

CASE

NUMBER:

99-237

APPLICATION OF KENTUCKY TURNPIKE WATER DISTRICT (DIVISION I)
FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

SEQ NBR	ENTRY DATE	REMARKS
0001	06/14/1999	Application.
0002	06/16/1999	Acknowledgement letter.
0003	06/29/1999	Def. letter, info due 7/14
M0001	07/13/1999	JASON THOMAS KY TURNPIKE WD-REQUEST FOR EXTENSION OF TIME TO FILE INFORMATION
0004	07/20/1999	Letter granting extension of time; def. info due 7/27.
M0002	07/27/1999	JASON THOMAS KY TURNPIKE WD-RESPONSE TO ORDER OF JUNE 29,99
M0003	07/29/1999	JASON THOMAS KY TURNPIKE WD- REVISED EXHIBIT 2 TO FILING ON JULY 27,99
0005	08/03/1999	Def. cured letter
0006	08/17/1999	Letter to Hon. Jason P. Thomas regarding telephone conference call
M0004	08/26/1999	JASON THOMAS KY TURNPIKE WD-LETTER IN RESPONSE TO LETTE ROF AUGUST 17,99
0007	09/08/1999	Letter to Jason Thomas; current status of proposed water extension due 9/13
M0005	09/14/1999	KY TURNPIKE WD JASON THOMAS-RESPONSE TO LETTER SENT SEPT 8,99
M0006	09/21/1999	JASON THOMAS KY TURNPIKE WD-LETTER IN RESPONSE TO LETTER DATED SEPT 8,99
0008	10/08/1999	Telephone Conference Memorandum
0009	10/20/1999	Order scheduling 2/16/2000 hearing; info due 11/9
M0007	11/11/1999	BRUCE CLARK KY TURNPIKE WD-RESPONSE ABELL, THIBODEAUX, MILLER, MILLS TO ORDER OF OCT 20,99
M0008	11/29/1999	DAMON TALLEY KY TURNPIKE WD-NOTICE OF ENTRY OF APPEARANCE
0010	12/13/1999	Order scheduling 1/5 informal conference; info due 12/28
M0009	12/27/1999	DAMON TALLEY KENTUCKY TURNPIKE WATER-RESPONSE TO 12/13/99 ORDER
0011	01/06/2000	Informal Conference Memorandum
0012	01/20/2000	Order rescheduling hearing to 4/18/2000
0013	04/10/2000	Letter to Damon Talley advising that agreement has been reached
0014	04/18/2000	Order cancelling 4/18 hearing
M0010	06/07/2000	DAMON TALLEY/KENTUCKY TURNPIKE WD-NOTICE OF FILING AND MOTION FOR APPROVAL
0015	06/23/2000	Final Order entered.
M0011	07/03/2000	THIBODEAUX/KY TURNPIKE-MONEY ORDER \$100 EACH & CHECK \$100 MILLS & \$25 FROM KTWD
0016	07/07/2000	Receipt of Payment

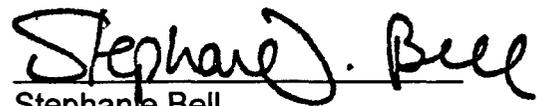
COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY TURNPIKE WATER)
DISTRICT FOR A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY TO CONSTRUCT) CASE NO. 99-237
A WATER MAIN EXTENSION TO THE NICHOLS)
AREA OF BULLITT COUNTY, KENTUCKY)

RECEIPT OF PAYMENT

This is to acknowledge receipt of one Postal Money Order in the amount of \$100.00 payable to Treasurer, Commonwealth of Kentucky from Dan Thibodeaux, one Postal Money Order in the amount of \$100.00 payable to Treasurer, Commonwealth of Kentucky from George A. Miller, one check in the amount of \$100.00 payable to Treasurer, Commonwealth of Kentucky from Elmer Mills, one Postal Money Order in the amount of \$100.00 payable to Treasurer, Commonwealth of Kentucky from Raymond Abell, and one check in the amount of \$25.00 payable to Treasurer, Commonwealth of Kentucky from KTWD. This represents full payments of the penalties assessed against them in the above-styled action.


Stephanie Bell
Secretary of the Commission
Dated 7/7/2000

Kentucky Turnpike Water District

3396 Burkland Blvd., Shepherdsville, KY 40165

Office - 955-9281 or 955-7567

Fax - 957-6724

RECEIVED

JUN 28 2000

GENERAL COUNSEL

June 27, 2000

RECEIVED

JUL 3 2000

PUBLIC SERVICE
COMMISSION

TO OFFICE OF GENERAL COUNSEL OF THE PUBLIC SERVICE
COMMISSION:

Enclosed are checks and money order for penalties against Kentucky Turnpike Water District in case #99-237. These monies are from Chairman Dan Thibodeaux, Commissioner George Miller, Commissioner Elmer Mills, District Manager Raymond Abell, and Kentucky Turnpike Water District.

Thank you.

Sincerely,



Dan Thibodeaux
Chairman

Enclosures



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
211 SOWER BOULEVARD
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

CERTIFICATE OF SERVICE

RE: Case No. 1999-237
KENTUCKY TURNPIKE WATER DISTRICT DIVISION I

I, Stephanie Bell, Secretary of the Public Service Commission, hereby certify that the enclosed attested copy of the Commission's Order in the above case was served upon the following by U.S. Mail on June 23, 2000.

See attached parties of record.

Stephanie J. Bell

Secretary of the Commission

SB/sh
Enclosure

F. Raymond Abell
District Manager
Kentucky Turnpike Water District
Division I
3396 Burkland Boulevard
Shepherdsville , KY. 40165

Honorable Jason P. Thomas
Counsel for KY Turnpike Water
Stites & Harbison
400 West Market Street, Suite 1800
Louisville, KY. 40202 3352

Dan Thibodeaux
740 E. Indian Stone Road
Shepherdsville , KY. 40165 9354

George Miller
P. O. Box 128
Shepherdsville , KY. 40165 0128

Elmer Mills
2928 Brooks Hill Road
Brooks, KY. 40109 5000

Honorable Damon R. Talley
Co-Counsel for KY Turnpike Water,
Raymond Abell, Dan Thibodeaux,
George Miller & Elmer Mills
112 N. Lincoln Blvd.
P.O. Box 150
Hodgenville, KY. 42748

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY TURNPIKE WATER)
DISTRICT FOR A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY TO CONSTRUCT) CASE NO. 99-237
A WATER MAIN EXTENSION TO THE NICHOLS)
AREA OF BULLITT COUNTY, KENTUCKY)

ORDER

On October 20, 1999, the Commission directed Kentucky Turnpike Water District ("KTWD") to appear before us and show cause why it should not be penalized pursuant to KRS 278.990(1) for its alleged violation of KRS 278.020(1). We further directed Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell to show cause they should not be subject individually to the penalties prescribed in KRS 278.990(1) for aiding and abetting KTWD's alleged violation of KRS 278.020(1). Following the commencement of this proceeding, the parties and Commission Staff entered into negotiations to resolve all outstanding issues in this proceeding. On June 1, 2000, they executed a Settlement Agreement, appended hereto, and then jointly moved for Commission approval of that Agreement.

In reviewing this Settlement Agreement, the Commission has considered, inter alia, the circumstances surrounding the actions that gave rise to this proceeding, the unique nature of water districts, and the need to fashion a constructive solution to the managerial problems presented. The Commission finds that the Settlement Agreement is in accordance with the law, does not violate any regulatory principle, results in a reasonable resolution of this case, and is in the public interest.

IT IS THEREFORE ORDERED that:

1. The Settlement Agreement, appended hereto, is incorporated into this Order as if fully set forth herein.

2. The terms and conditions set forth in the Settlement Agreement are adopted and approved.

3. Within 20 days of this Order, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell shall each pay to the Commonwealth of Kentucky the sum of One Hundred Dollars (\$100.00).

4. Within 20 days of this Order, KTWD shall pay to Commonwealth of Kentucky the sum of Twenty-Five Dollars (\$25.00).

5. All payments shall be in the form of a cashier's or certified check made payable to "Treasurer, Commonwealth of Kentucky" and shall be mailed or delivered to: Office of General Counsel, Public Service Commission of Kentucky, 211 Sower Boulevard, Post Office Box 615, Frankfort, Kentucky 40602.

6. The payments of Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell shall be made from their personal funds and shall not be made from KTWD's funds. Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell shall not seek reimbursement from KTWD for these payments.

7. KTWD, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell shall strictly comply with all provisions of the Settlement Agreement.

Done at Frankfort, Kentucky, this 23rd day of June, 2000.

By the Commission

ATTEST:

Deputy

W. H. Bowler
Executive Director

APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN
CASE NO. 99-237 DATED June 23, 2000.

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

2000-7-2000

In the Matter of:

APPLICATION OF KENTUCKY TURNPIKE WATER)
DISTRICT FOR A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY TO CONSTRUCT) CASE NO. 99-237
A WATER MAIN EXTENSION TO THE NICHOLS)
AREA OF BULLITT COUNTY, KENTUCKY)

SETTLEMENT AGREEMENT

THIS AGREEMENT is made and entered this 1st day of June 2000, by and between the STAFF OF THE PUBLIC SERVICE COMMISSION OF KENTUCKY ("Commission Staff"), KENTUCKY TURNPIKE WATER DISTRICT ("KTWD"), DAN THIBODEAUX, GEORGE MILLER, ELMER MILLS, AND RAYMOND ABELL.

WITNESSETH:

WHEREAS, on June 14, 1999, KTWD submitted to the Public Service Commission an application for a Certificate of Public Convenience and Necessity to construct a water transmission main along Nichols Road in Bullitt County, Kentucky; and,

WHEREAS, on September 8, 1999, KTWD advised the Public Service Commission that construction of the proposed water transmission main had begun; and,

WHEREAS, on September 26, 1999, KTWD publicly announced that construction of the proposed water transmission main had been substantially completed; and,

WHEREAS, on October 20, 1999, the Public Service Commission found that a prima facie showing had been made that KTWD had violated KRS 278.020(1) by its

construction of the proposed water transmission main without first obtaining a Certificate of Public Convenience and Necessity from the Commission and that Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell had aided KTWD in its failure to comply with KRS 278.020(1); and,

WHEREAS, on October 20, 1999, the Public Service Commission ordered KTWD, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell to show cause why they should not be subject to the penalties of KRS 278.990 for their alleged misconduct; and,

WHEREAS, Commission Staff, KTWD, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell have stipulated to the following:

1. KTWD is a water district organized pursuant to KRS Chapter 74.
2. KTWD is organized into two divisions – Division I and Division II.
3. KTWD owns the facilities that provide water service to Division I. The Louisville Water Company, however, operates these facilities under the terms of a 1968 Lease Agreement.
4. As of December 31, 1998, KTWD's Division I had net utility plant of \$6,861,846.
5. As of December 31, 1998, KTWD's Division II had net utility plant of \$4,443,948.
6. KTWD's Board of Commissioners is composed of three members who control and manage the affairs of the water district.
7. Dan Thibodeaux is a member of KTWD's Board of Commissioners and has been since on or about January 1, 1997.
8. George Miller is a member of KTWD's Board of Commissioners and has been since on or about January 9, 1995.

9. Elmer Mills is a member of KTWD's Board of Commissioners and has been since on or about December 7, 1993.

10. Raymond Abell is the General Manager of KTWD and has held that position since on or about June 21, 1997. As General Manager, he is responsible for KTWD's daily operations.

11. On April 1, 1998, the Kentucky General Assembly appropriated \$500,000 for the construction of a water transmission main along Nichols Road in Bullitt County, Kentucky, if sufficient funds were available in the General Fund.

12. On July 31, 1998, John P. McCarty, Secretary of the Kentucky Finance and Administration Cabinet, certified that sufficient surplus funds exist in the General Fund to fund the Nichols Road Water Main Extension.

13. On November 5, 1998, KTWD Water District's Board of Commissioners approved a resolution authorizing KTWD to enter into a Memorandum of Understanding with the Kentucky Finance and Administration Cabinet to obtain funding for the Nichols Road Water Main Extension.

14. On or about December 29, 1998, KTWD requested an opinion from Commission Staff on the need for a certificate of public convenience and necessity for the Nichols Road Water Main Extension.

15. On January 12, 1999, KTWD and the Kentucky Finance and Administration Cabinet executed a Memorandum of Understanding concerning the Commonwealth's grant of \$500,000 to KTWD for the Nichols Road Water Main Extension.

16. The Memorandum of Understanding between KTWD and the Kentucky Finance and Administration Cabinet required KTWD to begin construction of the proposed Nichols Road Water Main Extension no later than April 1, 1999 and to complete the proposed Nichols Road Water Main Extension no later than September 1, 1999.

17. The purpose of the Nichols Road Water Main Extension was to provide water and fire protection to the Nichols Elementary School, which is located approximately 8 miles

west of Shepherdsville, Kentucky on Kentucky Highway 44W.

18. KTWD officials represented to the Bullitt County Board of Education that the proposed Nichols Road Water Main Extension would be in operation and serving the Nichols Elementary School by the beginning of the 1999-2000 School Year.

19. The proposed Nichols Road Water Main Extension consists of two phases. In the first phase, KTWD proposed to construct approximately 23,000 feet of 12-inch water transmission main. In the second phase, it proposed to construct an additional 29,000 feet of 12-inch water transmission main.

20. KTWD estimated the cost of the proposed Nichols Road Water Main Extension at approximately \$1,000,000. It proposed to fund this project through a \$500,000 grant from the Commonwealth of Kentucky and a contribution of \$100,000 from the Bullitt County Board of Education. It further proposed that each customer connecting to the proposed extension, except for Nichols Elementary School, contribute \$4,000 at the time of connection. KTWD estimated that 100 persons would connect to the proposed water extension.

21. On March 15, 1999, KTWD officials met with Commission Staff to discuss its proposed water main extension arrangement for the Nichols Road Water Main Extension.

22. On April 1, 1999, Commission Staff submitted suggested changes to KTWD's proposed water main extension arrangement.

23. On April 19, 1999, KTWD submitted another request for an opinion from Commission Staff on the need for a certificate of public convenience and necessity for the Nichols Road Water Main Extension.

24. On April 20, 1999, the Public Service Commission received KTWD's application for approval of its proposed water main extension arrangement for the Nichols Road Water Main Extension and docketed this application as Case No. 99-192.

25. On May 21, 1999, the Executive Director of the Public Service issued a written opinion in which she advised that the Nichols Road Water Main Extension required a certificate of public convenience and necessity.

26. On June 2, 1999, KTWD opened construction bids on the Nichols Road Water Main Extension.

27. On June 11, 1999, the Public Service Commission issued a final order in Case No. 99-192 in which it approved KTWD's proposed water main extension arrangement for the Nichols Road Water Main Extension.

28. On June 14, 1999, the Kentucky Division of Water approved the plans and specifications for the proposed Nichols Road Water Main Extension.

29. On June 14, 1999, KTWD filed with the Public Service Commission an application for a certificate of public convenience and necessity for the proposed Nichols Road Water Main Extension.

30. On June 22, 1999, KTWD applied to the Kentucky Department of Transportation for an encroachment permit for the Nichols Road Water Main Extension.

31. On June 24, 1999, the Kentucky Department of Transportation issued an encroachment permit for the Nichols Road Water Main Extension.

32. On June 28, 1999, KTWD began construction of the Nichols Road Water Main Extension.

33. On June 29, 1999, the Public Service Commission advised KTWD by letter that its application for a certificate of public convenience and necessity for the Nichols Road Water Main Extension was deficient. The Public Service Commission requested that KTWD cure these deficiencies no later than July 14, 1999.

34. On July 13, 1999, KTWD requested an extension of time in which cure the deficiencies in its application.

35. On July 16, 1999, KTWD paid \$10,240 to Salmon Construction, Inc. for 1,280 feet of 12-inch water main.

36. On July 27, 1999, KTWD filed additional information with the Public Service Commission to cure the deficiencies

in its initial filing. Upon receipt of this information, the Public Service Commission accepted KTWD's application as "filed."

37. On August 13, 1999, KTWD paid \$66,310.87 to Salmon Construction, Inc. for work performed on the Nichols Road Water Main Extension.

38. On August 17, 1999, a telephone conference between Commission Staff and KTWD's legal counsel was held. At this conference, Commission Staff requested certain information about the proposed water main extension.

39. On September 8, 1999, Commission Staff requested that KTWD confirm in writing that construction on the Nichols Road Water Main Extension had begun.

40. On September 13, 1999, KTWD's legal counsel confirmed in letter to Commission Staff that construction on the Nichols Road Water Main Extension had begun.

41. On September 20, 1999, a telephone conference call between KTWD and Commission Staff was held to discuss inconsistencies in KTWD's application for a certificate of public convenience and necessity.

WHEREAS, KTWD maintains that it did not violate any provision of KRS Chapter 278 or Public Service Commission regulation by collecting customer participation fees and developer fees from those persons connecting to its Cedar Grove Road Water Transmission Main; and

WHEREAS, KTWD acknowledges that the rate increase granted by the Public Service Commission in Case No. 98-398 on June 30, 1999 allows recovery of the annual principal and interest payments on the debt incurred to finance the construction of the Cedar Grove Road Water Transmission Main Project; and

WHEREAS, as a result of said rate increase and in order to resolve all matters involving KTWD currently pending before the Public Service Commission and the Franklin Circuit Court, KTWD is now willing to cease assessing and collecting customer participation fees from prospective customers to connect his or her structure to the Cedar

Grove Road Water Transmission Main, and KTWD is now willing to refund, over a five (5) year period, the customer participation fees it collected from persons connecting to the Cedar Grove Road Water Transmission Main; and

WHEREAS, Commission Staff, KTWD, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell desire to settle the issues raised by this proceeding and other proceedings currently pending before the Public Service Commission and Franklin Circuit Court.

NOW, THEREFORE, Commission Staff, KTWD, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell agree as follows:

1. Within 20 days of entry of an Order approving this Settlement Agreement, KTWD shall pay to the Kentucky State Treasurer the sum of twenty-five dollars (\$25.00).

2. Within 20 days of entry of an Order approving this Settlement Agreement, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell shall each pay to the Kentucky State Treasurer the sum of one hundred dollars (\$100.00). Such payments shall be made from their personal funds and shall not be made from KTWD's funds. Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell shall not seek reimbursement from KTWD for these payments.

3. Within 20 days of entry of an Order approving this Settlement Agreement, KTWD shall take all actions necessary to dismiss its action in Kentucky Turnpike Water District v. Kentucky Public Service Commission et al., Franklin Circuit Court Civil Action No. 99-CI-01278, and to comply with all terms and provisions of the Public Service Commission's Orders of September 1, 1999 and October 13, 1999 in Public Service Commission Case No. 97-323.

4. Within 20 days of entry of an Order approving this Settlement Agreement, KTWD shall move to dismiss with prejudice its application in Public Service Commission Case No. 99-048.

5. A. Within five years of entry of an Order approving this Settlement Agreement, KTWD shall refund all customer participation fees and developer fees collected from persons connecting any structure to KTWD's Cedar Grove Road Water Transmission Main and not specifically addressed in the Public Service Commission's Orders of September 1, 1999 and October 13, 1999 in Public Service Commission Case No. 97-323.

B. As of the date of this Agreement, KTWD has assessed and collected \$196,350 in customer participation fees from persons connecting to its Cedar Grove Road Water Transmission Main which the Public Service Commission did not specifically address in the Orders of September 1, 1999 and October 13, 1999. A list of each person assessed these charges, his or her address, and the total amount assessed is attached as **Exhibit 1**. KTWD has collected developer fees totaling \$7,200 from Richard Haarman and John Miller d/b/a Cedar Place LLC. Pursuant to the Commission's Order of September 1, 1999 in Case No. 97-323, this sum has already been refunded to these developers as evidenced by KTWD's check number 203 dated January 21, 2000, a copy of which is attached as **Exhibit 2**.

C(1). KTWD shall refund at least \$39,270 of these fees annually until all fees in question have been refunded. The first installment shall be made on or before June 30, 2001. The refund installment for each successive year shall be made no later than June 30 of that year. These refunds shall be made to all affected customers on a pro rata basis. KTWD may, at its option, refund these fees over a lesser period of time.

C(2). No interest shall be paid on the amount to be refunded if KTWD makes the required refunds in a timely manner. In the event KTWD does not strictly comply with paragraph 5C(1) of this Settlement Agreement, however, then KTWD shall pay interest at the rate of twelve (12) per cent per annum from and after the date of entry of an Order approving this Settlement Agreement on all unpaid amounts until all refunds have been paid in full.

D. In the event that KTWD transfers its facilities and assets to an entity whose retail utility operations are not subject to Public Service Commission's jurisdiction, the remaining amount of unrefunded fees shall be refunded no later than 30 days prior to the proposed effective date of such transfer unless KTWD provides adequate assurance to the Public Service Commission that the unrefunded fees will be distributed in accordance with the terms of this Settlement Agreement.

6. Upon dismissal of KTWD's action in Kentucky Turnpike Water District v. Kentucky Public Service Commission et al., Franklin Circuit Court Civil Action No. 99-CI-01278, and KTWD's filing of a motion to dismiss with prejudice its application in Public Service Commission Case No. 99-048, the Public Service Commission shall enter an Order in Public Service Commission Case No. 99-423 requiring KTWD to refund in accordance with the terms of Paragraph 5 of this Settlement Agreement the customer participation fees and developer fees collected from persons connecting to its Cedar Grove Road Water Transmission Main and not specifically addressed in the Public Service Commission's Orders of September 1, 1999 and October 13, 1999 in Case No. 97-323.

7. KTWD shall immediately cease assessing all charges not expressly approved by and on file with the Public Service Commission.

8. This Settlement Agreement resolves all issues pertaining to KTWD, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell and arising from the construction of any KTWD water distribution or transmission main prior to October 20, 1999.

9. This Agreement is subject to the acceptance of and approval by the Public Service Commission.

10. If the Public Service Commission fails to accept and approve this Settlement Agreement in its entirety, this proceeding shall go forward and neither the terms of this Settlement Agreement nor any matters raised during settlement negotiations shall be binding on any signatory.

11. If the Public Service Commission accepts and adopts this Settlement Agreement in its entirety and enters an order in this proceeding to that effect, KTWD, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell shall not apply for rehearing in this proceeding nor bring an action for review of that order.

12. Nothing contained herein is as an admission of a willful violation of any provision of KRS Chapter 278 or Public Service Commission regulation nor is the Public Service Commission's acceptance of this Settlement Agreement a finding of a willful violation of any provision of KRS Chapter 278 or Public Service Commission regulation.

13. This Settlement Agreement is submitted for the purpose of resolving the judicial and administrative proceedings referenced herein and is not binding upon the signatories nor admissible into evidence in any other judicial or administrative proceeding except for those administrative proceedings referenced herein or any administrative or judicial proceeding initiated to enforce the terms of this Settlement Agreement.

IN WITNESS WHEREOF, Commission Staff, KTWD, Dan Thibodeaux, George Miller, Elmer Mills and Raymond Abell have executed this Settlement Agreement the day and year first above written.

STAFF OF PUBLIC SERVICE COMMISSION
OF KENTUCKY

BY: *Audrey B. White*

TITLE: *Staff Attorney*

KENTUCKY TURNPIKE WATER DISTRICT,
RAYMOND ABELL, DAN THIBODEAUX,
GEORGE MILLER, AND ELMER MILLS

BY: *Damon R. Talley*

TITLE: *ATTORNEY*

KENTUCKY TURNPIKE WATER DISTRICT

BY: *Dan Thibodeaux*

TITLE: CHAIRMAN

Dan Thibodeaux
DAN THIBODEAUX, INDIVIDUALLY

George Miller
GEORGE MILLER, INDIVIDUALLY

Elmer Mills
ELMER MILLS, INDIVIDUALLY

Raymond Abell
RAYMOND ABELL, INDIVIDUALLY

EXHIBIT 1

No.	First Name	Last Name	Address	City	State	Zip Code
1	CARROLL & FAYE	ARNOLD	6598 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
2	JOHN	BEARD	6123 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
3	MINNIE	BERMAN	5432 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
4	DOYLE	BLEEMEL	408 EVANS LANE	MT WASHINGTON	KY	40047
5	J. D.	BREEDING	7631 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
6	JIM	BROOKS BUILDER, INC.	9000 BLUE LICK RD	LOUISVILLE	KY	40219
7		BURKE REALTY CO., INC.	3402 BURKLAND BLVD	SHEPHERDSVILLE	KY	40165
8		CEDAR GROVE BAPTIST CHURCH	4900 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
9		CEDAR GROVE METHODIST CHURCH	1174 LICKSKILLET DR	SHEPHERDSVILLE	KY	40165
10	BRIAN	CIABURRI	7906 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
11	FRENCH	COLWELL	4708 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
12	PERRY	COOK (1)	6764 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
13	PERRY & DIANE	COOK (2)	6764 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
14	CAROL & ED	CORBETT	8891 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
15	MARK	CORBETT	8623 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
16	EDDIE	CORBETT JR	200 CARTER AVE	LOUISVILLE	KY	40229
17	ERIC & TIFFANY	CORLEY	6505 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
18	ROBERT & PATRICIA	COY	3335 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
19	DENNIS	CUMMINGS	6486 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
20	DARRELL	EVANS	203 RIDGE RD	SHEPHERDSVILLE	KY	40165
21	WAYNE D.	FERGUSON	2831 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
22	LARRY	GREENWELL	8100 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
23	GEORGE	GRESCHEL	160 MCGRUDER LN	SHEPHERDSVILLE	KY	40165
24	CHARLES & VICKI JO	GRIMES	P O BOX 1035	SHEPHERDSVILLE	KY	40165
25	RICHARD	HAARMAN	199 WHITE TAIL CIRCLE	SHEPHERDSVILLE	KY	40165
26	SAM	HARDY	P O BOX 428	SHEPHERDSVILLE	KY	40165
27	LISA	HARSHFIELD	5309 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
28	ROGER	HAYES	3983 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
29	ROBERT C. & IDA	HODGE	8405 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
30	ROBERT	HOERTER	6071 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
31	RICHARD	HUFF	110 RYAN PATRICK DR	SHEPHERDSVILLE	KY	40165
32	LOWELL & JUDY	JACKSON	7507 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
33	VIRGIL	JACKSON	P O BOX 304	SHEPHERDSVILLE	KY	40165
34	RONNIE & PEGGY	JOBE	4608 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
35	JOSEPH	KAYS	5360 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
36	TED & GAYLE	KORFHAGE	350 MOONEY LN	SHEPHERDSVILLE	KY	40165
37	THOMAS	LEACH	8198 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
38	RANDY & BECKY	LEWIS	6849 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
39	M. JEAN	LEWIS	160 FLINTSTONE CT	SHEPHERDSVILLE	KY	40165
40	JERRY	LIKENS	233 SYMMETRIC ST	LOUISVILLE	KY	40229
41	MARTHA D.	MADDEN	5273 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
42	ROBERT & BRENDA	MATHENY	6115 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
43	ALAN & DONNA	MATTINGLY	4075 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
44	ROBERT & SARAH	MCDADE	2185 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165

EXHIBIT 1

No.	First Name	Last Name	Address	City	State	Zip Code
45	JAMES A.	MILES	4943 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
46	JOHN	MILLER (1)	289 WHITE TAIL CIRCLE	SHEPHERDSVILLE	KY	40165
47	JOHN	MILLER (2)	289 WHITE TAIL CIRCLE	SHEPHERDSVILLE	KY	40165
48	J.	MILLER BUILDERS	289 WHITE TAIL CIRCLE	SHEPHERDSVILLE	KY	40165
49	PAUL	MONTGOMERY	4019 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
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52	GOBEL	NEWSOME	302 ARNOLD LN	SHEPHERDSVILLE	KY	40165
53	PAUL & TEATTA	PARSLEY	3747 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
54	STEVE	PLENGE	2340 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
55	OTIS RAY	RATLIFF	6094 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
56	KENNETH R.	ROUTON	6634 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
57	WAYNE E.	SHAFER	5503 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
58	PEGGY	SIMMONS	5871 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
59	LEWIS & DARLENE	SKIDMORE	3681 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
60	DONALD & CHANDRA	SMITH	107 RYAN PATRICK DR	SHEPHERDSVILLE	KY	40165
61	ROBERT	SPARKS	6885 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
62	WILLIE	STARGEL	1146 WOODSDALE RD	SHEPHERDSVILLE	KY	40165
63	AL	STRAUB	5328 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
64	DAVID L.	TAYLOR	201 TERRY BLVD	LOUISVILLE	KY	40229
65	TONY	THOMAS	2607 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
66	EVERETT & PAT	TROUTMAN	7586 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
67	JAMES G.	VINCENT	4820 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
68	DALE & CINDY	WARREN	4901 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
69	AGNES	WEBB	6023 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
70	DANIEL & THEORA	WELLER	2761 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
71	KEITH & DOTTIE	WHITE	2636 BELLS MILL RD	SHEPHERDSVILLE	KY	40165
72	HAROLD & MARIA	WHITESIDE	7936 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
73	JANET	WIERWILLE	5239 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
74	CHARLES B.	WOLF JR	4981 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
75	DAVID & STEPHANIE	WOODS	5760 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
76	BARRY & LOIS	WOODS	4535 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
77	JUDY & ALLEN	YOUNG	4736 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165

EACH OF THE ABOVE LISTED PERSONS OR ENTITIES PAID A CUSTOMER CONTRIBUTION FEE IN THE AMOUNT OF \$2,550 FOR CONNECTING TO THE CEDAR GROVE ROAD WATER TRANSMISSION MAIN. THE TOTAL AMOUNT COLLECTED WAS \$196,350 (77 X \$2,550 = \$196,350).

EXHIBIT 2

KY TURNPIKE WATER DISTRICT IMPACT FEE ACCOUNT 3396 BURKLAND BLVD. SHEPHERDSVILLE, KY 40165		73-110/839	203
①		Date	1-21-00
Pay to the Order of	Cedar Place LLC	\$	7200 ⁰⁰
Seven Thousand Two Hundred Dollars		00/100	Dollars
	FIRST CITIZENS BANK ELIZABETHTOWN, KY RADCLIFF, KY - SHEPHERDSVILLE, KY	MONEY MARKET ACCOUNT	
For	CAs # 136 + 129 refund of Developer Fee	F. J. [Signature] C. J. [Signature]	
⑆08 390 1 100⑆0 203⑆8 609 209⑆		⑆00007 20000⑆	

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED
JUN - 7 2000
PUBLIC SERVICE
COMMISSION

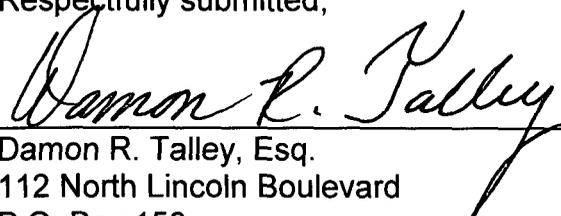
In the Matter of:

APPLICATION OF KENTUCKY TURNPIKE WATER)
DISTRICT FOR A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY TO CONSTRUCT) CASE NO. 99-237
A WATER MAIN EXTENSION TO THE NICHOLS)
AREA OF BULLITT COUNTY, KENTUCKY)

NOTICE OF FILING AND
MOTION FOR APPROVAL OF SETTLEMENT AGREEMENT

Kentucky Turnpike Water District, Dan Thibodeaux, George Miller, Elmer Mills, Raymond Abell, and Commission Staff give notice of their filing of a Settlement Agreement in the above-styled proceeding. They move that the Commission promptly review and approve this Settlement Agreement.

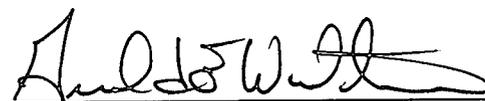
Respectfully submitted,



Damon R. Talley, Esq.
112 North Lincoln Boulevard
P.O. Box 150
Hodgenville, Kentucky 42748-0150

Bruce F. Clark, Esq.
Jason P. Thomas, Esq.
Stites and Harbison
400 West Market Street, Suite 1800
Louisville, Kentucky 40202-3352

COUNSEL FOR KENTUCKY
TURNPIKE WATER DISTRICT, DAN
THIBODEAUX, GEORGE MILLER,
ELMER MILLS, AND RAYMOND ABELL

A handwritten signature in black ink, appearing to read "Gerald E. Wuetcher", written over a horizontal line.

Gerald E. Wuetcher
Post Office Box 615
Frankfort, Kentucky 40602-0615

COUNSEL FOR COMMISSION STAFF

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED
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PUBLIC SERVICE
COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY TURNPIKE WATER)
DISTRICT FOR A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY TO CONSTRUCT) CASE NO. 99-237
A WATER MAIN EXTENSION TO THE NICHOLS)
AREA OF BULLITT COUNTY, KENTUCKY)

SETTLEMENT AGREEMENT

THIS AGREEMENT is made and entered this 1st day of June 2000, by and between the STAFF OF THE PUBLIC SERVICE COMMISSION OF KENTUCKY ("Commission Staff"), KENTUCKY TURNPIKE WATER DISTRICT ("KTWD"), DAN THIBODEAUX, GEORGE MILLER, ELMER MILLS, AND RAYMOND ABELL.

WITNESSETH:

WHEREAS, on June 14, 1999, KTWD submitted to the Public Service Commission an application for a Certificate of Public Convenience and Necessity to construct a water transmission main along Nichols Road in Bullitt County, Kentucky; and,

WHEREAS, on September 8, 1999, KTWD advised the Public Service Commission that construction of the proposed water transmission main had begun; and,

WHEREAS, on September 26, 1999, KTWD publicly announced that construction of the proposed water transmission main had been substantially completed; and,

WHEREAS, on October 20, 1999, the Public Service Commission found that a prima facie showing had been made that KTWD had violated KRS 278.020(1) by its

construction of the proposed water transmission main without first obtaining a Certificate of Public Convenience and Necessity from the Commission and that Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell had aided KTWD in its failure to comply with KRS 278.020(1); and,

WHEREAS, on October 20, 1999, the Public Service Commission ordered KTWD, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell to show cause why they should not be subject to the penalties of KRS 278.990 for their alleged misconduct; and,

WHEREAS, Commission Staff, KTWD, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell have stipulated to the following:

1. KTWD is a water district organized pursuant to KRS Chapter 74.
2. KTWD is organized into two divisions – Division I and Division II.
3. KTWD owns the facilities that provide water service to Division I. The Louisville Water Company, however, operates these facilities under the terms of a 1968 Lease Agreement.
4. As of December 31, 1998, KTWD's Division I had net utility plant of \$6,861,846.
5. As of December 31, 1998, KTWD's Division II had net utility plant of \$4,443,948.
6. KTWD's Board of Commissioners is composed of three members who control and manage the affairs of the water district.
7. Dan Thibodeaux is a member of KTWD's Board of Commissioners and has been since on or about January 1, 1997.
8. George Miller is a member of KTWD's Board of Commissioners and has been since on or about January 9, 1995.

9. Elmer Mills is a member of KTWD's Board of Commissioners and has been since on or about December 7, 1993.

10. Raymond Abell is the General Manager of KTWD and has held that position since on or about June 21, 1997. As General Manager, he is responsible for KTWD's daily operations.

11. On April 1, 1998, the Kentucky General Assembly appropriated \$500,000 for the construction of a water transmission main along Nichols Road in Bullitt County, Kentucky, if sufficient funds were available in the General Fund.

12. On July 31, 1998, John P. McCarty, Secretary of the Kentucky Finance and Administration Cabinet, certified that sufficient surplus funds exist in the General Fund to fund the Nichols Road Water Main Extension.

13. On November 5, 1998, KTWD Water District's Board of Commissioners approved a resolution authorizing KTWD to enter into a Memorandum of Understanding with the Kentucky Finance and Administration Cabinet to obtain funding for the Nichols Road Water Main Extension.

14. On or about December 29, 1998, KTWD requested an opinion from Commission Staff on the need for a certificate of public convenience and necessity for the Nichols Road Water Main Extension.

15. On January 12, 1999, KTWD and the Kentucky Finance and Administration Cabinet executed a Memorandum of Understanding concerning the Commonwealth's grant of \$500,000 to KTWD for the Nichols Road Water Main Extension.

16. The Memorandum of Understanding between KTWD and the Kentucky Finance and Administration Cabinet required KTWD to begin construction of the proposed Nichols Road Water Main Extension no later than April 1, 1999 and to complete the proposed Nichols Road Water Main Extension no later than September 1, 1999.

17. The purpose of the Nichols Road Water Main Extension was to provide water and fire protection to the Nichols Elementary School, which is located approximately 8 miles

west of Shepherdsville, Kentucky on Kentucky Highway 44W.

18. KTWD officials represented to the Bullitt County Board of Education that the proposed Nichols Road Water Main Extension would be in operation and serving the Nichols Elementary School by the beginning of the 1999-2000 School Year.

19. The proposed Nichols Road Water Main Extension consists of two phases. In the first phase, KTWD proposed to construct approximately 23,000 feet of 12-inch water transmission main. In the second phase, it proposed to construct an additional 29,000 feet of 12-inch water transmission main.

20. KTWD estimated the cost of the proposed Nichols Road Water Main Extension at approximately \$1,000,000. It proposed to fund this project through a \$500,000 grant from the Commonwealth of Kentucky and a contribution of \$100,000 from the Bullitt County Board of Education. It further proposed that each customer connecting to the proposed extension, except for Nichols Elementary School, contribute \$4,000 at the time of connection. KTWD estimated that 100 persons would connect to the proposed water extension.

21. On March 15, 1999, KTWD officials met with Commission Staff to discuss its proposed water main extension arrangement for the Nichols Road Water Main Extension.

22. On April 1, 1999, Commission Staff submitted suggested changes to KTWD's proposed water main extension arrangement.

23. On April 19, 1999, KTWD submitted another request for an opinion from Commission Staff on the need for a certificate of public convenience and necessity for the Nichols Road Water Main Extension.

24. On April 20, 1999, the Public Service Commission received KTWD's application for approval of its proposed water main extension arrangement for the Nichols Road Water Main Extension and docketed this application as Case No. 99-192.

25. On May 21, 1999, the Executive Director of the Public Service issued a written opinion in which she advised that the Nichols Road Water Main Extension required a certificate of public convenience and necessity.

26. On June 2, 1999, KTWD opened construction bids on the Nichols Road Water Main Extension.

27. On June 11, 1999, the Public Service Commission issued a final order in Case No. 99-192 in which it approved KTWD's proposed water main extension arrangement for the Nichols Road Water Main Extension.

28. On June 14, 1999, the Kentucky Division of Water approved the plans and specifications for the proposed Nichols Road Water Main Extension.

29. On June 14, 1999, KTWD filed with the Public Service Commission an application for a certificate of public convenience and necessity for the proposed Nichols Road Water Main Extension.

30. On June 22, 1999, KTWD applied to the Kentucky Department of Transportation for an encroachment permit for the Nichols Road Water Main Extension.

31. On June 24, 1999, the Kentucky Department of Transportation issued an encroachment permit for the Nichols Road Water Main Extension.

32. On June 28, 1999, KTWD began construction of the Nichols Road Water Main Extension.

33. On June 29, 1999, the Public Service Commission advised KTWD by letter that its application for a certificate of public convenience and necessity for the Nichols Road Water Main Extension was deficient. The Public Service Commission requested that KTWD cure these deficiencies no later than July 14, 1999.

34. On July 13, 1999, KTWD requested an extension of time in which cure the deficiencies in its application.

35. On July 16, 1999, KTWD paid \$10,240 to Salmon Construction, Inc. for 1,280 feet of 12-inch water main.

36. On July 27, 1999, KTWD filed additional information with the Public Service Commission to cure the deficiencies

in its initial filing. Upon receipt of this information, the Public Service Commission accepted KTWD's application as "filed."

37. On August 13, 1999, KTWD paid \$66,310.87 to Salmon Construction, Inc. for work performed on the Nichols Road Water Main Extension.

38. On August 17, 1999, a telephone conference between Commission Staff and KTWD's legal counsel was held. At this conference, Commission Staff requested certain information about the proposed water main extension.

39. On September 8, 1999, Commission Staff requested that KTWD confirm in writing that construction on the Nichols Road Water Main Extension had begun.

40. On September 13, 1999, KTWD's legal counsel confirmed in letter to Commission Staff that construction on the Nichols Road Water Main Extension had begun.

41. On September 20, 1999, a telephone conference call between KTWD and Commission Staff was held to discuss inconsistencies in KTWD's application for a certificate of public convenience and necessity.

WHEREAS, KTWD maintains that it did not violate any provision of KRS Chapter 278 or Public Service Commission regulation by collecting customer participation fees and developer fees from those persons connecting to its Cedar Grove Road Water Transmission Main; and

WHEREAS, KTWD acknowledges that the rate increase granted by the Public Service Commission in Case No. 98-398 on June 30, 1999 allows recovery of the annual principal and interest payments on the debt incurred to finance the construction of the Cedar Grove Road Water Transmission Main Project; and

WHEREAS, as a result of said rate increase and in order to resolve all matters involving KTWD currently pending before the Public Service Commission and the Franklin Circuit Court, KTWD is now willing to cease assessing and collecting customer participation fees from prospective customers to connect his or her structure to the Cedar

Grove Road Water Transmission Main, and KTWD is now willing to refund, over a five (5) year period, the customer participation fees it collected from persons connecting to the Cedar Grove Road Water Transmission Main; and

WHEREAS, Commission Staff, KTWD, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell desire to settle the issues raised by this proceeding and other proceedings currently pending before the Public Service Commission and Franklin Circuit Court.

NOW, THEREFORE, Commission Staff, KTWD, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell agree as follows:

1. Within 20 days of entry of an Order approving this Settlement Agreement, KTWD shall pay to the Kentucky State Treasurer the sum of twenty-five dollars (\$25.00).

2. Within 20 days of entry of an Order approving this Settlement Agreement, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell shall each pay to the Kentucky State Treasurer the sum of one hundred dollars (\$100.00). Such payments shall be made from their personal funds and shall not be made from KTWD's funds. Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell shall not seek reimbursement from KTWD for these payments.

3. Within 20 days of entry of an Order approving this Settlement Agreement, KTWD shall take all actions necessary to dismiss its action in Kentucky Turnpike Water District v. Kentucky Public Service Commission et al., Franklin Circuit Court Civil Action No. 99-CI-01278, and to comply with all terms and provisions of the Public Service Commission's Orders of September 1, 1999 and October 13, 1999 in Public Service Commission Case No. 97-323.

4. Within 20 days of entry of an Order approving this Settlement Agreement, KTWD shall move to dismiss with prejudice its application in Public Service Commission Case No. 99-048.

5. A. Within five years of entry of an Order approving this Settlement Agreement, KTWD shall refund all customer participation fees and developer fees collected from persons connecting any structure to KTWD's Cedar Grove Road Water Transmission Main and not specifically addressed in the Public Service Commission's Orders of September 1, 1999 and October 13, 1999 in Public Service Commission Case No. 97-323.

B. As of the date of this Agreement, KTWD has assessed and collected \$196,350 in customer participation fees from persons connecting to its Cedar Grove Road Water Transmission Main which the Public Service Commission did not specifically address in the Orders of September 1, 1999 and October 13, 1999. A list of each person assessed these charges, his or her address, and the total amount assessed is attached as **Exhibit 1**. KTWD has collected developer fees totaling \$7,200 from Richard Haarman and John Miller d/b/a Cedar Place LLC. Pursuant to the Commission's Order of September 1, 1999 in Case No. 97-323, this sum has already been refunded to these developers as evidenced by KTWD's check number 203 dated January 21, 2000, a copy of which is attached as **Exhibit 2**.

C(1). KTWD shall refund at least \$39,270 of these fees annually until all fees in question have been refunded. The first installment shall be made on or before June 30, 2001. The refund installment for each successive year shall be made no later than June 30 of that year. These refunds shall be made to all affected customers on a pro rata basis. KTWD may, at its option, refund these fees over a lesser period of time.

C(2). No interest shall be paid on the amount to be refunded if KTWD makes the required refunds in a timely manner. In the event KTWD does not strictly comply with paragraph 5C(1) of this Settlement Agreement, however, then KTWD shall pay interest at the rate of twelve (12) per cent per annum from and after the date of entry of an Order approving this Settlement Agreement on all unpaid amounts until all refunds have been paid in full.

D. In the event that KTWD transfers its facilities and assets to an entity whose retail utility operations are not subject to Public Service Commission's jurisdiction, the remaining amount of unrefunded fees shall be refunded no later than 30 days prior to the proposed effective date of such transfer unless KTWD provides adequate assurance to the Public Service Commission that the unrefunded fees will be distributed in accordance with the terms of this Settlement Agreement.

6. Upon dismissal of KTWD's action in Kentucky Turnpike Water District v. Kentucky Public Service Commission et al., Franklin Circuit Court Civil Action No. 99-CI-01278, and KTWD's filing of a motion to dismiss with prejudice its application in Public Service Commission Case No. 99-048, the Public Service Commission shall enter an Order in Public Service Commission Case No. 99-423 requiring KTWD to refund in accordance with the terms of Paragraph 5 of this Settlement Agreement the customer participation fees and developer fees collected from persons connecting to its Cedar Grove Road Water Transmission Main and not specifically addressed in the Public Service Commission's Orders of September 1, 1999 and October 13, 1999 in Case No. 97-323.

7. KTWD shall immediately cease assessing all charges not expressly approved by and on file with the Public Service Commission.

8. This Settlement Agreement resolves all issues pertaining to KTWD, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell and arising from the construction of any KTWD water distribution or transmission main prior to October 20, 1999.

9. This Agreement is subject to the acceptance of and approval by the Public Service Commission.

10. If the Public Service Commission fails to accept and approve this Settlement Agreement in its entirety, this proceeding shall go forward and neither the terms of this Settlement Agreement nor any matters raised during settlement negotiations shall be binding on any signatory.

11. If the Public Service Commission accepts and adopts this Settlement Agreement in its entirety and enters an order in this proceeding to that effect, KTWD, Dan Thibodeaux, George Miller, Elmer Mills, and Raymond Abell shall not apply for rehearing in this proceeding nor bring an action for review of that order.

12. Nothing contained herein is as an admission of a willful violation of any provision of KRS Chapter 278 or Public Service Commission regulation nor is the Public Service Commission's acceptance of this Settlement Agreement a finding of a willful violation of any provision of KRS Chapter 278 or Public Service Commission regulation.

13. This Settlement Agreement is submitted for the purpose of resolving the judicial and administrative proceedings referenced herein and is not binding upon the signatories nor admissible into evidence in any other judicial or administrative proceeding except for those administrative proceedings referenced herein or any administrative or judicial proceeding initiated to enforce the terms of this Settlement Agreement.

IN WITNESS WHEREOF, Commission Staff, KTWD, Dan Thibodeaux, George Miller, Elmer Mills and Raymond Abell have executed this Settlement Agreement the day and year first above written.

