, to insure adhesion with an existing surface, shall be RS-2 emulsion and shall be applied at the rate of 0.1 gallon per square yard.

14-3.6. SURFACE COURSE.

The surface course to be used shall be 2 inches of hot-mixed, hot-laid, bituminous concrete with the following composition limits by weight:

Passing 1/2 inch, retained on No. 4 sieve	40 - 55 %
Passing No. 4, retained on No. 10 sieve	15 - 30 %
Passing No. 10 sieve	15 - 30 %
Hydrated lime	0.5 - 1.0%
Asphalt cement (other than liquefier)	5.0 - 7.5%
Liquefier	0.4 - 1.2%

14-4. GENERAL CLEANUP.

Cleanup, as directed by the ENGINEER, shall be maintained throughout the time of construction. Trench settlement and additional earth fill, if required, shall be included in cleanup and shall be the responsibility of the CONTRACTOR for one year after substantial completion.

All areas and locations of the work under this contract shall be left in a neat and clean condition. All debris, scrap, waste and other undesirable and objectionable material shall be completely removed from the site. All areas shall be restored and/or replaced to a condition equal to or better than conditions before construction and to the satisfaction of the property owner.

14-5. CHAIN LINK FENCE.

This article shall govern all material, equipment, labor and construction complete for a chain link fence and gates as shown on the Plans.

14-5.1. POSTS, RAILS AND BRACES.

All structural and roll-formed shapes shall conform with provisions of ASTM A123 for galvanized coating and all tubular members shall comply with provisions for ASTM A120, Schedule 40 steel pipe.

- a. End, corner, pull and gate posts shall be 3 inch O.D. set 3 feet deep in concrete footings with 3 inches of concrete below.
- b. Line posts (10'-0" maximum spacing) shall be 2 inch O.D. and shall be set 3 feet deep in concrete footings with 3 inches of concrete below.
- c. Top rails and gate posts shall be 1-5/8 inch O.D.

14-5.2. CHAIN LINK FABRIC.

The fabric shall be 2 inch mesh, No. 9 gauge, heavy galvanized with 2.0 ounces zinc per square foot complying with ASTM A392, Class 2, or aluminum coated complying with ASTM A491, Class 2. The chain link fabric shall be 6'-0" in height.

14-5.3. ACCESSORIES.

All accessories, except tie wires and barbed wire, shall be galvanized to comply with ASTM A153.

- a. Barbed wire supporting arms shall be integral with post top weather cap, shall have hole for passage of top rail and shall support 3 strands of barbed wire at an angle of 45 degrees.
- b. Barbed wire shall have 2 strand, 12-1/2 gauge wire with No. 14 gauge, 4 point round barbs and shall be galvanized per ASTM A121, Class 3.
- c. Fabric ties shall be No. 9 gauge aluminum wire and shall be spaced at 14 inches o/c on the posts and 24 inches o/c on the rails.

14-5.4. GATES.

Fabricated gates, as shown on the Plans, shall be adequately braced for proper operation and to prevent sagging. Gate hardware shall be heavy galvanized and shall include:

- a. Hinges of pressed steel or malleable iron of the non-lift-off type, offset to permit 180 degrees gate opening.
- b. Latch of the forked type or plunger-bar type with a padlock eye to permit operation from either side of gate.
- c. Keeper for all vehicle gates to engage automatically and hold the gate in the open position until manually released.
- d. Double gates provided with a mushroom-type or flush plate with anchors set in concrete to engage the center drop rod.

14-6. FARM-TYPE FENCE.

The farm-type fence and gate(s) shall be woven wire with barbed wire above and below as shown on the detailed Plans.

14-6.1. FENCE MATERIALS.

- a. Barbed Wire.

Barbed wire shall be 12-1/2 gauge steel and shall comply with ASTM A121 and shall have Class 2 zinc coating.

- b. Woven Wire.

Woven wire shall be general-purpose field wire, closely spaced at the bottom with 10 gauge top and bottom wires and 12-1/2 gauge line and stay wires. It shall be 32 inches in height, have 6 inch spacing between stays and shall contain 8 line wires. It shall have an ASTM A116, Class 1 zinc coating.

- c. Brace & Tension Wire.

Brace and tension wire shall be 9 gauge steel, shall comply with ASTM A121 and shall have a Class 2 zinc coating.

- d. Staples.

Staples shall be 9 gauge, 1-1/2 inches long and shall be zinc coated.

e. Posts.

Wooden posts shall be new, straight and sound and shall be pressure treated in accordance with Federal Specification TT-W-571c.

Steel posts shall be the studded tee type, galvanized with minimum dimensions of 1-1/2 inches x 1-1/2 inches x 1/8 inch.

All end, corner, brace and gate posts shall be wood, having a minimum diameter of 6 inches and shall be set 3-1/2 feet deep.

Line posts, set 2-1/2 feet deep, shall be either wood with a minimum diameter of 4 inches or steel tee type posts that may be substituted between each fifth wooden post.

f. Wooden Braces.

Wooden braces shall be installed between brace posts and end posts or gate posts and shall be 4 inch x 4 inch pressure treated lumber.

14-6.2. CONSTRUCTION.

Construction of the farm-type fence shall be in accordance with the detailed Plans and wood posts shall be set at all corners, angles, ends and gates with wooden brace posts set as shown on the Plans. All posts shall be set to the required depth in holes large enough to allow room for alignment and tamping on all sides. They shall be set vertically, shall be firmly tamped and the tops shall be beveled at 45 degrees.

Wire shall be fastened to the post outside of the area being enclosed, except in corners or curves, where the wire shall be placed on the outer side of the corner or curve. The wire shall be placed as shown on the Plans with a single strand of barbed wire near the bottom, the 32 inch woven wire in the center and two strands of barbed wire above the woven wire.

The wire shall be attached to the wood posts with staples and to the steel posts with approved fastener clips. Staples and/or fasteners shall allow horizontal movement of the line wire and shall securely support the fence. At end and gate posts, the wire shall be wrapped once around the post and secured by splicing each line wire to itself with no less than six complete turns.

Gates shall be installed at locations shown on the Plans and shall be considered a part of the complete fence.