STAFF OF PUBLIC SERVICE COMMISSION
OF KENTUCKY

BY: *Arnold B. Wright*

TITLE: *Staff Attorney*

KENTUCKY TURNPIKE WATER DISTRICT,
RAYMOND ABELL, DAN THIBODEAUX,
GEORGE MILLER, AND ELMER MILLS

BY: *Damon R. Talley*

TITLE: *ATTORNEY*

KENTUCKY TURNPIKE WATER DISTRICT

BY: *Dan Thibodeaux*

TITLE: CHAIRMAN

Dan Thibodeaux
DAN THIBODEAUX, INDIVIDUALLY

George Miller
GEORGE MILLER, INDIVIDUALLY

Elmer Mills
ELMER MILLS, INDIVIDUALLY

Raymond Abell
RAYMOND ABELL, INDIVIDUALLY

EXHIBIT I

No.	First Name	Last Name	Address	City	State	Zip Code
1	CARROLL & FAYE	ARNOLD	6598 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
2	JOHN	BEARD	6123 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
3	MINNIE	BERMAN	5432 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
4	DOYLE	BLEEMEL	408 EVANS LANE	MT WASHINGTON	KY	40047
5	J. D.	BREEDING	7631 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
6	JIM	BROOKS BUILDER, INC.	9000 BLUE LICK RD	LOUISVILLE	KY	40219
7		BURKE REALTY CO., INC.	3402 BURKLAND BLVD	SHEPHERDSVILLE	KY	40165
8		CEDAR GROVE BAPTIST CHURCH	4900 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
9		CEDAR GROVE METHODIST CHURCH	1174 LICKSKILLET DR	SHEPHERDSVILLE	KY	40165
10	BRIAN	CIABURRI	7906 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
11	FRENCH	COLWELL	4708 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
12	PERRY	COOK (1)	6764 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
13	PERRY & DIANE	COOK (2)	6764 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
14	CAROL & ED	CORBETT	8891 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
15	MARK	CORBETT	8623 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
16	EDDIE	CORBETT JR	200 CARTER AVE	LOUISVILLE	KY	40229
17	ERIC & TIFFANY	CORLEY	6505 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
18	ROBERT & PATRICIA	COY	3335 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
19	DENNIS	CUMMINGS	6486 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
20	DARRELL	EVANS	203 RIDGE RD	SHEPHERDSVILLE	KY	40165
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23	GEORGE	GRESCHER	160 MCGRUDER LN	SHEPHERDSVILLE	KY	40165
24	CHARLES & VICKI JO	GRIMES	P O BOX 1035	SHEPHERDSVILLE	KY	40165
25	RICHARD	HAARMAN	199 WHITE TAIL CIRCLE	SHEPHERDSVILLE	KY	40165
26	SAM	HARDY	P O BOX 428	SHEPHERDSVILLE	KY	40165
27	LISA	HARSHFIELD	5309 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
28	ROGER	HAYES	3983 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
29	ROBERT C. & IDA	HODGE	8405 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
30	ROBERT	HOERTER	6071 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
31	RICHARD	HUFF	110 RYAN PATRICK DR	SHEPHERDSVILLE	KY	40165
32	LOWELL & JUDY	JACKSON	7507 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
33	VIRGIL	JACKSON	P O BOX 304	SHEPHERDSVILLE	KY	40165
34	RONNIE & PEGGY	JOBE	4608 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
35	JOSEPH	KAYS	5360 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
36	TED & GAYLE	KORFHAGE	350 MOONEY LN	SHEPHERDSVILLE	KY	40165
37	THOMAS	LEACH	8198 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
38	RANDY & BECKY	LEWIS	6849 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
39	M. JEAN	LEWIS	160 FLINTSTONE CT	SHEPHERDSVILLE	KY	40165
40	JERRY	LIKENS	233 SYMMETRIC ST	LOUISVILLE	KY	40229
41	MARTHA D.	MADDEN	5273 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
42	ROBERT & BRENDA	MATHENY	6115 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
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53	PAUL & TEATTA	PARSLEY	3747 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
54	STEVE	PLENGE	2340 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
55	OTIS RAY	RATLIFF	6094 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
56	KENNETH R.	ROUTON	6634 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
57	WAYNE E.	SHAFFER	5503 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
58	PEGGY	SIMMONS	5871 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
59	LEWIS & DARLENE	SKIDMORE	3681 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
60	DONALD & CHANDRA	SMITH	107 RYAN PATRICK DR	SHEPHERDSVILLE	KY	40165
61	ROBERT	SPARKS	6885 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
62	WILLIE	STARGEL	1146 WOODSDALE RD	SHEPHERDSVILLE	KY	40165
63	AL	STRAUB	5328 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
64	DAVID L.	TAYLOR	201 TERRY BLVD	LOUISVILLE	KY	40229
65	TONY	THOMAS	2607 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
66	EVERETT & PAT	TROUTMAN	7586 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
67	JAMES G.	VINCENT	4820 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
68	DALE & CINDY	WARREN	4901 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
69	AGNES	WEBB	6023 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
70	DANIEL & THEORA	WELLER	2761 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
71	KEITH & DOTTIE	WHITE	2636 BELLS MILL RD	SHEPHERDSVILLE	KY	40165
72	HAROLD & MARIA	WHITESIDE	7936 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
73	JANET	WIERWILLE	5239 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
74	CHARLES B.	WOLF JR	4981 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
75	DAVID & STEPHANIE	WOODS	5760 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
76	BARRY & LOIS	WOODS	4535 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165
77	JUDY & ALLEN	YOUNG	4736 CEDAR GROVE RD	SHEPHERDSVILLE	KY	40165

EACH OF THE ABOVE LISTED PERSONS OR ENTITIES PAID A CUSTOMER CONTRIBUTION FEE IN THE AMOUNT OF \$2,550 FOR CONNECTING TO THE CEDAR GROVE ROAD WATER TRANSMISSION MAIN. THE TOTAL AMOUNT COLLECTED WAS \$196,350 (77 X \$2,550 = \$196,350).

EXHIBIT 2

73-110/839 203

**KY TURNPIKE WATER DISTRICT
IMPACT FEE ACCOUNT**
3396 BURKLAND BLVD.
SHEPHERDSVILLE, KY 40165

① Date 1-21-00

Pay to the Order of Cedar Place LLC \$ 7200⁰⁰
Seven Thousand Two Hundred Dollars ^{00/100} Dollars 

 **FIRST CITIZENS BANK**
ELIZABETHTOWN, KY
RADCLIFF, KY - SHEPHERDSVILLE, KY

MONEY MARKET ACCOUNT
Figure 1
Trade Money MP

For Cps #136 + 129 refund of Developer's Fee

⑆08390⑆⑆00⑆0203⑆⑆8609209⑆⑆⑆0000720000⑆⑆

© 2000 American Colonial Classic Wood



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

211 SOWER BOULEVARD
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

April 18, 2000

To: All parties of record

RE: Case No. 1999-237

We enclose one attested copy of the Commission's Order in
the above case.

Sincerely,

A handwritten signature in cursive script that reads "Stephanie J. Bell".

Stephanie Bell
Secretary of the Commission

SB/sa
Enclosure

F. Raymond Abell
District Manager
Kentucky Turnpike Water District
Division I
3396 Burkland Boulevard
Shepherdsville , KY 40165

Honorable Jason P. Thomas
Counsel for KY Turnpike Water
Stites & Harbison
400 West Market Street, Suite 1800
Louisville, KY 40202 3352

Dan Thibodeaux
740 E. Indian Stone Road
Shepherdsville , KY 40165 9354

George Miller
P. O. Box 128
Shepherdsville , KY 40165 0128

Elmer Mills
2928 Brooks Hill Road
Brooks, KY 40109 5000

Honorable Damon R. Talley
Co-Counsel for KY Turnpike Water,
Raymond Abell, Dan Thibodeaux,
George Miller & Elmer Mills
112 N. Lincoln Blvd.
P.O. Box 150
Hodgenville, KY 42748

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY TURNPIKE WATER)
DISTRICT FOR A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY TO CONSTRUCT) CASE NO. 99-237
A WATER MAIN EXTENSION TO THE NICHOLS)
AREA OF BULLITT COUNTY, KENTUCKY)

ORDER

Having been advised that the parties to this proceeding and Commission Staff have reached an agreement in principle that resolves the issues identified in the Order of October 20, 1999 and that they intend to file shortly a written agreement with this Commission and finding that the hearing in this matter should be postponed until the submission and review of that written agreement, the Commission, on its own motion, HEREBY ORDERS that the hearing in this matter is postponed generally.

Done at Frankfort, Kentucky, this 18th day of April, 2000.

By the Commission

ATTEST:


Executive Director



Paul E. Patton, Governor
Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Martin J. Huelsmann
Executive Director
Public Service Commission

COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
211 SOWER BOULEVARD
POST OFFICE BOX 615
FRANKFORT, KENTUCKY 40602-0615
www.psc.state.ky.us
(502) 564-3940
Fax (502) 564-3460

B. J. Helton
Chairman

Edward J. Holmes
Vice Chairman

Gary W. Gillis
Commissioner

April 10, 2000

RECEIVED

APR 10 2000

PUBLIC SERVICE
COMMISSION

Damon R. Talley, Esq.
112 N. Lincoln Boulevard
Hodgenville, Kentucky 42748

Re: Case No. 99-237
Kentucky Turnpike Water District

Dear Mr. Talley:

This letter is to confirm that Kentucky Turnpike Water District and Commission Staff have reached an agreement in principle to resolve the outstanding issues in the above-referenced case and are preparing a written settlement agreement for submission to the Public Service Commission for its review and approval. To advise the Public Service Commission of this development, Commission Staff is filing a copy of this letter in the record of Case No. 99-237.

If Kentucky Turnpike Water District objects to any statements contained herein, please advise the Executive Director of the Public Service Commission in writing immediately.

Sincerely,

Gerald E. Wuetcher
Staff Attorney

cc: Case Record No. 99-237
Parties of Record





COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

January 20, 2000

To: All parties of record

RE: Case No. 1999-237

We enclose one attested copy of the Commission's Order in
the above case.

Sincerely,

A handwritten signature in black ink that reads "Stephanie Bell".

Stephanie Bell
Secretary of the Commission

SB/sa
Enclosure

F. Raymond Abell
District Manager
Kentucky Turnpike Water District
Division I
3396 Burkland Boulevard
Shepherdsville , KY 40165

Honorable Jason P. Thomas
Counsel for KY Turnpike Water
Stites & Harbison
400 West Market Street, Suite 1800
Louisville, KY 40202 3352

Dan Thibodeaux
740 E. Indian Stone Road
Shepherdsville , KY 40165 9354

George Miller
P. O. Box 128
Shepherdsville , KY 40165 0128

Elmer Mills
2928 Brooks Hill Road
Brooks, KY 40109 5000

Honorable Damon R. Talley
Co-Counsel for KY Turnpike Water,
Raymond Abell, Dan Thibodeaux,
George Miller & Elmer Mills
112 N. Lincoln Blvd.
P.O. Box 150
Hodgenville, KY 42748

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY TURNPIKE WATER)
DISTRICT FOR A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY TO CONSTRUCT) CASE NO. 99-237
A WATER MAIN EXTENSION TO THE NICHOLS)
AREA OF BULLITT COUNTY, KENTUCKY)

ORDER

Having been advised that the parties to this proceeding and Commission Staff are engaged in discussions to resolve the issues identified in the Order of October 20, 1999, and finding that the hearing in this matter should be rescheduled to allow these discussions to continue, the Commission, on its own motion, HEREBY ORDERS that the hearing in this matter is rescheduled to April 18, 2000 at 9:00 a.m., Eastern Time, in Hearing Room 2 of the Commission's offices at 211 Sower Boulevard, Frankfort, Kentucky.

Done at Frankfort, Kentucky, this 20th day of January, 2000.

By the Commission

ATTEST:


Executive Director



Paul E. Patton
Governor

COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KENTUCKY 40602
www.psc.state.ky.us
(502) 564-3940
Fax (502) 564-1582

Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Helen Helton
Executive Director
Public Service Commission

January 6, 2000

Damon Talley, Esq.
112 N. Lincoln Boulevard
Post Office Box 150
Hodgenville, Kentucky 42748

Jason P. Thomas, Esq.
Stites and Harbison
400 West Market Street
Suite 1800
Louisville, Kentucky 40202-3352

Re: Case No. 1999-237

Gentlemen:

The enclosed memorandum has been filed in the record of the above-referenced case. Any comments regarding this memorandum's contents should be submitted to the Commission within five days of receipt of this letter. Any questions regarding this memorandum should be directed to Gerald Wuetcher, Commission counsel, at (502) 564-3940, Extension 259.

Sincerely,

Helen C. Helton
Executive Director

gw
Enclosure
cc: Parties of Record

C:\My Documents\PSC Cases\1999\99-237\20000105_Informal Conference Memorandum_Cover Letter.doc



AN EQUAL OPPORTUNITY EMPLOYER M/F/D

INTRA-AGENCY MEMORANDUM

KENTUCKY PUBLIC SERVICE COMMISSION

TO: Case File No. 1999-237

FROM: Gerald Wuetcher
Staff Attorney

DATE: January 6, 2000

RE: Conference of January 5, 2000

On January 5, 2000, the Commission held an informal conference in this case in the Commission's offices in Frankfort, Kentucky. Present were:

Raymond Abell	-	Kentucky Turnpike Water District
Elmer Miller	-	Kentucky Turnpike Water District
George R. Miller	-	Kentucky Turnpike Water District
Damon Talley	-	Kentucky Turnpike Water District
Dan Thibodeaux	-	Kentucky Turnpike Water District
Amanda Hale	-	Commission Staff
Karen Harrod	-	Commission Staff
Brent Kirtley	-	Commission Staff
Sam Reid	-	Commission Staff
James Rice	-	Commission Staff
George Wakim	-	Commission Staff
Gerald Wuetcher	-	Commission Staff
James Zambroski	-	Louisville <u>Courier-Journal</u>

Upon the request of Kentucky Turnpike Water District ("Kentucky Turnpike"), the Commission by Order dated December 13, 1999, ordered that the conference be convened.

Beginning the conference, Mr. Wuetcher stated that Commission Staff would prepare minutes of the conference for the case record, that a copy of these minutes would be provided to all parties, and that all parties would be given an opportunity to submit written comments upon those minutes.

Mr. Talley made an opening statement. He stated that this case results from an unfortunate misunderstanding. While conceding that Kentucky Turnpike began construction of the Nichols Water Line Extension without obtaining a certificate of public convenience and necessity, he asserted that the water line extension was an extension in the ordinary course of business and therefore did not require a certificate. For this reason, he explained, Kentucky Turnpike had not waited for Commission action for a

certificate. He noted that the misunderstanding stemmed from the water district's original decision to construct approximately 8-miles of water line at a cost of one million dollars. When Kentucky Turnpike requested an opinion from Commission Staff on the need for a certificate of public convenience and necessity for the main extension, it described the main extension as a single-phase project. As the project progressed, however, the planned extension was split into two phases with each phase costing less than \$500,000 and being financed through government grants and customer contributions. As a result, Mr. Talley stated, the projects were "ordinary extensions of existing systems in the usual course of business" and did not require a certificate under KRS 278.020. Kentucky Turnpike failed to appreciate this fact and withdraw its application or to advise Commission Staff that the central premise underlying its advisory opinion was no longer correct.

Mr. Wuetcher stated that Commission Staff did not share Kentucky Turnpike's interpretation of events, but was willing to review the underlying documents to reach agreement on the scope of the project and the events that led to Kentucky Turnpike's construction of the Nichols Water Main Extension without a certificate of public convenience and necessity.

Mr. Wuetcher asked if Kentucky Turnpike had any settlement proposals to present. Mr. Talley stated that the water district did not have any specific proposal but wished to discuss several issues for settlement purposes. He further stated that Kentucky Turnpike preferred to present these issues in closed session. Noting that the Commission restrict access to conferences involving settlement discussions between Commission Staff and the parties, Mr. Wuetcher stated that the conference would go into closed session and requested that Mr. Zambrosky leave the conference room.

After Mr. Zamrosky's departure, Commission Staff and Kentucky Turnpike discussed several proposals for resolving the proceeding. No agreement was reached. Kentucky Turnpike requested that the scheduled hearing in the proceeding be postponed to permit it additional time to review certain settlement proposals and respond. Its representatives and Commission Staff agreed that Kentucky Turnpike should submit a final response to Commission Staff no later than March 1, 2000 and that the scheduled hearing should be postponed until mid-April 2000. They further agreed that counsel for Commission Staff and Kentucky Turnpike should discuss and develop stipulations to expedite final resolution of this proceeding.

The conference then adjourned.

cc: Parties of Record

DAMON R. TALLEY, P.S.C.

112 N. LINCOLN BLVD.
P.O. BOX 150
HODGENVILLE, KENTUCKY 42748

TEL. (270) 358-3187
FAX (270) 358-9560

DAMON R. TALLEY

ATTORNEY AT LAW

December 23, 1999

RECEIVED

DEC 27 1999

PUBLIC SERVICE
COMMISSION

Ms. Helen C. Helton
Executive Director
Public Service Commission
P.O. Box 615
Frankfort, Kentucky 40602

RE: Kentucky Turnpike Water District
Case No. 99-237

Dear Ms. Helton:

Enclosed for filing are the original and ten (10) copies of the Response to the Commission's December 13, 1999 Order. The Response is being submitted on behalf of all the Respondents.

Yours truly,
DAMON R. TALLEY, P.S.C.


DAMON R. TALLEY

DRT:ln

Enclosures

cc: Kentucky Turnpike Water District
Jason Thomas

COMMONWEALTH OF KENTUCKY

RECEIVED

BEFORE THE PUBLIC SERVICE COMMISSION

DEC 27 1999

PUBLIC SERVICE
COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY TURNPIKE)
 WATER DISTRICT FOR A CERTIFICATE OF)
 PUBLIC CONVENIENCE AND NECESSITY TO) CASE NO. 99-237
 CONSTRUCT A WATER MAIN EXTENSION TO)
 THE NICHOLS AREA OF BULLITT COUNTY,)
 KENTUCKY)

RESPONSE TO DECEMBER 13, 1999 ORDER

Comes Kentucky Turnpike Water District, Raymond Abell, Dan Thibodeaux, George Miller, and Elmer Mills (collectively the "Respondents"), by counsel, and for their Response to the Commission's December 13, 1999 Order, state as follows:

1. The Respondents propose the following agenda topic for the Informal Conference:

**DISCUSSION OF METHOD TO RESOLVE
THIS MATTER EXPEDITIOUSLY**

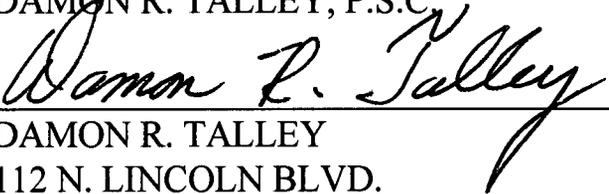
2. The Respondents do not have any settlement proposals to submit at this time. The Respondents are considering various proposals for an expeditious resolution of this matter.

This 23rd day of December, 1999.

RESPECTFULLY SUBMITTED,

JASON P. THOMAS
STITES & HARBISON
400 WEST MARKET STREET, SUITE 1800
LOUISVILLE, KY 40202-3352
(502) 587-3400

DAMON R. TALLEY, P.S.C.

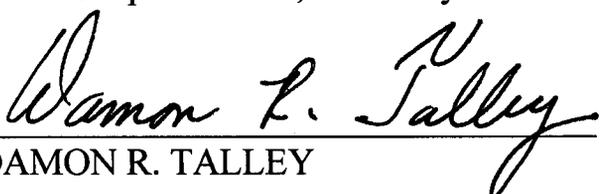

DAMON R. TALLEY
112 N. LINCOLN BLVD.
P. O. BOX 150
HODGENVILLE, KY 42748
(270) 358-3187 FAX (270) 358-9560
ATTORNEYS FOR KENTUCKY TURNPIKE
WATER DISTRICT, RAYMOND ABELL,
DAN THIBODEAUX, GEORGE MILLER,
AND ELMER MILLS

CERTIFICATE OF SERVICE

This is to certify that a true copy of the foregoing Pleading was served by first class mail, postage prepaid, this 23rd day of December, 1999, to the following:

Jason P. Thomas
STITES & HARBISON
400 West Market Street, Suite 1800
Louisville, Kentucky 40202-3352

Raymond Abell
District Manager
Kentucky Turnpike Water District
3396 Burkland Boulevard
Shepherdsville, Kentucky 40165


DAMON R. TALLEY



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

December 13, 1999

To: All parties of record

RE: Case No. 1999-237

We enclose one attested copy of the Commission's Order in
the above case.

Sincerely,

A handwritten signature in black ink that reads "Stephanie Bell".

Stephanie Bell
Secretary of the Commission

SB/sa
Enclosure

F. Raymond Abell
District Manager
Kentucky Turnpike Water District
Division I
3396 Burkland Boulevard
Shepherdsville , KY 40165

Honorable Jason P. Thomas
Counsel for KY Turnpike Water
Stites & Harbison
400 West Market Street, Suite 1800
Louisville, KY 40202 3352

Dan Thibodeaux
740 E. Indian Stone Road
Shepherdsville , KY 40165 9354

George Miller
P. O. Box 128
Shepherdsville , KY 40165 0128

Elmer Mills
2928 Brooks Hill Road
Brooks, KY 40109 5000

Honorable Damon R. Talley
Co-Counsel for KY Turnpike Water,
Raymond Abell, Dan Thibodeaux,
George Miller & Elmer Mills
112 N. Lincoln Blvd.
P.O. Box 150
Hodgenville, KY 42748

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY TURNPIKE WATER)
DISTRICT FOR A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY TO CONSTRUCT) CASE NO. 99-237
A WATER MAIN EXTENSION TO THE NICHOLS)
AREA OF BULLITT COUNTY, KENTUCKY)

ORDER

Dan Thibodeaux, George Miller and Elmer Mills, F. Raymond Abell, and Kentucky Turnpike Water District (collectively "the Respondents") have moved for an informal conference in this matter. Having considered the motion and being otherwise sufficiently advised, the Commission finds that the motion should be granted.

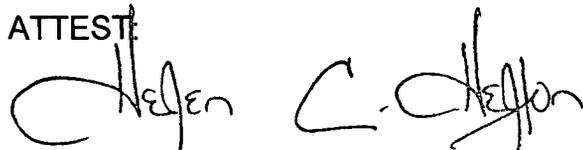
IT IS THEREFORE ORDERED that:

1. An informal conference shall be held on January 5, 2000 at 10:00 a.m., Eastern Time, in Conference Room 1 of the Commission's offices at 730 Schenkel Lane, Frankfort, Kentucky.
2. Within 15 days of this Order, the Respondents shall file with the Commission their proposed agenda for the informal conference and their proposals for resolution of this proceeding, if any.

Done at Frankfort, Kentucky, this 13th day of December, 1999.

By the Commission

ATTEST:



Executive Director

DAMON R. TALLEY, P.S.C.

P.O. Box 150
112 N. LINCOLN BLVD.
HODGENVILLE, KENTUCKY 42748

270—
TEL. (502) 358-3187
FAX 358-9560

RECEIVED

NOV 29 1999

PUBLIC SERVICE
COMMISSION
ATTORNEY AT LAW

DAMON R. TALLEY

November 24, 1999

Ms. Helen C. Helton
Executive Director
Public Service Commission
P.O. Box 615
Frankfort, Kentucky 40602

RE: Kentucky Turnpike Water District
Case No. 99-237

Dear Ms. Helton:

Enclosed for filing are the original and ten (10) copies of my Notice of Entry of Appearance as co-counsel in this case.

Please add my name and address to the service list for this case. ✓

Yours truly,

DAMON R. TALLEY, P.S.C.


DAMON R. TALLEY

DRT/ln

Enclosures

cc: Kentucky Turnpike Water District
Jason Thomas

COMMONWEALTH OF KENTUCKY

RECEIVED

BEFORE THE PUBLIC SERVICE COMMISSION

NOV 29 1999

PUBLIC SERVICE
COMMISSION

In the Matter of:

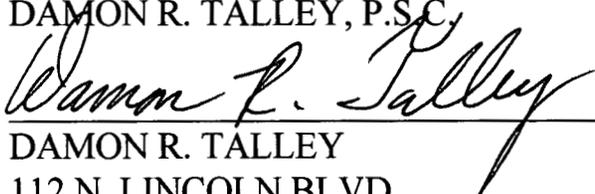
APPLICATION OF KENTUCKY TURNPIKE)
 WATER DISTRICT FOR A CERTIFICATE OF)
 PUBLIC CONVENIENCE AND NECESSITY TO) CASE NO. 99-237
 CONSTRUCT A WATER MAIN EXTENSION TO)
 THE NICHOLS AREA OF BULLITT COUNTY,)
 KENTUCKY)

NOTICE OF ENTRY OF APPEARANCE

The undersigned attorney hereby enters his appearance as co-counsel for the Kentucky Turnpike Water District, Raymond Abell, Dan Thibodeaux, George Miller, and Elmer Mills in this proceeding.

Copies of all motions, orders, correspondence, and all other documents filed in this proceeding should be served upon those persons listed on the service list and upon DAMON R. TALLEY at the address shown below.

This 24th day of November, 1999.

DAMON R. TALLEY, P.S.C.


 DAMON R. TALLEY
 112 N. LINCOLN BLVD.
 P. O. BOX 150
 HODGENVILLE, KY 42748
 (270) 358-3187 FAX (270) 358-9560
 CO-COUNSEL FOR KENTUCKY TURNPIKE
 WATER DISTRICT, RAYMOND ABELL,
 DAN THIBODEAUX, GEORGE MILLER, AND
 ELMER MILLS

CERTIFICATE OF SERVICE

This is to certify that a true copy of the foregoing Pleading was served by first class mail, postage prepaid, this 24th day of November, 1999, to the following:

Jason P. Thomas
STITES & HARBISON
400 West Market Street, Suite 1800
Louisville, Kentucky 40202-3352

Raymond Abell
District Manager
Kentucky Turnpike Water District
3396 Burkland Boulevard
Shepherdsville, Kentucky 40165


DAMON R. TALLEY

RECEIVED

NOV 11 1999

PUBLIC SERVICE
COMMISSION

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY TURNPIKE)
WATER DISTRICT FOR A CERTIFICATE)
OF PUBLIC CONVENIENCE) CASE NO. 99-237
AND NECESSITY TO THE NICHOLS)
AREA OF BULLITT COUNTY)

**Response of Kentucky Turnpike Water District, F. Raymond Abell,
Dan Thibodeaux, George Miller, and Elmer Mills to the
Commission's October 20, 1999 Show Cause Order**

Comes Kentucky Turnpike Water District, F. Raymond Abell, Dan Thibodeaux, George Miller, and Elmer Mills, by counsel, and responds to the Public Service Commission's October 20, 1999 show cause order. Because the facts and defenses for Kentucky Turnpike Water District and the named individuals are the same for each, all parties submit and join in this single response.

Introduction

Under KRS 278.990(1), a person may be subject to penalties if the person "willfully violates" a statute or regulation of the Public Service Commission ("PSC" or "the Commission"). The Kentucky Turnpike Water District ("the District") and its officials did not *willfully* violate any PSC regulation or statute. Rather, a unique set of circumstances, including District management's inexperience and ignorance of the effect of the relevant statutes and regulations, converged to create the unfortunate circumstance initiating the PSC's show cause order. Accordingly, the District and the District's management should not be subject to penalties under KRS 278.990(1).

Facts

Nichols Elementary School is one of the few schools in the Commonwealth without water. The District, Bullitt County Fiscal Court, and the Commonwealth have long been desperate to provide water to the school. The Bullitt County Board of Education and the state government therefore began working with the District to overcome the largest hurdle to water service – financing. The Bullitt County Board of Education earmarked \$100,000 and the state government earmarked \$500,000 for the project. Both commitments came, however, with immense pressure to complete the project quickly at the risk of losing the funding.¹ In particular, the Memorandum of Agreement with the Finance and Administration Cabinet required as follows:

“The District shall begin design of the Project no later than January 15, 1999 and begin construction of the Project no later than April 1, 1999. The Project shall be completed no later than September 1, 1999.

In the event of default by the District, including the failure to meet and time deadlines set out in this Memorandum, the Cabinet may declare this Memorandum of Understanding void from the beginning without further obligation to the District and may commence appropriate legal or equitable action to enforce its rights under this Memorandum of Understanding, including action for recovery of funds expended hereunder.

(Emphasis added).

The District therefore attempted to coordinate the project to ensure the school received water by the September 1999 deadline and also to ensure that other residents in the area were also able to receive water as a result of this one-time, unprecedented financial commitment from

the state and the board of education. Part of that process included PSC approval of a contract individual residents would sign to receive water (Case No. 99-192).

Both the District and Commission officials were aware of the need to expedite the process due to the constraints and pressures to meet the September 1999 deadline. The Commission worked diligently with the District to craft an acceptable residential contract. On December 17, 1998 during an informal conference in Case No. 99-192, the District inquired about the need for a certificate of public convenience and necessity for the construction. Commission staff indicated that most likely a certificate would *not* be needed but that the District should make a written request for a determination of the issue. Because of this representation and because the District concluded that the Commission's approval of the individual residential contracts was essentially tantamount to an approval of the project itself, it proceeded with construction due to pressure placed on the District by the state treasury and local politicians.

The project was located in Division I of the District. Division I is operated under a least agreement with the Louisville Water Company ("LWC"). LWC therefore assumed the responsibility for the engineering and design of the facilities, the drafting of contract documents, contract bidding, the bid award, and finally, the supervision of the construction. Indeed, it was LWC who awarded the bid, which required construction to begin within approximately 15 days. Therefore, while the project was the project of Kentucky Turnpike Water District, LWC largely controlled the design and management of the project.

During this time, the District contemporaneously made a written request for a

¹ The Governor's office planned a visit by the Governor to the area for the week of October 1999. The visit was to include a ceremonial turning of the valve at Nichols School. While the Governor visited Bullitt County as planned, due to other time constraints, the Governor never made it to Nichols School. Nonetheless, the District was made aware of the Governor's intention months prior to his visit, and this reinforced the urgency of the situation and, again, reinforced the District's impression that the project had been "approved."

determination whether a certificate was needed. At the time the request was made, the District viewed the request as a formality because of the Staff's indication that the certificate most likely was not needed and because the Commission had already approved the residential contracts. The District never assumed that the Commission would require the certificate.² Admittedly, the tremendous pressure placed on the District by local officials and state government officials may have caused the District to proceed without the necessary caution.³

Further complicating the situation was the inexperience of District Manager Raymond Abell. Due to Mr. Abell's inexperience and ignorance of the effect of PSC statutes and regulations, he mistakenly assumed that, under the unique circumstances of the Nichols School project where the PSC had already approved the residential contracts and the Finance and Administration Cabinet had already set completion deadlines, the mere filing of the application was sufficient to permit construction.

Because Mr. Abell is charged with the responsibility of overseeing the daily operations of the District, he kept the District Commissioners apprised of the progress of the project. While Mr. Abell had informed the Commissioners that construction had begun, he also assured the Commissioners that PSC regulations were being followed. Indeed, that was Mr. Abell's understanding of the situation. Nonetheless, blame for this misunderstanding lies with Mr. Abell and not with any of the individual commissioners, as they had no knowledge that the District may have been violating PSC regulations and statutes.

² Indeed, in assessing whether a "willful" violation occurred, it may be relevant to assess whether the Commission would have issued a certificate in this proceeding if its deliberations had not been aborted.

³ The tremendous pressure to get water to Nichols School also forced the District to break the project down into two phases. At the time of the District's application for the certificate, the need to phase the project was not apparent.

**The actions of the District, its Commissioners, and
District Manager were not “willful” violations of PSC statutes and regulations**

While the term “willfully” as used in KRS 278.990 is not defined, the construction of the word in other statutes reveals that the standard is an exacting one. See, e.g., Lebow v. Cameron, Ky., 394 S.W.2d 773 (1965) (“Willful” trespasser knows he is wrong in trespassing); Turner v. Commonwealth, Ky., 328 S.W.2d 536 (1959) (“Willfully” burning a building means intentionally and according to a purpose, as distinguished from accidentally or involuntarily); Ford Motor Co. v. Smith, Ky., 143 S.W.2d 507 (1940) (“Willful misconduct” is something more than ordinary or even gross negligence, but involves quasi-criminal conduct and is an intentional act).

The actions of the District, its Commissioners, and District Manager were not intentional acts to deceive the Commission or to ignore the Commission’s authority. Indeed, the District made very public the fact that construction had begun on the Nichols School project. The District contributed to articles in the Bullitt County newspaper advertising the project and the need for residents in the area to sign up for service.

After the District’s involvement in recent PSC proceedings, the District made a commitment to change its standards of operation to ensure it remains in strict compliance with PSC regulation. Indeed, its effort to seek PSC approval of the residential contract for those living near the Nichols School is evidence of that commitment – as was the District’s April 1999 letter to the PSC seeking a written opinion on the need for a formal certificate of convenience and necessity for the Nichols School Project.

While the District may have regrettably fallen short of the statutory requirements, its alleged failure to do so was not the product of intentional neglect, nor was it the product of any

desire to avoid regulatory burdens. If that were the District's intention, it would never have sought PSC review of the residential contracts, it would never have sought an opinion on the requirement of a certificate of convenience and necessity, and it would have never submitted the application in the first place.

The District had only the best intentions to provide water to a school and area that needed a public water supply. The District acted quickly to ensure that a truly extraordinary limited time offer of financial assistance did not evaporate. The District's failure to complete the project on schedule would have put at risk that financial commitment and therefore this long awaited project.

As the Commission is well aware, the District has undergone tremendous tumult in the last two years. Included with that tumult has been a tremendous learning curve of the District's responsibilities under PSC rules and regulations. The District is continuing its endeavors to be a model utility. In that regard, all District officials have recently completed continuing education credits on water utilities. In addition, the District chairman has enrolled at a seminar for specific training on PSC rules and regulations. Finally, the District has now begun forwarding a copy of all meeting minutes to its counsel to help further ensure that the District is abiding by all rules and regulations of the PSC. The District hopes these added measures, as well as the continued commitment of the District, will assist the District in its goal to provide water to all in Bullitt County in a manner that fully complies with *all* applicable laws and regulations.

Because of the serious allegations against the District and its officials, the parties respectfully request an expeditious informal conference in this matter. Counsel for the named parties is available for such an informal conference on November 17 (afternoon), 18, or 19.

Conclusion

For these reasons, Kentucky Turnpike Water District, R. Raymond Abell, Dan Thibodeaux, Elmer Mills, and George Miller respectfully request that they not be held to be in violation of KRS 278.020(1) and not be subject to any penalties under KRS 278.990.



Bruce F. Clark

Jason P. Thomas

STITES & HARBISON

400 West Market Street, Suite 1800

Louisville, Kentucky 40202-3352

Telephone: (502) 587-3400

COUNSEL FOR KENTUCKY TURNPIKE
WATER DISTRICT, F. RAYMOND ABELL (IN
HIS CAPACITY AS DISTRICT MANAGER),
DAN THIBODEAUX (IN HIS CAPACITY AS
COMMISSIONER), ELMER MILLS (IN HIS
CAPACITY AS COMMISSIONER), AND
GEORGE MILLER (IN HIS CAPACITY AS
COMMISSIONER)



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
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Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Helen Helton
Executive Director
Public Service Commission

Paul E. Patton
Governor

October 25, 1999

Dan Thibodeaux
740 E. Indian Stone Road
Shepherdsville, Kentucky 40165-9354

George Miller
P.O. Box 128
Shepherdsville, Kentucky 40165-0128

Elmer Mills
2928 Brooks Hill Road
Brooks, Kentucky 40109-5000

Raymond Abell
3396 Burkland Boulevard
Shepherdsville, Kentucky 40165-8927

Re: Case No. 99-237

We enclose one attested copy of the Commission's Order entered October 20,
1999 in the above case.

Sincerely,

A handwritten signature in cursive script that reads "Stephanie Bell".

Stephanie Bell
Secretary of the Commission

SB/hv
Enclosure
Certified Mail



Z 319 077 537

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail (See reverse)

Sent to	George M. Ha
Street & Number	PO Box 128
Post Office, State, & ZIP Code	Shepherdsville Ky 40165
Postage	.33
Certified Fee	.40
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	1.25
TOTAL Postage & Fees	\$ 2.98
Postmark or Date	

PS Form 3800, April 1995

FRANKFORT KY 40601
OCT 23 1995

HW 99-237

Z 319 077 536

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail (See reverse)

Sent to	Elmer Mills
Street & Number	7928 Brooks Hill Rd
Post Office, State, & ZIP Code	Brooks Ky 40109
Postage	.33
Certified Fee	.40
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	1.25
TOTAL Postage & Fees	\$ 2.98
Postmark or Date	

PS Form 3800, April 1995

FRANKFORT KY 40601
OCT 23 1995

HW 99-237

Z 319 077 535

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail (See reverse)

Sent to	Raymond Abel
Street & Number	3796 Burkland Blvd.
Post Office, State, & ZIP Code	Shepherdsville Ky 40165
Postage	.33
Certified Fee	.40
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	1.25
TOTAL Postage & Fees	\$ 2.98
Postmark or Date	

PS Form 3800, April 1995

FRANKFORT KY 40601
OCT 23 1995

HW 99-237

Z 319 077 538

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail (See reverse)

Sent to	Dan Thibodeaux
Street & Number	140 E. Indian Stone Rd
Post Office, State, & ZIP Code	Shepherdsville Rd 40165
Postage	.33
Certified Fee	.40
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	1.25
TOTAL Postage & Fees	\$ 2.98
Postmark or Date	

PS Form 3800, April 1995

FRANKFORT KY 40601
OCT 23 1995

HW 99-237

HW 99-237

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

Is your RETURN ADDRESS completed on the back of this envelope?

3. Article Addressed to:

RAYMOND ARSELL

4a. Article Number

2 319 077 535

4b. Service Type

Registered Certified

Express Mail Insured

Return Receipt for Merchandise COD

7. Date of Delivery

10/26/99

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)

[Handwritten Signature]

Receipt

Thank you for using Return Receipt Service.

UNITED STATES POSTAL SERVICE



First-Class
Postage &
USPS
Permit No.

Print your name, address, and ZIP Code in this box.

ADJIC SERVICE CORPORATION
750 SCHENKEL LANE
P.O. BOX 615
TRANSPORT, KY 40302



HU 119-237

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Elmer Mills

4a. Article Number
2 319 077 535

4b. Service Type

Registered Certified

Express Mail Insured

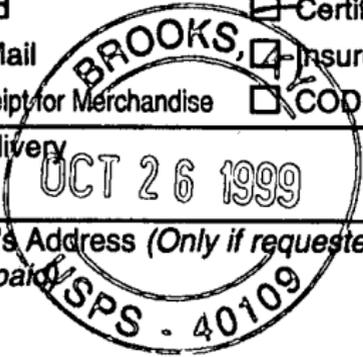
Return Receipt for Merchandise COD

7. Date of Delivery
OCT 26 1999

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)
USPS - 40109

6. Signature: (Addressee or Agent)
X Elmer Mills



Thank you for using Return Receipt Service.

UNITED STATES POSTAL SERVICE



First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Print your name, address, and ZIP Code in this box •

PUBLIC SERVICE COMPANY
730 SCHENKEL LANE
P.O. BOX 615
TRANSPORT, KY 40302



17V 99-237

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

DAN THIBODEAUX

4a. Article Number

2319 077 538

4b. Service Type

- Registered Certified
- Express Mail Insured
- Return Receipt for Merchandise COD

7. Date of Delivery

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)

X. Pat Schubert



Thank you for using Return Receipt Service.

UNITED STATES POSTAL SERVICE



First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Print your name, address, and ZIP Code in this box •

PUBLIC SERVICE COMMISSION
730 SCHENKEL LANE
P.O. BOX 815
TRANSPORT, NY 40602



COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY TURNPIKE WATER)
DISTRICT FOR A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY TO CONSTRUCT) CASE NO. 99-237
A WATER MAIN EXTENSION TO THE NICHOLS)
AREA OF BULLITT COUNTY, KENTUCKY)

ORDER

Kentucky Turnpike Water District ("Kentucky Turnpike"), a water district formed pursuant to KRS Chapter 74, has applied for a Certificate of Public Convenience and Necessity to construct approximately 4 miles of water transmission main to provide water service to Nichols Elementary School and the surrounding area in Bullitt County, Kentucky.

Having reviewed the evidence of record and being otherwise sufficiently advised, the Commission finds that:

1. On July 27, 1999, Kentucky Turnpike Water District filed an application for a Certificate of Public Convenience and Necessity to construct approximately 4 miles of water transmission main to provide water service to Nichols Elementary School and the surrounding area in Bullitt County, Kentucky.
2. On September 13, 1999, while its application was still pending before the Commission, Kentucky Turnpike advised the Commission that construction on the

proposed facilities had commenced before its application for a certificate had been filed.¹

4. Kentucky Turnpike subsequently announced that construction of the proposed facilities had been completed and that these facilities were in service.²

5. KRS 278.020(1) prohibits any person, partnership, public or private corporation, or combination thereof from beginning construction of any plant, equipment, property, or facility for furnishing to the public any of the services enumerated in KRS 278.010 until such person has obtained from the Commission a certificate that the public convenience and necessity require such construction.

6. No Certificate of Public Convenience and Necessity may be issued for utility facilities already constructed. Boone County Water and Sewer District, Case No. 92-532 (Ky. P.S.C. December 9, 1993); Southern Madison Water District, Case No. 90-305 (Ky. P.S.C. November 1, 1991).

7. As the proposed facilities have already been constructed, Kentucky Turnpike's application should be denied.

8. A prima facie showing has been made that Kentucky Turnpike has violated KRS 278.020(1) by its construction of the proposed facilities without first obtaining a Certificate of Public Convenience and Necessity from the Commission.

9. A prima facie showing has been made that Raymond Abell, Kentucky Turnpike's General Manager, and Dan Thibodeaux, George Miller, and Elmer Mills, the

¹ Letter from Jason P. Thomas, counsel for Kentucky Turnpike Water District, to Gerald Wuetcher, Commission counsel (September 13, 1999).

² Missy Baxter, Bullitt County School Will Finally Get Water Line, The Courier-Journal, September 27, 1999, at B-2 (Metro Edition).

members of Kentucky Turnpike's Board of Commissioners, have aided and abetted Kentucky Turnpike in its failure to comply with KRS 278.020(1).

IT IS THEREFORE ORDERED that:

1. Kentucky Turnpike's Application for a Certificate of Public Convenience and Necessity is denied.³

2. Kentucky Turnpike shall appear before the Commission on February 16, 2000 at 9:00 a.m., Eastern Standard Time, in the Commission's offices at 211 Sower Boulevard, Frankfort, Kentucky, for the purposes of presenting evidence concerning its alleged violation of KRS 278.020(1) and of showing cause why it should not be subject to the penalties prescribed in KRS 278.990(1) for this alleged violation.

3. Raymond Abell, Dan Thibodeaux, George Miller, and Elmer Mills shall also appear before the Commission on February 16, 2000 at the same time and place as stated above for the purposes of presenting evidence concerning their conduct to aid and abet Kentucky Turnpike's violation of KRS 278.020(1) and of showing cause why they should not be subject to the penalties prescribed in KRS 278.990(1) for their alleged conduct.

4. Kentucky Turnpike, Raymond Abell, Dan Thibodeaux, George Miller, and Elmer Mills each shall respond to the Commission in writing within 20 days of the date of this Order to the allegations contained herein.

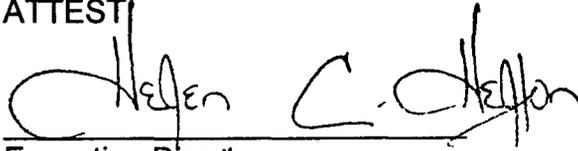
³ Our denial of Kentucky Turnpike's application should not be construed as declaring the operation of transmission main illegal or requiring the water district to cease its operation of this transmission main. At Kentucky Turnpike's next general rate adjustment proceeding, the Commission will determine whether the facilities in question are used and useful in providing utility service and whether the expenses associated with the facilities may or may not be recovered through the utility's rates.

5. Any motion requesting any informal conference with Commission Staff to consider any matter that may aid in the handling or disposition of this proceeding shall be filed with the Commission no later than 20 days from the date of this Order.

Done at Frankfort, Kentucky, this 20th day of October, 1999.

By the Commission

ATTEST


Executive Director



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

October 20, 1999

F. Raymond Abell
District Manager
Kentucky Turnpike Water District
Division I
3396 Burkland Boulevard
Shepherdsville, KY. 40165

Honorable Jason P. Thomas
Counsel for KY Turnpike Water
Stites & Harbison
400 West Market Street, Suite 1800
Louisville, KY. 40202 3352

RE: Case No. 99-237

We enclose one attested copy of the Commission's Order in
the above case.

Sincerely,

A handwritten signature in black ink that reads "Stephanie Bell".

Stephanie Bell
Secretary of the Commission

SB/sa
Enclosure



Paul E. Patton
Governor

COMMONWEALTH OF KENTUCKY
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Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Helen Helton
Executive Director
Public Service Commission

October 8, 1999

Mr. F. Raymond Abell
Kentucky Turnpike Water District
3396 Burkland Boulevard
Shepherdsville, Kentucky 40165

Jason P. Thomas, Esq.
Stites and Harbison
400 West Market Street
Suite 1800
Louisville, Kentucky 40202-3352

Re: Case No. 99-237
Kentucky Turnpike Water District

Gentlemen:

The enclosed memorandum has been filed in the record of the above-referenced case. Any comments regarding this memorandum's contents should be submitted to the Commission within five days of receipt of this letter. Any questions regarding this memorandum should be directed to Gerald Wuetcher, Commission counsel, at (502) 564-3940, Extension 259.

Sincerely,

A handwritten signature in black ink that reads "Helen C. Helton".

Helen C. Helton
Executive Director

gw
Enclosure

INTRA-AGENCY MEMORANDUM

KENTUCKY PUBLIC SERVICE COMMISSION

TO: Case File No. 99-237

FROM: Gerald Wuetcher *GW*
Staff Attorney

DATE: October 8, 1999

RE: Telephone Conference of September 20, 1999

On September 20, 1999, the Commission held a telephone conference in this case. Participating in the telephone conference were:

Raymond Abel	-	Kentucky Turnpike Water District
Jason Thomas	-	Kentucky Turnpike Water District
Karen Harrod	-	Commission Staff
Sam Reid	-	Commission Staff
James Rice	-	Commission Staff
Gerald Wuetcher	-	Commission Staff

Commission Staff requested the conference to discuss certain issues raised by Kentucky Turnpike Water District's ("Kentucky Turnpike") responses to Commission Staff's requests for information.

Beginning the conference, Mr. Wuetcher stated that Commission Staff would prepare minutes of the conference for the case record, that a copy of these minutes would be provided to all parties, and that all parties would be given an opportunity to submit written comments upon those minutes.

Commission Staff inquired about the funding for the proposed water main extension. Mr. Wuetcher asked whether the funds provided to Kentucky Turnpike from the Commonwealth were expressly designated from Phase I of the proposed extension. Mr. Abell retraced the history of the proposed water main extension. He stated that the project was originally designed as a single-phase project to construct 8.5 miles of 12-inch water main. The project was subsequently divided into two phases to meet the conditions of the Commonwealth's grant of \$500,000 and the Bullitt County Board of Education's contribution of \$100,000. Mr. Abell explained that the Bullitt County Board of Education required that water service be provided to the Nichols Elementary School no later than September 30, 1999. Similarly, the original agreement with the Commonwealth of Kentucky required completion of the project by September 1, 1999. To meet these deadlines, the project was divided into two phases. The first phase was intended to ensure service to the Nichols Elementary School.

Mr. Wuetcher questioned whether the purpose of the Commonwealth's grant was to provide water service only to Nichols Elementary School. Mr. Wuetcher noted that the project description contained in Kentucky Turnpike's Memorandum of Agreement with the Finance and Administration Cabinet, a copy of which is attached, appeared to resemble the description of Phase I only. If the grant's purpose was so limited, he inquired whether the grant should be considered as applying only to Phase I construction. He further inquired about the effect of such application to Kentucky Turnpike's water main extension plan for Phase I.

Mr. Abell stated that the Commonwealth's grant applies to the entire project and has been apportioned to the cost of each phase. He stated that the Memorandum of Agreement with the Finance and Administration Cabinet is consistent with this approach. Mr. Abell stated that the Finance and Administration Cabinet and the Governor's Office have received periodic reports on the progress of the water main and are fully aware of the changes to the project.

Reporting on the project's current status, Mr. Abell stated that the proposed main extension would connect with the Louisville Water Company's mains on September 20, 1999. He estimated that 90 percent of the proposed construction is completed. He expected portions of the water line to be placed into service within 10 days and that the entire project would be in service within 21 days. Mr. Abell further stated that the Louisville Water Company is still designing Phase II of the Nichols Project, but project designs should be completed by October 15, 1999.

Mr. Abell stated that the proposed plans had been amended. The proposed extension of approximately 2,300 feet of 8-inch water main east along Kentucky Highway 44 from the intersection of Kentucky Highway 44 and Knob Creek Road has been eliminated. Kentucky Turnpike will instead extend its planned 12-inch water main extension along Knob Creek Road by an additional 2,300 feet.

Attachment

cc: Parties of Record

STITES & HARBISON

ATTORNEYS

September 13, 1999

VIA FACSIMILE 502-564-1582

Gerald F. Wuetcher
Staff Attorney
Public Service Commission
730 Schenkel Lane
P.O. Box 615
Frankfort, Kentucky 40602

RE: Case No. 99-237
Kentucky Turnpike Water District

Dear Jerry:

I am in receipt of your letter dated September 8, 1999. Officials at Kentucky Turnpike Water District ("the District") have informed me that construction of the Nichols School Water Transmission Line ("the Project") *has* begun.

In beginning construction of the Project, the District did not knowingly or intentionally violate any Commission statute or rules. Rather, it appears that construction began prior to the issuance of a certificate of public convenience and necessity due to the District's reasonable misunderstanding.

If you will recall, the District first sought the Commission's approval of the Nichols School contract for individual service from the new line (Case No. 99-192). On June 11, 1999, the Commission approved the contract after meeting with District official and suggesting changes to the contract. The Commission held: "By this Order, the Commission approves the proposed extension agreement." Order at 1.

During discussions with PSC staff in Case No. 99-192, staff referenced the issue of a certificate of convenience and necessity. It is the District's recollection that staff indicated that most likely a certificate would *not* be needed but that the District should make a written request for a determination of the issue. Because of this representation and because the District concluded that the Commission's approval of the extension agreement was tantamount to an approval of the project itself, it proceeded immediately with construction due to pressure placed on the District by the state treasury and local politicians.

Of course, the District contemporaneously made a written request for a determination whether a certificate was needed. At the time the request was made, the District viewed the request as a formality because of the Staff's indication that the certificate most likely was not needed and

RECEIVED

SFP 16 1999

GENERAL COUNSEL GW

SEP 8 1 1999
PUBLIC SERVICE
COMMISSION

400 West Market Street
Suite 1800
Louisville, KY 40202-3352
(502) 587-3400
(502) 587-6391 Fax
www.stites.com

Jason P. Thomas
(502) 681-0544
jthomas@stites.com

STITES & HARBISON
ATTORNEYS

Gerald F. Wuetcher
September 13, 1999
Page 2

because the Commission had already approved the extension agreement. The District never assumed that the Commission would require the certificate.

When the District received notification that the certificate was in fact required, construction had already begun. As noted above, the District was under tremendous pressure from state officials to spend the \$500,000 state treasury grant or risk losing the funding. Of course, the District was also under pressure from local officials to begin construction *immediately* to ensure that water would be available to Nichols Elementary School and the local residents. That tremendous pressure may have caused the District to proceed without the necessary caution and attention to important details.

The District compounded its mistaken judgment when it continued construction after being notified by the Commission that a certificate was necessary. Again, the District's actions in continuing with construction were not an intentional act to deceive the Commission or to ignore the Commission's authority. Rather, the District again wrongly assumed that the certificate process was a formality in light of the Commission's prior approval of the extension agreement.

Admittedly, the District "jumped the gun" by wrongly assuming that the Commission would not require a certificate of public convenience and necessity and by wrongly assuming that the certificate process was a mere "formality." The District expresses its sincere regret in its misjudgments. The misjudgments, however, were not borne of disregard of the Commission but rather a misunderstanding of the Commission proceedings and the District official's inexperience.

As the Commission is well aware, the District has undergone tremendous tumult in the last two years. Included with that tumult has been a tremendous learning curve of the District's responsibilities under PSC rules and regulations. Quite frankly, due to what is believed to be the former practices at the District, current management has had to "unlearn" the bad practices the District as an institution is believed to have inherited.

The District is continuing its endeavors to be a model utility. In that regard, all District officials have recently completed continuing education credits on water utilities. In addition, the District chairman has enrolled at a seminar for specific training on PSC rules and regulations. Finally, the District and its counsel are taking further steps to help ensure that in the future, the District complies with all PSC rules and regulations.

STITES & HARBISON
ATTORNEYS

Gerald F. Wuetcher
September 13, 1999
Page 3

If you have any questions regarding this issue, please do not hesitate to contact me.

Sincerely,


Jason P. Thomas

JPT:jan

cc: F. Raymond Abell
Dan Thibodeaux

STITES & HARBISON

ATTORNEYS

FAX

400 West Market Street
Suite 1800
Louisville, KY 40202-3352
(502) 587-3400
(502) 587 6391 Fax
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September 13, 1999

VIA FACSIMILE 502-564-1582

Jason P. Thomas
(502) 681-0544
jthomas@stites.com

Gerald F. Wuetcher
Staff Attorney
Public Service Commission
730 Schenkel Lane
P.O. Box 615
Frankfort, Kentucky 40602

RECEIVED
SEP 14 1999
PUBLIC SERVICE
COMMISSION

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Of course, the District contemporaneously made a written request for a determination whether a certificate was needed. At the time the request was made, the District viewed the request as a formality because of the Staff's indication that the certificate most likely was not needed and

STITES & HARBISON

Gerald F. Wiltcher
September 13, 1999
Page 2

because the Commission had already approved the extension agreement. The District never assumed that the Commission would require the certificate.

When the District received notification that the certificate was in fact required, construction had already begun. As noted above, the District was under tremendous pressure from state officials to spend the \$500,000 state treasury grant or risk losing the funding. Of course, the District was also under pressure from local officials to begin construction *immediately* to ensure that water would be available to Nichols Elementary School and the local residents. That tremendous pressure may have caused the District to proceed without the necessary caution and attention to important details.

The District compounded its mistaken judgment when it continued construction after being notified by the Commission that a certificate was necessary. Again, the District's actions in continuing with construction were not an intentional act to deceive the Commission or to ignore the Commission's authority. Rather, the District again wrongly assumed that the certificate process was a formality in light of the Commission's prior approval of the extension agreement.

Admittedly, the District "jumped the gun" by wrongly assuming that the Commission would not require a certificate of public convenience and necessity and by wrongly assuming that the certificate process was a mere "formality." The District expresses its sincere regret in its misjudgments. The misjudgments, however, were not borne of disregard of the Commission but rather a misunderstanding of the Commission proceedings and the District official's inexperience.

As the Commission is well aware, the District has undergone tremendous tumult in the last two years. Included with that tumult has been a tremendous learning curve of the District's responsibilities under PSC rules and regulations. Quite frankly, due to what is believed to be the former practices at the District, current management has had to "unlearn" the bad practices the District as an institution is believed to have inherited.

The District is continuing its endeavors to be a model utility. In that regard, all District officials have recently completed continuing education credits on water utilities. In addition, the District chairman has enrolled at a seminar for specific training on PSC rules and regulations. Finally, the District and its counsel are taking further steps to help ensure that in the future, the District complies with all PSC rules and regulations.

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Gerald P. Wlétcher
September 13, 1999
Page 3

If you have any questions regarding this issue, please do not hesitate to contact me.

Sincerely,


Jason P. Thomas

JPT:jan

cc: F. Raymond Abell
Dan Thibodeaux



Paul E. Patton
Governor

COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
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Fax (502) 564-1582

Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Helen Helton
Executive Director
Public Service Commission

September 8, 1999

Jason P. Thomas, Esq.
Stites & Harbison
400 West Market Street
Suite 1800
Louisville, Kentucky 40202-3352

Re: Case No. 99-237
Kentucky Turnpike Water District

Dear Mr. Thomas:

Commission Staff has received unconfirmed reports that Kentucky Turnpike Water District has commenced construction of the proposed Nichols Water Main Extension. Please advise in writing within 5 days of this letter of the current status of the proposed water main extension and whether actual construction has begun.

Sincerely,

A handwritten signature in black ink, appearing to read "Gerald E. Wuetcher".

Gerald E. Wuetcher
Staff Attorney

cc: Parties of Record
Main Case File

C:\My Documents\PSC Cases\1999\99-237\990908_Jason Thomas_letter.doc



AN EQUAL OPPORTUNITY EMPLOYER M/F/D

STITES & HARBISON

ATTORNEYS

August 18, 1999

VIA FACSIMILE 502-564-1582

Gerald F. Wuetcher
Staff Attorney
Public Service Commission
730 Schenkel Lane
P.O. Box 615
Frankfort, Kentucky 40602

RE: Case No. 99-237
Kentucky Turnpike Water District

Dear Jerry:

I am in receipt of your letter dated August 17, 1999. In response to your questions:

1. The estimate of \$1,000,000 was based on the total project for the extension of water lines in this area. Originally, the District intended to complete the entire project in one phase. Due to other constraints, however, the District has broken the project into two phases. The plans submitted to the PSC only included the first phase of the project but inadvertently included the costs and financing of the entire project.

The second phase of the project is currently planned to extend lines an additional 29,000 feet along Knob Creek Road. The first phase of the project includes approximately 20,000 feet of additional lines.

In addition, the \$1,000,000 estimate was calculated before the engineering had been completed and bid proposals sought. Based on the bids actually received for the first phase of the project, the District anticipates that the total cost of the project will slightly exceed the original estimate for the entire project.

2. The District anticipates approximately 70 customers to contribute \$4,000 each in the first phase of the project. In the second phase of the project, the District anticipates at least 30 customers to contribute \$4,000 each. In total, therefore, the District expects at least 100 customers to contribute \$4,000 each.

3. The total project cost (Phase I and Phase II) will be at least \$1,000,000. Therefore, the original financing proposal in the District's Application remains valid because the \$120,000 "shortfall" referenced in your letter will be made up by the 30 additional customers in the second phase of the project who each contribute \$4,000. With regard to the first phase of the project, the District anticipates receiving \$280,000 in customer contributions (70 customers X

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AUG 26 1999
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COMMISSION

STITES & HARBISON

Gerald F. Wuetcher

August 18, 1999

Page 2

\$4,000); \$100,000 from the Bullitt County Board of Education; and \$113,500 of the \$500,000 grant from the state.

As for Phase II of the project, the District will use the remaining \$386,500 of the state grant; \$120,000 from customer contributions; and the District will contribute the remaining costs (those that exceed the original \$1,000,000 estimate for the entire project) from the Division I construction fund. Currently, the Division I construction fund has a balance of \$400,000.

At this time, I anticipate the District will be required to obtain a separate certificate of convenience and necessity for Phase II of the project. Phase II is currently being engineered, and the District anticipates beginning Phase II by the end of this year.

I trust I have answered your questions. I apologize for the confusion concerning the phases of the project and appreciate your drawing our attention to the apparent discrepancies.

If you have any further questions, please do not hesitate to contact me.

Sincerely,



Jason P. Thomas

JPT:jan

cc: F. Raymond Abell

KE161:00KE2:67284:LOUISVILLE



Paul E. Patton
Governor

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Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Helen Helton
Executive Director
Public Service Commission

August 17, 1999

Jason P. Thomas, Esq.
Stites & Harbison
400 West Market Street
Suite 1800
Louisville, Kentucky 40202-3352

Re: Case No. 99-237
Kentucky Turnpike Water District

Dear Mr. Thomas:

This letter confirms our telephone conversation of this afternoon regarding the above-referenced case. During this conversation, Commission Staff requested, and Kentucky Turnpike agreed to provide, the following information:

- According to its application, Kentucky Turnpike Water District estimated the total project cost as \$1,000,000. Based upon post-bid estimate provided by the Louisville Water Company, the total project cost is now estimated at \$493,492. Commission Staff requests the current estimated total project cost. This estimate should include the cost of materials, labor, legal and engineering services, and all contingencies.
- According to its application, Kentucky Turnpike Water District estimates the proposed project will serve 62 customers. The Louisville Water Company in its letter of July 27, 1999 estimates 70 customers will be served. In its estimate of funding sources, Kentucky Turnpike Water District expects 100 customers to contribute \$4,000 each towards the cost of the proposed main extension. Commission Staff requests an explanation of this apparent discrepancy.

Although not discussed during our telephone conversation, Commission Staff also requests that Kentucky Turnpike Water District provide certain information regarding the sources of project funding. Assuming that the total project cost is still one million dollars and that 70 customers each immediately contribute \$4,000 connect to the



Jason P. Thomas, Esq.
August 17, 1999
Page 2

proposed main extension, the water district will still require \$120,000 to finance the project. From where will these funds be obtained?

Thank you for your prompt attention to these requests. Should you have any questions regarding this letter or Commission Staff's requests, please telephone me at (502) 564-3940, Extension 259.

Sincerely,



Gerald E. Wuetcher
Staff Attorney

cc: Main Case File



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

August 3, 1999

F. Raymond Abell
District Manager
Kentucky Turnpike Water District
Division I
3396 Burkland Boulevard
Shepherdsville, KY. 40165

Honorable Jason P. Thomas
Counsel for KY Turnpike Water
Stites & Harbison
400 West Market Street, Suite 1800
Louisville, KY. 40202 3352

RE: Case No. 99-237
KENTUCKY TURNPIKE WATER DISTRICT DIVISION I

The Commission staff has reviewed your response of July 27, 1999 and has determined that your application in the above case now meets the minimum filing requirements set by our regulations. Enclosed please find a stamped filed copy of the first page of your filing. This case has been docketed and will be processed as expeditiously as possible.

If you need further information, please contact my staff at 502/564-3940.

Sincerely,

Stephanie Bell

Stephanie Bell
Secretary of the Commission

SB/sa
Enclosure

FILED

JUL 27 1999

**PUBLIC SERVICE
COMMISSION**

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED

JUN 14 1999

**PUBLIC SERVICE
COMMISSION**

In the Matter of:

APPLICATION OF KENTUCKY TURNPIKE)
WATER DISTRICT (DIVISION I) FOR A)
CERTIFICATE OF PUBLIC CONVENIENCE)
AND NECESSITY)

CASE NO. 99-237

Comes the Applicant, Kentucky Turnpike Water District, Division I ("Kentucky Turnpike" or "the District"), by and through counsel, and respectfully requests the Commission to issue a Certificate of Public Convenience and Necessity pursuant to 807 KAR 5:001, Section 9(2). In support of this Application, the District states as follows:

1. The District is a public utility organized under Chapter 78 of the Kentucky Revised Statutes and regulated by the Kentucky Public Service Commission pursuant to Chapter 278 of the Kentucky Revised Statutes. The District is engaged in the construction, operation, and maintenance of a water distribution system providing water and water services for domestic, commercial and industrial customers in Bullitt County, Kentucky.

2. The address of the District is 3396 Burkeland Boulevard, Shepherdsville, Kentucky 40165.

3. Because the District is a governmental entity, it does not have Articles of Incorporation.

4. Public convenience and necessity requires the construction of the proposed waterline extension because it will permit the District to provide service initially to approximately 62 new customers including Nichols Elementary School. None of these customers currently has water

STITES & HARBISON

ATTORNEYS

July 29, 1999

Ms. Helen Helton
Executive Director
Kentucky Public Service Commission
730 Schenkel Lane
P.O. Box 615
Frankfort, Kentucky 40602

RE: Kentucky Turnpike Water District
PSC Case No. 99-237

Dear Ms. Helton:

Please find enclosed for filing 10 copies of revised Exhibit 2 to Kentucky Turnpike Water District's July 27, 1999 filing in this case. The previous version of Exhibit 2 did not have an engineer's signature and stamp. Please substitute revised Exhibit 2 for the original Exhibit 2.

Sincerely,

STITES & HARBISON


Jason P. Thomas

JPT:jan

cc: F. Raymond Abell

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JUL 29 1999

PUBLIC SERVICE
COMMISSION

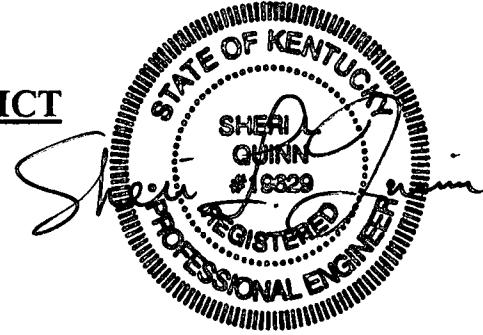
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JUL 29 1999

PUBLIC SERVICE
COMMISSION

99-237

KENTUCKY TURNPIKE WATER DISTRICT
TECHNICAL SPECIFICATIONS
FOR PIPELINE CONSTRUCTION
RECEIVED



7/29/99

1. **GENERAL REQUIREMENTS** JUL 29 1999

1.1 Pre-construction Conference PUBLIC SERVICE COMMISSION

Following the awarding of this project, a pre-construction conference will be held. Attendance will include representatives from the various utilities, government agencies, LWC and KTWD. It is highly recommended that the foreman assigned to this project be present.

1.2 Time of Completion

Completion time on this project shall be as defined in the **BIDDER'S PROPOSAL** form and in the **ARTICLES OF AGREEMENT**.

Also, when figuring the number of days for which liquidated damages will be assessed, those days following the stated contractual date of completion which are holidays observed by KTWD, and those days which experience rain of one-half inch or greater, will not be counted.

1.3 Work Schedule and Payment Schedule

The Contractor shall furnish to the Project Manager a work schedule to be approved prior to construction. The schedule shall be in agreement with the beginning and completion dates entered in the **BIDDER'S PROPOSAL** form.

Also, the Contractor shall furnish a payment schedule that lists the project cost for: pipe installation, fire hydrant installation, service installation, street restoration, sidewalk restoration, site clean-up, etc. The amount of work accomplished for each item will determine the certified amount of contract, and thus, the monthly payment to the Contractor.

The work schedule and the line item payment schedule will be discussed, finalized, and approved during the pre-construction conference to be held after award of the contract.

1.4 Pre-construction Valve Inspection

Prior to the beginning of construction, the Contractor shall be responsible for locating and inspecting all existing valves associated with the work to be

done. Inspection work to be done on these valves shall be included in the Contractor's base bid, and shall consist of the following:

- A. Locate the valve in the field. Valve boxes that are paved over or buried shall be uncovered and made accessible.
- B. Inspect keytubes and operating nut. Keytubes shall be cleared of debris and the operating nut made accessible.
- C. Valve boxes (round tops) and lids shall be raised to grade where necessary.

1.5 Traffic Control

Wherever the excavation is in paving, the Contractor shall so conduct his operations that at least one lane traffic is kept open at all times. Where the excavation is performed in an intersection, the work shall be completed in one work day, including backfilling and temporary bituminous pavement; temporary paving restoration shall be adequately maintained until permanent pavement is placed.

Traffic control on State streets shall be in accordance with the "State Uniform Traffic Control Manual."

Traffic control on County streets shall be approved by the Bullitt County Road Department.

Specific signing and traffic control is incidental to this project and will be set up at the pre-construction conference with representatives from the appropriate agencies. No extra payment will be made for placement of these traffic controls.

1.6 Project Identification Signs

If required in the SUPPLEMENTARY SPECIFICATIONS, the Contractor will supply and install a metal or wood sign on each end of the project limits. The SUPPLEMENTARY SPECIFICATIONS will identify the type, size and lettering to be placed on the sign.

1.7 Permits and Regulations

1.7.1 Encroachment Permits

Applicable permits shall be obtained by LWC for KTWD from, Corps of Engineers, Bullitt County Road Department, and Kentucky

Department of Highways for installing water mains in public thoroughfares. The Contractor shall coordinate his time schedule for performing this work with the Project Manager in order that the appropriate authority can be notified of the progress of construction.

Special attention is directed to the working hours as specified by any of these traffic control departments in their respective permit.

1.7.2 Soil Erosion and Sediment Control

The Contractor shall abide by and shall arrange for and pay for any and all permits involving the Kentucky Division of Water regulations pertaining to erosion and sediment control requirements. The Contractor shall comply with the applicable provisions of KRS Chapters 220 and 224 of the State Water Pollution Control Laws and other applicable statutes relating to the prevention and/or abatement of water pollution. Projects involving disturbed areas of more than five (5) acres shall require of the Contractor to submit a "Notice of Intent" Letter to the Kentucky Division of Water. In any event, regardless of the size of the project, the Contractor shall: exercise every reasonable precaution at all times to prevent water pollution by the erosion and disposition of sediment in streams, lakes, and reservoirs; conduct and schedule operations so as to avoid or minimize the muddying or siltation of areas adjacent to the construction site including streets, storm sewers, vacant lots, etc.; and not leave partially completed areas of work in a manner that will contribute to erosion during the period in which work is suspended.

For each stream crossing (a "stream" being defined as a so-called blue-line stream, either solid or broken, as shown on the United States Geological Survey (USGS) quadrangle map), the Contractor shall apply for a construction permit, or for an exemption thereto, from the Kentucky Division of Water. In any event, Contractor shall: utilize adequate and environmentally-responsible construction practices, placing silt control prior to the start of construction and maintaining it until vegetation has been established; revegetate all disturbed areas upon completion of construction; and maintain at least 3 1/2 feet of cover over the top of pipe with respect to the stream bed elevation.

1.7.3 Regulation of Confined Spaces

With respect the entry of and/or working within confined spaces, the Contractor shall abide by the KOSHA Standards referenced by 803 KAR 2:300 thru 2:320 for General Industry and 803 KAR 2:240 thru 2:423 for Construction Standards, plus any and all additional

related regulations required by the Commonwealth of Kentucky. For questions or concerns relating to this matter, the Contractor shall contact the KOSHA Standards Interpretation (phone: (502) 564-2778).

1.8 Contract Drawings and Specifications

1.8.1 General

The work shall be done in accordance with these specifications and the project drawings. Project drawings and specifications are intended to be cooperative. Where work is called for in one and not in the other, it shall be furnished as though in both.

Statements contained in these TECHNICAL SPECIFICATIONS that conflict with statements contained in other KTWD-produced documents (such as the ADVERTISEMENT FOR BID, INSTRUCTIONS TO BIDDERS, BIDDER'S PROPOSAL form, ARTICLES OF AGREEMENT, SUPPLEMENTARY SPECIFICATIONS, and PROJECT DRAWINGS) for a particular project shall be superseded by those statements contained in the other KTWD-produced documents.

1.8.2 Combined Specification

This specification discusses the installation of ductile iron pipe, polyvinyl chloride pipe, and gray and ductile iron appurtenances. The type of pipe to be installed, ductile iron or polyvinyl chloride, is specified in the SUPPLEMENTARY SPECIFICATIONS. The sections "PIPELINE MATERIALS", "INSTALLATION", and "SERVICE WORK" reference pipe of either type. Whenever pipe of one type is referenced, the specification pertains to this type only. When the type of pipe is not distinguished, the specification pertains to both.

1.8.3 Modifications

In case of modification, alterations, or changes of any kind in the drawings and specifications, the order for such changes shall come only through the Project Manager, and when such changes affect the cost of the work, they shall be made in writing and executed only when such order is given. The Contractor shall keep itself fully informed as to special requirements, and in the absence of drawings

or written instructions, it shall obtain from the Project Manager such drawings or written instructions before proceeding with any work that affects or is affected by such requirements.

1.8.4 Shop Drawings

When shop drawings are submitted to the Project Manager for approval, it is understood that such approval is to be of design of general layout only, and does not relieve the Contractor of this responsibility for proper fit or for complying with the contract plans and specifications unless specifically so stated.

1.9 Daily Materials Installed Form

The Contractor shall maintain the Daily Materials Installed forms supplied by the Project Inspector as a record of the pipe, fittings, and valves installed each day, and shall provide same to the Project Inspector daily. Pipeline materials shall be listed on the form in the same sequence as installed.

1.10 Incidentals Absorbed

All the work and material covered by these specifications and the project drawings; any work or material that may be reasonable from the information given on the drawings or in the specifications, or that is necessary to complete the work it the obvious intent; and any tools, appliances, or structures that may be constructed by the Contractor for carrying out the work, shall be furnished by the Contractor and the cost of all such material and work shall be included in, and absorbed by, the price(s) and amount(s) mentioned in the Contractor's base bid.

2. CONDUCT OF WORK

2.1 General

The Contractor shall notify the Project Manager or his authorized representative 24 hours prior to starting any work on the project. The Contractor shall notify the Project Manager, at least two working days in advance, of any and all non-routine scheduling of work and/or of temporary work suspensions (such work after normal working hours, work on weekends, no work for a few days, etc.).

The Contractor shall carry on the work at all times with the greatest reasonable rapidity, as directed by the Project Manager and/or his/her authorized representative, who shall have at all times access to the work which shall be directly under their control. The Contractor shall provide

safe, sufficient, and proper facilities at all times for the inspection of the work by the Project Manager and/or his/her authorized representative.

Unless otherwise directed, the Contractor shall complete each block of water main installation or, in the absence of intersecting streets, every 400 feet of water main installation before proceeding. This includes chlorination, pressure testing, service work, and permanent restoration of all areas effected by the construction.

Except in cases of emergency, the Contractor shall not operate any valve without the direct supervision of the Project Manager or Project Inspector. In an emergency, the KTWD Project Inspector and KTWD shall be immediately notified by the Contractor.

The Contractor shall use such methods and equipment in the performance of the work as, in the opinion of the Project Manager, will secure a satisfactory quality of work. The work throughout shall be constructed in a substantially skillful manner.

The Contractor agrees to employ only competent workers on the project. Any worker incompetent or disorderly shall, upon the order of KTWD, be removed and not re-employed on the project except with consent of KTWD.

The Contractor agrees that it will sustain all losses or damages arising from the action of the elements or the nature of the work to be done under these specifications.

The Contractor's responsibility for the work shall commence when the construction work is started, and shall not end until final acceptance is given by KTWD. The Contractor shall assume all responsibility for injury or damage from any cause whatsoever, and shall rebuild, repair, restore, and make good at his/her expense, all injuries or damage to facilities and properties. Nothing contained herein shall alter or relieve the Contractor of the responsibility to complete the project as specified or to correct or replace any defective work or materials.

2.2 Safety

It is required that all job sites be in compliance with all applicable safety standards and regulations set forth by the Kentucky Labor Cabinet pursuant to KRS Chapter 338 and other applicable statutes, as well as with the applicable safety standards and regulations set forth by the United States Government and its agencies.

The Contractor shall place and maintain such barriers and caution lights as will comply with all laws, statutes, ordinances, acts, and regulations of the City, County, and State in which the work is to be performed, and shall secure all permits and pay all fees for permits and inspections required thereby to effectively prevent any accidents in consequence of its work, storage of materials, or appurtenant operations. The Contractor shall be liable for all damages occasioned in any way by its act or neglect or that of its agents, employees, or workers. It shall hold KTWD and LWC harmless from any liability for damages, from injury of its employees or others during the progress of the work.

2.3 Cleanliness

The Contractor shall from time to time remove all dirt and rubbish resulting from its operations, and shall keep the premises neat and tidy. When its work is complete, it shall at once remove from the premises all tools and machinery belonging to it and all rubbish in connection with the work and render the premises clean and free from all obstructions, delivering the work at completion whole, clean, tight, and ready for use, with the grounds in a neat and presentable condition.

2.4 Defective Work

Defective work or material may be condemned by the Project Manager at any time before the final acceptance of the work. Condemned work shall be immediately taken down by the Contractor and rebuilt in the proper manner. Condemned materials shall be immediately removed. Failure or neglect on the part of KTWD or LWC to condemn bad or inferior work or materials shall not be construed as an acceptance of same.

2.5 Cooperation

The Contractor shall cooperate with KTWD, LWC, Bullitt County, Kentucky Department of Highways, other utilities, and other Contractors to cause as little interference as possible, to avoid inconvenience and delay, and to facilitate prompt completion of the work. The Contractor shall make special arrangements with the Project Inspector and LWC for valving off mains in the case of each connection or change in existing mains, and will conduct the work to cause the shortest possible interruption of service.

3. SITE

3.1 Examination

The Contractor to whom the contract is awarded is expected to have visited the site, to have fully informed itself as to existing conditions and limitations, including nature of the soil and depth of rock, to have made all necessary investigations, and be thoroughly familiar with difficulties involved in the completion of all work under the contract requirements. The Contractor shall examine the specifications and the construction drawings, and shall exercise its own judgment as to the nature and amount of work to be done. Failure or omission on the part of the Contractor to make the necessary examinations and investigations shall not be accepted as an excuse for failure or omission on its part to fulfill, in every detail, all of the requirements of the contract. The pipelines shall be installed throughout the public rights-of-way or in easements as indicated on the drawings. Generally, all work must be confined to the public way or easement provided; however, the Contractor may make arrangements for more operating room at its own expense and responsibility, with no involvement of KTWD or LWC. Otherwise, the Contractor shall conduct its operations in a manner that will not interfere with adjacent property owners.

3.2 Utilities

3.2.1 General

The Project Manager has endeavored to locate sub-surface obstructions from available records, and such structures are shown on the plans. KTWD and LWC cannot vouch for the accuracy of the information there shown, although it has undertaken to present available data. The plans do not show the size or location of services. Wherever the Contractor deems it necessary to determine the exact location of existing pipe, valve, or other underground structures, the Contractor may make any examinations that it may determine desirable in advance of the work and no added compensation will be paid. Only in the event that the Project Manager by written order directs the Contractor to make additional exploration and excavation will extra compensation be allowed.

The Contractor's attention is directed to the Utility Protection Center (1-800-752-6007), which has been established to provide accurate locations of below-ground utilities. The Contractor shall notify the Utility Protection Center 48 hours in advance of any construction on this project.

3.2.2 Utilities Crossing the Pipeline

In excavating trenches and laying pipe, where any existing utilities including water pipe, sewer pipes, inlets and drains, gas pipes, electric conduits, telephone conduits, service connections from these utilities, trolley tracks used for cathodic protection, traffic signal loop detector system or street light system, cross the trench, they shall be protected, supported, and maintained in service and restored to the condition in which they were found, all at no additional cost to KTWD. Where because of location or grade, such utilities cannot be replaced to occupy their original location, they shall be changed at no additional cost to KTWD and as directed by the Project Manager to accomplish their original purpose with adequate provision for drainage over or under the pipe as circumstances require. Where any utility facility, including service connections, is touched or endangered by the work, the utility management shall be notified by the Contractor, and the Contractor shall cooperate with the utility and pay the cost of protection and repair if damaged.

3.2.3 Utilities Parallel to the Pipeline

Where utilities are existing parallel to the water main and at a locating which will interfere with its installation, they shall be handled as follows:

Gas, sewers, telephone, or electric facilities shall be gently uncovered, and personnel from the pertinent utility shall remove its facility after accomplishing a temporary hook-up to prevent loss of service. After the water main has been placed, the utility line will be re-installed near its original location and grade by the utility personnel, and the Contractor will complete the necessary backfill.

The affected utility must be notified at least five days in advance of the time necessary to do the work. The cost of temporary hook-up and any charges from the utility will be paid by KTWD.

3.2.4 Water/Sewer Main Separation

Water mains shall be installed at a minimum of ten (10) feet horizontally from any existing or proposed sewer main or sewer manhole; measured from the outside diameters. ("Sewer" is defined as sanitary, storm, and/or combined.) When crossing over or under a sewer main, the water main shall maintain 1.5 feet vertical separation. When the 1.5 feet vertical separation cannot be

maintained, the water main must be encased for a distance not less than five (5) feet on either side of the point of crossing. Only in the event that the Project Manager directs the Contractor by written order may changes be made to these minimum separations.

3.2.5 Water Service Line Depth and Water Service/Sewer Separation

Water service lines shall be installed at the minimum depth of 30 inches. Service lines crossing over or under a sewer shall maintain a minimum separation of 6" if the water service line is above the sewer and 18" if the water service line is below the sewer.

3.3 Laying Out the Work

The exact location of the work will be fixed by lines and elevations furnished by the Project Manager with the assistance of the Contractor. The Contractor shall layout its own work, lines, measurements, bench marks, levels and grades, subject to the checking and directions of the Project Manager.

3.4 Stakes

The Contractor shall furnish and set all stakes necessary in laying out the location of lines and grades, shall protect all stakes by suitable guard stakes, and shall be responsible for maintenance of all stakes after set.

3.5 Temporary Contractor Facilities

3.5.1 Power

The Contractor shall arrange and pay for all power required for construction purposes.

3.5.2 Heat and Enclosures

The Contractor shall furnish at its own expense, all temporary heat and/or enclosures that may be deemed necessary.

3.5.3 Light

The Contractor shall provide and pay for temporary electric light necessary for the execution of the work. This will include all necessary wiring, fixtures, and electric bulbs. Torches or other sources of light which cause damage by fire or by smoke shall not be used.

3.5.4 Water

The Contractor shall purchase water from LWC for use in construction operations. Water used by the Contractor, LWC or KTWD for disinfection, flushing, pressure testing, and leakage testing will be supplied by LWC. The Contractor shall include the cost of Temporary Water Service, and cost of water purchased, in the base bid.

Temporary Service will be made available only on special permit upon application to LWC. Where practical, such temporary a service will be attached to existing service lines or fire hydrant.

3.5.5 Toilets

The Contractor shall provide in the vicinity of the work at locations satisfactory to KTWD, and maintain in a sanitary condition, suitable temporary toilets for the use of the workers. Upon completion of the work, the temporary toilets shall be removed and the premises left in a sanitary condition. The temporary toilets shall be satisfactory to the Bullitt County Board of Health.

4. PIPELINE MATERIALS

4.1 Pipe and Fittings

Pipe to be furnished by LWC for KTWD for this construction will be as specified in the SUPPLEMENTARY SPECIFICATIONS, either polyvinyl chloride pipe or cement-lined ductile iron pipe, each having push-on joints. Fittings will be ductile or gray cast iron with mechanical joints. Any reference to materials "supplied by LWC" or "furnished by LWC" shall mean "supplied or furnished by LWC for KTWD".

4.2 Furnished to the Contractor:

4.2.1 Materials

All polyvinyl chloride or ductile iron pipe, bends or elbows, reducers, adapters, restraining tie rods, restrained-joint hardware, sleeves, rubber gaskets and other joint materials, tee bolts and gaskets for mechanical joint and special fittings, gate valves, butterfly valves, air relief valves of all sizes and descriptions

including corporation cocks, valve boxes, casing pipe, casing spacers, polyethylene wrap, cleaning pigs, and fire hydrants will be furnished by LWC. The Contractor shall requisition and haul, on appropriate vehicles, these materials from the LWC Allmond Avenue Warehouse, 4801 Allmond Avenue, Louisville, KY 40201, to the points of their respective installation. As referenced in the current edition of LWC's "Process for Jobsite Delivery" Document, a copy of which is available from the Project Manager, pipe delivery from the pipe manufacturer to the jobsite is available if the Contractor makes arrangements as stated in said Document.

4.2.2 Requisition and Return of Materials

The Contractor shall requisition and return materials on the forms furnished by LWC, and shall account for or promptly return all materials so requisitioned. Any unused materials shall be returned within five (5) working days after the date of completion of the work as specified by the Project Inspector. The cost of any unused materials not returned to the warehouse by this date shall be billed to the Contractor.

Below is a list of guidelines to draw or return materials from LWC's Allmond Avenue Warehouse:

- A. Call (502) 569-3600, extension 3633 to make an appointment with the Allmond Avenue Warehouse. (Appointments are scheduled for 30 minutes in length.) At this time, fax a copy of the materials list at 375-2624.
- B. Appointments, including standing appointments, will be scheduled on a first-come first-served basis. Appointments are not required for emergency situations; however, a telephone call is required.
- C. Issues and returns would be considered equal in regard to scheduling.
- D. Warehouse office hours are 7:30 a.m. - 4:00 p.m., Monday through Friday (except LWC holidays). Appointments are scheduled from 8:00 a.m. - 2:30 p.m. (However, summertime appointments are scheduled from 7:30 a.m. - 1:30 p.m.)
- E. All returned material must be in the same condition as it was when issued - clean and with all accessories. Returns of

dirty, corroded, and/or rusted material, and/or fittings missing accessories, shall not be accepted.

4.2.3 Loading and Unloading Procedures

Refer to Article 10, "Materials Furnished by Louisville Water Company", of the ARTICLES OF AGREEMENT.

4.2.4 Equipment

For pressure and leakage testing, LWC shall issue a test pump with kit to the Contractor. The Contractor is to: notify the LWC Valve Shop (502) 569-3600, ext. 2766, at the Allmond Avenue Warehouse at least two days in advance of the day of intended use; pick up the test pump/kit between the hours to 7:30 a.m. and 3:30 p.m.; have the test pump/kit for 48 hours at no charge (Saturdays and Sundays are excluded from the allowed time frame); and return the test pump/kit to the Warehouse within 48 hours of pick-up. If outstanding for more than two days, beginning on the third day, a \$50.00/day rental fee will be charged; this fee shall be waived only if the Project Manager notifies the Warehouse Office or the Valve Shop at the Warehouse of special circumstances. The Contractor shall be held responsible for the test pump and all test kit contents, and shall be invoiced for all cleanup and/or repair costs.

LWC does not loan or lease hoses and/or tools, including tapping machines.

4.3 Furnished by the Contractor

All materials and equipment other than those mentioned in Section 4.2.1 above, including materials for concrete, plain or reinforced, small screwed piping in connection with the air relief valves, all sewer pipe, replacement materials for destroyed culverts or other improvements, paving materials, backfilling materials, sheeting and any other materials not herein mentioned but required to complete the work, shall be furnished by the Contractor.

4.4 Breakage/Damage

The Contractor shall reimburse the KTWD for any pipes, fittings, or other materials so furnished that may be damaged, broken, and/or allowed to deteriorate while handled by him/her during the progress of the work or while in his/her possession.

4.5 Securing Loaded Pipe

The Contractor shall be responsible for inspecting and securing all loads in accordance with the current edition of the "Federal Motor Carrier Safety Regulations", a copy of which is on file at the LWC Allmond Avenue Warehouse.

- A. For PVC pipe, only nylon straps shall be used to secure the load.
- B. For iron pipe and steel pipe, chains and/or nylon straps shall be used to secure the load.

4.6 Storage of Polyvinyl Chloride Pipe

When storing polyvinyl chloride pipe, caution should be exercised to avoid compression, damage, or deformation to the pipe, including the bell ends. Insure that the weight of the upper units does not cause deformation to the lower units. When storage with exposure to direct sunlight occurs, polyvinyl chloride pipe shall be covered with a light-colored material such as a tarpaulin, allowing for adequate air circulation above and around the pipe to prevent excessive heat accumulation.

5. EXCAVATION

5.1 Rock Soundings

KTWD and LWC do not know or pretend to know, nor do they undertake to state, the nature of all materials which will be necessary to excavate, in order to construct the work contemplated herein.

The Contractor is advised to make rock soundings or subsurface investigations as he/she may see fit. The Contractor shall assume all risks arising from, or out of, the nature of all forms of materials necessary to be excavated, except as otherwise specified.

5.2 Rock Blasting Requirements

All blasting for excavations shall be conducted by a blaster licensed in the State of Kentucky. Blasting will be permitted only after securing the approval of the Project Manager and only when proper precautions are taken for the protection of persons or property. Any damage caused by blasting, including pavement damaged and/or raised, shall be repaired by the Contractor at his/her expense. The Contractor shall abide by all Federal, State, and Local laws and regulations regarding the storage and use of blasting materials. The hours of blasting will be fixed by the Project

Manager. A blasting log must be kept and a copy furnished to KTWD.

5.3 Rock Excavation

5.3.1 Definition of Rock

Rock, for the purpose of this contract, shall mean boulders, pieces of concrete or masonry exceeding 300 pounds in weight, and solid ledge rock (usually limestone) which, in the opinion of the Project Manager, requires: drilling and blasting; wedging and blasting; wedging, sledging, or barring; or breaking up with a power operated hand tool for its removal.

No soft or disintegrated rock or shale; no loose, shaken, previously blasted rock or shale; no broken stone in fills or elsewhere (which can be removed with a hand pick or power operated excavator or shovel); and no rock or shale exterior to the minimum limits of measurements allowed which may fall into the excavation, will be measured or allowed. No part of the existing pavement system, including concrete or stone subbase, will be considered as rock. Any buried pavement system, other than the existing pavement system, will be considered as rock if it meets the criteria of rock stated above.

5.3.2 Trench Dimensions

Trench rock excavation shall be based on a trench width of nine inches wider than the nominal diameter of the pipe on each side of the trench and a trench depth of six inches below the outside bottom of the pipe.

5.3.3 Payment

The Contractor is directed to include the cost of the estimated quantity of rock excavation, as specified in the SUPPLEMENTARY SPECIFICATIONS, in the base bid as submitted on the BIDDER'S PROPOSAL form. When deviations from this estimated quantity are certified by the Project Manager, the base bid shall be adjusted by the unit price for rock excavation in the BIDDER'S PROPOSAL. Bedding material and backfilling shall be as specified in Section 7 "BACKFILLING PROCEDURES AND TAMPING" and shall be included in the unit price for rock excavation.

In the event rock is excavated by means of an excavator and/or a trench rock excavator, then no unit price adjustment shall be made to the lump sum base bid amount. In the event rock is excavated by means of blasting, then the applicable Supplementary Unit Price entry shall be used to adjust the lump sum bid amount based upon the difference between the actual quantity of rock excavation by means of blasting and the estimated quantity of rock excavation by means of blasting as stated in the SUPPLEMENTARY SPECIFICATIONS; said entry being a maximum of \$60.00. In the event KTWD specifies rock to be excavated by mechanical means, then the applicable Supplementary Unit Price entry shall be used to adjust the lump sum bid amount based upon the difference between the actual quantity of rock excavation by mechanical means and the estimated quantity of rock excavation by mechanical means as stated in the SUPPLEMENTARY SPECIFICATIONS; said entry being a maximum of \$125.00.

5.4 Excavation in Thoroughfare

5.4.1 Procedure

Wherever the excavation is in paving, whether in the city, outside the city, or in parking lots, the Contractor shall so conduct his/her operations that at least one lane of traffic is kept open at all times. Where the excavation is performed in a traveled lane, the trench shall be made safe during non-working hours by installing backfill and temporary bituminous pavement, backfill and concrete subbase, or plates (see "Plating" Section 5.4.3). Where the excavation is performed in an intersection, the work shall be completed in one workday, including backfilling and temporary bituminous pavement. Temporary paving restoration shall be adequately maintained until permanent pavement is placed. Traffic warning signs shall be placed and maintained on the thoroughfares being crossed, in accordance with the applicable agency as described in "Traffic Control" (Section 1.5).

5.4.2 Twelve-Inch Cutback Requirement

The Contractor shall make two pairs of straight paving cuts of uniform width: the first pair being along the edges of the anticipated trench location, to be performed prior to excavating the pipe trench; and the second pair being along the anticipated twelve-inch cutback locations, to be performed upon completion of trench backfill placement up to the subbase bottom elevation and prior to subbase placement.

Sawcuts shall be of sufficient penetration of the pavement base to insure straight edges during pavement removal. Irregular edges shall be sawcut to provide straight edges at a uniform width.

5.4.3 Plating

The Contractor shall provide plates recessed flush with the pavement for any excavation in a traveled lane. See Typical Recessed Plate Detail on the pertinent Pavement Restoration Drawing in the Appendix of Drawings. Any lane that is open to the traffic at any time during the day is defined as a traveled lane. The Contractor shall also provide recessed plates where required by the Project Manager and as described in the SUPPLEMENTARY SPECIFICATIONS. Otherwise, surface mounted plates, properly secured to pavement, shall be provided. Recessed and surface mounted shall have a minimum thickness of one inch, and shall be placed on a minimum bearing area of one foot of pavement bordering the perimeter of the excavation.

Whenever plate pins are used with the plates, the Contractor shall mechanically attach the pins to the plate by a method approved by the Project Manager.

Beginning January 1, 2000, ALL plates, whether or not in a traveled lane, are to have 45-degree beveled edges along the entire perimeter.

If in a State-maintained roadway, ALL plates, whether or not in a traveled lane, are to be recessed from November 1st thru March 31st, so as to minimize the potential hazards to snow removal vehicles.

5.5 Trenching

5.5.1 General

The Contractor shall make all excavations for pipe, blow-off connections, valves and vaults, etc. which may be required for this project. All excavations shall be backfilled or plated overnight.

5.5.2 Alignment and Grade

The trench shall be excavated to the alignment and depth required and only so far in advance of pipe laying as the Project Manager shall permit. All pipe shall be laid and maintained to the lines and grades shown on the plans.

5.5.3 Trench Width

The trench width shall be as shown as narrow as practicable to permit the pipe to be laid and jointed properly and for the backfill to be placed and compacted. Vertical sides are desired where the nature of the excavated material and depth of trench will permit. The maximum clear width of trench shall not be more than 1-1/2 feet greater than the nominal pipe diameter, and this trench width shall be the pay width for any items of work for which compensation is made where trench width is a factor in computing the value of work done.

5.5.4 Trench Depth

The pipe trench shall be excavated to such depth as to provide for six inches (6") of depth under and 36 inches (36") of cover over the outside of the pipe barrel. Unless otherwise specified, the trench shall have a flat bottom conforming to this grade. The trench bottom shall be so excavated at the bells, so that the barrel of the pipe will have a bearing for its full length. Any part of the trench excavated below grade shall be backfilled to grade with the same backfill material used to bed the pipe, pit run sand or Dense Graded Aggregate, or other material approved by KTWD, and compacted to ninety percent of Modified Proctor as required in "BACKFILLING PROCEDURES AND TAMPING" (Section 7). Unstable soil material shall be excavated from the trench, removed from the site, and backfilled and compacted as described above.

Depth of cover beyond that required above shall be provided where indicated on the drawings with no additional compensation. Variations from these required depths will be allowed only on written authority from the Project Manager.

5.5.5 Minimum Clearances

Boulders, large stones, and rock (including shale) shall be removed to provide a clearance of at least six inches below all parts of the pipe, valves, or fittings and to provide a clear width of at least nine inches (9") on each side of all pipe and appurtenances. Bell holes of ample dimension shall be dug to permit jointing to be made properly and to insure that the pipe is evenly supported throughout in length rather than on bells or couplings.

5.5.6 Safety

Wherever necessary, to prevent caving during the excavating of sand, gravel, sandy soil, or other unstable material, the trench shall adequately sheeted, braced, and drained. The trench shall be so maintained in accordance with OSHA regulations so that workers may work thereon safely and efficiently. It is essential that the trench pumps discharge into natural drainage channels or drain toward storm drains. Trench sheeting shall remain in place until the pipe has been laid, tested for defects and repaired, if necessary, and the earth around it compacted to a depth at least level with the top of the pipe.

Any excavated materials approved by the Project Manager to be stockpiled, shall be piled in a manner that will not endanger personnel and pedestrians, and will not obstruct driveways, sidewalks, or thoroughfares. Drainage lines shall not be obstructed.

5.5.7 Contaminated Soil

In the event the Contractor suspects encountering contaminated soil (i.e., soils containing asbestos, PCBs, petroleum products, hazardous waste, radioactive material, and/or any other substance that presents a potential danger to persons or property exposed thereto), the Contractor shall take the following steps:

- immediately stop all work in the vicinity of the contaminated soil, and notify the Project Manager, Project Inspector or KTWD;
- immediately notify "Emergency Response" at 911;
- immediately secure the work site to prevent access by unauthorized personnel;
- notify the Kentucky Department for Environmental Protection at (502) 564-2380 or 1-800-928-2380;
- follow the instructions from the Kentucky Department for Environmental Protection for disposal of the contaminated soil; and
- resume work in the vicinity.

If it is the Contractor's opinion that additional compensation to the

Contract amount and/or extension of time to Contract is due as a result of encountering contaminated soil, the Contractor shall submit a written claim in accordance with the guidelines stated in the ARTICLES OF AGREEMENT.

5.5.8 Preservation of Landscape

In lawn, parks, and private property, the existing sod may, at the Contractor's option, be stripped and rolled to be saved and re-laid, or replaced with new sod of equal quality as existing. (See "RESTORATION" (Section 11)).

If trenching machines are used, care shall be taken to avoid damage to trees or existing structures above or below ground. Trees and shrubs shown on the plans and labeled "PROTECT, DO NOT DAMAGE" are to be protected from any damage both above and below ground, and the property owner is to receive full remuneration for any damage. Trees at other locations shall not be damaged or removed without explicit instructions from the Project Manager and owner or agency responsible therefore. The plans may call from certain shrubs and trees in private right-of-way to be transplanted until operations are completed and replaced in their original location or replaced with new stock.

6. INSTALLATION

6.1 Handling Pipe and Appurtenances

Proper equipment, tools, and facilities satisfactory to the Project Manager shall be provided and used by the Contractor for the safe and convenient prosecution of the work. Slings used in handling the pipe shall be made of non-abrasive materials such as nylon. Chains, single cables, or any sharp abrasive material that may damage the pipe shall not be used. Pipe fittings, valves, and other accessories shall at all times be handled with care to avoid damage. In loading and unloading, they shall be lifted by hoist or by derrick, or rolled on skidways, in such manner as to avoid shock. Under no circumstances shall they be dropped.

When handling polyvinyl chloride pipe, the Contractor shall avoid abrasion damage and gouging or cutting by metal surfaces or rocks, and any stressing of bell joints and damage of bevel ends. Avoid severe impact, particularly in subfreezing temperatures. In subfreezing temperatures, caution is advised in handling to prevent impact damage. NOTE: When handling PVC pipe in cold weather, consideration must be given to variation in the pipe's impact strength. The impact strength of PVC pipe at 0°F (-16°C) is no worse, and

is in some cases even better, than the impact strength of many other pipe products; however, unlike some other materials, PVC pipe's impact strength at 0°F (-16°C) is lower than its impact strength at 73°F (23°C). Also, low temperatures cause dimensional changes that may allow movement of pipe within unit packages. As a result, handling techniques considered acceptable at warm temperatures may be unacceptable at very cold temperatures.

In distributing the material at the site of the work, each piece shall be unloaded opposite or near the site where it is to be laid in the trench.

All pipe, fittings, and valves shall be carefully lowered into the trench, piece by piece, by means of derrick or other suitable equipment, in such a manner as to prevent damage.

The interior of all pipe, fittings, and other accessories shall be kept free from dirt and foreign material at all times.

6.2 Laying Pipe and Appurtenances

All pipe laying shall be done under the supervision of an experienced superintendent who will be constantly on the job to supervise the laying of all pipe and making of all joints.

All polyvinyl chloride pipe shall be laid in accordance with AWWA Manual No. M23 "PVC Pipe - Design and Installation", unless otherwise specified herein.

All ductile iron pipe shall be laid in accordance with the current edition of AWWA Standard Specification C600, "AWWA Standard for Installation of Ductile Iron Water Main and Their Appurtenances", unless otherwise specified herein.

Unless shown otherwise on the contract drawings, polyvinyl chloride pipe joints will be elastomeric gasketed bell end type, and ductile iron pipe joints will be rubber ring gasketed type. The Contractor shall furnish all materials necessary to make all joints completely assembled, except as described in "Furnished to the Contractor" (Section 4.2).

The method of handling, hauling, and placing pipe in the trench shall be such as in no way will injure or damage the ductile iron pipe and coating or the polyvinyl chloride pipe. All damage to pipe and/or appurtenances shall be paid for by the Contractor.

All pipe shall be kept clean. The exposed ends of pipe in the trench shall be

closed by suitable plug at all times when pipe laying is not actually in progress.

All pipe shall require a six-inch undercut and a six-inch compacted depth layer of backfill to insure proper bedding for the pipe. These requirements are described in the sections "Trenching" and "BACKFILLING PROCEDURES AND TAMPING" (Sections 5.5 and 7, respectively).

Wherever either horizontal or vertical curves or angles are shown on the drawings, or found to be needed, appropriate ductile or gray cast iron bends shall be used with polyvinyl chloride pipe or ductile iron pipe. Under no circumstances will the bending of polyvinyl pipe be allowed. When laying ductile iron pipe, joint openings not exceeding four degrees will be allowed. Backfilling procedures and mechanical tamping of backfill material shall be strictly adhered to as specified in the "BACKFILLING PROCEDURES AND TAMPING" (Section 7) of these specifications.

6.3 Boring and Tunneling

When boring is required where there is a paved road to be crossed, and at any other location required, the Contractor shall use a boring tool of the proper size to form a tunnel for the purpose of threading the pipe from one excavation to the other without cutting the road surface. Where such methods are used, a plug or suitable closure shall be inserted in the end of the pipe to exclude any earth from the inside of said pipe. Where it is necessary to cut the paved surfaces to accomplish the above boring beyond the limits of the excavation necessary to make the tap, the cost of making such pavement repairs shall be borne by the Contractor.

Whenever water main is to be installed through casing pipe, the water main shall be ductile iron pipe with restrained joints. Steel casing pipe and ductile iron restrained in the pipe, both to be installed by the Contractor, will be furnished by LWC at its Allmond Avenue Warehouse, Louisville, Kentucky.

When ductile iron restrained-joint pipe is installed in casing pipe, spacers shall be used to prevent damage during installation and to provide long term support. Pipe shall not rest on bells. Casing spacers shall provide sufficient height between bell joint and casing wall and should be fastened securely to the pipe. Unless otherwise stated in the **BIDDER'S PROPOSAL** form and/or the **SUPPLEMENTARY SPECIFICATIONS**, there shall be three (3) spacers for each typical 18-foot pipe length, to be placed at the 3-foot, 9-foot, and 15-foot locations.

Pipe may be installed in the casing using winch-drawn cable or jacking. Exercise care to avoid damage to the pipe, bell joints, and polywrap.

For ease of installation, use a lubricant such as flax soap or drilling mud between casing spaces and casing. Do not use petroleum products such as oil or grease.

Any rock encountered in the construction of bore pits and/or receiving pits shall be unclassified.

The Contractor shall submit drawing(s) and a full description of the planned procedure for tunneling or boring for approval by the Project Manager. If voids shall develop or if the excavation is greater than the outside diameter of the liner by more than approximately one (1) inch, they shall be filled by pressure grouting at a minimum pressure of 10 psi to a maximum pressure of 15 psi with a 1:3 grout mix to provide the proper support.

6.4 Mechanical and Push-on Joint Assembly

6.4.1 General

All rubber-gasket joints shall be made in accordance with the current edition of AWWA Standard Specifications C111 "Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings", as recommended by the manufacturer, and as described below.

All elastomeric-gasket joints shall be made in accordance with the current edition of AWWA Standard Specification C900 "Polyvinyl Chloride (PVC) Pressure Pipe, 4-inch Through 12-inch, for Water Distribution", as recommended by the manufacturer, and as described below.

6.4.2 Mechanical Joint

The last eight inches (8") of the inside of the bell and the outside spigot end shall be thoroughly cleaned to remove oil, grit, excess coating, and other foreign matter from the joint, and then painted with a manufacturers approved lubricant. The cast iron gland shall then be slipped on the spigot end of the pipe with the lip extension of the gland toward the joint. The rubber gasket shall be painted with the lubricant and placed on the spigot end with the thick edge toward the gland. The entire section of pipe shall be pushed forward to seat the spigot end in the bell.

The gasket shall then be pressed into place within the bell with care being taken so that the gasket shall evenly located around the entire joint. The cast iron gland shall then be moved along the pipe into

position for bolting, all of the bolts inserted, and the nuts screwed up tightly, with the fingers. Nuts spaced 180 degrees apart shall be tightened alternately, in order to produce an equal pressure on all parts of the gland. The torque applied for various sizes of bolts shall be as follows:

5/8"	40 - 60 ft.-lbs.
3/4"	60 - 90 ft.-lbs.
1"	70 - 100 ft.-lbs.
1-1/4"	90 - 120 ft.-lbs.

Polyvinyl chloride pipe shall be assembled by hand or with the use of bar and block. Construction machinery shall be used with polyvinyl chloride pipe only if recommended by the pipe manufacturer.

6.4.3 Push-on Joint

The inside of the bell and the outside of the spigot end shall be thoroughly cleaned to remove oil, grit, excess coating, and other foreign matter. If placement of the gasket occurs in the field, the circular rubber gasket shall be flexed inward and inserted in the gasket recess of the bell socket. A thin film of gasket lubricant shall be applied to the spigot end of the pipe. Use only lubricant supplied by the pipe manufacturer. Failure to do so may promote bacterial growth or damage to the gaskets or the pipe. Correct alignment of the pipe is essential for ease of assembly. The spigot end of the pipe shall be entered into the socket with care to keep the joint from contracting the ground.

Push the polyvinyl chloride pipe into the bell or coupling, applying firm steady pressure by hand or by block assembly until the spigot easily slips through the gasket. Construction machinery shall be used with polyvinyl chloride only if recommended by the pipe manufacturer. The spigot end of the pipe is marked by the manufacturer to indicate the correct depth of insertion.

Ductile iron pipe joint shall be completed by forcing the spigot and to the bottom of the socket using a forked tool, backhoe, jack-type tool, or other device approved by the Project Manager. Pipe which has no depth mark shall be so marked before assembly to assure that the spigot end is inserted to the full depth of the joint.

6.4.4 Field-Cut Pipe

Field-cut ductile iron or polyvinyl chloride pipe requires a square cut for proper assembly of mechanical joint or push-on joint. It is recommended that the pipe be marked around its entire circumference prior to cutting to insure a square cut. The end shall be beveled by using a beveling tool, rasp or grinder as appropriate to resemble the spigot end of such pipe as manufactured. Roundoff any sharp edges on the leading edge of the bevel. Reinstall depth mark using original mark by manufacturer as a guide.

When field-cut polyvinyl chloride pipe is to be inserted into a mechanical joint end, the bevel shall not be reinstalled. The above-stated requirements for a square cut, rounding off sharp edges, and establishing a correct-depth marker shall be performed.

6.5 Connection to Existing Mains

The Contractor shall install the necessary pipe and fittings for the connections to the existing mains, as shown on the drawings, and shall make the connections complete, ready-for-use. It is imperative that the sequence of work involving an interruption of service be such that all operations be completed and the new pipeline ready to be connected prior to shutting off existing mains that are serving customer connections. Except for filling of the main, tie-ins shall not be accomplished until the main has passed testing and disinfection. When connections to the existing mains with water pressure on the main are to be made with a tapping sleeve and gate valve, the Contractor shall excavate the main, and install the tapping sleeve and gate valve on the main. The Contractor shall make that tap only after a hydrostatic pressure test of 125 psi is applied for fifteen (15) minutes with no leakage to the tapping sleeve and gate valve assembly. Before cutting an existing main within twenty feet away from of an existing valve under pressure, the Contractor shall excavate the existing valve and insure that it is properly secured.

Subsequently, water mains abandoned in-place shall be capped at all open ends.

6.6 Setting Cast Iron Valves and Fittings

Valves, air valves, blow-offs, and drains shall be assembled, and joints made up, both flanged and mechanical joint, as indicated on the contract drawings. Valves 12" and larger on ductile iron pipe and all valves on polyvinyl chloride pipe must be anchored by #4 coated and deformed reinforcing bar, wrapped around each end of the valve, and cast in a cast-in-

place concrete anchor block under each valve. This is critical for polyvinyl chloride pipe and will be strictly enforced. The weight of each valve shall be supported by solid pre-cast concrete blocks. Cast-in-place concrete shall then be poured up to the bottom of the valve. In no instance shall the weight of the valve be supported by the adjacent pipe. If PVC pipe is used with iron fittings, the weight of each fitting shall be supported by a 2' x 2' x 1' cast-in-place concrete support block; rod anchorage is not required. The concrete support block shall bear against undisturbed earth, as shall the other above-mentioned types of concrete blocking. The Project Manager shall have the authority to direct the Contractor to add line valves if they are needed to facilitate the project and/or to keep service outages to an absolute minimum.

6.7 Polyethylene Wrap

Polyethylene wrap shall be installed in accordance with the current edition of American Water Works Association Standard Specification C105 (ANSI A21.5) for American National Standard for Polyethylene Encasement, unless otherwise specified herein.

Polyethylene wrap will be furnished by LWC in 500 foot rolls. The Contractor shall cut the roll in tubes 2 feet longer than standard length of pipe. Each tube shall be slipped over the length of pipe, with centering to allow a one foot overlap on each adjacent pipe section. After the lap is made, slack in the tubing shall be taken up for a snug fit, and the overlay shall be secured with polyethylene tape. Each length of pipe shall receive two separate polyethylene wraps as described above. Pipe shall not be wrapped and stored on site for any period of time, but wrapped and immediately placed in the trench. Pipe to be wrapped shall include ductile iron and ductile iron restrained-joint pipe and iron fittings. Polyvinyl chloride pipe requires no wrap.

Odd shaped appurtenances such as valves, tees, fittings, and other ferrous metal pipeline appurtenances shall be wrapped by using a flat sheet of polyethylene. Wrapping shall be done by placing the sheet under the appliances and bringing it up around the item to be wrapped. Seams will be made by bringing the edges together, folding twice, and taping down. Each appurtenance shall receive two separate polyethylene wraps as described above.

Care will be taken when backfilling to prevent damage to the polyethylene wrapping. Sections of wrapping having cuts, tears, punctures, or other damage shall be repaired or replaced.

AWWA Standards for installing polyethylene wrap and manufacturers'

recommended methods for installing polyethylene wrap are available for review at the office of LWC.

6.8 Installation of Tracing Wire and Identification Ribbon

Because of the insulating property of polyvinyl chloride pipe, it cannot be located by electronic sensing devices; therefore, the Contractor shall install insulated #12 solid copper wire along with the polyvinyl chloride pipe. This wire shall be laid directly over the water main. At each and every valve: the wire shall be directly connected to one of the valve bonnet bolts, and shall extend upward along the outside of the keytube but inside the round top frame. The wire shall also be connected to a fitting at each of the water main. The tracing wire shall be wrapped once around each copper or cast iron service line.

Although with this wire, the Contractor shall also install a thin metallic identification ribbon. Under paved surfaces, this ribbon shall be laid directly beneath the concrete base and directly over the water main. Under the unpaved surfaces, the ribbon shall be installed no more than one (1) foot beneath the finished grade and directly over the main. Two-inch (2") or three-inch (3") wide ribbon shall be used over PVC mains eight-inch (8") and smaller, and six-inch (6") wide ribbon shall be used over twelve-inch (12") mains. Both wire and ribbon shall be supplied by LWC. Probing rods shall not be used to locate polyvinyl chloride pipe.

6.9 Cast Iron Frames and Lids

The Contractor shall set all cast iron frames, round top shims, and lids for valves, air valves, and vaults. These frames and lids shall be set to grade and maintained in the proper position for the duration of the period covered by this contract, including the thirty-day acceptance period. Round top shims shall be used under round tops set in bituminous pavement.

Cast iron frames and lids shall be removed on all discontinued vaults, and surfaces shall be restored in accordance with the appropriate requirements of the sections "BACKFILLING PROCEDURES AND TAMPING" and "RESTORATION" (Sections 7 and 11, respectively). All out-of-ground cast iron frames and lids shall be returned to the LWC Allmond Avenue warehouse.

6.10 Valve Boxes

Standard valve boxes consisting of keytubes, extension pipes, and round tops and lids shall be furnished by LWC and installed on all valves by the Contractor. These boxes shall be centered about the operating nuts, shall be

vertical, shall be set to grade, shall be placed and maintained in the proper position, and shall be free of dirt or other matter for the duration of the period covered by this contract including the thirty-day acceptance period. Styrofoam collars shall be placed around each valve box before placement of concrete and in such a manner to allow the valve box to be raised to grade without demolishing the concrete subbase.

In areas of bituminous pavement, round top shims shall be furnished LWC and installed by the Contractor under the round tops. The shims shall be installed after the subbase has cured, and before placement of the bituminous pavement.

Round tops and lids on all valves that are to be abandoned shall be removed and returned to the LWC Allmond Avenue Warehouse. The keytube shall be filled and surfaces restored in accordance with the appropriate requirements of the sections "BACKFILLING PROCEDURES AND TAMPING" and "RESTORATION" (Sections 7 and 11, respectively).

6.11 Plugging Ends of Pipe

When work is stopped at the end of a day, a cast iron plug shall be bolted in place in the open end of the pipe to prevent any foreign matter or trench water from entering the line. Permanent plugs or caps shall be inserted where shown on the contract drawings, and shall be securely braced as shown on the thrust anchor details included on the detail sheet of the contract drawings. If it is desired to fill a section of the main before the entire line is completed, at least two lengths of pipe shall be installed and backfilled beyond a gate valve forming the closure at the end of the line, and said gate valve shall be securely braced.

6.12 Thrust Anchors, Counterweights, and Restrained-Joint Hardware

The Contractor shall install concrete thrust anchors or counterweights (3,500 psi concrete) at each bend in the pipeline of five (5) degrees or greater and at all other fittings, including reducers, to withstand maximum test pressure. The Contractor shall provide all labor and material to construct the thrust anchors, piers, and counterweights, for all fittings, both horizontal and vertical. These concrete thrust anchors shall be minimum dimensions and size as indicated on the thrust anchor schedule shown on the detail sheet in the project drawings.

Restrained-joint hardware is not intended to be used in lieu of concrete thrust anchors and counterweights. Such hardware is to be used ONLY when it is necessary to return a water main to service immediately, as when making tie-ins or at the specific instructions of LWC. Whenever restrained-

joint hardware is used to restrain fittings, the Contractor must also pour a concrete thrust block. In no instances, except for fire hydrant installations, shall restrained-joint hardware alone be accepted as a permanent thrust restraint.

7. BACKFILLING PROCEDURES AND TAMPING

7.1 General

In general, trench dimensioning and backfill materials shall be as follows: six inches of vertical clearance with the bottom of the trench, and the subsequent layered placement of pit run sand or DGA bedding along the bottom of the pipe; nine inches of horizontal clearance with each side of the trench, and the subsequent layered placement of pit run sand or DGA backfill along each side of the pipe; the layered placement of pit run sand or DGA backfill to the elevation of twelve inches above the crown of the pipe; and, if in a lawn area, the remainder of the backfill to be common (but acceptable) fill, or, if in a paved and/or a to-be-paved area, the remainder of the backfill to be the layered placement of pit run sand or DGA up to the bottom elevation of the respective pavement restoration scheme. The total depth of cover (i.e., the vertical distance from crown-of-pipe to ground/pavement surface) shall be at least thirty-six (36) inches. The cost of applicable backfill material, backfilling, and required tamping shall be covered in the base bid as shown on the BIDDER'S PROPOSAL form.

All backfill shall be properly compacted by pneumatic, vibratory, or other approved compaction equipment. Degree of compaction shall be at least 90 percent of Modified Proctor (ASTM D-1557), and the compaction effort shall be performed in a uniform and consistent manner. If it elects to do so, KTWD shall arrange for and pay for nuclear density gauge tests in order to determine if the specified degree of compaction has been achieved.

When instructed by the Project Manager, the Contractor shall excavate backfilled material to a particular grade for testing. Backfilled areas which do not pass this test shall be excavated and recompacted until they meet compaction specifications. Areas excavated for testing shall be recompacted in accordance with this compaction specification. The cost of this work shall be included in the base bid.

Appropriate and sufficient backfill material shall be furnished by the Contractor to replace material deemed unsatisfactory by the Project Manager or the field representative. Unsatisfactory material includes unsuitable soil as described in "Final Backfilling" (Section 7.4) and frozen or exceptionally wet backfill material, and may include backfill material excavated for testing purposes or backfill material excavated for failure to

meet compaction requirements.

7.2 Bedding

For the entire length of the trench, the excavation shall provide a six-inch space below the pipe, which shall be placed by hand and firmly compacted with pit run sand or Dense Graded Aggregate, as specified by the Kentucky Transportation Cabinet Department of Highways Standard Specification for Road and Bridge Construction, (latest edition) "Coarse Aggregate," to form a bedding for the pipe. The bedding shall be excavated at bells, valves, and fittings so the barrel of the pipe will have a bearing for its full length.

7.3 Initial Backfilling

Initial backfill should occur as soon as possible after the laying of pipe, so as to prevent the pipe from shifting. After the pipe has been placed on the bedding, pit run sand or Dense Graded Aggregate shall be deposited in the trench by mechanical equipment and distributed in six-inch layers by hand on both sides of the pipe for the full width of the trench, the trench width having nine inches of horizontal clearance along each side of the pipe. The pit run sand or Dense Graded Aggregate shall be tamped in six-inch layers and thoroughly compacted under the centerline and on each side of the pipe. Backfill shall be placed and tamped to a height of at least twelve inches (12") above the top of the pipe. Initial backfill should occur as soon as possible after the laying of pipe to protect against shifting.

7.4 Final Backfilling

When not under paved surfaces or surfaces where paving intended, the remainder of the trench shall be backfilled with soil free from brush or vegetable matter, rocks larger than fist-size, pieces of concrete larger than fist-size, cinders, or any other matter which could prevent proper consolidation.

When under paved surfaces or surfaces where paving is intended, the remainder of the trench shall be backfilled for the full depth with pit run sand or Dense Graded Aggregate, as specified by the Kentucky Department of Highways Standard Specification for Road and Bridge Construction, (latest edition) "Coarse Aggregate." At pavement crossings, this pavement backfill shall extend five feet (5') beyond each end of the paving or proposed paving.

Whether under paved or unpaved surfaces, the final backfill shall be tamped by pneumatic or other approved tamping equipment in successive layers of six inches or less in height to finish grade or pavement restoration as



LOUISVILLE WATER COMPANY

550 SOUTH THIRD STREET • LOUISVILLE, KENTUCKY 40202

TEL 502-569-3600 FAX 502-569-0815

July 27, 1999

Helen Helton, Executive Director
Public Service Commission
730 Schenkel Lane
P.O. Box 615
Frankfort, Kentucky 40602

Re: Nichols Elementary School 12" Water Main Extension

Dear:

The above-referenced project consists of the installation of approximately 16,424 linear feet of 12-inch PVC water main beginning at a point approximately 200 feet east of the Jefferson County/Bullitt County line on Highway 44, continuing east to the intersection of Highway 44 and Knob Creek Road (Hwy 1526), then continuing approximately ½ mile northeast on Knob Creek Road to Applegate Run Creek; and approximately 2,312 linear feet of 8-inch PVC water main beginning at the intersection of Highway 44 and Knob Creek Road, then continuing approximately ½ mile east on Highway 44 to Knob Creek.

The proposed main will serve the Nichols Elementary School as well as approximately 70 private residences and other community facilities. The main will also supply future extensions to over 750 homes in the Knob Creek valley of Western Bullitt County.

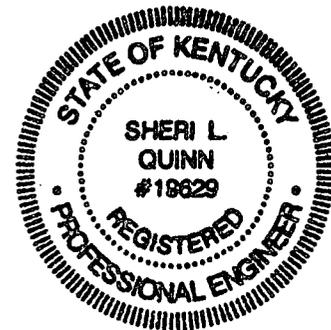
The post-bid estimate for the project is \$493,492 including \$195,000 for materials, \$75,320 for engineering, surveying and project management, \$214,479 for contract labor based on the attached bidder's proposal, and \$8,693 for contingencies.

If you have any additional questions regarding this project, please feel free to contact me at 569-3600 ext. 2218.

Sincerely,

Sheri L. Quinn, P.E.
Project Manager

Cc: Raymond Abell, Kentucky Turnpike Water District
Jason Thomas, Stites & Harbison
Project File



BIDDER'S PROPOSAL

FOR

**PROJECT NO. 98-794B
NICHOLS ELEMENTARY SCHOOL WATER MAIN EXTENSION
KENTUCKY TURNPIKE WATER DISTRICT**

Bids will be received until 5:00 p.m. local time, Wednesday, June 2, 1999 for this project.

Kentucky Turnpike Water District
3396 Burkland Blvd.
Shepherdsville, KY 40165

Dear District Manager:

Our firm is familiar with the local conditions affecting the cost of work. By submitting this Bidder's Proposal, our firm hereby proposes to furnish all labor, tools, equipment and materials (except for the pipes and pipeline appurtenances specified to be furnished by the Kentucky Turnpike Water District from the Louisville Water Company) required by the Contract Documents to install approximately 15,060 linear feet of 12-inch water main along Highway 44 from the Bullitt County line to Knob Creek Road (Highway 1526), and along Knob Creek Road from Highway 44 to Applegate Run Creek; install approximately 2,312 linear feet of 8-inch PVC water main along Highway 44 from Knob Creek Road to Knob Creek; and to restore the site, all of the above made ready-for-use in accordance and compliance with the Contract Documents, as defined in Article 1 of the **ARTICLES OF AGREEMENT**; and our firm agrees to be bound by and comply with the **KENTUCKY TURNPIKE WATER DISTRICT TECHNICAL SPECIFICATIONS FOR PIPELINE CONSTRUCTION** and all other documents incorporated therein, for the lump sum base bid compensation of:

two hundred fourteen thousand four
hundred seventy-nine dollars and 0 cents. \$ 214,479.00

(The amount of bid is stated in both words and figures. In the event of discrepancy between the two, the amount stated in words shall prevail.)

Our firm has included three references for review and acceptance by KTWD; or is presently prequalified by the Louisville Water Company for a minimum of \$250,000 in the category "4-inch to 12-inch PVC or Ductile Iron Water Main" as referenced in Section 3.1.2 of the **INSTRUCTIONS TO BIDDERS**.

The cost for all work shown in the Contract Documents is included in the above-entered bid. For increasing or decreasing quantities of work items from those included in the above-entered bid, the following supplementary unit prices (including materials furnished by the Contractor, labor, and equipment costs, as well as overhead and profit) shall prevail in increasing or decreasing the Contract price:

1.	Rock excavation by means of blasting (\$60 per cubic yard, maximum. KTWD shall pay a maximum of \$60.00 per cubic yard of rock removed by means of blasting.)	<u>50.00</u>	/C.Y.
2.	Rock excavation by mechanical means (\$125 per cubic yard, maximum. KTWD shall pay a maximum of \$125.00 per cubic yard of rock removed by mechanical means.)	<u>120.00</u>	/C.Y.
3.	Ductile iron water main, complete		
	12" in pavement.....	<u>14.00</u>	/L.F.
	12" in lawn.	<u>15.24</u>	/L.F.
4.	Ductile iron water main, complete		
	8" in pavement.....	<u>12.00</u>	/L.F.
	8" in lawn.	<u>13.00</u>	/L.F.
5.	Ductile iron water main, complete		
	6" in pavement.....	<u>10.00</u>	/L.F.
	6" in lawn.	<u>11.00</u>	/L.F.
6.	PVC water main, complete		
	12" in pavement.....	<u>14.00</u>	/L.F.
	12" in lawn.	<u>15.00</u>	/L.F.
7.	PVC water main, complete		
	8" in pavement.....	<u>12.00</u>	/L.F.
	8" in lawn.	<u>13.00</u>	/L.F.
8.	PVC water main, complete		
	6" in pavement.....	<u>10.00</u>	/L.F.
	6" in lawn.	<u>11.00</u>	/L.F.
9.	Install new valve along new main		
	6" - 8"	<u>250.00</u>	/each
	12"	<u>400.00</u>	/each

10.	Short fire hydrant installations, complete	<u>1,000.00</u>	/each
11.	Long fire hydrant installations, complete	<u>1,200.00</u>	/each
12.	Short domestic water service installed (5/8"- 1"), complete	<u>350.00</u>	/each
13.	Long domestic water service installed (5/8"- 1"), complete	<u>500.00</u>	/each
14.	Short domestic water service installed (1½"- 2"), complete	<u>450.00</u>	/each
15.	Long domestic water service installed (1½"- 2"), complete	<u>750.00</u>	/each
16.	Restoration		
	Asphalt (1.5" course)	<u>20.00</u>	/sy
	Concrete (6" base)	<u>100.00</u>	/sy
	Sawcut (2 sides)	<u>20.00</u>	/lf
	Seed and Straw	<u>1.00</u>	/sy
	Sod	<u>4.00</u>	/sy
17.	Remobilization		
	Service Installation Crew	<u>550.00</u>	/each
	Main Installation Crew	<u>650.00</u>	/each

In the event of a change in the scope of work that is not applicable to any of the above-listed supplementary unit price work items and/or in the event an applicable supplementary unit price work item is not listed above, then compensation/credit for said change in the scope of work and/or not-listed supplementary unit price work item shall be determined by the conditions listed under Article 17 "Alterations of Materials and/or Work" of the **ARTICLES OF AGREEMENT**.

Within fourteen (14) calendar days of written notice of the acceptance of this bid, our firm shall submit the following: (1) Performance and Payment Bonds, as required, (2) the required Certificate of Insurance, and (3) a list of all materials to be furnished by our firm on this project, if any. Upon timely receipt of the above-listed documents and of any and all other required documents listed in Section 3.2 of the **INSTRUCTIONS TO BIDDERS**, and upon the subsequent acceptance of said documents by the Kentucky Turnpike Water District, the Kentucky Turnpike Water District shall execute the contract and return a copy to our firm. If the above-listed items are not delivered by our firm to the Kentucky Turnpike Water District as set forth herein, or if the same are not accepted

by the Kentucky Turnpike Water District, the Kentucky Turnpike Water District may, at its option, elect to void our firm's bid.

If awarded this contract, we agree to begin the work (within) 15 (calendar days) of Notice To Proceed and to have work complete no later than November 30, 1999 or 180 calendar days from Notice To Proceed (whichever is later). In addition, we agree to have the main in-service to the Nichols Elementary School by September 30, 1999; or 120 days from Notice To Proceed (whichever is later), such service being contingent upon the water service availability on the Jefferson County extension from Dixie Highway.

This bid shall remain outstanding, and may not be withdrawn, for a period of ninety (90) calendar days after the scheduled closing time for receiving bids.

Acknowledgment of Addenda (if applicable):

Addendum #1 dated 5/25/99 Addendum #3 _____

Addendum #2 dated 6/1/99 Addendum #4 _____

Respectfully submitted,

Firm: Salmon Construction, Inc.

By: L. Salmon
(Signature of authorized officer or agent required)

Leon Salmon
(Name printed or typed)

Title: _____

Date: _____

Accepted for the Kentucky Turnpike Water District,

By: _____
Raymond F. Abell, District Manager, Kentucky Turnpike Water District

Date: _____

Attest: _____

Date: _____

**NON-COLLUSION AFFIDAVIT
FOR
PROJECT NO. 98-794B
NICHOLS ELEMENTARY SCHOOL WATER MAIN EXTENSION
KENTUCKY TURNPIKE WATER DISTRICT**

Leon Salmon (bidder's representative) being duly sworn, on his oath says that he represents Salmon Construction, Inc. (bidder) for the construction of the improvements described in the above bid of a Kentucky Turnpike Water District project of which bid this affidavit is a part; that said bid is submitted in good faith and not as a speculation or to be assigned or relinquished and will be executed and fulfilled by said bidder, according to its terms, if accepted, and according to the plans and specifications for said project; that this bid is made without reference to any other bid; that this bidder has not offered to or received from any person firm, board, commission, trustee or corporations any sum of money or consideration for the making of said bid. That no inducement of any form or character other than that which appears upon the face of the bid will be suggested, offered, paid or delivered to any person in any way or manner, any of the proceeds of the contract sought by this bid; that said bidder has not directly or indirectly made any arrangement, contract or understanding with any other bidder or bidders concerning the amount of said bid, nor has such bidder in any way colluded, conspired, connived or agreed in any manner of form, with any person whomsoever to influence any bid for said contract, directly or indirectly.

Signature of Bidder's
Representative: _____

L. Salmon

Representative's Title: _____

President

Date: _____

6/2/99

Subscribed and sworn to before me this 2nd day of June, 19 99

Signature of Notary Public: _____

Deborah Gayle Summitt

County and State: _____

Bullitt County, State of Ky

My commission expires: _____

11/15/02

NC-1

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY TURNPIKE)
WATER DISTRICT (DIVISION I) FOR A)
CERTIFICATE OF PUBLIC CONVENIENCE)
AND NECESSITY)

CASE NO. 99-237

RECEIVED
JUL 27 1999
PUBLIC SERVICE
COMMISSION

Comes the Applicant, Kentucky Turnpike Water District, Division I ("Kentucky Turnpike" or "the District"), by and through counsel, and respectfully submits the following information in accordance with the Commission's June 29, 1999 letter.

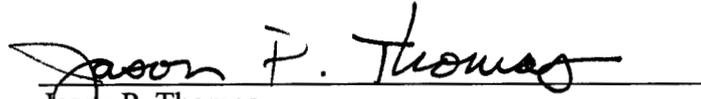
1. Attached collectively as Exhibit 1 are copies of permits for the proposed construction issued by (1) Kentucky Natural Resources and Environmental Protection Cabinet, Department for Environmental Protection, Division of Water, Drinking Water Branch; and (2) Kentucky Transportation Cabinet, Department of Highways.

2. A full description of the proposed location and route of the new construction is included with the maps previously filed with the District's original Application and summarized in Paragraph 7 of the Application. The proposed transmission line will consist of approximately 4 miles of 12-inch PVC piping. A complete set of construction specifications and drawings is included as Exhibit 2.

3. As stated in the original Application, the District's estimated cost of operation after the proposed facilities are completed is \$0. The new facility is located in Division I of the District's territory. Louisville Water Company operates Division I under a lease agreement. Under the lease agreement, the District owns the facilities but Louisville Water Company

operates and maintains the facilities. Louisville Water Company bills each customer directly and pays the District \$6.00 per customer per month. Accordingly, Louisville Water Company – not the District – will incur all costs of operating the new transmission line.

4. A signed and stamped engineering report is attached as Exhibit 3.



Jason P. Thomas
STITES & HARBISON
400 West Market Street, Suite 1800
Louisville, Kentucky 40202-3352
Telephone: (502) 587-3400
COUNSEL FOR APPLICANT, KENTUCKY
TURNPIKE WATER DISTRICT



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KENTUCKY 40602
www.psc.state.ky.us
(502) 564-3940
Fax (502) 564-3460

Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Helen Helton
Executive Director
Public Service Commission

Paul E. Patton
Governor

July 19, 1999

Jason P. Thomas, Esq.
Stites & Harbison
400 West Market Street
Suite 1800
Louisville, Kentucky 40202-3352

RE: Case No. 99-237
Kentucky Turnpike Water District

Dear Mr. Thomas:

The Commission is in receipt of your July 13, 1999 letter requesting an extension of time until July 27, 1999 in which to file the information requested in the Commission's June 29, 1999 letter regarding filing deficiencies in the above-referenced case.

Please be advised that your request is granted and that the information requested in the Commission's June 29 letter is now due July 27, 1999. If you should need additional information, please contact Gerald Wuetcher, Staff Attorney, at (502) 564-3940, extension 259.

Sincerely,

A handwritten signature in black ink that reads "Stephanie Bell".

Stephanie Bell
Secretary of the Commission

rbd
cc: Parties of Record



STITES & HARBISON

ATTORNEYS

RECEIVED

July 13, 1999

JUL 13 1999

PUBLIC SERVICE
COMMISSION

400 West Market Street
Suite 1800
Louisville, KY 40202-3352
(502) 587-3400
(502) 587-6391 Fax
www.stites.com

VIA FACSIMILE 502-564-3460

Jason P. Thomas
(502) 681-0544
jthomas@stites.com

Ms. Helen Helton
Executive Director
Kentucky Public Service Commission
730 Schenkel Lane
P.O. Box 615
Frankfort, Kentucky 40602

RE: Kentucky Turnpike Water District Case No. 99-237

Dear Ms. Helton:

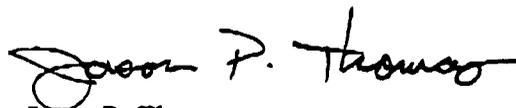
The District received a letter from the Public Service Commission advising the District that its Application for a Certificate of Public Convenience and Necessity was deficient. The letter requested the District to respond within 15 days (or July 14, 1999).

The engineer responsible for this project has been out of the office. Thus, the District has been unable to compile the requested information. The District respectfully requests an extension of the deadline to July 27, 1999.

If you or your staff have any questions, please do not hesitate to call me. Thank you for your consideration.

Sincerely,

STITES & HARBISON



Jason P. Thomas

JPT:jan

cc: F. Raymond Abell

KE161:00KE2:59821:LOUISVILLE



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KENTUCKY 40602
www.psc.state.ky.us
(502) 564-3940
Fax (502) 564-3460

Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Helen Helton
Executive Director
Public Service Commission

Paul E. Patton
Governor

June 29, 1999

F. Raymond Abell
Kentucky Turnpike Water District
Division I
3396 Burkland Boulevard
Shepherdsville, KY 40165

Jason P. Thomas
Attorney at Law
Stites & Harbison
400 West Market Street, Suite 1800
Louisville, KY 40202-3352

Re: Case No. 99-237
Filing Deficiencies

Gentlemen:

The Commission staff has conducted an initial review of your filing in the above case. This filing is rejected pursuant to 807 KAR 5:001, Section 2, as it is deficient in certain filing requirements. The items listed below are either required to be filed with the application or must be referenced if they are already on file in another case or will be filed at a later date.

Filing deficiencies pursuant to 807 KAR 5:001:

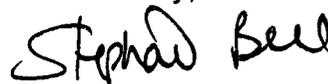
- 1) Section 9(2)(b): Copies of franchises of permits, if any, from the proper public authority for the proposed new construction or extension, if not previously filed with the Commission.



- 2) Section 9(2)(c): A full description of the proposed location, route, or routes of the new construction or extension, including a description of the manner in which same will be constructed, and also the names of all public utilities, corporations, or persons with whom the proposed new construction or extension is likely to compete.
- 3) Section 9(2)(f): An estimated cost of operation after the proposed facilities are completed.
- 4) KRS 322.340: At least one copy of preliminary and final engineering report is signed, sealed, and dated by registered professional engineer.

The statutory time period in which the Commission must process this case will not commence until the above-mentioned information is filed with the Commission. You are requested to file 10 copies of this information within 15 days of the date of this letter. If you need further information, please contact James Rice of my staff at (502)564-3940, ext. 411.

Sincerely,



Stephanie Bell
Secretary of the Commission

sa





Commonwealth of Kentucky
Transportation Cabinet

Department of Highways, District Five
977 Phillips Lane, P. O. Box 37090
Louisville, Kentucky 40233
502/367-6411. (Fax) 502/363-6170
William Monhollon, P.E.
Chief District Engineer

Paul E. Patton
Governor

James C. Codell, III
Secretary of Transportation

T. Kevin Flanery
Deputy Secretary

June 24, 1999

James E. Emly
Kentucky Turnpike Water District 1
3396 Burkland Blvd.
Shepherdsville, Kentucky 40165

Permit No.: 05-0683-99

Dear Applicant:

Your application for an encroachment permit has been approved by the Department of Highways. We are returning two (2) copies of the approved permit. One copy of the permit is for your record and files, the other is to be on the work site at all times. Failure to have this permit at the site could result in a stop-work order by the Department of Highways.

The "Manual on Uniform Traffic Control Devices" (MUTCD) is the accepted national standard for all traffic control. All traffic control measures used must be in compliance with the MUTCD.

Please contact this office prior to beginning the work and also when the work has been completed. Please see that the work is done in strict conformity with the permit and any other applicable conditions (see form TC99-21 and any other attached documents, conditions, or specifications). The permit will be released when the permitted work and any necessary restoration has been completed.

Please contact this office if you have any questions.

Sincerely,

Lloyd I. Seales II, P.E., L.S.
District Permits Engineer

LIS:dgp



KENTUCKY TRANSPORTATION CABINET MISSION
"PROVIDE A SAFE, EFFICIENT, ENVIRONMENTALLY SOUND, AND FISCALLY RESPONSIBLE TRANSPORTATION
SYSTEM WHICH PROMOTES ECONOMIC GROWTH AND ENHANCES THE QUALITY OF LIFE IN KENTUCKY."
"AN EQUAL OPPORTUNITY EMPLOYER M/F/D"

KENTUCKY TRANSPORTATION CABINET
Department of Highways
Permits Branch

TC 99-1
Rev. 7/85

Released Date _____

ENCROACHMENT PERMIT

PERMIT NO. 05-0683-99

APPLICANT IDENTIFICATION:		PROJECT IDENTIFICATION:	
NAME: <u>KENTUCKY TURNPIKE WATER DISTRICT 1</u>		ACCESS CONTROL <input checked="" type="checkbox"/> By Permit <input type="checkbox"/> Partial <input type="checkbox"/> Full	
CONTACT PERSON: <u>JAMES E. EMLY</u>		COUNTY: <u>BULLITT</u> PRIORITY ROUTE NO: <u>KY 44</u>	
ADDRESS: <u>3396 BURKLAND BLVD.</u>		MILEPOINT: <u>0.0</u> <input checked="" type="checkbox"/> Left <input checked="" type="checkbox"/> Right <input checked="" type="checkbox"/> X-ing	
CITY: <u>SHEPHERDSVILLE</u>		PROJECT STATUS: <input checked="" type="checkbox"/> Maint. <input type="checkbox"/> Const. <input type="checkbox"/> Design	
STATE: <u>KY</u> ZIP CODE: <u>40165</u>		PROJECT # STATE: <u>MP015 0044-000 0</u>	
PHONE: area code (<u>502</u>) <u>955-5442</u>		PROJECT # FEDERAL: _____	
		ROAD/ STREET NAME: <u>KY 44</u>	

TYPE OF ENCROACHMENT:

COMMERCIAL ENTRANCE - BUSINESS

PRIVATE ENTRANCE: Single Family Farm

UTILITY: Overhead Underground

GRADE: Fill Landscape on RW

AIRSPACE: Agreement Lease

OTHER: (Specify) _____

ATTACHMENTS:

Standard Drawings (List on TC 99-21 under Misc.)

Applicant's Plans

Highway Plan and Profile Sheets

TC 99-3 (Ponding Encroachment Specs. & Conditions)

TC 99-4 (Rest Area Usage Specs. & Conditions)

TC 99-5 (Tree Cutting/Trimming Specs. & Conditions)

TC 99-6 (Chemical Use of Specs. & Conditions)

TC 99-10 (Typical Hwy. Boring Crossing Detail)

TC 99-12 (Overhead Utility Encroachment Diagram)

TC 99-13 (Surface Restoration Methods)

TC 99-21 (Encroachment Permit General Notes & Specs.)

TC 99-22 (Agreement for Services to be Performed)

TC 99-23 (Mass Transit Shelter Specs. & Conditions)

Other Attachments (Specify): Attachment 'A'

TYPE OF INDEMNITY: Bond Cash

SELF-INSURED AMOUNT ENCUMBERED \$ 17,000⁰⁰

OTHER _____

NAME AND ADDRESS OF LOCAL INSURANCE AGENCY OR SELF-INSURED REPRESENTATIVE: _____

INDEMNITY: The applicant, in order to secure this obligation, has deposited with the Transportation Cabinet as a guarantee of conformance with the Department's Encroachment Permit requirements, an indemnity in the amount of \$ _____ as determined by the Department. It shall be the responsibility of the applicant or permittee, his heirs and assigns to keep all indemnities in full force until construction or reconstruction has been completed and duly accepted by an authorized agent of the Transportation Cabinet, Department of Highways.

BRIEF DESCRIPTION OF WORK TO BE DONE: (If private entrance, show sketch with pipe location. Separate attached drawings required for encroachments other than private entrances.)

Installation of 12" PVC water main in right-of-way of KY 44 and KY 1526 with 2 boxes under KY 44. Plans have been previously submitted by Louisville Water Co.

IMPORTANT PLEASE READ: Applicant does does not intend to apply for encroachment

When the work is completed in accordance with the terms of this encroachment permit, your indemnity will be released. However, the permit is effective until revoked by the Transportation Cabinet and the terms of the permit accompanying permit documents and drawings remain in effect as long as the encroachment exists. **FUTURE MAINTENANCE OF THE ENCROACHMENT IS THE RESPONSIBILITY OF THE PERMITTEE.** It is important that you understand the requirements of this encroachment permit application and accompanying documents. If you have not done so, it is suggested that you review these documents and place the permit package in a safe place for future reference.

A copy of this permit and all documents shall be given to your contractor and shall be readily available at the work site for the encroachment permit inspector to review at all times. Failure to meet this requirement may result in cancellation of this permit.

IN THE EVENT THIS APPLICATION IS APPROVED, THIS DOCUMENT SHALL CONSTITUTE A PERMIT FOR THE APPLICANT TO USE THE RIGHT-OF-WAY, BUT ONLY IN THE MANNER AUTHORIZED BY THIS DOCUMENT AND REGULATIONS OF THE DEPARTMENT AND THE DRAWINGS, PLANS, ATTACHMENTS, AND OTHER PERTINENT DATA ATTACHED HERETO AND MADE A PART HEREOF.

COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF TRAFFIC

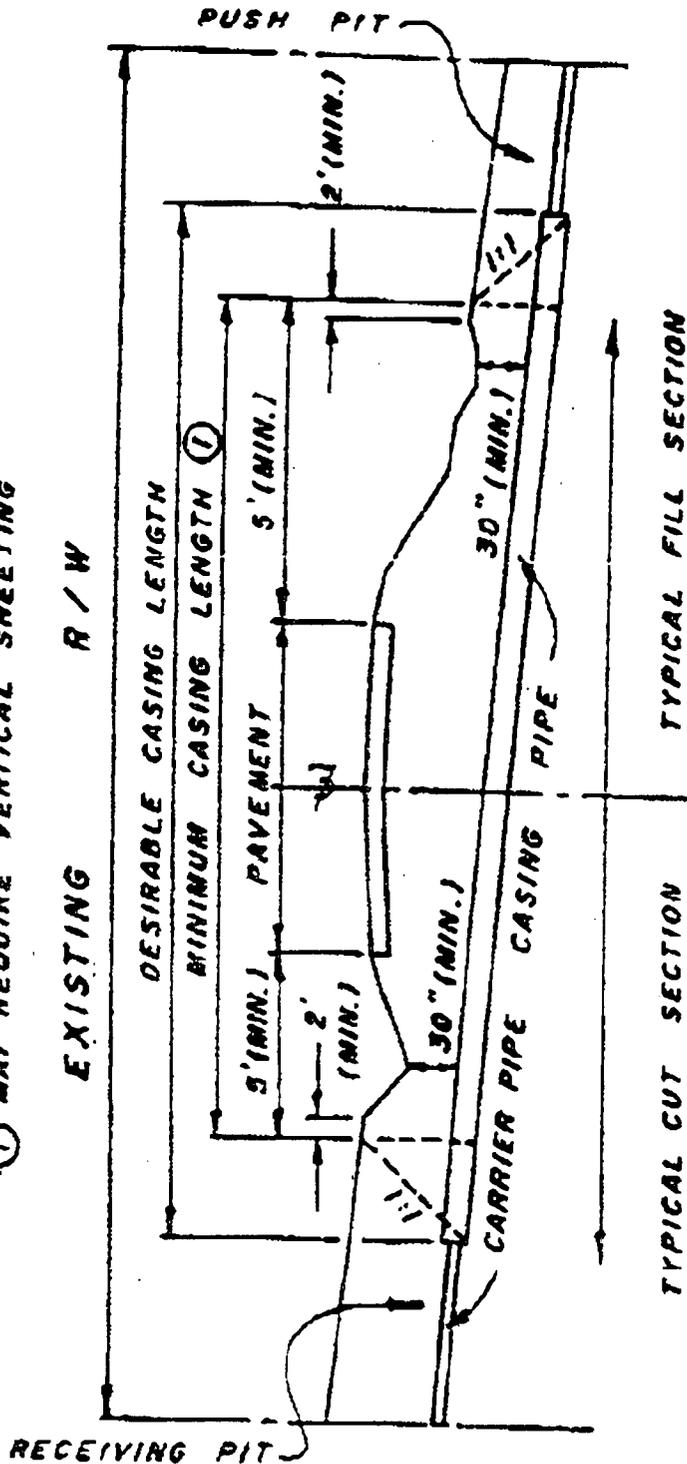
TC 99-10
REV. 11/98
REV 1/99

TYPICAL HIGHWAY BORING CROSSING DETAIL
PROPOSED UNDERGROUND CROSSING FOR EXISTING ROADWAY

PERMIT NO. KY 64 KY1526
Route No. KY 64 & KY1526
Pavement Width 24'

① MAY REQUIRE VERTICAL SHEETING

EXISTING R / W



1. Push Pit and Receiving Pit to be backfilled and thoroughly compacted.
2. All Ditch Lines to be left open.
3. Seed and straw all areas disturbed by this work.
4. The Boring Pit and Tail Ditch shall not extend past the existing toe of slope or bottom of ditch line (from the right-of-way).
5. Services over 2" to be encased or exempt under Chapter 2 of the Permits Guidance Manual.
6. Control of Access Projects, Encasement pipe shall extend from right of way to right of way and shall be one continuous run of pipe.

INSTALL WATER MAIN ALONG KY-44 FROM JEFF/BLUMIT C. LINE TO KNOB CREEK RD.

FWD:

RMT NO.

5-0683-99

KENTUCKY TRANSPORTATION CABINET
Department of Highways
Permits Branch

m.p.0.0

TC 99-21
Rev. 7/86
Page 1 of 4

ENCROACHMENT PERMIT GENERAL NOTES & SPECIFICATIONS

SAFETY

General Requirements

- All signs and control of traffic shall be in accordance with the Manual on Uniform Traffic Control Devices for Streets and Highways, latest edition, Part VI, and safety requirements shall comply with the Permits Manual.
All work necessary in shoulder or ditchline areas of a state highway is to be scheduled to be promptly completed so that hazards adjacent to the traveled-way are kept to an absolute minimum.
No more than one (1) traveled-lane is to be blocked or obstructed during normal working hours. All signs and flagmen during lane closure shall conform to the Manual on Uniform Traffic Control Devices.
When it is necessary to block one (1) traveled-lane of a state highway, the normal working hours shall be as directed by the Department. No lanes are to be blocked or obstructed during adverse weather conditions (i.e., rain, snow, fog, etc.) with specific permission from the Department. Working hours shall be between and
The traveled-way and shoulders shall be kept clear of mud and other construction debris at all times during construction of the permitted facility.
No nonconstruction equipment or vehicles or office trailers will be allowed on the right-of-way during working hours.
The right-of-way shall be left free and clear of equipment, material, and vehicles during non-working hours.

Explosives

- No explosive devices or explosive material shall be used within state right-of-way without proper license and approval of Kentucky Department of Mines and Minerals, Explosive Division.

Other Safety Requirements

- No pavement cuts--traveled lanes shall not be blocked or obstructed at any time.

UTILITY

- All work necessary within the right-of-way shall be behind a temporary fence erected prior to a boring operation.
The temporary woven wire fence shall be removed immediately upon completion of work on the right-of-way and control of access immediately restored to original condition, in accordance with applicable Kentucky Department of Highways Standard Drawings.
All vents, valves, manholes, etc. are to be located outside the right-of-way.
Encasement pipe shall extend from right-of-way line to right-of-way line and shall be one continuous run of pipe. The encasement pipe shall be welded at all joints.
The boring pit and tail ditch shall extend past the existing toe of slope or bottom of ditch line and shall be a minimum of 30" deep.
Encasement pipe shall conform to current standards for highway crossings in accordance with the Permits Manual.
Parallel lines shall be constructed between back slope of ditch line and right-of-way line and shall have a minimum of 30" cover above top of pipe or conduit. (30" preferred)
All pavement cuts shall be restored per Kentucky Transportation Cabinet Form No. TC 99-19.
Aerial crossing of this utility line shall have a minimum clearance of feet from the high point of the roadway to the low point of the line (calculated at the coefficient for expansion of 120 degrees Fahrenheit).
The 30' clear zone requirement will be met to the extent possible in accordance with Chapter 99-02.0313 of the Permits Manual.
Special Requirements:

Retrieve pipes, connections & grade in a backfill. Seed & straw road
Restore entire pit length to prior condition & flatten

ATTACHMENT 'A'
ADDITIONAL NOTES TO APPLY TO APPLICATION

BELLITT County
Proposed WATER LINE
Application No. 5-0683-99

1. No open cut of pavement allowed. Road crossings to be by the bore method.
2. If the shoulder of the roadway pavement is damaged due to the work, the pavement base is to be repaired using TC 99-13, "Surface Restoration Methods". The thickness dimensions shown on TC 99-13 should be considered as minimums, with the minimum thickness of concrete to be 8"-12"+/-. The minimum asphalt thickness to be a 2"+/- minimum. The minimum width of the base repair to be 2 feet wide by 5 feet long. The longitudinal edge of a base repair adjacent to existing pavement is to be sawcut. The entire lane width is to overlaid a minimum of 50 foot in length.
3. Disturbed shoulders and ditch lines are to drain, and to be restored to their original condition or better. At the direction of the Department, clean excess waste material should be placed to re-establish shoulders in areas where shoulders have been damaged or do not presently exist. Questionable or pre-existing problem areas should be brought to the attention of the Department before work proceeds. The goal of a minimum of a 2 foot shoulder with 4:1 side slopes, where practical, and ditch lines which are graded to drain are the goal of the restoration.
4. The applicant shall comply with the applicable provisions of KRS Chapters 220 and 224 of the State Water Pollution Control Laws and well as other applicable statutes relating to the prevention of abatement of water pollution. The total amount of disturbed area should be kept to a minimum. Restoration work is to be kept up as close as possible to the trench excavation. Open holes are not be left open adjacent to the paving overnight.
5. All installations in the right of way to meet the Department's minimum cover requirements. A minimum of 12" additional depth of cover shall be required for any cable installed under roadside ditch lines. Cover dimension to be measured from the original ditch line elevation if the ditch line has experience substantial siltation.
6. Appurtenances are to be installed outside of the roadside ditch lines.
7. Channel lining, or other materials acceptable to the Department, are to be used when crossing or installing parallel to a creek or ditch crossing. The depth of the channel lining to be a minimum of one foot above the one hundred year storm depth of flow.
8. Disturbed driveway entrance pipes are to be replaced with an appropriately sized pipe which will meet the Department standards. A 15" diameter minimum entrance pipe size is to be used. Replacement entrance pipe will be long enough to provide for at least a 2' shoulder and 4:1 fill slopes. There shall be no drop-offs immediately adjacent to any paving.
9. As determined by the Department, trees damaged by this construction are to be removed in their entirety. Prior to the completion of the project, contact the Department Agronomist, Cary Cassell, at 502-367-8411, for an inspection to determine if trees are to remain or be removed.
10. No installations over existing crossdrains or box culverts regardless of depth unless specifically approved by the Department in writing. All installations should be installed under or around the end of pipes or culverts.

The permittee agrees to the following terms and conditions:

1. The permittee shall comply with and is bound by the requirements of the Department's Permits Manual as revised to and in effect on the date of the issuance of this permit which is made a part hereof by reference.
2. The permittee agrees that if the Department determines that watermeter capacity deficiency or over capacity condition exists as a result of the installation and use of this facility, the permittee shall adjust, relocate, or reconfigure the facilities and/or provide and bear the expense for signs, storage bins, or other corrective measures reasonably deemed necessary by the Department and as set forth in the Department's Permit Manual with a reasonable length of time after receipt of written notice regarding such adjustments, relocations, additions, modifications, and/or corrective measures, such time to be specified in the notice. In cases where traffic signals are permitted or required, as determined by the Department, the costs for signal equipment and installation shall be borne by the permittee and/or the Department in accordance with Department policy then in force as set forth in the Traffic Manual. Any modifications to the permittee's evidence necessary to accommodate signalization (including necessary easements) on private property shall be the responsibility of the permittee, at no expense to the Department. (This applies only to Entrance Permits.)
3. The said encroachment will not infringe on the franchise rights of an abutting owner without written consent of the said owner as hereinafter: 1. (not) consent to the granting of attached permit. (This does not apply to utilities which serve the general public.)
4. Any permit granted hereunder shall be with the full understanding that it shall not interfere with any similar rights or permits heretofore granted to any other party except as otherwise provided by law.
5. A plan prepared by _____ and dated _____ is attached hereto and made a part hereof, which describes the facilities to be constructed by the permittee for which facilities this permit is granted. The permittee agrees as a condition to the issuance of the permit to construct and maintain such facilities in accordance with said plan, and the permittee shall not use the facilities authorized herein in any manner contrary to that prescribed by this permit and plan. Normal usage and routine maintenance only are authorized under this permit.
6. Permittee shall comply with the Manual on Uniform Traffic Control Devices as revised to and in effect on the date of the issuance of this permit which is made a part hereof by reference.
7. Permittee shall at all times from date when work is first commenced and until such time as all facilities are removed from the right-of-way permit, guard, protect, and save harmless the Department from all liability, claims, and demands arising out of work undertaken by the permittee pursuant to this permit, due to any negligent act or omission by the permittee, its servants, agents, employees, or contractors. This provision shall not inure to the benefit of any third party or operate to enlarge any liability of the Department beyond that existing at common law if this right to indemnify did not exist.
8. Upon a violation of any of the provisions of this permit, the Department may revoke the permit by giving notice to the permittee in writing to remove from the right-of-way any facilities placed thereon within a reasonable time as set forth in the notice, and in the event said facilities are not so removed, and the costs thereof shall be charged to the permittee.
9. The permittee, its successors and assigns shall use the encroachment premises in compliance with all Federal requirements imposed pursuant to the provisions of the Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2006-1) and regulations of the U.S. Department of Transportation as set forth in Title 49 C.F.R., Part 21, and as said regulations may be amended.
10. Permittee agrees that in the event it should become necessary, as may be reasonably determined by the Department, for the facilities covered by this permit to be removed or relocated in connection with the reconstruction, relocation, or improvement of the existing highway, the Department may revoke this permit and require removal or relocation by the permittee at the own expense succeeding and pursuant to the procedure provided in Paragraph 8 above except in those cases where the Department is required by law to pay any or all the same.
11. The permittee understands and agrees that this permit is granted to the permittee and shall not inure to his successors and assigns without the written approval of the Department that he is bound by the provisions of this permit as long as the encroachment exists unless a written release has been obtained from the Department. (Does not apply to utilities serving the general public.)
12. If the work authorized by this permit is on a project in the construction phase, it shall be the responsibility of the permittee to make personal contact with Resident Engineer on the project to coordinate the permitted work with the State's prime contractor on the project.
13. This permit does not abrogate any requirements of any other government agency.
14. Permittee agrees to keep the primary route in which this permit was issued clear of dirt, mud, and debris during construction and for the life of this permit.

THE UNDERSIGNED APPLICANT (being duly authorized representative/owner) DOES AGREE TO ALL TERMS AND CONDITIONS SET FORTH HEREIN.

January 1st
 July 1st, 2000
 Completion Date

June 22, 1999
 Date

James E. Emby, P.E. - District Engineer
 Signature

RECOMMENDED FOR APPROVAL

Tracy Ely Tech, III
 Title


 Signature

Chief District Engineer

JUN 24 1999
 Date

PRIVATE ENTRANCE TO BE COMPLETED BY PERSONNEL INSTALLING FACILITY.

Initialed by: _____ Title: _____

Signature: _____ Date: _____

LC 89-1 Rev 7/95



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

June 16, 1999

F. Raymond Abell
District Manager
Kentucky Turnpike Water District
Division I
3396 Burkland Boulevard
Shepherdsville, KY. 40165

Honorable Jason P. Thomas
Attorney at Law
Stites & Harbison
400 West Market Street, Suite 1800
Louisville, KY. 40202 3352

RE: Case No. 99-237
KENTUCKY TURNPIKE WATER DISTRICT DIVISION I
(Construct) EXTEND WATER LINES

This letter is to acknowledge receipt of initial application in the above case. The application was date-stamped received June 14, 1999 and has been assigned Case No. 99-237. In all future correspondence or filings in connection with this case, please reference the above case number.

If you need further assistance, please contact my staff at 502/564-3940.

Sincerely,

Stephanie Bell

Stephanie Bell
Secretary of the Commission

SB/jc



COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT KY 40601

June 14, 1999

Kentucky Turnpike Water District #1
c/o Louisville Water Company
550 South Third Street
Louisville, Kentucky 40202

RE: DW #0150355-99-005
Water Line Extension
Nichols Elementary School
Bullitt County, Kentucky

Dear Sirs:

We have reviewed the plans and specifications for the above-referenced project. The plans include 18,550 feet of 12-inch PVC water line. This is to advise that plans and specifications covering the above referenced subject are APPROVED with respect to sanitary features of design as of this date with the following stipulations:

1. If PVC piping is used, it must be NSF approved and manufactured in accordance with ASTM standards.
2. All dead end lines must be provided with a properly sized blow-off assembly, flush hydrant or fire hydrant (minimum 2 1/2 inch diameter outlet) for flushing purposes.
3. Water mains shall be laid at least 10 feet horizontally from any existing or proposed sewer. A sewer is defined as any conduit conveying fluids other than potable water. The distance shall be measured edge to edge. In cases where it is not practical to maintain a 10 foot separation, this office may allow deviation on a case-by-case basis, if supported by data from the design engineer. Such deviation may allow installation of the water main closer to a sewer, provided that the water main is laid in a separate trench or on an undisturbed shelf located on one side of the sewer at such an elevation that the bottom of the water main is at least 18 inches above the top of the sewer. This deviation will not be allowed for force mains.


**EDUCATION
PAYS**



Water mains crossing sewers shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. At crossings, one full length of the water pipe shall be located so both joints will be as far from the sewer as possible. Special structural support for the water and sewer pipes may be required.

4. Upon completion of construction, disinfection shall be strictly in accordance with the procedure designated in the State Regulations, which reads as follows:

"A water distribution system, including storage distribution tanks, repaired portions of existing systems, or all extensions to existing systems, shall be thoroughly disinfected before being placed into service. A water distribution system shall disinfect with chlorine or chlorine compounds, in amounts as to produce a concentration of at least fifty (50) ppm and a residual of at least twenty-five (25) ppm at the end of 24-hours (24) and the disinfection shall be followed by a thorough flushing."

New or repaired water distribution lines shall not be placed into service until bacteriological samples taken at the points specified in 401 KAR 8:150 Section 4 (2) are examined and are shown to be negative following disinfection.

5. A minimum pressure of 30 psi must be available on the discharge side of all meters.
6. Water lines within a 200 foot radius of oil or gasoline lines, underground storage tanks, petroleum storage tanks or pumping stations shall be constructed of ductile iron pipe. Pipe joint materials which are resistant to permeation of the petroleum products shall be used within the 200 foot radius.

Nichols Elementary School
June 14, 1999
Page three

7. At high points in water mains where air can accumulate provisions shall be made to remove the air by means of hydrants or air relief valves. Automatic air relief valves shall not be used in situations where flooding of the manhole or chamber may occur.

8. When this project is completed, the owner shall submit a written certification to the Division of Water that the above referenced water supply facilities have been constructed and tested in accordance with the approved plans and specifications and the above stipulations. Such certification shall be signed by a registered professional engineer.

If this water line project will cross a stream or wetland, the attached Water Quality Certification will apply. Please read this certification and make this a part of any contract to install the water lines. If you have any questions please contact John Dovak of the Water Quality Branch at 502/564-2225, extension 485.

Since the requirements of Administrative Regulations 401 KAR 4:050, Section 2 are met with regard to subfluvial pipe crossings, a floodplain construction permit will not be required pursuant to KRS 151.250 for this aspect of the project. Please note the reference to subfluvial pipe line crossings in the enclosed copy of the regulations.

This approval has been issued under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this approval does not relieve the applicant from the responsibility of obtaining any other approvals, permits or licenses required by this Cabinet and other state, federal and local agencies.

Nichols Elementary School
June 14, 1999
Page four

Unless construction of this project is begun within one year from the date of approval, the approval shall expire. If you have any questions concerning this project, please contact Solitha Dharman at 502/564-2225, extension 572.

Sincerely,



Vicki L. Ray, Branch Manager
Drinking Water Branch
Division of Water

VLR:SWD:lm

Enclosures

C: Sherry Quinn, Louisville Water Company
Bullitt County Health Department
Louisville Regional Office
Water Quality Branch
Water Resources Branch
Drinking Water Files

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
Department for Environmental Protection
Division of Water

401 KAR 4:050. Construction exemptions.

RELATES TO: KRS 151.110, 151.250, 151.310

STATUTORY AUTHORITY: KRS 151.230, 151.250

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

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

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

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

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

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

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

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



COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT KY 40601

General Certification--Nationwide Permit #12--Utility Line Backfill and Bedding

This General Certification is issued in conformity with the requirements of Section 401 of the Clean Water Act of 1977, as amended (33USC 1314), as well as Kentucky Statute KRS 224.16-070.

The Commonwealth of Kentucky hereby certifies under Section 401 of the Clean Water Act (CWA) that it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 5, established pursuant to Sections 301, 302, 304, 306 and 307 of the CWA, will not be violated for the activity covered under 33 CFR Part 330 Appendix A(B) (12), namely utility line backfill and bedding provided that the following conditions are met:

- 1) Utility line construction projects through jurisdictional wetlands shall not result in conversion of the area to non-wetland status.
- 2) For the purpose of this General Certification, streams are defined as a solid or dashed blue line on the most recent version of USGS 1:24,000 topographic map. For impacts to streams from utility line construction the following conditions must be met:
 - A) Utility line installation in waters of the Commonwealth shall be minimized to the greatest possible extent.
 - B) All excavations within a stream, necessary to complete a utility line construction project, shall be done in such a manner as to prevent degradation of Waters of the Commonwealth. Spoil material from utility line excavations shall not be allowed to enter the flowing portion of the stream.
 - C) Removal of riparian vegetation in the utility line right-of-way shall be limited to that necessary for equipment access.
 - D) Effective erosion and sedimentation control measures must be employed at all times during the project to prevent degradation of waters of the Commonwealth.
 - E) Site regrading and reseeding will be accomplished within 14 days after disturbance.



3) This General Certification shall not apply to those waters of the Commonwealth identified as national or state outstanding resource waters or those waterbodies whose quality exceeds that necessary to support propagation of fish, shellfish, wildlife and recreation in and on the water. An individual Water Quality Certification will be required for projects in these waters.

Non-compliance with the conditions of this general certification or violation of Kentucky state water quality standards may result in civil penalties.

This general certification will expire on February 10, 2002, or sooner if the COE makes significant changes to this nationwide permit.

FILED

JUL 27 1999

**PUBLIC SERVICE
COMMISSION**

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED

JUN 14 1999

**PUBLIC SERVICE
COMMISSION**

In the Matter of:

APPLICATION OF KENTUCKY TURNPIKE)
WATER DISTRICT (DIVISION I) FOR A)
CERTIFICATE OF PUBLIC CONVENIENCE)
AND NECESSITY)

CASE NO. 99-237

Comes the Applicant, Kentucky Turnpike Water District, Division I ("Kentucky Turnpike" or "the District"), by and through counsel, and respectfully requests the Commission to issue a Certificate of Public Convenience and Necessity pursuant to 807 KAR 5:001, Section 9(2). In support of this Application, the District states as follows:

1. The District is a public utility organized under Chapter 78 of the Kentucky Revised Statutes and regulated by the Kentucky Public Service Commission pursuant to Chapter 278 of the Kentucky Revised Statutes. The District is engaged in the construction, operation, and maintenance of a water distribution system providing water and water services for domestic, commercial and industrial customers in Bullitt County, Kentucky.

2. The address of the District is 3396 Burkeland Boulevard, Shepherdsville, Kentucky 40165.

3. Because the District is a governmental entity, it does not have Articles of Incorporation.

4. Public convenience and necessity requires the construction of the proposed waterline extension because it will permit the District to provide service initially to approximately 62 new customers including Nichols Elementary School. None of these customers currently has water

service, and no facilities exist in the area to provide such water service.

5. As explained fully below, each new customer (except Nichols Elementary School) must agree to pay \$4,000 before receiving service.

6. The District has applied for permits from: (1) the Department of Housing, Buildings and Construction, Division of Plumbing; and (2) the Natural Resources and Environmental Protection Cabinet, Department for Environmental Protection, Division of Water. The permits are pending. Upon their issuance, the District will file them with the Public Service Commission.

7. The District proposes to construct approximately four miles of 12-inch PVC water main within its Division I service area. The new water main will connect with a 16-inch water main that Louisville Water Company owns. The new water main will follow Kentucky Highway 44 for approximately 3.5 miles and Kentucky Highway 1526 for approximately one-half mile as more fully depicted on the maps attached as Exhibit 1.

8. The District's estimated cost of operation of the proposed facilities is \$0. While the District will own the facilities, they will be operated and maintained by the Louisville Water Company under the lease agreement currently in place for all of Division I. Under the lease agreement, Louisville Water Company operates and maintains the facilities and bills and collects from each customer. Louisville Water Company pays the District a flat fee for each customer served.

9. The District's proposed extension will not compete with any other public utility.

10. Three maps showing the location of the proposed new extension are filed with this Application and are incorporated herein by reference as Exhibit 1.

11. The estimated cost of the extension is \$1,000,000. The District proposes to finance

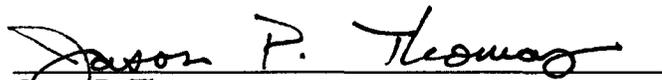
the main extension with a grant of \$500,000 from the Kentucky State Treasury, a \$100,000 contribution from the Bullitt County Board of Education, and \$400,000 from customer contributions. The District will not issue any debt instruments to finance the proposed main extension, and the District does not propose an adjustment in its rates as a result of the project.

12. The District proposes to require each customer that directly connects to the extension for 10 years after the extension's completion to contribute \$4,000. When the District recovers \$400,000 from customer contributions and additional customers connect, each customer's contribution will be recalculated to ensure that the new customer contributes equally to the cost of construction. Refunds will be made to those customers that have previously contributed to the cost of the extension to reduce their contribution to the currently-calculated amount for each new customer connection. The District will not assess any contribution from the Bullitt County Board of Education when the Nichols Elementary School is connected to the proposed water main extension.

13. The District will comply with all PSC rules and regulations regarding the imposition of the \$4,000 fee as described in the paragraph 12 of this Application.

14. The District's exclusive water supplier is the Louisville Water Company. The District has been working in coordination with Louisville Water Company on the proposed project. Louisville Water Company has consented to the project and confirmed that it is capable of providing service to the homes and community facilities in the area. (Letter from Sheri L. Quinn attached and incorporated by reference as Exhibit 2).

WHEREFORE, Kentucky Turnpike Water District (Division I) respectfully requests the Public Service Commission of Kentucky to issue an order granting the District a Certificate of Public Convenience and Necessity authorizing the District to extend its water lines as indicated in Exhibit 1.



Jason P. Thomas
STITES & HARBISON
400 West Market Street, Suite 1800
Louisville, Kentucky 40202-3352
Telephone: (502) 587-3400
COUNSEL FOR APPLICANT, KENTUCKY
TURNPIKE WATER DISTRICT



LOUISVILLE WATER COMPANY

550 SOUTH THIRD STREET • LOUISVILLE, KENTUCKY 40202

TEL 502-569-3600 FAX 502-569-0815

June 11, 1999

Mr. Raymond F. Abell
Kentucky Turnpike Water District
3396 Burkland Blvd.
Shepherdsville, KY 40165

Re: 98-794B: Nichols Elementary School Water Main Extension

Dear Mr. Abell:

The Louisville Water Company is aware of the above-referenced project and is able to provide domestic service to the existing homes and community facilities along the proposed water main.

If you have questions, please call me at 569-3600 ext. 2218.

Sincerely,

A handwritten signature in cursive script that reads "Sheri L. Quinn".

Sheri L. Quinn, P.E.
Project Manager

Pc: Greg Heitzman, P.E., Chief Engineer
Jason Thomas, Stites & Harbison
file

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KENTUCKY TURNPIKE WATER DISTRICT
TECHNICAL SPECIFICATIONS
FOR
PIPELINE CONSTRUCTION

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KENTUCKY TURNPIKE WATER DISTRICT
TECHNICAL SPECIFICATIONS
FOR PIPELINE CONSTRUCTION

1. **GENERAL REQUIREMENTS**

1.1 Pre-construction Conference

Following the awarding of this project, a pre-construction conference will be held. Attendance will include representatives from the various utilities, government agencies, LWC and KTWD. It is highly recommended that the foreman assigned to this project be present.

1.2 Time of Completion

Completion time on this project shall be as defined in the **BIDDER'S PROPOSAL** form and in the **ARTICLES OF AGREEMENT**.

Also, when figuring the number of days for which liquidated damages will be assessed, those days following the stated contractual date of completion which are holidays observed by KTWD, and those days which experience rain of one-half inch or greater, will not be counted.

1.3 Work Schedule and Payment Schedule

The Contractor shall furnish to the Project Manager a work schedule to be approved prior to construction. The schedule shall be in agreement with the beginning and completion dates entered in the **BIDDER'S PROPOSAL** form.

Also, the Contractor shall furnish a payment schedule that lists the project cost for: pipe installation, fire hydrant installation, service installation, street restoration, sidewalk restoration, site clean-up, etc. The amount of work accomplished for each item will determine the certified amount of contract, and thus, the monthly payment to the Contractor.

The work schedule and the line item payment schedule will be discussed, finalized, and approved during the pre-construction conference to be held after award of the contract.

1.4 Pre-construction Valve Inspection

Prior to the beginning of construction, the Contractor shall be responsible for locating and inspecting all existing valves associated with the work to be

done. Inspection work to be done on these valves shall be included in the Contractor's base bid, and shall consist of the following:

- A. Locate the valve in the field. Valve boxes that are paved over or buried shall be uncovered and made accessible.
- B. Inspect keytubes and operating nut. Keytubes shall be cleared of debris and the operating nut made accessible.
- C. Valve boxes (round tops) and lids shall be raised to grade where necessary.

1.5 Traffic Control

Wherever the excavation is in paving, the Contractor shall so conduct his operations that at least one lane traffic is kept open at all times. Where the excavation is performed in an intersection, the work shall be completed in one work day, including backfilling and temporary bituminous pavement; temporary paving restoration shall be adequately maintained until permanent pavement is placed.

Traffic control on State streets shall be in accordance with the "State Uniform Traffic Control Manual."

Traffic control on County streets shall be approved by the Bullitt County Road Department.

Specific signing and traffic control is incidental to this project and will be set up at the pre-construction conference with representatives from the appropriate agencies. No extra payment will be made for placement of these traffic controls.

1.6 Project Identification Signs

If required in the SUPPLEMENTARY SPECIFICATIONS, the Contractor will supply and install a metal or wood sign on each end of the project limits. The SUPPLEMENTARY SPECIFICATIONS will identify the type, size and lettering to be placed on the sign.

1.7 Permits and Regulations

1.7.1 Encroachment Permits

Applicable permits shall be obtained by LWC for KTWD from, Corps of Engineers, Bullitt County Road Department, and Kentucky

Department of Highways for installing water mains in public thoroughfares. The Contractor shall coordinate his time schedule for performing this work with the Project Manager in order that the appropriate authority can be notified of the progress of construction.

Special attention is directed to the working hours as specified by any of these traffic control departments in their respective permit.

1.7.2 Soil Erosion and Sediment Control

The Contractor shall abide by and shall arrange for and pay for any and all permits involving the Kentucky Division of Water regulations pertaining to erosion and sediment control requirements. The Contractor shall comply with the applicable provisions of KRS Chapters 220 and 224 of the State Water Pollution Control Laws and other applicable statutes relating to the prevention and/or abatement of water pollution. Projects involving disturbed areas of more than five (5) acres shall require of the Contractor to submit a "Notice of Intent" Letter to the Kentucky Division of Water. In any event, regardless of the size of the project, the Contractor shall: exercise every reasonable precaution at all times to prevent water pollution by the erosion and disposition of sediment in streams, lakes, and reservoirs; conduct and schedule operations so as to avoid or minimize the muddying or siltation of areas adjacent to the construction site including streets, storm sewers, vacant lots, etc.; and not leave partially completed areas of work in a manner that will contribute to erosion during the period in which work is suspended.

For each stream crossing (a "stream" being defined as a so-called blue-line stream, either solid or broken, as shown on the United States Geological Survey (USGS) quadrangle map), the Contractor shall apply for a construction permit, or for an exemption thereto, from the Kentucky Division of Water. In any event, Contractor shall: utilize adequate and environmentally-responsible construction practices, placing silt control prior to the start of construction and maintaining it until vegetation has been established; revegetate all disturbed areas upon completion of construction; and maintain at least 3 1/2 feet of cover over the top of pipe with respect to the stream bed elevation.

1.7.3 Regulation of Confined Spaces

With respect the entry of and/or working within confined spaces, the Contractor shall abide by the KOSHA Standards referenced by 803 KAR 2:300 thru 2:320 for General Industry and 803 KAR 2:240 thru 2:423 for Construction Standards, plus any and all additional

related regulations required by the Commonwealth of Kentucky. For questions or concerns relating to this matter, the Contractor shall contact the KOSHA Standards Interpretation (phone: (502) 564-2778).

1.8 Contract Drawings and Specifications

1.8.1 General

The work shall be done in accordance with these specifications and the project drawings. Project drawings and specifications are intended to be cooperative. Where work is called for in one and not in the other, it shall be furnished as though in both.

Statements contained in these TECHNICAL SPECIFICATIONS that conflict with statements contained in other KTWD-produced documents (such as the ADVERTISEMENT FOR BID, INSTRUCTIONS TO BIDDERS, BIDDER'S PROPOSAL form, ARTICLES OF AGREEMENT, SUPPLEMENTARY SPECIFICATIONS, and PROJECT DRAWINGS) for a particular project shall be superseded by those statements contained in the other KTWD-produced documents.

1.8.2 Combined Specification

This specification discusses the installation of ductile iron pipe, polyvinyl chloride pipe, and gray and ductile iron appurtenances. The type of pipe to be installed, ductile iron or polyvinyl chloride, is specified in the SUPPLEMENTARY SPECIFICATIONS. The sections "PIPELINE MATERIALS", "INSTALLATION", and "SERVICE WORK" reference pipe of either type. Whenever pipe of one type is referenced, the specification pertains to this type only. When the type of pipe is not distinguished, the specification pertains to both.

1.8.3 Modifications

In case of modification, alterations, or changes of any kind in the drawings and specifications, the order for such changes shall come only through the Project Manager, and when such changes affect the cost of the work, they shall be made in writing and executed only when such order is given. The Contractor shall keep itself fully informed as to special requirements, and in the absence of drawings

or written instructions, it shall obtain from the Project Manager such drawings or written instructions before proceeding with any work that affects or is affected by such requirements.

1.8.4 Shop Drawings

When shop drawings are submitted to the Project Manager for approval, it is understood that such approval is to be of design of general layout only, and does not relieve the Contractor of this responsibility for proper fit or for complying with the contract plans and specifications unless specifically so stated.

1.9 Daily Materials Installed Form

The Contractor shall maintain the Daily Materials Installed forms supplied by the Project Inspector as a record of the pipe, fittings, and valves installed each day, and shall provide same to the Project Inspector daily. Pipeline materials shall be listed on the form in the same sequence as installed.

1.10 Incidentals Absorbed

All the work and material covered by these specifications and the project drawings; any work or material that may be reasonable from the information given on the drawings or in the specifications, or that is necessary to complete the work it the obvious intent; and any tools, appliances, or structures that may be constructed by the Contractor for carrying out the work, shall be furnished by the Contractor and the cost of all such material and work shall be included in, and absorbed by, the price(s) and amount(s) mentioned in the Contractor's base bid.

2. CONDUCT OF WORK

2.1 General

The Contractor shall notify the Project Manager or his authorized representative 24 hours prior to starting any work on the project. The Contractor shall notify the Project Manager, at least two working days in advance, of any and all non-routine scheduling of work and/or of temporary work suspensions (such work after normal working hours, work on weekends, no work for a few days, etc.).

The Contractor shall carry on the work at all times with the greatest reasonable rapidity, as directed by the Project Manager and/or his/her authorized representative, who shall have at all times access to the work which shall be directly under their control. The Contractor shall provide

safe, sufficient, and proper facilities at all times for the inspection of the work by the Project Manager and/or his/her authorized representative.

Unless otherwise directed, the Contractor shall complete each block of water main installation or, in the absence of intersecting streets, every 400 feet of water main installation before proceeding. This includes chlorination, pressure testing, service work, and permanent restoration of all areas effected by the construction.

Except in cases of emergency, the Contractor shall not operate any valve without the direct supervision of the Project Manager or Project Inspector. In an emergency, the KTWD Project Inspector and KTWD shall be immediately notified by the Contractor.

The Contractor shall use such methods and equipment in the performance of the work as, in the opinion of the Project Manager, will secure a satisfactory quality of work. The work throughout shall be constructed in a substantially skillful manner.

The Contractor agrees to employ only competent workers on the project. Any worker incompetent or disorderly shall, upon the order of KTWD, be removed and not re-employed on the project except with consent of KTWD.

The Contractor agrees that it will sustain all losses or damages arising from the action of the elements or the nature of the work to be done under these specifications.

The Contractor's responsibility for the work shall commence when the construction work is started, and shall not end until final acceptance is given by KTWD. The Contractor shall assume all responsibility for injury or damage from any cause whatsoever, and shall rebuild, repair, restore, and make good at his/her expense, all injuries or damage to facilities and properties. Nothing contained herein shall alter or relieve the Contractor of the responsibility to complete the project as specified or to correct or replace any defective work or materials.

2.2 Safety

It is required that all job sites be in compliance with all applicable safety standards and regulations set forth by the Kentucky Labor Cabinet pursuant to KRS Chapter 338 and other applicable statutes, as well as with the applicable safety standards and regulations set forth by the United States Government and its agencies.

The Contractor shall place and maintain such barriers and caution lights as will comply with all laws, statutes, ordinances, acts, and regulations of the City, County, and State in which the work is to be performed, and shall secure all permits and pay all fees for permits and inspections required thereby to effectively prevent any accidents in consequence of its work, storage of materials, or appurtenant operations. The Contractor shall be liable for all damages occasioned in any way by its act or neglect or that of its agents, employees, or workers. It shall hold KTWD and LWC harmless from any liability for damages, from injury of its employees or others during the progress of the work.

2.3 Cleanliness

The Contractor shall from time to time remove all dirt and rubbish resulting from its operations, and shall keep the premises neat and tidy. When its work is complete, it shall at once remove from the premises all tools and machinery belonging to it and all rubbish in connection with the work and render the premises clean and free from all obstructions, delivering the work at completion whole, clean, tight, and ready for use, with the grounds in a neat and presentable condition.

2.4 Defective Work

Defective work or material may be condemned by the Project Manager at any time before the final acceptance of the work. Condemned work shall be immediately taken down by the Contractor and rebuilt in the proper manner. Condemned materials shall be immediately removed. Failure or neglect on the part of KTWD or LWC to condemn bad or inferior work or materials shall not be construed as an acceptance of same.

2.5 Cooperation

The Contractor shall cooperate with KTWD, LWC, Bullitt County, Kentucky Department of Highways, other utilities, and other Contractors to cause as little interference as possible, to avoid inconvenience and delay, and to facilitate prompt completion of the work. The Contractor shall make special arrangements with the Project Inspector and LWC for valving off mains in the case of each connection or change in existing mains, and will conduct the work to cause the shortest possible interruption of service.

3. SITE

3.1 Examination

The Contractor to whom the contract is awarded is expected to have visited the site, to have fully informed itself as to existing conditions and limitations, including nature of the soil and depth of rock, to have made all necessary investigations, and be thoroughly familiar with difficulties involved in the completion of all work under the contract requirements. The Contractor shall examine the specifications and the construction drawings, and shall exercise its own judgment as to the nature and amount of work to be done. Failure or omission on the part of the Contractor to make the necessary examinations and investigations shall not be accepted as an excuse for failure or omission on its part to fulfill, in every detail, all of the requirements of the contract. The pipelines shall be installed throughout the public rights-of-way or in easements as indicated on the drawings. Generally, all work must be confined to the public way or easement provided; however, the Contractor may make arrangements for more operating room at its own expense and responsibility, with no involvement of KTWD or LWC. Otherwise, the Contractor shall conduct its operations in a manner that will not interfere with adjacent property owners.

3.2 Utilities

3.2.1 General

The Project Manager has endeavored to locate sub-surface obstructions from available records, and such structures are shown on the plans. KTWD and LWC cannot vouch for the accuracy of the information there shown, although it has undertaken to present available data. The plans do not show the size or location of services. Wherever the Contractor deems it necessary to determine the exact location of existing pipe, valve, or other underground structures, the Contractor may make any examinations that it may determine desirable in advance of the work and no added compensation will be paid. Only in the event that the Project Manager by written order directs the Contractor to make additional exploration and excavation will extra compensation be allowed.

The Contractor's attention is directed to the Utility Protection Center (1-800-752-6007), which has been established to provide accurate locations of below-ground utilities. The Contractor shall notify the Utility Protection Center 48 hours in advance of any construction on this project.

3.2.2 Utilities Crossing the Pipeline

In excavating trenches and laying pipe, where any existing utilities including water pipe, sewer pipes, inlets and drains, gas pipes, electric conduits, telephone conduits, service connections from these utilities, trolley tracks used for cathodic protection, traffic signal loop detector system or street light system, cross the trench, they shall be protected, supported, and maintained in service and restored to the condition in which they were found, all at no additional cost to KTWD. Where because of location or grade, such utilities cannot be replaced to occupy their original location, they shall be changed at no additional cost to KTWD and as directed by the Project Manager to accomplish their original purpose with adequate provision for drainage over or under the pipe as circumstances require. Where any utility facility, including service connections, is touched or endangered by the work, the utility management shall be notified by the Contractor, and the Contractor shall cooperate with the utility and pay the cost of protection and repair if damaged.

3.2.3 Utilities Parallel to the Pipeline

Where utilities are existing parallel to the water main and at a locating which will interfere with its installation, they shall be handled as follows:

Gas, sewers, telephone, or electric facilities shall be gently uncovered, and personnel from the pertinent utility shall remove its facility after accomplishing a temporary hook-up to prevent loss of service. After the water main has been placed, the utility line will be re-installed near its original location and grade by the utility personnel, and the Contractor will complete the necessary backfill.

The affected utility must be notified at least five days in advance of the time necessary to do the work. The cost of temporary hook-up and any charges from the utility will be paid by KTWD.

3.2.4 Water/Sewer Main Separation

Water mains shall be installed at a minimum of ten (10) feet horizontally from any existing or proposed sewer main or sewer manhole; measured from the outside diameters. ("Sewer" is defined as sanitary, storm, and/or combined.) When crossing over or under a sewer main, the water main shall maintain 1.5 feet vertical separation. When the 1.5 feet vertical separation cannot be

maintained, the water main must be encased for a distance not less than five (5) feet on either side of the point of crossing. Only in the event that the Project Manager directs the Contractor by written order may changes be made to these minimum separations.

3.2.5 Water Service Line Depth and Water Service/Sewer Separation

Water service lines shall be installed at the minimum depth of 30 inches. Service lines crossing over or under a sewer shall maintain a minimum separation of 6" if the water service line is above the sewer and 18" if the water service line is below the sewer.

3.3 Laying Out the Work

The exact location of the work will be fixed by lines and elevations furnished by the Project Manager with the assistance of the Contractor. The Contractor shall layout its own work, lines, measurements, bench marks, levels and grades, subject to the checking and directions of the Project Manager.

3.4 Stakes

The Contractor shall furnish and set all stakes necessary in laying out the location of lines and grades, shall protect all stakes by suitable guard stakes, and shall be responsible for maintenance of all stakes after set.

3.5 Temporary Contractor Facilities

3.5.1 Power

The Contractor shall arrange and pay for all power required for construction purposes.

3.5.2 Heat and Enclosures

The Contractor shall furnish at its own expense, all temporary heat and/or enclosures that may be deemed necessary.

3.5.3 Light

The Contractor shall provide and pay for temporary electric light necessary for the execution of the work. This will include all necessary wiring, fixtures, and electric bulbs. Torches or other sources of light which cause damage by fire or by smoke shall not be used.

3.5.4 Water

The Contractor shall purchase water from LWC for use in construction operations. Water used by the Contractor, LWC or KTWD for disinfection, flushing, pressure testing, and leakage testing will be supplied by LWC. The Contractor shall include the cost of Temporary Water Service, and cost of water purchased, in the base bid.

Temporary Service will be made available only on special permit upon application to LWC. Where practical, such temporary a service will be attached to existing service lines or fire hydrant.

3.5.5 Toilets

The Contractor shall provide in the vicinity of the work at locations satisfactory to KTWD, and maintain in a sanitary condition, suitable temporary toilets for the use of the workers. Upon completion of the work, the temporary toilets shall be removed and the premises left in a sanitary condition. The temporary toilets shall be satisfactory to the Bullitt County Board of Health.

4. PIPELINE MATERIALS

4.1 Pipe and Fittings

Pipe to be furnished by LWC for KTWD for this construction will be as specified in the SUPPLEMENTARY SPECIFICATIONS, either polyvinyl chloride pipe or cement-lined ductile iron pipe, each having push-on joints. Fittings will be ductile or gray cast iron with mechanical joints. Any reference to materials "supplied by LWC" or "furnished by LWC" shall mean "supplied or furnished by LWC for KTWD".

4.2 Furnished to the Contractor:

4.2.1 Materials

All polyvinyl chloride or ductile iron pipe, bends or elbows, reducers, adapters, restraining tie rods, restrained-joint hardware, sleeves, rubber gaskets and other joint materials, tee bolts and gaskets for mechanical joint and special fittings, gate valves, butterfly valves, air relief valves of all sizes and descriptions

including corporation cocks, valve boxes, casing pipe, casing spacers, polyethylene wrap, cleaning pigs, and fire hydrants will be furnished by LWC. The Contractor shall requisition and haul, on appropriate vehicles, these materials from the LWC Allmond Avenue Warehouse, 4801 Allmond Avenue, Louisville, KY 40201, to the points of their respective installation. As referenced in the current edition of LWC's "Process for Jobsite Delivery" Document, a copy of which is available from the Project Manager, pipe delivery from the pipe manufacturer to the jobsite is available if the Contractor makes arrangements as stated in said Document.

4.2.2 Requisition and Return of Materials

The Contractor shall requisition and return materials on the forms furnished by LWC, and shall account for or promptly return all materials so requisitioned. Any unused materials shall be returned within five (5) working days after the date of completion of the work as specified by the Project Inspector. The cost of any unused materials not returned to the warehouse by this date shall be billed to the Contractor.

Below is a list of guidelines to draw or return materials from LWC's Allmond Avenue Warehouse:

- A. Call (502) 569-3600, extension 3633 to make an appointment with the Allmond Avenue Warehouse. (Appointments are scheduled for 30 minutes in length.) At this time, fax a copy of the materials list at 375-2624.
- B. Appointments, including standing appointments, will be scheduled on a first-come first-served basis. Appointments are not required for emergency situations; however, a telephone call is required.
- C. Issues and returns would be considered equal in regard to scheduling.
- D. Warehouse office hours are 7:30 a.m. - 4:00 p.m., Monday through Friday (except LWC holidays). Appointments are scheduled from 8:00 a.m. - 2:30 p.m. (However, summertime appointments are scheduled from 7:30 a.m. - 1:30 p.m.)
- E. All returned material must be in the same condition as it was when issued - clean and with all accessories. Returns of

dirty, corroded, and/or rusted material, and/or fittings missing accessories, shall not be accepted.

4.2.3 Loading and Unloading Procedures

Refer to Article 10, "Materials Furnished by Louisville Water Company", of the ARTICLES OF AGREEMENT.

4.2.4 Equipment

For pressure and leakage testing, LWC shall issue a test pump with kit to the Contractor. The Contractor is to: notify the LWC Valve Shop (502) 569-3600, ext. 2766, at the Allmond Avenue Warehouse at least two days in advance of the day of intended use; pick up the test pump/kit between the hours to 7:30 a.m. and 3:30 p.m.; have the test pump/kit for 48 hours at no charge (Saturdays and Sundays are excluded from the allowed time frame); and return the test pump/kit to the Warehouse within 48 hours of pick-up. If outstanding for more than two days, beginning on the third day, a \$50.00/day rental fee will be charged; this fee shall be waived only if the Project Manager notifies the Warehouse Office or the Valve Shop at the Warehouse of special circumstances. The Contractor shall be held responsible for the test pump and all test kit contents, and shall be invoiced for all cleanup and/or repair costs.

LWC does not loan or lease hoses and/or tools, including tapping machines.

4.3 Furnished by the Contractor

All materials and equipment other than those mentioned in Section 4.2.1 above, including materials for concrete, plain or reinforced, small screwed piping in connection with the air relief valves, all sewer pipe, replacement materials for destroyed culverts or other improvements, paving materials, backfilling materials, sheeting and any other materials not herein mentioned but required to complete the work, shall be furnished by the Contractor.

4.4 Breakage/Damage

The Contractor shall reimburse the KTWD for any pipes, fittings, or other materials so furnished that may be damaged, broken, and/or allowed to deteriorate while handled by him/her during the progress of the work or while in his/her possession.

4.5 Securing Loaded Pipe

The Contractor shall be responsible for inspecting and securing all loads in accordance with the current edition of the "Federal Motor Carrier Safety Regulations", a copy of which is on file at the LWC Allmond Avenue Warehouse.

- A. For PVC pipe, only nylon straps shall be used to secure the load.
- B. For iron pipe and steel pipe, chains and/or nylon straps shall be used to secure the load.

4.6 Storage of Polyvinyl Chloride Pipe

When storing polyvinyl chloride pipe, caution should be exercised to avoid compression, damage, or deformation to the pipe, including the bell ends. Insure that the weight of the upper units does not cause deformation to the lower units. When storage with exposure to direct sunlight occurs, polyvinyl chloride pipe shall be covered with a light-colored material such as a tarpaulin, allowing for adequate air circulation above and around the pipe to prevent excessive heat accumulation.

5. EXCAVATION

5.1 Rock Soundings

KTWD and LWC do not know or pretend to know, nor do they undertake to state, the nature of all materials which will be necessary to excavate, in order to construct the work contemplated herein.

The Contractor is advised to make rock soundings or subsurface investigations as he/she may see fit. The Contractor shall assume all risks arising from, or out of, the nature of all forms of materials necessary to be excavated, except as otherwise specified.

5.2 Rock Blasting Requirements

All blasting for excavations shall be conducted by a blaster licensed in the State of Kentucky. Blasting will be permitted only after securing the approval of the Project Manager and only when proper precautions are taken for the protection of persons or property. Any damage caused by blasting, including pavement damaged and/or raised, shall be repaired by the Contractor at his/her expense. The Contractor shall abide by all Federal, State, and Local laws and regulations regarding the storage and use of blasting materials. The hours of blasting will be fixed by the Project

Manager. A blasting log must be kept and a copy furnished to KTWD.

5.3 Rock Excavation

5.3.1 Definition of Rock

Rock, for the purpose of this contract, shall mean boulders, pieces of concrete or masonry exceeding 300 pounds in weight, and solid ledge rock (usually limestone) which, in the opinion of the Project Manager, requires: drilling and blasting; wedging and blasting; wedging, sledging, or barring; or breaking up with a power operated hand tool for its removal.

No soft or disintegrated rock or shale; no loose, shaken, previously blasted rock or shale; no broken stone in fills or elsewhere (which can be removed with a hand pick or power operated excavator or shovel); and no rock or shale exterior to the minimum limits of measurements allowed which may fall into the excavation, will be measured or allowed. No part of the existing pavement system, including concrete or stone subbase, will be considered as rock. Any buried pavement system, other than the existing pavement system, will be considered as rock if it meets the criteria of rock stated above.

5.3.2 Trench Dimensions

Trench rock excavation shall be based on a trench width of nine inches wider than the nominal diameter of the pipe on each side of the trench and a trench depth of six inches below the outside bottom of the pipe.

5.3.3 Payment

The Contractor is directed to include the cost of the estimated quantity of rock excavation, as specified in the SUPPLEMENTARY SPECIFICATIONS, in the base bid as submitted on the BIDDER'S PROPOSAL form. When deviations from this estimated quantity are certified by the Project Manager, the base bid shall be adjusted by the unit price for rock excavation in the BIDDER'S PROPOSAL. Bedding material and backfilling shall be as specified in Section 7 "BACKFILLING PROCEDURES AND TAMPING" and shall be included in the unit price for rock excavation.

In the event rock is excavated by means of an excavator and/or a trench rock excavator, then no unit price adjustment shall be made to the lump sum base bid amount. In the event rock is excavated by means of blasting, then the applicable Supplementary Unit Price entry shall be used to adjust the lump sum bid amount based upon the difference between the actual quantity of rock excavation by means of blasting and the estimated quantity of rock excavation by means of blasting as stated in the SUPPLEMENTARY SPECIFICATIONS; said entry being a maximum of \$60.00. In the event KTWD specifies rock to be excavated by mechanical means, then the applicable Supplementary Unit Price entry shall be used to adjust the lump sum bid amount based upon the difference between the actual quantity of rock excavation by mechanical means and the estimated quantity of rock excavation by mechanical means as stated in the SUPPLEMENTARY SPECIFICATIONS; said entry being a maximum of \$125.00.

5.4 Excavation in Thoroughfare

5.4.1 Procedure

Wherever the excavation is in paving, whether in the city, outside the city, or in parking lots, the Contractor shall so conduct his/her operations that at least one lane of traffic is kept open at all times. Where the excavation is performed in a traveled lane, the trench shall be made safe during non-working hours by installing backfill and temporary bituminous pavement, backfill and concrete subbase, or plates (see "Plating" Section 5.4.3). Where the excavation is performed in an intersection, the work shall be completed in one workday, including backfilling and temporary bituminous pavement. Temporary paving restoration shall be adequately maintained until permanent pavement is placed. Traffic warning signs shall be placed and maintained on the thoroughfares being crossed, in accordance with the applicable agency as described in "Traffic Control" (Section 1.5).

5.4.2 Twelve-Inch Cutback Requirement

The Contractor shall make two pairs of straight paving cuts of uniform width: the first pair being along the edges of the anticipated trench location, to be performed prior to excavating the pipe trench; and the second pair being along the anticipated twelve-inch cutback locations, to be performed upon completion of trench backfill placement up to the subbase bottom elevation and prior to subbase placement.

Sawcuts shall be of sufficient penetration of the pavement base to insure straight edges during pavement removal. Irregular edges shall be sawcut to provide straight edges at a uniform width.

5.4.3 Plating

The Contractor shall provide plates recessed flush with the pavement for any excavation in a traveled lane. See Typical Recessed Plate Detail on the pertinent Pavement Restoration Drawing in the Appendix of Drawings. Any lane that is open to the traffic at any time during the day is defined as a traveled lane. The Contractor shall also provide recessed plates where required by the Project Manager and as described in the SUPPLEMENTARY SPECIFICATIONS. Otherwise, surface mounted plates, properly secured to pavement, shall be provided. Recessed and surface mounted shall have a minimum thickness of one inch, and shall be placed on a minimum bearing area of one foot of pavement bordering the perimeter of the excavation.

Whenever plate pins are used with the plates, the Contractor shall mechanically attach the pins to the plate by a method approved by the Project Manager.

Beginning January 1, 2000, ALL plates, whether or not in a traveled lane, are to have 45-degree beveled edges along the entire perimeter.

If in a State-maintained roadway, ALL plates, whether or not in a traveled lane, are to be recessed from November 1st thru March 31st, so as to minimize the potential hazards to snow removal vehicles.

5.5 Trenching

5.5.1 General

The Contractor shall make all excavations for pipe, blow-off connections, valves and vaults, etc. which may be required for this project. All excavations shall be backfilled or plated overnight.

5.5.2 Alignment and Grade

The trench shall be excavated to the alignment and depth required and only so far in advance of pipe laying as the Project Manager shall permit. All pipe shall be laid and maintained to the lines and grades shown on the plans.

5.5.3 Trench Width

The trench width shall be as shown as narrow as practicable to permit the pipe to be laid and jointed properly and for the backfill to be placed and compacted. Vertical sides are desired where the nature of the excavated material and depth of trench will permit. The maximum clear width of trench shall not be more than 1-1/2 feet greater than the nominal pipe diameter, and this trench width shall be the pay width for any items of work for which compensation is made where trench width is a factor in computing the value of work done.

5.5.4 Trench Depth

The pipe trench shall be excavated to such depth as to provide for six inches (6") of depth under and 36 inches (36") of cover over the outside of the pipe barrel. Unless otherwise specified, the trench shall have a flat bottom conforming to this grade. The trench bottom shall be so excavated at the bells, so that the barrel of the pipe will have a bearing for its full length. Any part of the trench excavated below grade shall be backfilled to grade with the same backfill material used to bed the pipe, pit run sand or Dense Graded Aggregate, or other material approved by KTWD, and compacted to ninety percent of Modified Proctor as required in "BACKFILLING PROCEDURES AND TAMPING" (Section 7). Unstable soil material shall be excavated from the trench, removed from the site, and backfilled and compacted as described above.

Depth of cover beyond that required above shall be provided where indicated on the drawings with no additional compensation. Variations from these required depths will be allowed only on written authority from the Project Manager.

5.5.5 Minimum Clearances

Boulders, large stones, and rock (including shale) shall be removed to provide a clearance of at least six inches below all parts of the pipe, valves, or fittings and to provide a clear width of at least nine inches (9") on each side of all pipe and appurtenances. Bell holes of ample dimension shall be dug to permit jointing to be made properly and to insure that the pipe is evenly supported throughout in length rather than on bells or couplings.

5.5.6 Safety

Wherever necessary, to prevent caving during the excavating of sand, gravel, sandy soil, or other unstable material, the trench shall adequately sheeted, braced, and drained. The trench shall be so maintained in accordance with OSHA regulations so that workers may work thereon safely and efficiently. It is essential that the trench pumps discharge into natural drainage channels or drain toward storm drains. Trench sheeting shall remain in place until the pipe has been laid, tested for defects and repaired, if necessary, and the earth around it compacted to a depth at least level with the top of the pipe.

Any excavated materials approved by the Project Manager to be stockpiled, shall be piled in a manner that will not endanger personnel and pedestrians, and will not obstruct driveways, sidewalks, or thoroughfares. Drainage lines shall not be obstructed.

5.5.7 Contaminated Soil

In the event the Contractor suspects encountering contaminated soil (i.e., soils containing asbestos, PCBs, petroleum products, hazardous waste, radioactive material, and/or any other substance that presents a potential danger to persons or property exposed thereto), the Contractor shall take the following steps:

- immediately stop all work in the vicinity of the contaminated soil, and notify the Project Manager, Project Inspector or KTWD;
- immediately notify "Emergency Response" at 911;
- immediately secure the work site to prevent access by unauthorized personnel;
- notify the Kentucky Department for Environmental Protection at (502) 564-2380 or 1-800-928-2380;
- follow the instructions from the Kentucky Department for Environmental Protection for disposal of the contaminated soil; and
- resume work in the vicinity.

If it is the Contractor's opinion that additional compensation to the

Contract amount and/or extension of time to Contract is due as a result of encountering contaminated soil, the Contractor shall submit a written claim in accordance with the guidelines stated in the ARTICLES OF AGREEMENT.

5.5.8 Preservation of Landscape

In lawn, parks, and private property, the existing sod may, at the Contractor's option, be stripped and rolled to be saved and re-laid, or replaced with new sod of equal quality as existing. (See "RESTORATION" (Section 11)).

If trenching machines are used, care shall be taken to avoid damage to trees or existing structures above or below ground. Trees and shrubs shown on the plans and labeled "PROTECT, DO NOT DAMAGE" are to be protected from any damage both above and below ground, and the property owner is to receive full remuneration for any damage. Trees at other locations shall not be damaged or removed without explicit instructions from the Project Manager and owner or agency responsible therefore. The plans may call from certain shrubs and trees in private right-of-way to be transplanted until operations are completed and replaced in their original location or replaced with new stock.

6. INSTALLATION

6.1 Handling Pipe and Appurtenances

Proper equipment, tools, and facilities satisfactory to the Project Manager shall be provided and used by the Contractor for the safe and convenient prosecution of the work. Slings used in handling the pipe shall be made of non-abrasive materials such as nylon. Chains, single cables, or any sharp abrasive material that may damage the pipe shall not be used. Pipe fittings, valves, and other accessories shall at all times be handled with care to avoid damage. In loading and unloading, they shall be lifted by hoist or by derrick, or rolled on skidways, in such manner as to avoid shock. Under no circumstances shall they be dropped.

When handling polyvinyl chloride pipe, the Contractor shall avoid abrasion damage and gouging or cutting by metal surfaces or rocks, and any stressing of bell joints and damage of bevel ends. Avoid severe impact, particularly in subfreezing temperatures. In subfreezing temperatures, caution is advised in handling to prevent impact damage. NOTE: When handling PVC pipe in cold weather, consideration must be given to variation in the pipe's impact strength. The impact strength of PVC pipe at 0°F (-16°C) is no worse, and

is in some cases even better, than the impact strength of many other pipe products; however, unlike some other materials, PVC pipe's impact strength at 0°F (-16°C) is lower than its impact strength at 73°F (23°C). Also, low temperatures cause dimensional changes that may allow movement of pipe within unit packages. As a result, handling techniques considered acceptable at warm temperatures may be unacceptable at very cold temperatures.

In distributing the material at the site of the work, each piece shall be unloaded opposite or near the site where it is to be laid in the trench.

All pipe, fittings, and valves shall be carefully lowered into the trench, piece by piece, by means of derrick or other suitable equipment, in such a manner as to prevent damage.

The interior of all pipe, fittings, and other accessories shall be kept free from dirt and foreign material at all times.

6.2 Laying Pipe and Appurtenances

All pipe laying shall be done under the supervision of an experienced superintendent who will be constantly on the job to supervise the laying of all pipe and making of all joints.

All polyvinyl chloride pipe shall be laid in accordance with AWWA Manual No. M23 "PVC Pipe - Design and Installation", unless otherwise specified herein.

All ductile iron pipe shall be laid in accordance with the current edition of AWWA Standard Specification C600, "AWWA Standard for Installation of Ductile Iron Water Main and Their Appurtenances", unless otherwise specified herein.

Unless shown otherwise on the contract drawings, polyvinyl chloride pipe joints will be elastomeric gasketed bell end type, and ductile iron pipe joints will be rubber ring gasketed type. The Contractor shall furnish all materials necessary to make all joints completely assembled, except as described in "Furnished to the Contractor" (Section 4.2).

The method of handling, hauling, and placing pipe in the trench shall be such as in no way will injure or damage the ductile iron pipe and coating or the polyvinyl chloride pipe. All damage to pipe and/or appurtenances shall be paid for by the Contractor.

All pipe shall be kept clean. The exposed ends of pipe in the trench shall be

closed by suitable plug at all times when pipe laying is not actually in progress.

All pipe shall require a six-inch undercut and a six-inch compacted depth layer of backfill to insure proper bedding for the pipe. These requirements are described in the sections "Trenching" and "BACKFILLING PROCEDURES AND TAMPING" (Sections 5.5 and 7, respectively).

Wherever either horizontal or vertical curves or angles are shown on the drawings, or found to be needed, appropriate ductile or gray cast iron bends shall be used with polyvinyl chloride pipe or ductile iron pipe. Under no circumstances will the bending of polyvinyl pipe be allowed. When laying ductile iron pipe, joint openings not exceeding four degrees will be allowed. Backfilling procedures and mechanical tamping of backfill material shall be strictly adhered to as specified in the "BACKFILLING PROCEDURES AND TAMPING" (Section 7) of these specifications.

6.3 Boring and Tunneling

When boring is required where there is a paved road to be crossed, and at any other location required, the Contractor shall use a boring tool of the proper size to form a tunnel for the purpose of threading the pipe from one excavation to the other without cutting the road surface. Where such methods are used, a plug or suitable closure shall be inserted in the end of the pipe to exclude any earth from the inside of said pipe. Where it is necessary to cut the paved surfaces to accomplish the above boring beyond the limits of the excavation necessary to make the tap, the cost of making such pavement repairs shall be borne by the Contractor.

Whenever water main is to be installed through casing pipe, the water main shall be ductile iron pipe with restrained joints. Steel casing pipe and ductile iron restrained in the pipe, both to be installed by the Contractor, will be furnished by LWC at its Allmond Avenue Warehouse, Louisville, Kentucky.

When ductile iron restrained-joint pipe is installed in casing pipe, spacers shall be used to prevent damage during installation and to provide long term support. Pipe shall not rest on bells. Casing spacers shall provide sufficient height between bell joint and casing wall and should be fastened securely to the pipe. Unless otherwise stated in the **BIDDER'S PROPOSAL** form and/or the **SUPPLEMENTARY SPECIFICATIONS**, there shall be three (3) spacers for each typical 18-foot pipe length, to be placed at the 3-foot, 9-foot, and 15-foot locations.

Pipe may be installed in the casing using winch-drawn cable or jacking. Exercise care to avoid damage to the pipe, bell joints, and polywrap.

For ease of installation, use a lubricant such as flax soap or drilling mud between casing spaces and casing. Do not use petroleum products such as oil or grease.

Any rock encountered in the construction of bore pits and/or receiving pits shall be unclassified.

The Contractor shall submit drawing(s) and a full description of the planned procedure for tunneling or boring for approval by the Project Manager. If voids shall develop or if the excavation is greater than the outside diameter of the liner by more than approximately one (1) inch, they shall be filled by pressure grouting at a minimum pressure of 10 psi to a maximum pressure of 15 psi with a 1:3 grout mix to provide the proper support.

6.4 Mechanical and Push-on Joint Assembly

6.4.1 General

All rubber-gasket joints shall be made in accordance with the current edition of AWWA Standard Specifications C111 "Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings", as recommended by the manufacturer, and as described below.

All elastomeric-gasket joints shall be made in accordance with the current edition of AWWA Standard Specification C900 "Polyvinyl Chloride (PVC) Pressure Pipe, 4-inch Through 12-inch, for Water Distribution", as recommended by the manufacturer, and as described below.

6.4.2 Mechanical Joint

The last eight inches (8") of the inside of the bell and the outside spigot end shall be thoroughly cleaned to remove oil, grit, excess coating, and other foreign matter from the joint, and then painted with a manufacturers approved lubricant. The cast iron gland shall then be slipped on the spigot end of the pipe with the lip extension of the gland toward the joint. The rubber gasket shall be painted with the lubricant and placed on the spigot end with the thick edge toward the gland. The entire section of pipe shall be pushed forward to seat the spigot end in the bell.

The gasket shall then be pressed into place within the bell with care being taken so that the gasket shall evenly located around the entire joint. The cast iron gland shall then be moved along the pipe into

position for bolting, all of the bolts inserted, and the nuts screwed up tightly, with the fingers. Nuts spaced 180 degrees apart shall be tightened alternately, in order to produce an equal pressure on all parts of the gland. The torque applied for various sizes of bolts shall be as follows:

5/8"	40 - 60 ft.-lbs.
3/4"	60 - 90 ft.-lbs.
1"	70 - 100 ft.-lbs.
1-1/4"	90 - 120 ft.-lbs.

Polyvinyl chloride pipe shall be assembled by hand or with the use of bar and block. Construction machinery shall be used with polyvinyl chloride pipe only if recommended by the pipe manufacturer.

6.4.3 Push-on Joint

The inside of the bell and the outside of the spigot end shall be thoroughly cleaned to remove oil, grit, excess coating, and other foreign matter. If placement of the gasket occurs in the field, the circular rubber gasket shall be flexed inward and inserted in the gasket recess of the bell socket. A thin film of gasket lubricant shall be applied to the spigot end of the pipe. Use only lubricant supplied by the pipe manufacturer. Failure to do so may promote bacterial growth or damage to the gaskets or the pipe. Correct alignment of the pipe is essential for ease of assembly. The spigot end of the pipe shall be entered into the socket with care to keep the joint from contracting the ground.

Push the polyvinyl chloride pipe into the bell or coupling, applying firm steady pressure by hand or by block assembly until the spigot easily slips through the gasket. Construction machinery shall be used with polyvinyl chloride only if recommended by the pipe manufacturer. The spigot end of the pipe is marked by the manufacturer to indicate the correct depth of insertion.

Ductile iron pipe joint shall be completed by forcing the spigot and to the bottom of the socket using a forked tool, backhoe, jack-type tool, or other device approved by the Project Manager. Pipe which has no depth mark shall be so marked before assembly to assure that the spigot end is inserted to the full depth of the joint.

6.4.4 Field-Cut Pipe

Field-cut ductile iron or polyvinyl chloride pipe requires a square cut for proper assembly of mechanical joint or push-on joint. It is recommended that the pipe be marked around its entire circumference prior to cutting to insure a square cut. The end shall be beveled by using a beveling tool, rasp or grinder as appropriate to resemble the spigot end of such pipe as manufactured. Roundoff any sharp edges on the leading edge of the bevel. Reinstall depth mark using original mark by manufacturer as a guide.

When field-cut polyvinyl chloride pipe is to be inserted into a mechanical joint end, the bevel shall not be reinstalled. The above-stated requirements for a square cut, rounding off sharp edges, and establishing a correct-depth marker shall be performed.

6.5 Connection to Existing Mains

The Contractor shall install the necessary pipe and fittings for the connections to the existing mains, as shown on the drawings, and shall make the connections complete, ready-for-use. It is imperative that the sequence of work involving an interruption of service be such that all operations be completed and the new pipeline ready to be connected prior to shutting off existing mains that are serving customer connections. Except for filling of the main, tie-ins shall not be accomplished until the main has passed testing and disinfection. When connections to the existing mains with water pressure on the main are to be made with a tapping sleeve and gate valve, the Contractor shall excavate the main, and install the tapping sleeve and gate valve on the main. The Contractor shall make that tap only after a hydrostatic pressure test of 125 psi is applied for fifteen (15) minutes with no leakage to the tapping sleeve and gate valve assembly. Before cutting an existing main within twenty feet away from of an existing valve under pressure, the Contractor shall excavate the existing valve and insure that it is properly secured.

Subsequently, water mains abandoned in-place shall be capped at all open ends.

6.6 Setting Cast Iron Valves and Fittings

Valves, air valves, blow-offs, and drains shall be assembled, and joints made up, both flanged and mechanical joint, as indicated on the contract drawings. Valves 12" and larger on ductile iron pipe and all valves on polyvinyl chloride pipe must be anchored by #4 coated and deformed reinforcing bar, wrapped around each end of the valve, and cast in a cast-in-

place concrete anchor block under each valve. This is critical for polyvinyl chloride pipe and will be strictly enforced. The weight of each valve shall be supported by solid pre-cast concrete blocks. Cast-in-place concrete shall then be poured up to the bottom of the valve. In no instance shall the weight of the valve be supported by the adjacent pipe. If PVC pipe is used with iron fittings, the weight of each fitting shall be supported by a 2' x 2' x 1' cast-in-place concrete support block; rod anchorage is not required. The concrete support block shall bear against undisturbed earth, as shall the other above-mentioned types of concrete blocking. The Project Manager shall have the authority to direct the Contractor to add line valves if they are needed to facilitate the project and/or to keep service outages to an absolute minimum.

6.7 Polyethylene Wrap

Polyethylene wrap shall be installed in accordance with the current edition of American Water Works Association Standard Specification C105 (ANSI A21.5) for American National Standard for Polyethylene Encasement, unless otherwise specified herein.

Polyethylene wrap will be furnished by LWC in 500 foot rolls. The Contractor shall cut the roll in tubes 2 feet longer than standard length of pipe. Each tube shall be slipped over the length of pipe, with centering to allow a one foot overlap on each adjacent pipe section. After the lap is made, slack in the tubing shall be taken up for a snug fit, and the overlay shall be secured with polyethylene tape. Each length of pipe shall receive two separate polyethylene wraps as described above. Pipe shall not be wrapped and stored on site for any period of time, but wrapped and immediately placed in the trench. Pipe to be wrapped shall include ductile iron and ductile iron restrained-joint pipe and iron fittings. Polyvinyl chloride pipe requires no wrap.

Odd shaped appurtenances such as valves, tees, fittings, and other ferrous metal pipeline appurtenances shall be wrapped by using a flat sheet of polyethylene. Wrapping shall be done by placing the sheet under the appliances and bringing it up around the item to be wrapped. Seams will be made by bringing the edges together, folding twice, and taping down. Each appurtenance shall receive two separate polyethylene wraps as described above.

Care will be taken when backfilling to prevent damage to the polyethylene wrapping. Sections of wrapping having cuts, tears, punctures, or other damage shall be repaired or replaced.

AWWA Standards for installing polyethylene wrap and manufacturers'

recommended methods for installing polyethylene wrap are available for review at the office of LWC.

6.8 Installation of Tracing Wire and Identification Ribbon

Because of the insulating property of polyvinyl chloride pipe, it cannot be located by electronic sensing devices; therefore, the Contractor shall install insulated #12 solid copper wire along with the polyvinyl chloride pipe. This wire shall be laid directly over the water main. At each and every valve: the wire shall be directly connected to one of the valve bonnet bolts, and shall extend upward along the outside of the keytube but inside the round top frame. The wire shall also be connected to a fitting at each of the water main. The tracing wire shall be wrapped once around each copper or cast iron service line.

Although with this wire, the Contractor shall also install a thin metallic identification ribbon. Under paved surfaces, this ribbon shall be laid directly beneath the concrete base and directly over the water main. Under the unpaved surfaces, the ribbon shall be installed no more than one (1) foot beneath the finished grade and directly over the main. Two-inch (2") or three-inch (3") wide ribbon shall be used over PVC mains eight-inch (8") and smaller, and six-inch (6") wide ribbon shall be used over twelve-inch (12") mains. Both wire and ribbon shall be supplied by LWC. Probing rods shall not be used to locate polyvinyl chloride pipe.

6.9 Cast Iron Frames and Lids

The Contractor shall set all cast iron frames, round top shims, and lids for valves, air valves, and vaults. These frames and lids shall be set to grade and maintained in the proper position for the duration of the period covered by this contract, including the thirty-day acceptance period. Round top shims shall be used under round tops set in bituminous pavement.

Cast iron frames and lids shall be removed on all discontinued vaults, and surfaces shall be restored in accordance with the appropriate requirements of the sections "BACKFILLING PROCEDURES AND TAMPING" and "RESTORATION" (Sections 7 and 11, respectively). All out-of-ground cast iron frames and lids shall be returned to the LWC Allmond Avenue warehouse.

6.10 Valve Boxes

Standard valve boxes consisting of keytubes, extension pipes, and round tops and lids shall be furnished by LWC and installed on all valves by the Contractor. These boxes shall be centered about the operating nuts, shall be

vertical, shall be set to grade, shall be placed and maintained in the proper position, and shall be free of dirt or other matter for the duration of the period covered by this contract including the thirty-day acceptance period. Styrofoam collars shall be placed around each valve box before placement of concrete and in such a manner to allow the valve box to be raised to grade without demolishing the concrete subbase.

In areas of bituminous pavement, round top shims shall be furnished LWC and installed by the Contractor under the round tops. The shims shall be installed after the subbase has cured, and before placement of the bituminous pavement.

Round tops and lids on all valves that are to be abandoned shall be removed and returned to the LWC Allmond Avenue Warehouse. The keytube shall be filled and surfaces restored in accordance with the appropriate requirements of the sections "BACKFILLING PROCEDURES AND TAMPING" and "RESTORATION" (Sections 7 and 11, respectively).

6.11 Plugging Ends of Pipe

When work is stopped at the end of a day, a cast iron plug shall be bolted in place in the open end of the pipe to prevent any foreign matter or trench water from entering the line. Permanent plugs or caps shall be inserted where shown on the contract drawings, and shall be securely braced as shown on the thrust anchor details included on the detail sheet of the contract drawings. If it is desired to fill a section of the main before the entire line is completed, at least two lengths of pipe shall be installed and backfilled beyond a gate valve forming the closure at the end of the line, and said gate valve shall be securely braced.

6.12 Thrust Anchors, Counterweights, and Restrained-Joint Hardware

The Contractor shall install concrete thrust anchors or counterweights (3,500 psi concrete) at each bend in the pipeline of five (5) degrees or greater and at all other fittings, including reducers, to withstand maximum test pressure. The Contractor shall provide all labor and material to construct the thrust anchors, piers, and counterweights, for all fittings, both horizontal and vertical. These concrete thrust anchors shall be minimum dimensions and size as indicated on the thrust anchor schedule shown on the detail sheet in the project drawings.

Restrained-joint hardware is not intended to be used in lieu of concrete thrust anchors and counterweights. Such hardware is to be used ONLY when it is necessary to return a water main to service immediately, as when making tie-ins or at the specific instructions of LWC. Whenever restrained-

joint hardware is used to restrain fittings, the Contractor must also pour a concrete thrust block. In no instances, except for fire hydrant installations, shall restrained-joint hardware alone be accepted as a permanent thrust restraint.

7. BACKFILLING PROCEDURES AND TAMPING

7.1 General

In general, trench dimensioning and backfill materials shall be as follows: six inches of vertical clearance with the bottom of the trench, and the subsequent layered placement of pit run sand or DGA bedding along the bottom of the pipe; nine inches of horizontal clearance with each side of the trench, and the subsequent layered placement of pit run sand or DGA backfill along each side of the pipe; the layered placement of pit run sand or DGA backfill to the elevation of twelve inches above the crown of the pipe; and, if in a lawn area, the remainder of the backfill to be common (but acceptable) fill, or, if in a paved and/or a to-be-paved area, the remainder of the backfill to be the layered placement of pit run sand or DGA up to the bottom elevation of the respective pavement restoration scheme. The total depth of cover (i.e., the vertical distance from crown-of-pipe to ground/pavement surface) shall be at least thirty-six (36) inches. The cost of applicable backfill material, backfilling, and required tamping shall be covered in the base bid as shown on the BIDDER'S PROPOSAL form.

All backfill shall be properly compacted by pneumatic, vibratory, or other approved compaction equipment. Degree of compaction shall be at least 90 percent of Modified Proctor (ASTM D-1557), and the compaction effort shall be performed in a uniform and consistent manner. If it elects to do so, KTWD shall arrange for and pay for nuclear density gauge tests in order to determine if the specified degree of compaction has been achieved.

When instructed by the Project Manager, the Contractor shall excavate backfilled material to a particular grade for testing. Backfilled areas which do not pass this test shall be excavated and recompacted until they meet compaction specifications. Areas excavated for testing shall be recompacted in accordance with this compaction specification. The cost of this work shall be included in the base bid.

Appropriate and sufficient backfill material shall be furnished by the Contractor to replace material deemed unsatisfactory by the Project Manager or the field representative. Unsatisfactory material includes unsuitable soil as described in "Final Backfilling" (Section 7.4) and frozen or exceptionally wet backfill material, and may include backfill material excavated for testing purposes or backfill material excavated for failure to

meet compaction requirements.

7.2 Bedding

For the entire length of the trench, the excavation shall provide a six-inch space below the pipe, which shall be placed by hand and firmly compacted with pit run sand or Dense Graded Aggregate, as specified by the Kentucky Transportation Cabinet Department of Highways Standard Specification for Road and Bridge Construction, (latest edition) "Coarse Aggregate," to form a bedding for the pipe. The bedding shall be excavated at bells, valves, and fittings so the barrel of the pipe will have a bearing for its full length.

7.3 Initial Backfilling

Initial backfill should occur as soon as possible after the laying of pipe, so as to prevent the pipe from shifting. After the pipe has been placed on the bedding, pit run sand or Dense Graded Aggregate shall be deposited in the trench by mechanical equipment and distributed in six-inch layers by hand on both sides of the pipe for the full width of the trench, the trench width having nine inches of horizontal clearance along each side of the pipe. The pit run sand or Dense Graded Aggregate shall be tamped in six-inch layers and thoroughly compacted under the centerline and on each side of the pipe. Backfill shall be placed and tamped to a height of at least twelve inches (12") above the top of the pipe. Initial backfill should occur as soon as possible after the laying of pipe to protect against shifting.

7.4 Final Backfilling

When not under paved surfaces or surfaces where paving intended, the remainder of the trench shall be backfilled with soil free from brush or vegetable matter, rocks larger than fist-size, pieces of concrete larger than fist-size, cinders, or any other matter which could prevent proper consolidation.

When under paved surfaces or surfaces where paving is intended, the remainder of the trench shall be backfilled for the full depth with pit run sand or Dense Graded Aggregate, as specified by the Kentucky Department of Highways Standard Specification for Road and Bridge Construction, (latest edition) "Coarse Aggregate." At pavement crossings, this pavement backfill shall extend five feet (5') beyond each end of the paving or proposed paving.

Whether under paved or unpaved surfaces, the final backfill shall be tamped by pneumatic or other approved tamping equipment in successive layers of six inches or less in height to finish grade or pavement restoration as

required. If Hydrahammer is approved by the Project Manager, compaction shall be performed in successive layers two feet (2') or less in height to finish grade or pavement restoration. Water jetting will not be allowed except by written approval by the Project Manager.

The total depth of cover (i.e., the vertical distance from crown-of-pipe to ground/pavement surface) shall be at least thirty-six (36) inches.

7.5 Manufactured Sand and the By-product of Trench Rock Excavator

Manufactured sand and/or the by-product of trench rock excavator equipment are not to be considered as acceptable pipe bedding and/or backfill material by the planholder during the compilation of his/her bid.

7.6 Shrinkless Fill

In special situations, the Contractor may use a quick-setting, cementitious flowable shrinkless fill, but only with the prior written approval of the Project Manager. The 28-day compression strength of said fill shall not exceed 100 psi, and the minimum strength shall be 70 psi.

8. PLACING PIPE IN SERVICE

8.1 Filling and Cleaning the Pipe

After a section of main has been properly installed and valved, preparation shall begin to fill, disinfect, and pig clean the main. The cleaning pig shall be inserted into the pipeline at the time of installation. Pigs shall be supplied by LWC.

The main shall be installed applying HTH pellets to each section of pipeline during construction, and shall be chlorinated prior to beginning the pigging operation. The main shall be filled from downstream of the pig. The main shall sit with hyperchlorinated water in it for at least a 24-hour period prior to the beginning of flushing operations.

When beginning the pigging operation, the valve upstream of the pig shall be opened allowing the pig to move at approximately one (1) fps. Hyperchlorinated water shall be discharged through the end of the pipeline from which the pig shall be removed in accordance with the requirements of Section 8.2.2, Discharge of Hyperchlorinated Water.

When the pipe is filled, air shall be expelled through fire hydrants or flushing connections. All flushing connections, fill connections, and discharge connections shall be installed by the Contractor at locations indicated on the

construction drawings or as directed by the Project Manager, if a fire hydrant or service connection cannot be utilized. If not specified to be furnished by LWC, particular components of flushing/discharge hardware shall be furnished by the Contractor.

With respect to flushing, the standard operating procedure is as follows. The flushing assembly is to be checked-out from LWC's Meter Shop by the Contractor or by KTWD's Project Inspector, and shall be returned by same after flushing operations have been completed. The meter/check valve portion of the flushing assembly is not to be installed until after the completion of pigging operations (so as to protect the meter/check valve from internal damage caused by debris); extra 2-inch nipples and couplings may be needed in place of the meter/check valve. Upon the completion of pigging operations and prior to the start of flushing operations, the meter/check valve is to be installed, with an initial meter reading taken, and the main shall sit with hyperchlorinated water in it for at least a 24-hour period. The Contractor is to supply a 2-inch hose to be used during flushing operations. Upon the completion of flushing operations, a final meter reading is to be taken.

8.2 Disinfection

8.2.1 Methods

After a section between lines valves has been completed, the main shall be disinfected in accordance with the requirements of the Kentucky Division of Water, Natural Resources and Environmental Cabinet. The method to be used to achieve these requirements will be application of HTH pellets (furnished by LWC) to each pipe length at the time of installation.

The Contractor shall equally apply HTH (furnished by LWC) throughout the entire section of pipeline during the installation to produce a concentration of at least fifty (50) ppm and a residual of at least twenty-five (25) ppm at the end of 24 hours, to be followed by thorough flushing; this is in compliance with 401 KAR 8:150 "Disinfection and Filtration", Sections 4(1) and 4(2). The following amounts of HTH, per 100 linear feet of pipeline, should produce fifty (50) ppm of chlorine:

Amount of HTH per 100 Linear Feet of Pipeline

<u>Pipe Size</u>	<u>Weight of HTH</u>	<u>Volume of HTH</u>
4"	0.75 ounce	1/8 cup
6"	1.50 ounces	1/4 cup
8"	2.75 ounces	3/8 cup
12"	6.00 ounces	7/8 cup
16"	10.75 ounces	1-1/2 cups
20"	16.75 ounces	2-1/2 cups

After the disinfection procedure has begun, the Contractor shall not operate any valves, including those he/she has installed, without consent of the Project Manager or his/her representative.

The Contractor shall perform the chlorination under the complete control of the Project Manager.

8.2.2 Discharge of Hyperchlorinated Water

Hyperchlorinated water shall be neutralized to a chlorine concentration of less than 0.1 ppm before discharge to a storm drain or onto the ground surface. The Contractor shall arrange for, pay for, furnish, and return to the supplier the necessary number of sulfur dioxide containers needed to dechlorinate all of the hyperchlorinated water. The Contractor shall be responsible for the lawful transportation, handling, and/or storage of the sulfur dioxide containers. LWC shall furnish all of the hardware necessary for the dechlorination operation. The Project Manager shall reserve the right to postpone the dechlorination operation in the event of an anticipated major rain event.

8.3 Combined Hydrostatic and Leakage Test

Prior to performing the combined test, the water main installation, or any section thereof, shall be completed, discharged of hyperchlorinated water, filled with water, expelled of air, flushed to ambient available chlorine concentration, and properly valved off. Water main shall then be subject to a hydrostatic pressure of 200 p.s.i. at the lowest point along the section being tested for a period of two (2) hours. In conjunction with they hydrostatic test, a leakage test shall be conducted at the same pressure and for the same period of time. The leakage allowed will be as given by the following table. All of this testing shall be accomplished in the presence of the Project Manager or his/her representative.

Allowable Leakage per 1000 feet of Pipeline (gallons/hour)

<u>Average Test Pressure (psi)</u>	<u>Pipe Diameter (In)</u>					
	<u>4</u>	<u>6</u>	<u>8</u>	<u>12</u>	<u>16</u>	<u>20</u>
225	0.50	0.68	0.90	1.35	1.80	2.19
200	0.46	0.64	0.85	1.28	1.70	2.07
175	0.42	0.59	0.80	1.19	1.59	1.95

Before the hydrostatic test is begun, the Contractor shall backfill all pipe, provide all temporary and permanent reaction anchor blocking, and provide taps for releasing air at all points of highest elevation where no fire hydrant or flushing connection has been installed. It shall be the Contractor's responsibility to locate and repair any and all leaks that may develop. All pipe, fittings, and other materials found to be defective under test shall be removed and replaced. These tests shall be repeated until satisfactory to the Project Manager. On mains of less than 500 feet in length, the Project Manager may waive the requirement for testing by written notice to the Contractor.

The required testing apparatus, consisting of a gasoline motor driven pump, valves, pressure gauge, meter, 60 feet of hose, and connections, shall be picked up and returned to LWC's Allmond Avenue Warehouse, the day the test is to be run. The Contractor shall be responsible for all phases of testing the water main, and shall include the costs involved in the base bid.

9. FIRE HYDRANT

9.1 Materials and Installation

The fire hydrant installation shall consist of the following items, and shall be as shown on the detail sheet of plans.

The location of fire hydrants shall be approved by the Project Inspector prior to installation.

The cast iron fire hydrant anchor tee and gate valve shall be installed as the main is laid. A tapping sleeve and gate valve shall be installed if the main is already active. In all cases, the hydrant gate valve must be secured to the main.

The type of connecting pipe (i.e., hydrant lead) shall be ductile iron pipe, in all cases, regardless of the type of main in the street.

The hydrant shall be that furnished by LWC, designed for proper depth of bury, shall have a drain hole, and shall be so installed that the barrel will properly drain.

Two layers of polyethylene wrapping shall be installed from the fire hydrant anchor tee to the base elbow of the fire hydrant, including the hydrant valve, connecting pipe, and thrust restraints. The wrapping shall not impede the drain holes located near the bottom of the hydrant barrel.

The hydrant shall be set plumb, and shall have the pumper nozzle at right angles to the curb, except that hydrants having two pumper nozzles 124 degrees apart shall be set with each nozzle facing the curb at an angle of 62 degrees. The bottom of the break-away flange bolts shall be located from 1"-7" above finished grade. The hydrant shall be set to established grade, with the center of the barrel 18" back of the face of the curb line or as directed, or in the absence of a curb approximately eight feet from the edge of the pavement, and the center of the nozzle 18"-24" above finished grade.

The base of the hydrant shall be set on a precast concrete block. The back of the elbow shall be well anchored against undisturbed earth by means of a precast concrete block. Through-bolts or restrained joint hardware, supplied by LWC, are to be installed between the gate valve and the hydrant.

When a bore is required under a paved road, the Contractor shall abide by Section 6.3 "Boring and Tunneling".

The terms "relocate", "renew", and "transfer" shall apply to fire hydrant removal/installation in a parallel manner as said terms apply to service vault removal/installation; see Section 10 "SERVICE WORK" for definition details.

9.2 Drainage Pit

Whenever a hydrant is set, a drainage pit three feet square and two feet deep shall be excavated below each hydrant elbow and filled compactly with crushed stone under and around the elbow of the hydrant and to a level of two feet (2') above the base of the elbow. Dimensions of the pit shall be 3 ft. long x 3 ft. wide x 4 ft. deep, with the pit centered about the barrel of the hydrant and the top of the pit two feet above the base of the hydrant elbow.

No less than one cubic yard of #3 crushed stone shall be used around the bottom of the hydrant, and in no case shall there be a connection to a sewer.

The top of the drainage pit shall be covered with a plastic sheet before backfilling. Before this dry well is covered with backfill, the Contractor shall notify the Project Manager in order that each drainage system may be inspected.

10. SERVICE WORK

10.1 Notification of Customers

It is the intent of KTWD and LWC not to interrupt service to existing customers, unless absolutely necessary. When it is necessary to interrupt service, all customers affected by shut-off shall be notified in person, or in cases where the customer cannot be contacted, by a note attached to the front door of their premises.

Such information shall be made twenty-four hours prior to shut-off and with Project Inspector approval, allowing sufficient time for the customer to draw and reserve an ample supply of water.

10.2 Service Installation

A service installation is defined to include all work necessary to install the copper tubing or pipe and all related items from the main to the property line. Under some circumstances, tubing/piping work may extend up to five (5) feet beyond the property line. The installation shall include, but is not limited to, the following: jacking of copper tubing, or excavating or boring for polyvinyl chloride (PVC) or ductile iron pipe; corporation stop (corporation cock) and tapping saddle, or tapping sleeve and gate valve at the main; meter vault; cast iron frame and lid; water meter and associated valves and fittings; all tubing and/or pipe; and backfilling and restoring of all surfaces. Excavation, backfilling, and restoring paved and unpaved surfaces shall be done in accordance with "Service Excavation At Main" (Section 10.14).

Long services are defined as services to meters on the opposite side of the street from the water main to which it is connected. Short services are defined as services to meters on the same side of the street as the water main to which it is connected.

When installing a service on pipe wrapped with polywrap, before making the tap, wrap three layers of polyethylene-compatible tape completely around the pipe to cover the area where the tapping machine and chain will be mounted. Make the tap and install the corporation stop directly through the tape and polywrap. After making the service connection, wrap the corporation stop and a minimum distance of three feet (3') of the copper service with polywrap. Inspect the entire circumferential area of the main and make any necessary repairs.

For polyvinyl chloride (PVC) pipe, service outlets of 3/4" through 2" shall

be made with a tapping saddle. For ductile iron pipe, service outlets of 3/4" - 2" shall be made by direct tapping. Service outlets of larger than 2" shall be made with a tapping sleeve and gate valve on existing ductile iron or polyvinyl chloride pipe. Service outlets of larger than 2" shall be made with a ductile or gray cast iron tee on new ductile iron or polyvinyl pipe. When using service saddles, saddle bolts shall be tightened with a torque wrench according to the saddle manufacturers' torque recommendations.

When installing a service on PVC, the Contractor shall use a shell cutter that is designed for walls as heavy as DR14 (pressure class 200, AWWA C900) and one that will remove the material and retain the coupon. No twist drills will be allowed. The cutting toll must be sharp and without damage.

When tapping the PVC pipe under pressure, the ambient temperature shall be between 32° and 90° F. The taps shall be located a minimum of 18" from the joint of the PVC pipe, and, if installing more than one tap in one length of PVC pipe, the taps shall be staggered and a minimum of 18" apart, measured longitudinally. Taps shall not be made in an area of PVC pipe that shows discoloration.

Service connections shall be installed so that the outlet is at an angle of 45° above the horizontal. A bend in the service line shall be provided to insure flexibility and to accommodate the effects of loads.

In direct tapping of iron pipe, the tap threads must match the corporation stop's AWWA threads. The pipe and corporation stop shall be examined to insure acceptability for direct tapping.

Tapping sleeves shall be assembled according to the manufacturers' instructions and must be supported independently of PVC pipe by precast concrete blocks during the tapping operation. The support shall be left in place, filling any voids such that the pad is bearing against undisturbed earth, and thrust blocks shall be used as with other fittings.

10.3 Tapping Mains

All taps in water mains shall be made by the Contractor, and corporation stops shall be inserted by means of a tapping machine in such manner that will permit continued conditions of water flow and pressure within these mains. The Contractor shall use care in inserting and tightening the corporation stop, and shall reimburse KTWD or LWC for any damage or expense caused by any of his/her activities under this contract. With permission of the Project Manager, tapping saddles may be used on ductile, cast iron, and asbestos-cement water mains. Tapping saddles will be used

on plastic water mains. When a service tap is made on a plastic water main, No. 12 copper tracer wire will be connected to the No. 12 copper tracer wire on the main and then wrapped around the copper service line. After the tap is completed on mains with polyethylene wrap, the Contractor shall repair and replace the polyethylene wrap to completely cover the main and corporation stop in accordance with the detail in the Appendix of Drawings. The service line shall be flushed before connecting to the meter.

10.4 Laying and Handling Copper Tubing

Special care shall be observed in handling the copper tubing so as not to kink, mash, or damage it. No damaged tubing shall be installed. All damaged tubing or scraps shall be returned to the proper LWC storekeeper for credit. The use of a copper tubing bender will be required. No bend shall be made in the tubing with a radius less than four inches (4"). Where under pavement, tubing shall be laid continuously and in one piece without intermediate joints or couplings, except at the terminals and except where the continuous length to be laid exceeds one hundred feet (100') for 3/4" and 1" sizes.

10.5 Joints

All intermediate and terminal joints for 3/4" and 1" sizes of copper tubing shall be the flared typed, using the proper flaring tools for the sizes of tubing and types of fittings involved.

10.6 Setting Meter Vaults

Meter vaults shall be set either to the existing grade, or of indicated "Special Handling" on the service order to the grade given by a stake card. Earth shall be firmly tamped around the vault and cover, the lid locked in and the meter setting centered in the middle of the vault and at the proper depth below grade, as shown on the drawing in the Appendix of Drawings. Meter vaults shall not be installed in areas subject to vehicular traffic if avoidable. When directed to be installed in areas subject to vehicular traffic, the meter vault shall be of the heavy duty concrete type with heavy duty frame and cover.

10.7 Pressure Regulators

When directed by the Project Manager, the Contractor shall install a pressure regulator. (See the Appendix of Drawings.)

10.8 Tail Pipes

Tubing shall extend from the meter setting assembly to up to five feet beyond the property line, and the end mashed to form a watertight closure. The tail pipes of a service installation, where two meters are to be installed in one vault, shall be installed parallel for their entire length and at least eight inches (8") apart, and in no event shall they cross one another.

10.9 Testing the Service

After the complete service has been installed and before any joints are covered, the corporation stop shall be opened, the entire length of the service filled with water and each joint observed by the Contractor for leaks.

Any leaks so found shall be immediately repaired. After the service has been observed by the Project Inspector to be watertight throughout its length, the curb stop shall be shut off and the backfilling started. The Contractor shall leave the corporation stop fully open and the meter angle stop fully closed when he/she has completed the testing of each completed service.

10.10 Relocate Service

Relocating a service is defined to include installing a complete new service to an existing customer, including a new tail pipe, discontinuing the old service at the main (in the event the existing main is to remain active), abandoning the old meter vault, and returning the old meter and cast iron frame to LWC's Allmond Avenue Warehouse. Concrete meter vaults shall be used in driveways, parking lots, and other areas of vehicular traffic. Excavation, backfilling, and restoring of surfaces shall be done in accordance with "Service Excavation At Main" (Section 10.14). Abandoning the old meter vaults shall be done in accordance with "Backfill Meter Vault" (Section 10.15). The Project Manager has estimated the number of services to be relocated, and these are shown on the drawings. The Contractor shall include the cost of these relocations in the base bid. Unit prices are included in the **BIDDER'S PROPOSAL** form for changing quantities from the estimated number of services to be relocated.

10.11 Renew Service

Renewing a service is defined to include installing a new copper service line from the existing main or new main to the LWC meter stop, and, in the event the tail pipe is lead or galvanized, a new copper tail pipe from the angle coupling to the property line or the joint where the tail pipe connects to the customer service line (whichever is shorter) and shall include, but is not limited to, the following: excavation; boring or jacking of copper tubing

or pipe; installing corporation stop (corporation cock); tapping saddle or tapping sleeve and gate valve at the main; installing all tubing and/or pipe and all associated fittings; and backfilling and restoring of all surfaces. Tail pipes are normally five feet or less in length; the meter vault is usually located at or near the edge of the public right-of-way or water utility easement. All existing lead and galvanized service lines found will be renewed, unless otherwise instructed on the plans. Excavation, backfilling, and restoring of surfaces shall be done in accordance with "Service Excavation At Main" (Section 10.14). The Project Manager has estimated the number of services to be renewed, and these are shown on the drawings.

The Contractor shall include the cost of these service renewals in the base bid. Unit prices are included in the BIDDER'S PROPOSAL form for changing quantities from the estimated number of services to be renewed.

10.12 Transfer Service

Transferring a service is defined to include installing a length of service line, as require, to reconnect an existing copper service to the existing main or new main, and shall include, but is not limited to, the following: excavation; boring or jacking of copper tubing or pipe; installing corporation stop (corporation cock); tapping saddle or tapping sleeve and gate valve at the main; installing all tubing and/or pipe and all associated fittings; and backfilling and restoring of all surfaces. When a lead or galvanized tail pipe is encountered, the tail pipe from the angle coupling to the property line or joint where the tail pipe connects to the customer service line (whichever is shorter) shall be replaced with a copper service line. Excavation, backfilling, and restoring of surfaces shall be done in accordance with "Service Excavation At main" (Section 10.14). The Project Manager has estimated the number of services to be transferred, and these are shown on the drawings. The Contractor shall include the cost of these service transferrals in the base bid. Unit prices are included in the BIDDER'S PROPOSAL form for changing quantities from the estimated number of services to be transferred.

10.13 Discontinue Service

Discontinuing a service is defined to include excavating a service line at a water main that is to remain active, turning off the corporation stop (ferrule), disconnecting and plugging the service line, backfill the meter vault, and restoring all surfaces. Driven ferrules, which are not threaded onto the main, will require removal, plugging, and banding. Driven ferrules can be expected on most lead services. Excavating, backfilling, and restoring of surfaces shall be done in accordance with "Service Excavation At Main" (Section 10.14). Abandoning the old meter vaults shall be done in accordance with "Backfill Meter Vault" (Section 10.15). The Project

Manager has estimated the number of services to be discontinued, and these are shown on the drawings. The Contractor shall include the cost of these service discontinues in the base bid. Unit prices are included in the **BIDDER'S PROPOSAL** form for changing quantities from the estimated number of services to be discontinued.

Service vaults abandoned as a result of abandoning an existing main shall be site-restored by the Contractor as required in (Section 10.15) "Backfill Meter Vault."

10.14 Service Excavation at Main

The excavation at the water main shall be made in accordance with "RESTORATION" (Section 11), "Twelve-Inch Cutback Requirement" (Section 5.4.2), and "Trenching" (Section 5.5) as appropriate to the type of surface. Backfilling and restoration shall be in accordance with "BACKFILLING PROCEDURES AND TAMPING" (Section 7) and "RESTORATION" (Section 11) as appropriate to the type of surface. Contractor shall be responsible for all remedial work due to service excavations as required in the section "WARRANTY" (Section 12).

10.15 Backfill Meter Vault

Meter vaults on all discontinued or relocated services shall be abandoned by removing the old meter, cast iron frame and lid, and any existing curb stop lids, and filling the void to existing grade with backfill and surface material, appropriate to the type surface. Unpaved areas shall be backfilled to grade with topsoil and restored in accordance with "RESTORATION" (Section 11). Sidewalks shall be backfilled with pit run sand or DGA, and repaved in accordance with "RESTORATION" (Section 11). Parking lots, driveways, and other areas subject to vehicular traffic shall be backfilled using DGA, and restored in accordance with "BACKFILLING PROCEDURES AND TAMPING" (Section 7), "Twelve-Inch Cutback Requirement" (Section 5.4.2), and "RESTORATION" (Section 11) found in this specification. All meters and cast iron frames and lids shall be returned to the LWC Allmond Avenue Warehouse. Contractor shall be responsible for all remedial work due to discontinuation of meter vaults as required in the section "WARRANTY" (Section 12).

10.16 Service Work Costs

The Contractor shall include in his/her proposal the cost of performing all service line work as shown on the drawings and as stated in the specifications. The Project Manager has estimated the number of service to be installed, transferred, renewed, relocated, and discontinued, the costs of

which are to be included in the base bid. The Project Manager has made every effort to accurately estimate the number of service installations, renewals, transferrals, relocations, and discontinued, but has included in the **BIDDER'S PROPOSAL** form unit prices for each in the event that actual numbers deviate from the estimate. No extra will be paid for installing, transferring, renewing, relocating, or discontinuing the number of estimated services identified in the **SUPPLEMENTARY SPECIFICATIONS** or on the Project Drawings, the costs of which are to be included in the base bid.

10.17 Potential Shock Hazard

Due to electrical grounding of some electrical services to metal water service lines, the potential for electrically charged water service lines and/or water meters exists. The Contractor shall check each service for electric potential before working on the service. Any electrically-charged water service shall immediately be brought to the attention of the Project Manager or his/her representative.

11. RESTORATION

11.1 Asphalt Materials and Construction Methods

The composition of the bituminous concrete pavement and method of construction shall be in accordance with the Kentucky Transportation Cabinet Department of Highways (KTCDOH) Standard Specifications for Road and Bridge Construction (latest edition).

All joint sealant material shall be: hot-applied, non-water-based, and produced by a competent and reputable manufacturer. Store-bought items shall not be allowed. Sand shall be placed to prevent tracking.

11.2 Concrete Materials and Construction Methods

All concrete used on this project and as shown on the plans shall have a 28-day minimum compression strength of 3,500 pounds per square inch. The proportions and construction requirements for the concrete shall be as listed in the Kentucky Transportation Cabinet Department of Highways Standard Specifications for Road and Bridge Construction (latest edition).

All concrete used for structural purposes (such as thrusts blocks, road subbase, sidewalks, etc.) shall be produced by a competent and reputable manufacturer. Only concrete used for miscellaneous purposes (such as vault floor pad, end plugs for mains to be abandoned-in-place, etc.) is allowed to be that of an on-site bag mix.

11.3 Paved Surfaces

Repaving over the completed trench shall be done by the Contractor, who shall furnish all materials required. Repaving shall match the original paving in type, shall be first class in all respects, and shall comply with specifications covering the type of paving to be restored as issued by the City Engineer, County Engineer, or the Kentucky Transportation Cabinet Department of Highways, whichever has authority over the thoroughfare involved. The restoration of parking lots and driveways serving commercial and/or public establishments shall comply with the specifications of the respective authority having jurisdiction over the abutting right-of-way. Except for parking lots, driveways, and sidewalks, each individual pavement restoration shall have a LWC-supplied pavement marker installed by the Contractor. The Contractor shall be responsible for all remedial work as required in (Section 12) "WARRANTY."

All materials and methods of construction shall be in accordance with "Asphalt Materials and Construction Methods" (Section 11.1) and "Concrete Materials and Construction Methods" (Section 11.2).

All bituminous pavement cuts are to be restored in accordance with the permanent pavement restoration detail as shown in the Appendix of Drawings. Pavement cuts are to be uniform width and straight sawed edges. An approved joint sealer is to be used to seal all joints between new and existing pavement. In the event asphalt plants have closed for the season, the Contractor shall maintain all pavement cuts with temporary bituminous pavement, until it becomes possible to permanently restore the pavement. Bituminous concrete used for permanent pavement restoration shall have a minimum temperature of 225°F as measured when discharging from the truck.

All cuts in driveways and sidewalks are to be replaced from construction joint to construction joint, using 3500 psi concrete.

All concrete curbs or curb and gutters which are damaged are to be entirely removed and replaced in kind between existing joints. Install one-half inch, pre-molded expansion joint material between new and existing concrete. Concrete shall be 3500 psi concrete.

Permanent restoration of driveway, sidewalks, and street intersections shall be completed by the Contractor within ten working days after backfilling of trench is complete. If restorations are not completed, KTWD may, at its option, have the repairs made by others and deduct those costs from the amount owed to the Contractor.

The Contractor is to take whatever measures are necessary to keep all traveled surfaces free of dirt, mud, or other material during all non-working hours. Unless otherwise approved by the Project Manager, no excavated material shall be placed on the paved surface or any other areas near the trench; the excavated material shall be placed directly from the trench to the haul truck. The Contractor shall provide adequate dust control.

Particular care is to be taken that existing pavement surfaces within the right-of-way are not scarred or otherwise damaged by equipment. Planking or other protective devices are to be used at all times to prevent damage to paved surfaces from tracked equipment. In the event the paved surfaces damaged by work on this project, resurfacing is to be required as follows:

1) If scarring or other damage is continuous, resurfacing is to be likewise continuous, and is to consist of 1-1/2 inch Class A bituminous surfaces extending to the edge of damaged lane. The edge of the damaged pavement shall be edge keyed, with the resurfaced section being flush with the undisturbed adjacent pavement surface, allowing roadway surface drainage not to be obstructed.

2) If scarring or other damage is determined to be intermittent, individual or paved patches may be permitted, and are likewise to consist of Class A bituminous surface, extending to the edge of the damaged lane.

11.4 Unpaved Surfaces

All drainage structures (such as pipe, head or wing walls, channels, flumes, and culverts), fences, signs, etc., public or private, which are damaged or removed by this Contractor, shall be repaired or replaced to the satisfaction of the owner. All open ditches shall be restored to their present cross sections, depths, and slopes, and dressed and graded to provide permanent adequate drainage to present connecting ditches or culverts equal to the original drainage systems except where specifically indicated on the plans. The Contractor shall maintain fences during construction.

The Contractor shall replace all surface material including landscaping, shrubbery, fences, or other disturbed surfaces, to a condition at least equal to that before the work began, furnishing all labor and materials.

The grassed area disturbed by the work under this contract, whether by the Contractor or by any subcontractor, within or adjacent to the right-of-way of any state, county, city or other thoroughfare, public or private (except as required below), now in grass shall be shaped, seeded, and mulched in accordance with KTCDOH Standard Specifications for Road and Bridge

Construction (latest edition). Seed mixture shall be Mixture No. 1 as described in Seed Mixtures for Permanent Seeding. Acceptance of Seeding Section shall be amended to disallow compensations for any corrective seeding required by the Project Manager.

All work fronting residential lots now in grass shall be shaped and sodded in accordance with KTCDOH Standard Specifications for Road and Bridge Construction (latest edition), but shall be amended to include removal of all rock from the sod bed. Rolling of the installed sod will be allowed in lieu of tamping.

11.5 Site Clean Up

Surplus pipeline materials, equipment, tools, and temporary structures shall be removed by the Contractor, and all dirt, rubbish and excess earth from excavations shall be hauled and disposed by the Contractor, all in a manner satisfactory to the Project Inspector, Project Manager and KTWD.

The Contractor shall leave the site in presentable shape at least comparable with the condition in which it was before the construction began and in compliance with all restoration provisions of this specification.

12. WARRANTY

12.1 Pipeline Materials and Appurtenances

The Contractor shall be responsible for satisfactory performance of the pipeline and appurtenances for a period of one (1) year after the date of the final contract payment.

12.2 Paved Surface Restoration

When in paved surfaces, the Contractor shall be responsible for all settlement, surface restoration, and any other maintenance or repairs required due to water facilities construction for a period of five (5) years after the date of the final contract payment. The Performance Bond, if required, shall include coverage of this requirement for the first two (2) years, and the Contractor shall provide a warranty for the remaining three (3) years. If a Performance Bond is not required, the Contractor shall provide a warranty for the full five (5) years.

12.3 Unpaved Surface Restoration

When in unpaved surfaces, the Contractor shall be responsible for all settlement, surface restoration, and any other maintenance or repairs

required due to water facilities construction for a period of two (2) years after the date of the final contract payment. The Performance Bond, if required, shall include coverage of this requirement for two (2) years. If a Performance Bond is not required, the Contractor shall provide a warranty for the full two (2) years.

12.4 Performance of Warranty

If the Contractor does not complete repairs within two (2) weeks after written notification to the Contractor and bonding company, KTWD may have the repairs completed by others, the cost of which will be billed to the Contractor.

APPENDIX OF STANDARD DRAWINGS FOR PIPELINE CONSTRUCTION

Methods for Installing and Restoring Polyethylene Wrap
Typical Utility Locations
Typical Cast-in-Place Thrust Anchors
Common Backfill and Lawn Restoration
City of Louisville Backfill and Paving Restoration
Jefferson County Backfill and Paving Restoration
State of Kentucky Backfill and Paving Restoration
Sidewalk/Backfill Detail
Traffic Control Devices
Creek Crossings With Concrete Cap
Typical 1" Manual Air Valve (For mains up to 16")
Typical Combined 2" Automatic and Manual Air Valve (For mains 20" and larger)
Typical 2" Flushing Connection
Typical Fire Hydrant Installation
(Material Listing for) Typical Copper Service Installation 1" and Smaller
(Drawing for) Typical Short Copper Service 1" and Smaller
(Drawing for) Typical Long Copper Service 1" and Smaller
(Material Listing for) Typical 3/4" Copper Service With Pressure Reducing Valve
(Drawing for) Typical 3/4" Copper Service With Pressure Reducing Valve
(Material Listing for) Typical 1" Copper Service With Pressure Reducing Valve
(Drawing for) Typical 1" Copper Service With Pressure Reducing Valve
(Material Listing for) Typical Double Domestic/Irrigation 1" Copper Service
(Drawing for) Typical Double 1" Domestic/Irrigation Copper Service
(Material Listing for) Typical Double Domestic/Irrigation 1" Copper Service With
Pressure Reducing Valve
(Drawing for) Typical Double 1" Domestic/Irrigation Copper Service with Pressure
Reducing Valve
(Material Listing for) Typical 1-1/2" or 2" Copper Service
(Drawing for) Typical 1-1/2" or 2" Copper Service
(Material Listing for) Typical 1-1/2" or 2" Copper Service With Pressure Reducing Valve
(Drawing for) Typical 1-1/2" or 2" Copper Service With Pressure Reducing Valve
(Material Listing for) Typical Ductile Iron Domestic Service 4" and Larger
(Drawing for) Typical Ductile Iron Domestic Service 4" and Larger
(Material Listing for) Typical Fire Protection Service 4" and Larger
(Drawing for) Typical Fire Protection Service 4" and Larger
(Material Listing for) Typical Temporary Service From Fire Hydrant
(Drawing for) Typical Temporary Service From Fire Hydrant (3/4" or 1-1/2")

required. If Hydrahammer is approved by the Project Manager, compaction shall be performed in successive layers two feet (2') or less in height to finish grade or pavement restoration. Water jetting will not be allowed except by written approval by the Project Manager.

The total depth of cover (i.e., the vertical distance from crown-of-pipe to ground/pavement surface) shall be at least thirty-six (36) inches.

7.5 Manufactured Sand and the By-product of Trench Rock Excavator

Manufactured sand and/or the by-product of trench rock excavator equipment are not to be considered as acceptable pipe bedding and/or backfill material by the planholder during the compilation of his/her bid.

7.6 Shrinkless Fill

In special situations, the Contractor may use a quick-setting, cementitious flowable shrinkless fill, but only with the prior written approval of the Project Manager. The 28-day compression strength of said fill shall not exceed 100 psi, and the minimum strength shall be 70 psi.

8. PLACING PIPE IN SERVICE

8.1 Filling and Cleaning the Pipe

After a section of main has been properly installed and valved, preparation shall begin to fill, disinfect, and pig clean the main. The cleaning pig shall be inserted into the pipeline at the time of installation. Pigs shall be supplied by LWC.

The main shall be installed applying HTH pellets to each section of pipeline during construction, and shall be chlorinated prior to beginning the pigging operation. The main shall be filled from downstream of the pig. The main shall sit with hyperchlorinated water in it for at least a 24-hour period prior to the beginning of flushing operations.

When beginning the pigging operation, the valve upstream of the pig shall be opened allowing the pig to move at approximately one (1) fps. Hyperchlorinated water shall be discharged through the end of the pipeline from which the pig shall be removed in accordance with the requirements of Section 8.2.2, Discharge of Hyperchlorinated Water.

When the pipe is filled, air shall be expelled through fire hydrants or flushing connections. All flushing connections, fill connections, and discharge connections shall be installed by the Contractor at locations indicated on the

construction drawings or as directed by the Project Manager, if a fire hydrant or service connection cannot be utilized. If not specified to be furnished by LWC, particular components of flushing/discharge hardware shall be furnished by the Contractor.

With respect to flushing, the standard operating procedure is as follows. The flushing assembly is to be checked-out from LWC's Meter Shop by the Contractor or by KTWD's Project Inspector, and shall be returned by same after flushing operations have been completed. The meter/check valve portion of the flushing assembly is not to be installed until after the completion of pigging operations (so as to protect the meter/check valve from internal damage caused by debris); extra 2-inch nipples and couplings may be needed in place of the meter/check valve. Upon the completion of pigging operations and prior to the start of flushing operations, the meter/check valve is to be installed, with an initial meter reading taken, and the main shall sit with hyperchlorinated water in it for at least a 24-hour period. The Contractor is to supply a 2-inch hose to be used during flushing operations. Upon the completion of flushing operations, a final meter reading is to be taken.

8.2 Disinfection

8.2.1 Methods

After a section between lines valves has been completed, the main shall be disinfected in accordance with the requirements of the Kentucky Division of Water, Natural Resources and Environmental Cabinet. The method to be used to achieve these requirements will be application of HTH pellets (furnished by LWC) to each pipe length at the time of installation.

The Contractor shall equally apply HTH (furnished by LWC) throughout the entire section of pipeline during the installation to produce a concentration of at least fifty (50) ppm and a residual of at least twenty-five (25) ppm at the end of 24 hours, to be followed by thorough flushing; this is in compliance with 401 KAR 8:150 "Disinfection and Filtration", Sections 4(1) and 4(2). The following amounts of HTH, per 100 linear feet of pipeline, should produce fifty (50) ppm of chlorine:

Amount of HTH per 100 Linear Feet of Pipeline

<u>Pipe Size</u>	<u>Weight of HTH</u>	<u>Volume of HTH</u>
4"	0.75 ounce	1/8 cup
6"	1.50 ounces	1/4 cup
8"	2.75 ounces	3/8 cup
12"	6.00 ounces	7/8 cup
16"	10.75 ounces	1-1/2 cups
20"	16.75 ounces	2-1/2 cups

After the disinfection procedure has begun, the Contractor shall not operate any valves, including those he/she has installed, without consent of the Project Manager or his/her representative.

The Contractor shall perform the chlorination under the complete control of the Project Manager.

8.2.2 Discharge of Hyperchlorinated Water

Hyperchlorinated water shall be neutralized to a chlorine concentration of less than 0.1 ppm before discharge to a storm drain or onto the ground surface. The Contractor shall arrange for, pay for, furnish, and return to the supplier the necessary number of sulfur dioxide containers needed to dechlorinate all of the hyperchlorinated water. The Contractor shall be responsible for the lawful transportation, handling, and/or storage of the sulfur dioxide containers. LWC shall furnish all of the hardware necessary for the dechlorination operation. The Project Manager shall reserve the right to postpone the dechlorination operation in the event of an anticipated major rain event.

8.3 Combined Hydrostatic and Leakage Test

Prior to performing the combined test, the water main installation, or any section thereof, shall be completed, discharged of hyperchlorinated water, filled with water, expelled of air, flushed to ambient available chlorine concentration, and properly valved off. Water main shall then be subject to a hydrostatic pressure of 200 p.s.i. at the lowest point along the section being tested for a period of two (2) hours. In conjunction with they hydrostatic test, a leakage test shall be conducted at the same pressure and for the same period of time. The leakage allowed will be as given by the following table. All of this testing shall be accomplished in the presence of the Project Manager or his/her representative.

Allowable Leakage per 1000 feet of Pipeline (gallons/hour)

<u>Average Test Pressure (psi)</u>	<u>Pipe Diameter (In)</u>					
	<u>4</u>	<u>6</u>	<u>8</u>	<u>12</u>	<u>16</u>	<u>20</u>
225	0.50	0.68	0.90	1.35	1.80	2.19
200	0.46	0.64	0.85	1.28	1.70	2.07
175	0.42	0.59	0.80	1.19	1.59	1.95

Before the hydrostatic test is begun, the Contractor shall backfill all pipe, provide all temporary and permanent reaction anchor blocking, and provide taps for releasing air at all points of highest elevation where no fire hydrant or flushing connection has been installed. It shall be the Contractor's responsibility to locate and repair any and all leaks that may develop. All pipe, fittings, and other materials found to be defective under test shall be removed and replaced. These tests shall be repeated until satisfactory to the Project Manager. On mains of less than 500 feet in length, the Project Manager may waive the requirement for testing by written notice to the Contractor.

The required testing apparatus, consisting of a gasoline motor driven pump, valves, pressure gauge, meter, 60 feet of hose, and connections, shall be picked up and returned to LWC's Allmond Avenue Warehouse, the day the test is to be run. The Contractor shall be responsible for all phases of testing the water main, and shall include the costs involved in the base bid.

9. FIRE HYDRANT

9.1 Materials and Installation

The fire hydrant installation shall consist of the following items, and shall be as shown on the detail sheet of plans.

The location of fire hydrants shall be approved by the Project Inspector prior to installation.

The cast iron fire hydrant anchor tee and gate valve shall be installed as the main is laid. A tapping sleeve and gate valve shall be installed if the main is already active. In all cases, the hydrant gate valve must be secured to the main.

The type of connecting pipe (i.e., hydrant lead) shall be ductile iron pipe, in all cases, regardless of the type of main in the street.

The hydrant shall be that furnished by LWC, designed for proper depth of bury, shall have a drain hole, and shall be so installed that the barrel will properly drain.

Two layers of polyethylene wrapping shall be installed from the fire hydrant anchor tee to the base elbow of the fire hydrant, including the hydrant valve, connecting pipe, and thrust restraints. The wrapping shall not impede the drain holes located near the bottom of the hydrant barrel.

The hydrant shall be set plumb, and shall have the pumper nozzle at right angles to the curb, except that hydrants having two pumper nozzles 124 degrees apart shall be set with each nozzle facing the curb at an angle of 62 degrees. The bottom of the break-away flange bolts shall be located from 1"-7" above finished grade. The hydrant shall be set to established grade, with the center of the barrel 18" back of the face of the curb line or as directed, or in the absence of a curb approximately eight feet from the edge of the pavement, and the center of the nozzle 18"-24" above finished grade.

The base of the hydrant shall be set on a precast concrete block. The back of the elbow shall be well anchored against undisturbed earth by means of a precast concrete block. Through-bolts or restrained joint hardware, supplied by LWC, are to be installed between the gate valve and the hydrant.

When a bore is required under a paved road, the Contractor shall abide by Section 6.3 "Boring and Tunneling".

The terms "relocate", "renew", and "transfer" shall apply to fire hydrant removal/installation in a parallel manner as said terms apply to service vault removal/installation; see Section 10 "SERVICE WORK" for definition details.

9.2 Drainage Pit

Whenever a hydrant is set, a drainage pit three feet square and two feet deep shall be excavated below each hydrant elbow and filled compactly with crushed stone under and around the elbow of the hydrant and to a level of two feet (2') above the base of the elbow. Dimensions of the pit shall be 3 ft. long x 3 ft. wide x 4 ft. deep, with the pit centered about the barrel of the hydrant and the top of the pit two feet above the base of the hydrant elbow.

No less than one cubic yard of #3 crushed stone shall be used around the bottom of the hydrant, and in no case shall there be a connection to a sewer.

The top of the drainage pit shall be covered with a plastic sheet before backfilling. Before this dry well is covered with backfill, the Contractor shall notify the Project Manager in order that each drainage system may be inspected.

10. SERVICE WORK

10.1 Notification of Customers

It is the intent of KTWD and LWC not to interrupt service to existing customers, unless absolutely necessary. When it is necessary to interrupt service, all customers affected by shut-off shall be notified in person, or in cases where the customer cannot be contacted, by a note attached to the front door of their premises.

Such information shall be made twenty-four hours prior to shut-off and with Project Inspector approval, allowing sufficient time for the customer to draw and reserve an ample supply of water.

10.2 Service Installation

A service installation is defined to include all work necessary to install the copper tubing or pipe and all related items from the main to the property line. Under some circumstances, tubing/piping work may extend up to five (5) feet beyond the property line. The installation shall include, but is not limited to, the following: jacking of copper tubing, or excavating or boring for polyvinyl chloride (PVC) or ductile iron pipe; corporation stop (corporation cock) and tapping saddle, or tapping sleeve and gate valve at the main; meter vault; cast iron frame and lid; water meter and associated valves and fittings; all tubing and/or pipe; and backfilling and restoring of all surfaces. Excavation, backfilling, and restoring paved and unpaved surfaces shall be done in accordance with "Service Excavation At Main" (Section 10.14).

Long services are defined as services to meters on the opposite side of the street from the water main to which it is connected. Short services are defined as services to meters on the same side of the street as the water main to which it is connected.

When installing a service on pipe wrapped with polywrap, before making the tap, wrap three layers of polyethylene-compatible tape completely around the pipe to cover the area where the tapping machine and chain will be mounted. Make the tap and install the corporation stop directly through the tape and polywrap. After making the service connection, wrap the corporation stop and a minimum distance of three feet (3') of the copper service with polywrap. Inspect the entire circumferential area of the main and make any necessary repairs.

For polyvinyl chloride (PVC) pipe, service outlets of 3/4" through 2" shall

be made with a tapping saddle. For ductile iron pipe, service outlets of 3/4" - 2" shall be made by direct tapping. Service outlets of larger than 2" shall be made with a tapping sleeve and gate valve on existing ductile iron or polyvinyl chloride pipe. Service outlets of larger than 2" shall be made with a ductile or gray cast iron tee on new ductile iron or polyvinyl pipe. When using service saddles, saddle bolts shall be tightened with a torque wrench according to the saddle manufacturers' torque recommendations.

When installing a service on PVC, the Contractor shall use a shell cutter that is designed for walls as heavy as DR14 (pressure class 200, AWWA C900) and one that will remove the material and retain the coupon. No twist drills will be allowed. The cutting toll must be sharp and without damage.

When tapping the PVC pipe under pressure, the ambient temperature shall be between 32° and 90° F. The taps shall be located a minimum of 18" from the joint of the PVC pipe, and, if installing more than one tap in one length of PVC pipe, the taps shall be staggered and a minimum of 18" apart, measured longitudinally. Taps shall not be made in an area of PVC pipe that shows discoloration.

Service connections shall be installed so that the outlet is at an angle of 45° above the horizontal. A bend in the service line shall be provided to insure flexibility and to accommodate the effects of loads.

In direct tapping of iron pipe, the tap threads must match the corporation stop's AWWA threads. The pipe and corporation stop shall be examined to insure acceptability for direct tapping.

Tapping sleeves shall be assembled according to the manufacturers' instructions and must be supported independently of PVC pipe by precast concrete blocks during the tapping operation. The support shall be left in place, filling any voids such that the pad is bearing against undisturbed earth, and thrust blocks shall be used as with other fittings.

10.3 Tapping Mains

All taps in water mains shall be made by the Contractor, and corporation stops shall be inserted by means of a tapping machine in such manner that will permit continued conditions of water flow and pressure within these mains. The Contractor shall use care in inserting and tightening the corporation stop, and shall reimburse KTWD or LWC for any damage or expense caused by any of his/her activities under this contract. With permission of the Project Manager, tapping saddles may be used on ductile, cast iron, and asbestos-cement water mains. Tapping saddles will be used

on plastic water mains. When a service tap is made on a plastic water main, No. 12 copper tracer wire will be connected to the No. 12 copper tracer wire on the main and then wrapped around the copper service line. After the tap is completed on mains with polyethylene wrap, the Contractor shall repair and replace the polyethylene wrap to completely cover the main and corporation stop in accordance with the detail in the Appendix of Drawings. The service line shall be flushed before connecting to the meter.

10.4 Laying and Handling Copper Tubing

Special care shall be observed in handling the copper tubing so as not to kink, mash, or damage it. No damaged tubing shall be installed. All damaged tubing or scraps shall be returned to the proper LWC storekeeper for credit. The use of a copper tubing bender will be required. No bend shall be made in the tubing with a radius less than four inches (4"). Where under pavement, tubing shall be laid continuously and in one piece without intermediate joints or couplings, except at the terminals and except where the continuous length to be laid exceeds one hundred feet (100') for 3/4" and 1" sizes.

10.5 Joints

All intermediate and terminal joints for 3/4" and 1" sizes of copper tubing shall be the flared typed, using the proper flaring tools for the sizes of tubing and types of fittings involved.

10.6 Setting Meter Vaults

Meter vaults shall be set either to the existing grade, or of indicated "Special Handling" on the service order to the grade given by a stake card. Earth shall be firmly tamped around the vault and cover, the lid locked in and the meter setting centered in the middle of the vault and at the proper depth below grade, as shown on the drawing in the Appendix of Drawings. Meter vaults shall not be installed in areas subject to vehicular traffic if avoidable. When directed to be installed in areas subject to vehicular traffic, the meter vault shall be of the heavy duty concrete type with heavy duty frame and cover.

10.7 Pressure Regulators

When directed by the Project Manager, the Contractor shall install a pressure regulator. (See the Appendix of Drawings.)

10.8 Tail Pipes

Tubing shall extend from the meter setting assembly to up to five feet beyond the property line, and the end mashed to form a watertight closure. The tail pipes of a service installation, where two meters are to be installed in one vault, shall be installed parallel for their entire length and at least eight inches (8") apart, and in no event shall they cross one another.

10.9 Testing the Service

After the complete service has been installed and before any joints are covered, the corporation stop shall be opened, the entire length of the service filled with water and each joint observed by the Contractor for leaks.

Any leaks so found shall be immediately repaired. After the service has been observed by the Project Inspector to be watertight throughout its length, the curb stop shall be shut off and the backfilling started. The Contractor shall leave the corporation stop fully open and the meter angle stop fully closed when he/she has completed the testing of each completed service.

10.10 Relocate Service

Relocating a service is defined to include installing a complete new service to an existing customer, including a new tail pipe, discontinuing the old service at the main (in the event the existing main is to remain active), abandoning the old meter vault, and returning the old meter and cast iron frame to LWC's Almond Avenue Warehouse. Concrete meter vaults shall be used in driveways, parking lots, and other areas of vehicular traffic. Excavation, backfilling, and restoring of surfaces shall be done in accordance with "Service Excavation At Main" (Section 10.14). Abandoning the old meter vaults shall be done in accordance with "Backfill Meter Vault" (Section 10.15). The Project Manager has estimated the number of services to be relocated, and these are shown on the drawings. The Contractor shall include the cost of these relocations in the base bid. Unit prices are included in the **BIDDER'S PROPOSAL** form for changing quantities from the estimated number of services to be relocated.

10.11 Renew Service

Renewing a service is defined to include installing a new copper service line from the existing main or new main to the LWC meter stop, and, in the event the tail pipe is lead or galvanized, a new copper tail pipe from the angle coupling to the property line or the joint where the tail pipe connects to the customer service line (whichever is shorter) and shall include, but is not limited to, the following: excavation; boring or jacking of copper tubing

or pipe; installing corporation stop (corporation cock); tapping saddle or tapping sleeve and gate valve at the main; installing all tubing and/or pipe and all associated fittings; and backfilling and restoring of all surfaces. Tail pipes are normally five feet or less in length; the meter vault is usually located at or near the edge of the public right-of-way or water utility easement. All existing lead and galvanized service lines found will be renewed, unless otherwise instructed on the plans. Excavation, backfilling, and restoring of surfaces shall be done in accordance with "Service Excavation At Main" (Section 10.14). The Project Manager has estimated the number of services to be renewed, and these are shown on the drawings.

The Contractor shall include the cost of these service renewals in the base bid. Unit prices are included in the **BIDDER'S PROPOSAL** form for changing quantities from the estimated number of services to be renewed.

10.12 Transfer Service

Transferring a service is defined to include installing a length of service line, as require, to reconnect an existing copper service to the existing main or new main, and shall include, but is not limited to, the following: excavation; boring or jacking of copper tubing or pipe; installing corporation stop (corporation cock); tapping saddle or tapping sleeve and gate valve at the main; installing all tubing and/or pipe and all associated fittings; and backfilling and restoring of all surfaces. When a lead or galvanized tail pipe is encountered, the tail pipe from the angle coupling to the property line or joint where the tail pipe connects to the customer service line (whichever is shorter) shall be replaced with a copper service line. Excavation, backfilling, and restoring of surfaces shall be done in accordance with "Service Excavation At main" (Section 10.14). The Project Manager has estimated the number of services to be transferred, and these are shown on the drawings. The Contractor shall include the cost of these service transferrals in the base bid. Unit prices are included in the **BIDDER'S PROPOSAL** form for changing quantities from the estimated number of services to be transferred.

10.13 Discontinue Service

Discontinuing a service is defined to include excavating a service line at a water main that is to remain active, turning off the corporation stop (ferrule), disconnecting and plugging the service line, backfill the meter vault, and restoring all surfaces. Driven ferrules, which are not threaded onto the main, will require removal, plugging, and banding. Driven ferrules can be expected on most lead services. Excavating, backfilling, and restoring of surfaces shall be done in accordance with "Service Excavation At Main" (Section 10.14). Abandoning the old meter vaults shall be done in accordance with "Backfill Meter Vault" (Section 10.15). The Project

Manager has estimated the number of services to be discontinued, and these are shown on the drawings. The Contractor shall include the cost of these service discontinues in the base bid. Unit prices are included in the BIDDER'S PROPOSAL form for changing quantities from the estimated number of services to be discontinued.

Service vaults abandoned as a result of abandoning an existing main shall be site-restored by the Contractor as required in (Section 10.15) "Backfill Meter Vault."

10.14 Service Excavation at Main

The excavation at the water main shall be made in accordance with "RESTORATION" (Section 11), "Twelve-Inch Cutback Requirement" (Section 5.4.2), and "Trenching" (Section 5.5) as appropriate to the type of surface. Backfilling and restoration shall be in accordance with "BACKFILLING PROCEDURES AND TAMPING" (Section 7) and "RESTORATION" (Section 11) as appropriate to the type of surface. Contractor shall be responsible for all remedial work due to service excavations as required in the section "WARRANTY" (Section 12).

10.15 Backfill Meter Vault

Meter vaults on all discontinued or relocated services shall be abandoned by removing the old meter, cast iron frame and lid, and any existing curb stop lids, and filling the void to existing grade with backfill and surface material, appropriate to the type surface. Unpaved areas shall be backfilled to grade with topsoil and restored in accordance with "RESTORATION" (Section 11). Sidewalks shall be backfilled with pit run sand or DGA, and repaved in accordance with "RESTORATION" (Section 11). Parking lots, driveways, and other areas subject to vehicular traffic shall be backfilled using DGA, and restored in accordance with "BACKFILLING PROCEDURES AND TAMPING" (Section 7), "Twelve-Inch Cutback Requirement" (Section 5.4.2), and "RESTORATION" (Section 11) found in this specification. All meters and cast iron frames and lids shall be returned to the LWC Allmond Avenue Warehouse. Contractor shall be responsible for all remedial work due to discontinuation of meter vaults as required in the section "WARRANTY" (Section 12).

10.16 Service Work Costs

The Contractor shall include in his/her proposal the cost of performing all service line work as shown on the drawings and as stated in the specifications. The Project Manager has estimated the number of service to be installed, transferred, renewed, relocated, and discontinued, the costs of

which are to be included in the base bid. The Project Manager has made every effort to accurately estimate the number of service installations, renewals, transferrals, relocations, and discontinued, but has included in the **BIDDER'S PROPOSAL** form unit prices for each in the event that actual numbers deviate from the estimate. No extra will be paid for installing, transferring, renewing, relocating, or discontinuing the number of estimated services identified in the **SUPPLEMENTARY SPECIFICATIONS** or on the Project Drawings, the costs of which are to be included in the base bid.

10.17 Potential Shock Hazard

Due to electrical grounding of some electrical services to metal water service lines, the potential for electrically charged water service lines and/or water meters exists. The Contractor shall check each service for electric potential before working on the service. Any electrically-charged water service shall immediately be brought to the attention of the Project Manager or his/her representative.

11. RESTORATION

11.1 Asphalt Materials and Construction Methods

The composition of the bituminous concrete pavement and method of construction shall be in accordance with the Kentucky Transportation Cabinet Department of Highways (KTCDOH) Standard Specifications for Road and Bridge Construction (latest edition).

All joint sealant material shall be: hot-applied, non-water-based, and produced by a competent and reputable manufacturer. Store-bought items shall not be allowed. Sand shall be placed to prevent tracking.

11.2 Concrete Materials and Construction Methods

All concrete used on this project and as shown on the plans shall have a 28-day minimum compression strength of 3,500 pounds per square inch. The proportions and construction requirements for the concrete shall be as listed in the Kentucky Transportation Cabinet Department of Highways Standard Specifications for Road and Bridge Construction (latest edition).

All concrete used for structural purposes (such as thrusts blocks, road subbase, sidewalks, etc.) shall be produced by a competent and reputable manufacturer. Only concrete used for miscellaneous purposes (such as vault floor pad, end plugs for mains to be abandoned-in-place, etc.) is allowed to be that of an on-site bag mix.

11.3 Paved Surfaces

Repaving over the completed trench shall be done by the Contractor, who shall furnish all materials required. Repaving shall match the original paving in type, shall be first class in all respects, and shall comply with specifications covering the type of paving to be restored as issued by the City Engineer, County Engineer, or the Kentucky Transportation Cabinet Department of Highways, whichever has authority over the thoroughfare involved. The restoration of parking lots and driveways serving commercial and/or public establishments shall comply with the specifications of the respective authority having jurisdiction over the abutting right-of-way. Except for parking lots, driveways, and sidewalks, each individual pavement restoration shall have a LWC-supplied pavement marker installed by the Contractor. The Contractor shall be responsible for all remedial work as required in (Section 12) "WARRANTY."

All materials and methods of construction shall be in accordance with "Asphalt Materials and Construction Methods" (Section 11.1) and "Concrete Materials and Construction Methods" (Section 11.2).

All bituminous pavement cuts are to be restored in accordance with the permanent pavement restoration detail as shown in the Appendix of Drawings. Pavement cuts are to be uniform width and straight sawed edges. An approved joint sealer is to be used to seal all joints between new and existing pavement. In the event asphalt plants have closed for the season, the Contractor shall maintain all pavement cuts with temporary bituminous pavement, until it becomes possible to permanently restore the pavement. Bituminous concrete used for permanent pavement restoration shall have a minimum temperature of 225°F as measured when discharging from the truck.

All cuts in driveways and sidewalks are to be replaced from construction joint to construction joint, using 3500 psi concrete.

All concrete curbs or curb and gutters which are damaged are to be entirely removed and replaced in kind between existing joints. Install one-half inch, pre-molded expansion joint material between new and existing concrete. Concrete shall be 3500 psi concrete.

Permanent restoration of driveway, sidewalks, and street intersections shall be completed by the Contractor within ten working days after backfilling of trench is complete. If restorations are not completed, KTWD may, at its option, have the repairs made by others and deduct those costs from the amount owed to the Contractor.

The Contractor is to take whatever measures are necessary to keep all traveled surfaces free of dirt, mud, or other material during all non-working hours. Unless otherwise approved by the Project Manager, no excavated material shall be placed on the paved surface or any other areas near the trench; the excavated material shall be placed directly from the trench to the haul truck. The Contractor shall provide adequate dust control.

Particular care is to be taken that existing pavement surfaces within the right-of-way are not scarred or otherwise damaged by equipment. Planking or other protective devices are to be used at all times to prevent damage to paved surfaces from tracked equipment. In the event the paved surfaces damaged by work on this project, resurfacing is to be required as follows:

1) If scarring or other damage is continuous, resurfacing is to be likewise continuous, and is to consist of 1-1/2 inch Class A bituminous surfaces extending to the edge of damaged lane. The edge of the damaged pavement shall be edge keyed, with the resurfaced section being flush with the undisturbed adjacent pavement surface, allowing roadway surface drainage not to be obstructed.

2) If scarring or other damage is determined to be intermittent, individual or paved patches may be permitted, and are likewise to consist of Class A bituminous surface, extending to the edge of the damaged lane.

11.4 Unpaved Surfaces

All drainage structures (such as pipe, head or wing walls, channels, flumes, and culverts), fences, signs, etc., public or private, which are damaged or removed by this Contractor, shall be repaired or replaced to the satisfaction of the owner. All open ditches shall be restored to their present cross sections, depths, and slopes, and dressed and graded to provide permanent adequate drainage to present connecting ditches or culverts equal to the original drainage systems except where specifically indicated on the plans. The Contractor shall maintain fences during construction.

The Contractor shall replace all surface material including landscaping, shrubbery, fences, or other disturbed surfaces, to a condition at least equal to that before the work began, furnishing all labor and materials.

The grassed area disturbed by the work under this contract, whether by the Contractor or by any subcontractor, within or adjacent to the right-of-way of any state, county, city or other thoroughfare, public or private (except as required below), now in grass shall be shaped, seeded, and mulched in accordance with KTCDOH Standard Specifications for Road and Bridge

Construction (latest edition). Seed mixture shall be Mixture No. 1 as described in Seed Mixtures for Permanent Seeding. Acceptance of Seeding Section shall be amended to disallow compensations for any corrective seeding required by the Project Manager.

All work fronting residential lots now in grass shall be shaped and sodded in accordance with KTCDOH Standard Specifications for Road and Bridge Construction (latest edition), but shall be amended to include removal of all rock from the sod bed. Rolling of the installed sod will be allowed in lieu of tamping.

11.5 Site Clean Up

Surplus pipeline materials, equipment, tools, and temporary structures shall be removed by the Contractor, and all dirt, rubbish and excess earth from excavations shall be hauled and disposed by the Contractor, all in a manner satisfactory to the Project Inspector, Project Manager and KTWD.

The Contractor shall leave the site in presentable shape at least comparable with the condition in which it was before the construction began and in compliance with all restoration provisions of this specification.

12. WARRANTY

12.1 Pipeline Materials and Appurtenances

The Contractor shall be responsible for satisfactory performance of the pipeline and appurtenances for a period of one (1) year after the date of the final contract payment.

12.2 Paved Surface Restoration

When in paved surfaces, the Contractor shall be responsible for all settlement, surface restoration, and any other maintenance or repairs required due to water facilities construction for a period of five (5) years after the date of the final contract payment. The Performance Bond, if required, shall include coverage of this requirement for the first two (2) years, and the Contractor shall provide a warranty for the remaining three (3) years. If a Performance Bond is not required, the Contractor shall provide a warranty for the full five (5) years.

12.3 Unpaved Surface Restoration

When in unpaved surfaces, the Contractor shall be responsible for all settlement, surface restoration, and any other maintenance or repairs

required due to water facilities construction for a period of two (2) years after the date of the final contract payment. The Performance Bond, if required, shall include coverage of this requirement for two (2) years. If a Performance Bond is not required, the Contractor shall provide a warranty for the full two (2) years.

12.4 Performance of Warranty

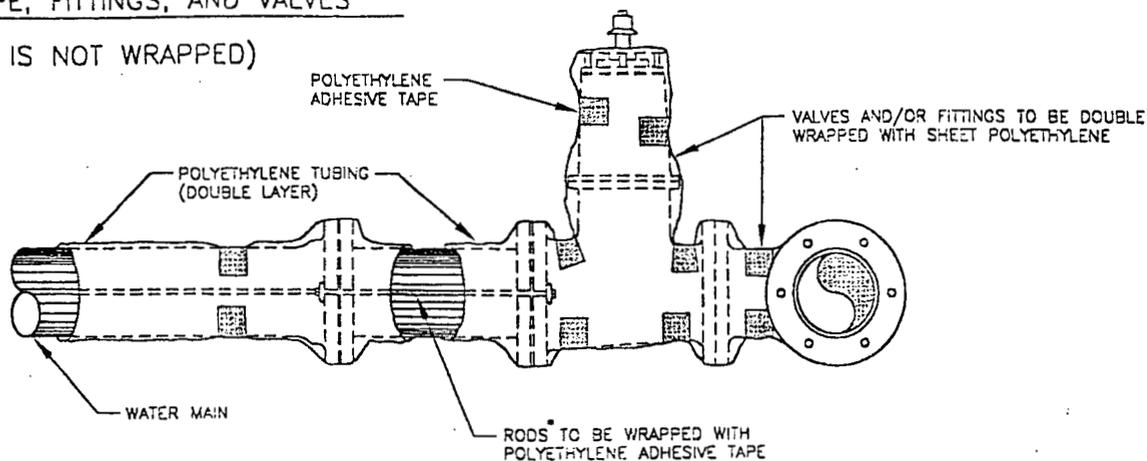
If the Contractor does not complete repairs within two (2) weeks after written notification to the Contractor and bonding company, KTWD may have the repairs completed by others, the cost of which will be billed to the Contractor.

APPENDIX OF STANDARD DRAWINGS FOR PIPELINE CONSTRUCTION

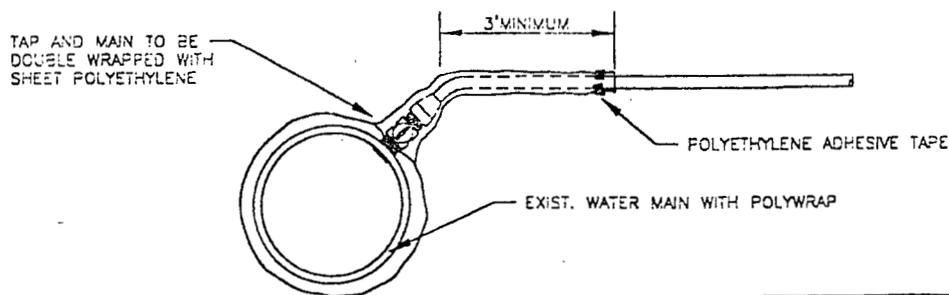
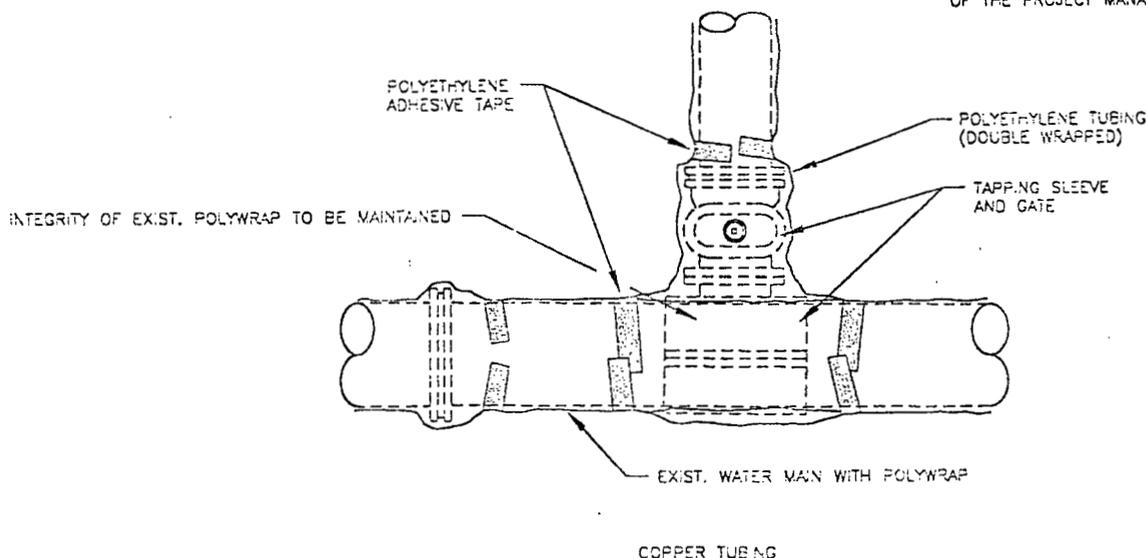
Methods for Installing and Restoring Polyethylene Wrap
Typical Utility Locations
Typical Cast-in-Place Thrust Anchors
Common Backfill and Lawn Restoration
City of Louisville Backfill and Paving Restoration
Jefferson County Backfill and Paving Restoration
State of Kentucky Backfill and Paving Restoration
Sidewalk/Backfill Detail
Traffic Control Devices
Creek Crossings With Concrete Cap
Typical 1" Manual Air Valve (For mains up to 16")
Typical Combined 2" Automatic and Manual Air Valve (For mains 20" and larger)
Typical 2" Flushing Connection
Typical Fire Hydrant Installation
(Material Listing for) Typical Copper Service Installation 1" and Smaller
(Drawing for) Typical Short Copper Service 1" and Smaller
(Drawing for) Typical Long Copper Service 1" and Smaller
(Material Listing for) Typical 3/4" Copper Service With Pressure Reducing Valve
(Drawing for) Typical 3/4" Copper Service With Pressure Reducing Valve
(Material Listing for) Typical 1" Copper Service With Pressure Reducing Valve
(Drawing for) Typical 1" Copper Service With Pressure Reducing Valve
(Material Listing for) Typical Double Domestic/Irrigation 1" Copper Service
(Drawing for) Typical Double 1" Domestic/Irrigation Copper Service
(Material Listing for) Typical Double Domestic/Irrigation 1" Copper Service With
Pressure Reducing Valve
(Drawing for) Typical Double 1" Domestic/Irrigation Copper Service with Pressure
Reducing Valve
(Material Listing for) Typical 1-1/2" or 2" Copper Service
(Drawing for) Typical 1-1/2" or 2" Copper Service
(Material Listing for) Typical 1-1/2" or 2" Copper Service With Pressure Reducing Valve
(Drawing for) Typical 1-1/2" or 2" Copper Service With Pressure Reducing Valve
(Material Listing for) Typical Ductile Iron Domestic Service 4" and Larger
(Drawing for) Typical Ductile Iron Domestic Service 4" and Larger
(Material Listing for) Typical Fire Protection Service 4" and Larger
(Drawing for) Typical Fire Protection Service 4" and Larger
(Material Listing for) Typical Temporary Service From Fire Hydrant
(Drawing for) Typical Temporary Service From Fire Hydrant (3/4" or 1-1/2")

METHOD FOR INSTALLING POLYETHYLENE WRAP
AROUND IRON PIPE, FITTINGS, AND VALVES

(PVC PIPE IS NOT WRAPPED)



*RODS ARE TO BE USED ONLY AS TEMPORARY THRUST RESTRAINT. THRUST BLOCKS MUST BE USED FOR ALL FITTINGS AS DETAILED IN THE STANDARD SPECIFICATIONS. (MEGALUGS MAY BE USED IN PLACE OF RODS AT THE DISCRETION OF THE PROJECT MANAGER.)



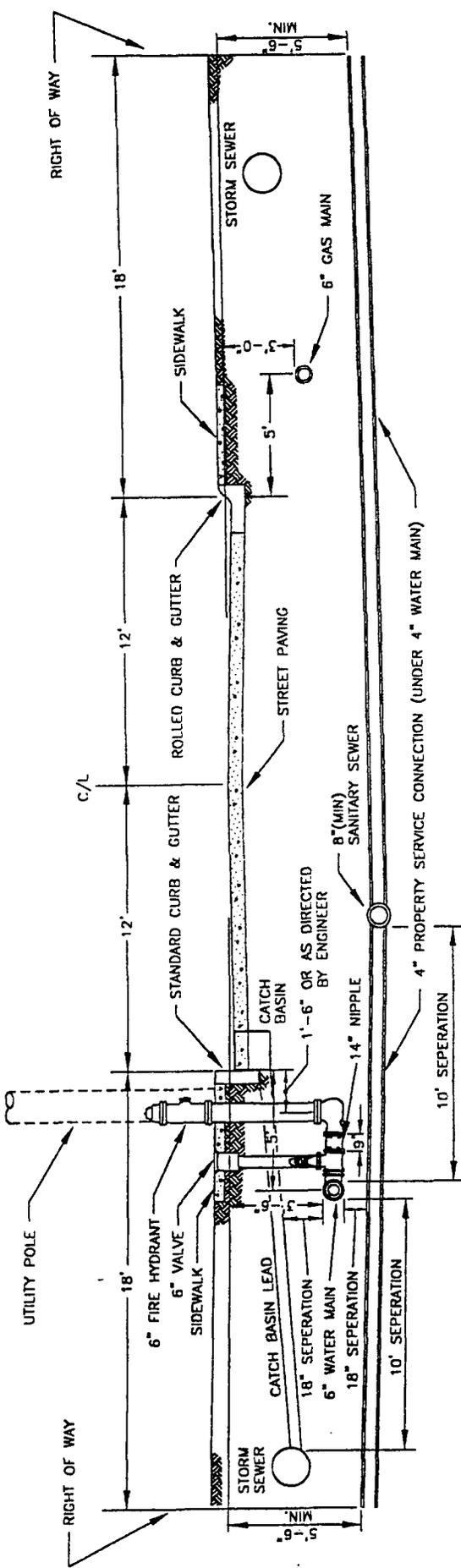
METHOD FOR RESTORING
POLYETHYLENE WRAP
WHEN TAPPING WATER MAINS

LOUISVILLE WATER COMPANY
435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 589-3600
JOHN L. HUBER - PRESIDENT
GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

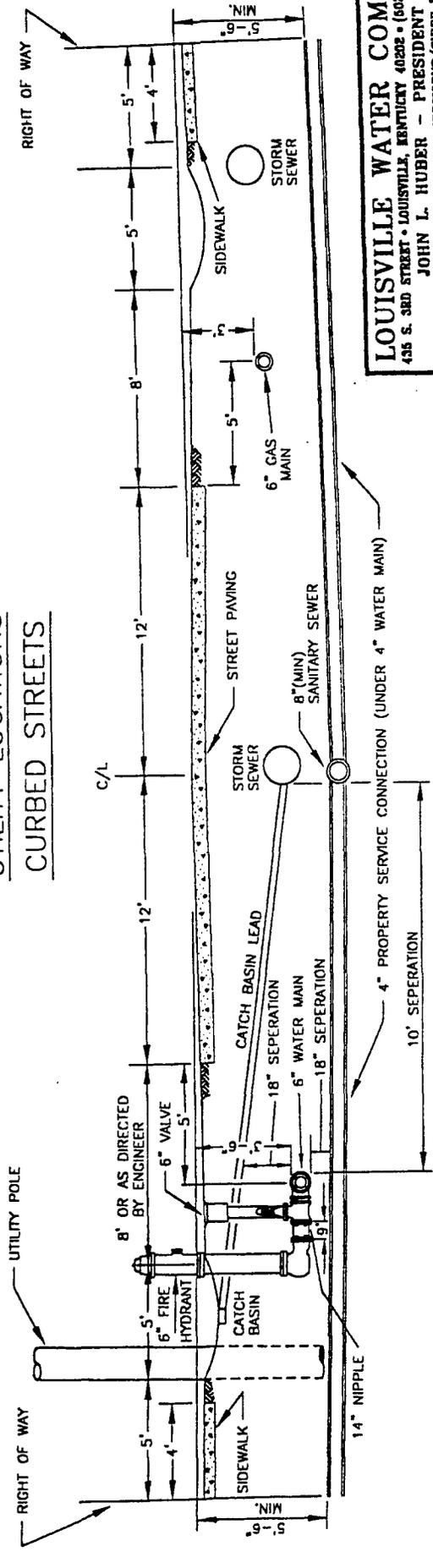
STANDARD DRAWING

METHODS FOR
INSTALLING AND RESTORING
POLYETHYLENE WRAP

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	1200	SHEET	1 of 1



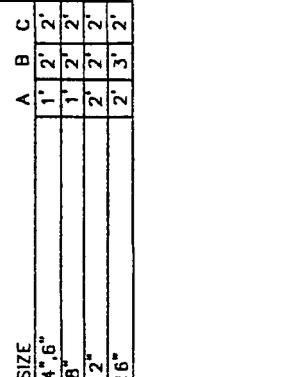
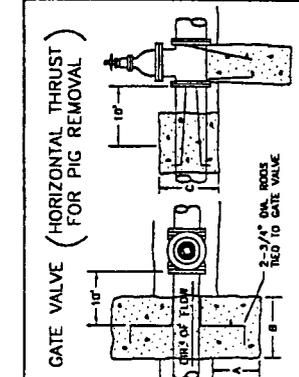
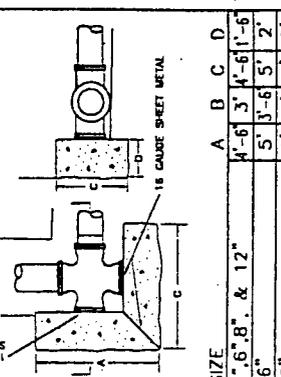
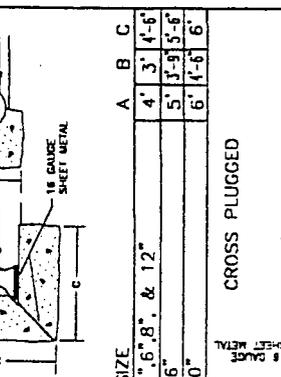
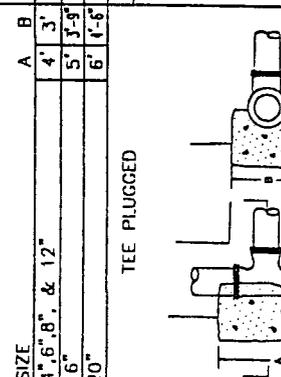
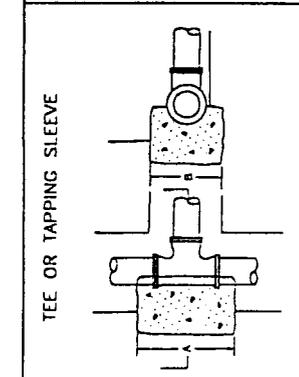
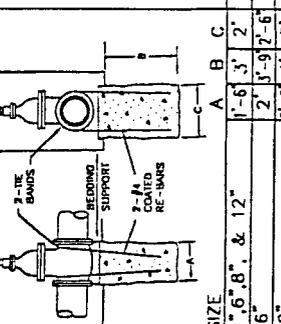
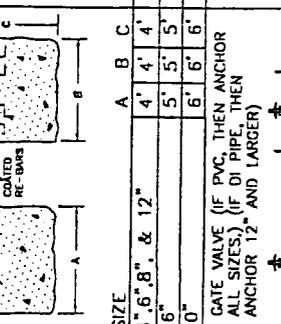
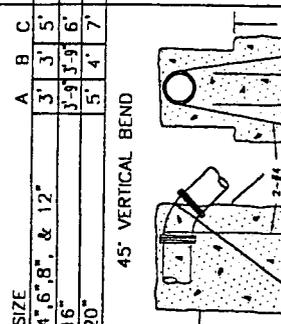
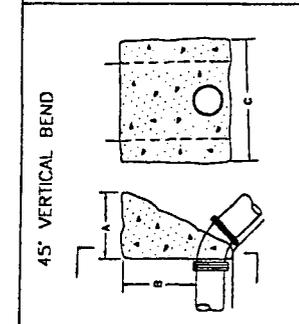
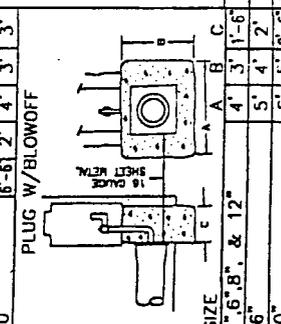
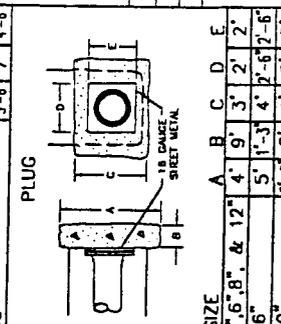
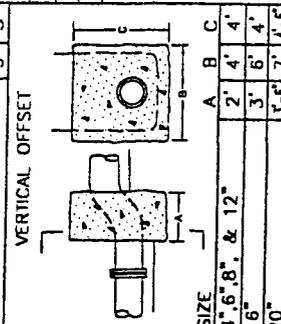
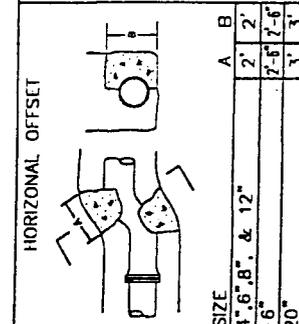
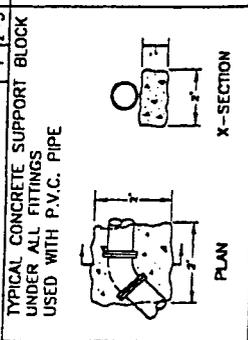
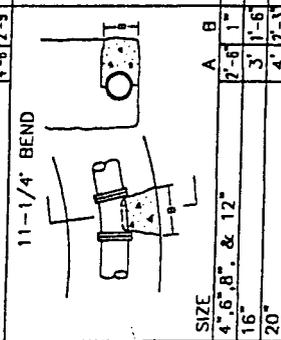
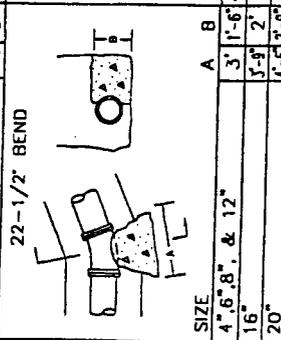
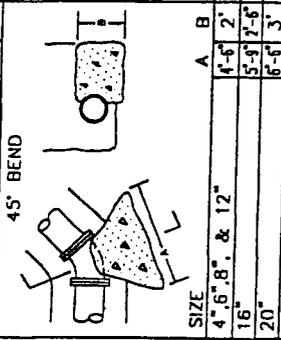
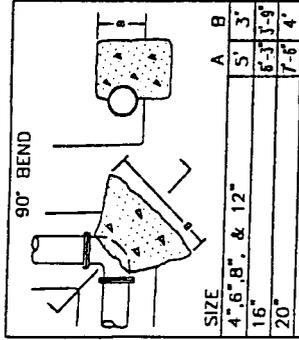
UTILITY LOCATIONS
CURBED STREETS



UTILITY LOCATIONS
WITHOUT CURBED STREETS

LOUISVILLE WATER COMPANY
435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 568-3600
JOHN L. HUBER - PRESIDENT
GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING			
TYPICAL UTILITY LOCATIONS			
DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	1000	SHEET	1 OF 1

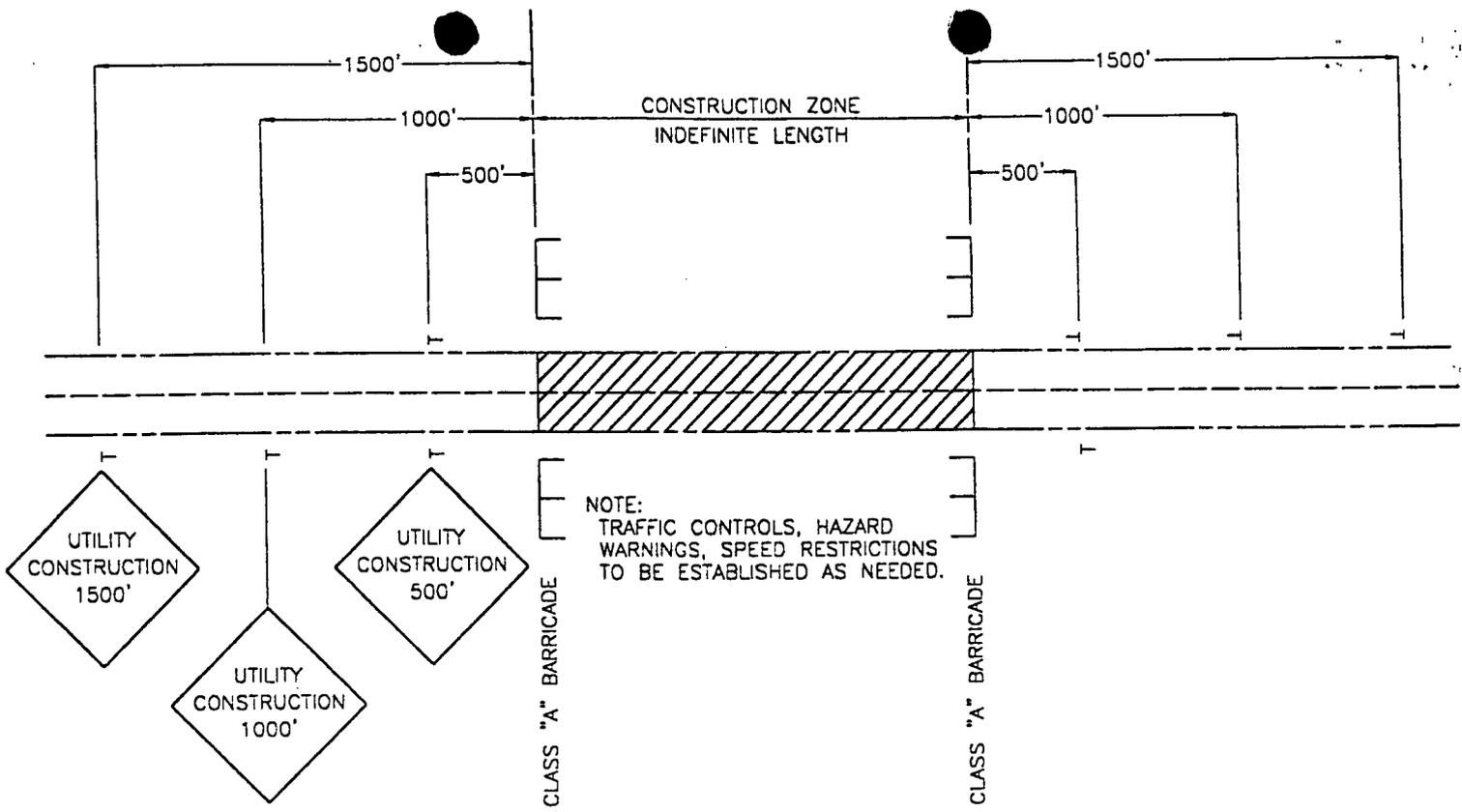


- NOTE:** ALL DUCTILE AND GRAY IRON PIPE AND APPURTENANCES SHALL BE DOUBLE POLYWRAPPED.
- (1) CONCRETE THRUST ANCHORS MUST BE ALLOWED TO CURE OR PROTECTED AS APPROVED BY THE PROJECT MANAGER, BEFORE BACKFILLING.
 - (2) CARE SHALL BE TAKEN TO AVOID DAMAGING POLYWRAP.
 - (3) ALL CONCRETE SHALL BE 3,500psi FROM A COMMERCIAL PLANT, OR SHALL BE AN ON-SITE MIXTURE PREVIOUSLY APPROVED AT THE PRECONSTRUCTION CONFERENCE.
 - (4) ALL FITTINGS INVOLVED WITH PVC PIPE SHALL HAVE A CONCRETE SUPPORT BLOCK, IN ADDITION TO THE PERTINENT THRUST BLOCK.
 - (5) ALL REDUCERS ARE TO BE ANCHORED, THE ANCHOR DIMENSIONS SHOWN IN THE "GATE VALVE" DRAWING SHALL APPLY; USE THE LARGER OF THE TWO REDUCERS DIMENSIONS AS THE DICTATING DIMENSIONS.
 - (6) SIZING OF THRUST ANCHORS ASSUME AN ALLOWABLE SOIL BEARING CAPACITY OF 3,000 PSF.

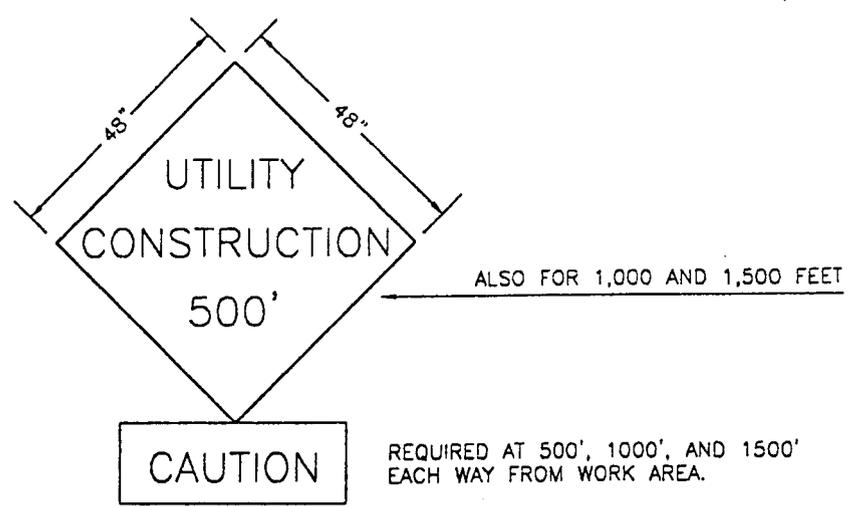
LOUISVILLE WATER COMPANY
 435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 648-3600
 JOHN L. HUBER - PRESIDENT
 GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
 TYPICAL CAST-IN-PLACE
 THRUST ANCHORS

DATE	JAN, 1997	SCALE	NONE
DRAWING NO.	1400	SHEET	1 OF 1



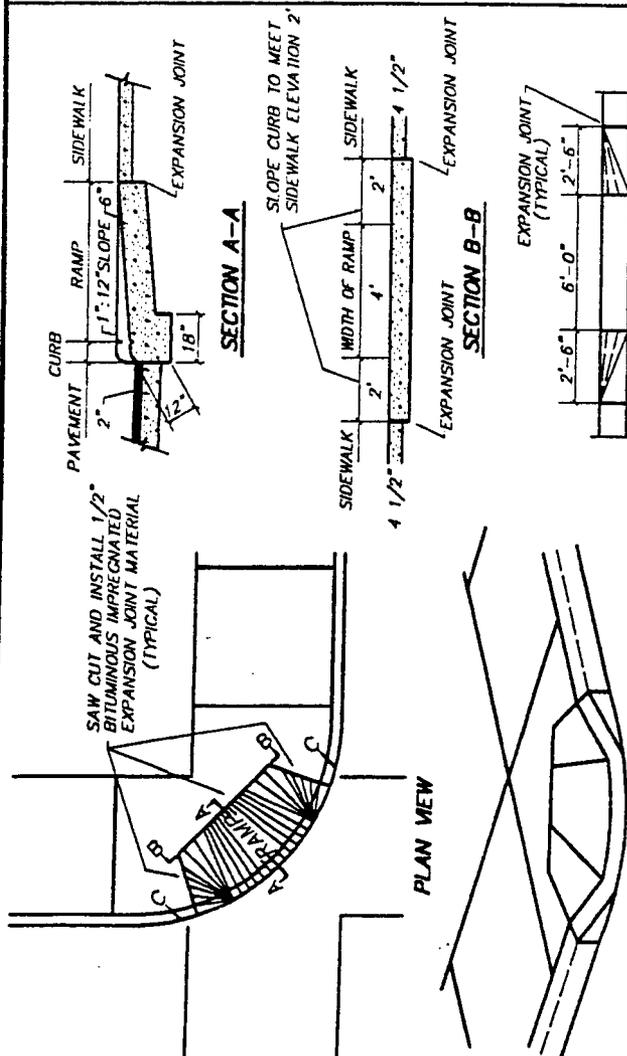
LOCATION OF
TRAFFIC CONTROL DEVICES



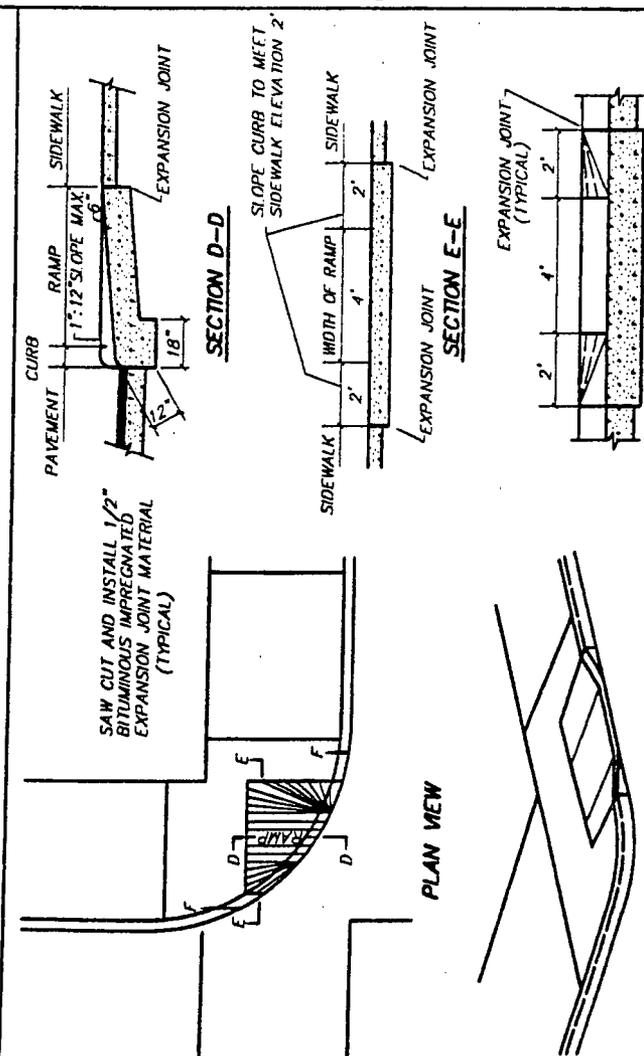
WARNING SIGNS

1. TREES ON STATE RIGHT-OF-WAY ARE NOT TO BE DAMAGED BY THIS INSTALLATION. NO TREE TRIMMING OR REMOVAL IS AUTHORIZED BY THIS PERMIT.
2. ALL DISTURBED PORTIONS OF THE STATE RIGHT-OF-WAY TO BE RESTORED TO ORIGINAL CONDITION BY SEEDING AND MULCHING IN ACCORDANCE WITH KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS.
3. ALL SIGNS AND CONTROL OF TRAFFIC TO BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

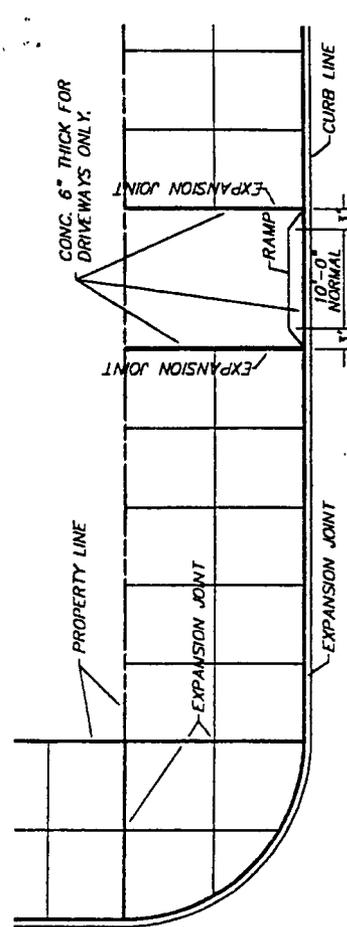
LOUISVILLE WATER COMPANY			
435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 568-3800			
JOHN L. HUBER - PRESIDENT			
GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER			
<u>STANDARD DRAWING</u>			
TRAFFIC CONTROL DEVICES			
DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	4600	SHEET	1 OF 1



RAMP TYPE 1

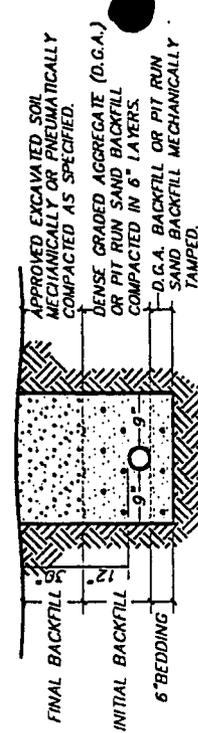


RAMP TYPE 2



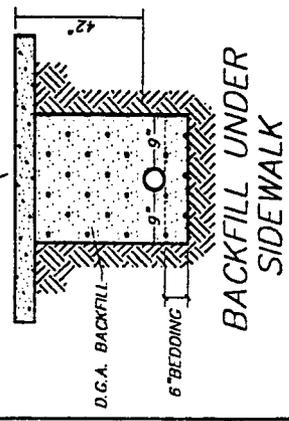
PLAN OF SIDEWALK AND DRIVEWAY-FULL WIDTH

NOTES:
 ALL SIDEWALKS SHALL BE 4 1/2" THICK. ALL DRIVEWAYS SHALL BE 6" THICK. ALL CONCRETE SHALL BE CLASS "A" (3500 LB. CONCRETE). WOOD FLOAT FINISH FOR ALL WORK. AN APPROVED TYPE OF LIQUID CURING COMPOUND WILL BE PERMITTED. EXPANSION JOINTS ACROSS THE LINE OF THE WALK SHALL BE SPACED NOT MORE THAN 50' APART. EXPANSION JOINTS PARALLEL TO THE LINE OF WALK WILL BE REQUIRED AT THE BACK OF CURB FOR FULL WIDTH WALKS. AT DRIVEWAYS, EXPANSION JOINTS SHALL BE USED ON BOTH SIDES AGAINST THE SIDEWALK. OTHER JOINTS DETERMINED BY THIS LOCATION. AT DRIVEWAYS AND ENTRANCE WALKS ACROSS GRASS PLOTS, AN EXPANSION JOINT SHALL BE USED AT BACK OF CURB. ALL EXPANSION MATERIAL SHALL BE APPROVED NON-EXTRUDING PREFORMED STRIPS 1/2" THICK. BLOCKS SHALL BE MARKED OR SCORED IN SUITABLE SIZED BLOCKS, BUT NOT LESS THAN 4' OR MORE THAN 6' ON A SIDE. CONTRACTION JOINTS (PLANES OF WEAKNESS) SHALL BE AT EVERY THIRD BLOCK AND SHALL BE CUT AT LEAST 1 1/2" IN DEPTH (IN LIEU OF A SCORE). AT BACK OF WALK, TERRACE SHALL BE HAND TRIMMED OR FINISHED TO A 1 TO 1 SLOPE OR FLATTER.
 ALL SIDEWALK AND DRIVEWAY CONSTRUCTION IN THE PUBLIC WAYS OF THE CITY OF LOUISVILLE SHALL CONFORM WITH THE REQUIREMENTS ON THIS SHEET UNLESS OTHERWISE APPROVED IN WRITING BY THE CHIEF ENGINEER. MINIMUM WIDTH OF SIDEWALK SHALL BE 5' EXCEPT WITH PERMISSION OF CHIEF ENGINEER.



BACKFILL NOT UNDER PAVEMENT

CLASS "A" 3500 LB. CONCRETE - 4 1/2" CONC. FOR DRIVEWAYS

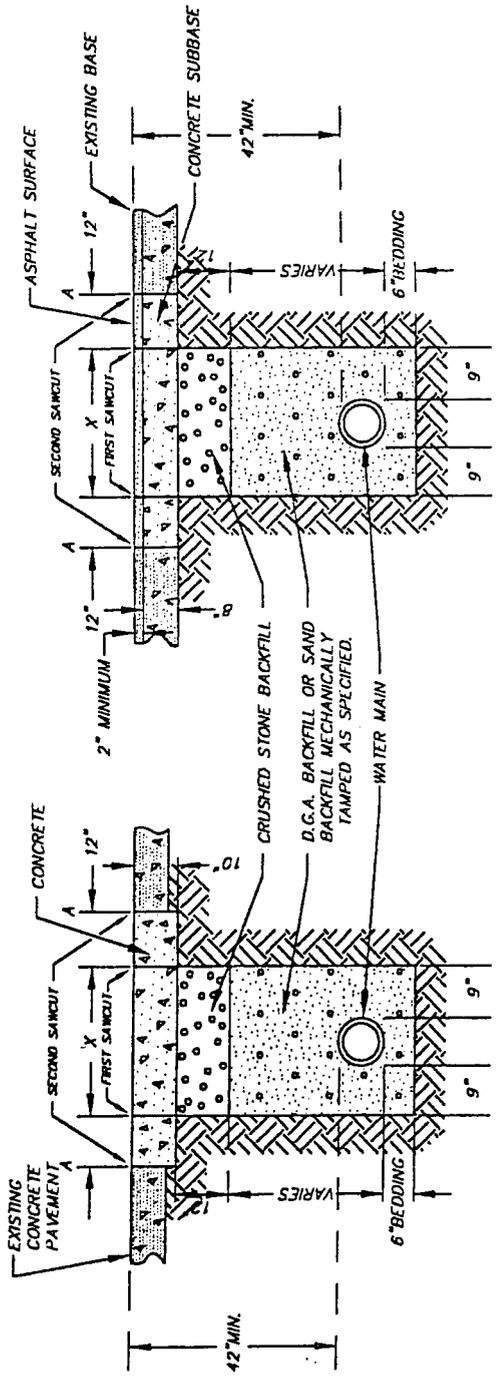


BACKFILL UNDER SIDEWALK

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 GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

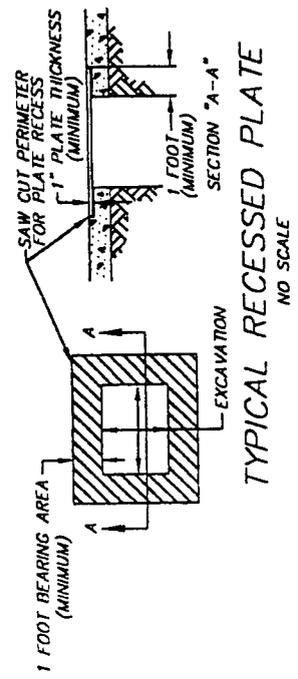
STANDARD DRAWING
 SIDEWALK/BACKFILL
 DETAIL

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	4400	SHEET	1 OF 1



CONCRETE PAVEMENT

BITUMINOUS SURFACE
NEW ASPHALT SHALL BE MINIMUM OF 2" THICK



TYPICAL RECESSED PLATE
NO SCALE

JEFFERSON COUNTY SPECIFICATIONS

1. BACKFILL SHALL BE DENSE-GRADED AGGREGATE OR SAND. DENSE-GRADE OR SAND SHALL BE PLACED IN MAXIMUM 6" LOOSE LIFTS OR AS SPECIFIED AND MECHANICALLY COMPACTED.
2. CONTRACTOR WILL BE HELD RESPONSIBLE DURING THE ENSUING 5 YEARS FOR PROPER BACKFILLING AND REPLACEMENT OF SURFACE. DURING THE 5 YEAR PERIOD AFTER THE CUT IS MADE, ANY PAVEMENT SETTLEMENT SHALL BE IMMEDIATELY REPAIRED IN AN APPROVED MANNER AT THE EXPENSE OF THE CONTRACTOR.
3. BACKFILLING UP TO BOTTOM OF SUBBASE ELEVATION SHALL BE COMPLETED PRIOR TO SECOND PAIR OF SAWCUTS AND EXCAVATION FOR THE ADDITIONAL 12" OF CONCRETE ON EACH SIDE OF THE TRENCH.
4. DILUTE SS1H (OR OTHER APPROVED TACK COAT MATERIAL) SHALL BE APPLIED AT THE RATE OF 0.1 GAL. PER SQUARE YARD OVER THE CONCRETE BASE. ALLOW SUFFICIENT TIME FOR IT TO "BREAK" BEFORE THE FINISHED BITUMINOUS CONCRETE IS PLACED, AND SEAL ALL JOINTS SECURELY AFTER PAVING.

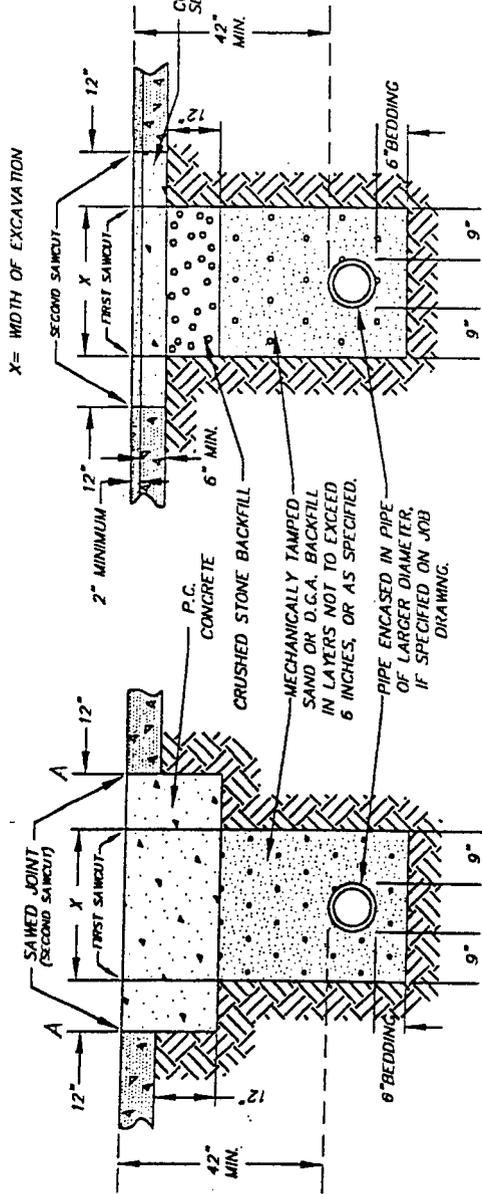
LOUISVILLE WATER COMPANY
430 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 569-3000
JOHN L. HUBER - PRESIDENT
GREGORY C. HETZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING

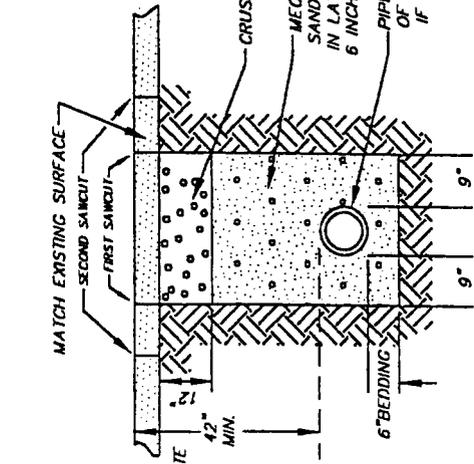
JEFFERSON COUNTY
BACKFILL AND PAVING
RESTORATION

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	4100	SHEET	1 OF 1

NOTE: FROM POINTS "A" (CONCRETE PAVEMENT) TO NEAREST JOINT OR BREAK IN PAVEMENT MUST BE SIX(6) FEET OR MORE. IF LESS THAN 6, REMOVE PAVEMENT TO JOINT OR BREAK AND REPLACE ENTIRE SLAB. CONCRETE SLAB UNDER BITUMINOUS SURFACE TO EXTEND 12 INCHES ON EACH SIDE OF TRENCH.



CONCRETE PAVEMENT



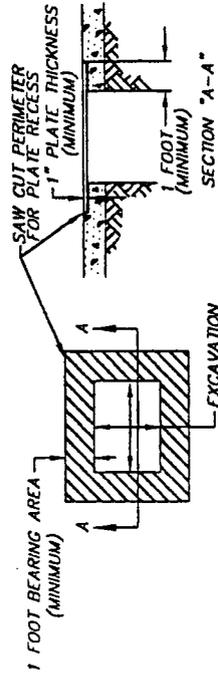
BITUMINOUS SURFACE 2"±

BITUMINOUS SURFACE LESS THAN 2" AND TRAFFIC BOUND MACADAM

NOTE: REPLACE CONCRETE PAVEMENT WITH NEW PAVEMENT SAME THICKNESS OF EXISTING PAVEMENT. REPLACE BITUMINOUS PAVEMENT WITH SAME TYPE AND DEPTH AS EXISTING PAVEMENT.

STATE OF KENTUCKY SPECIFICATIONS

1. BACKFILL SHALL BE DENSE-GRADED AGGREGATE OR SAND. DENSE-GRADE OR SAND SHALL BE PLACED IN MAXIMUM 6" LOOSE LIFTS OR AS SPECIFIED AND MECHANICALLY COMPACTED.
2. CONTRACTOR WILL BE HELD RESPONSIBLE DURING THE ENSUING 5 YEARS FOR PROPER BACKFILLING AND REPLACEMENT OF SURFACE. DURING THE 5 YEAR PERIOD AFTER THE CUT IS MADE, ANY PAVEMENT SETTLEMENT SHALL BE IMMEDIATELY REPAIRED IN AN APPROVED MANNER AT THE EXPENSE OF THE CONTRACTOR.
3. BACKFILLING UP TO BOTTOM OF SUBBASE ELEVATION SHALL BE COMPLETED PRIOR TO SECOND PAIR OF SAWCUTS AND EXCAVATION FOR THE ADDITIONAL 12" OF CONCRETE ON EACH SIDE OF THE TRENCH.
4. DILUTE SS18 (OR OTHER APPROVED TACK COAT MATERIAL) SHALL BE APPLIED AT THE RATE OF 0.1 GAL. PER SQUARE YARD OVER THE CONCRETE BASE. ALLOW SUFFICIENT TIME FOR IT TO "BREAK" BEFORE THE FINISHED BITUMINOUS CONCRETE IS PLACED, AND SEAL ALL JOINTS SECURELY AFTER PAVING.



TYPICAL RECESSED PLATE
NO SCALE

LOUISVILLE WATER COMPANY
435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 598-3600
JOHN L. HUBER - PRESIDENT
GREGORY C. HERTZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING

STATE OF KENTUCKY
BACKFILL AND PAVING
RESTORATION

DATE JAN. 1997

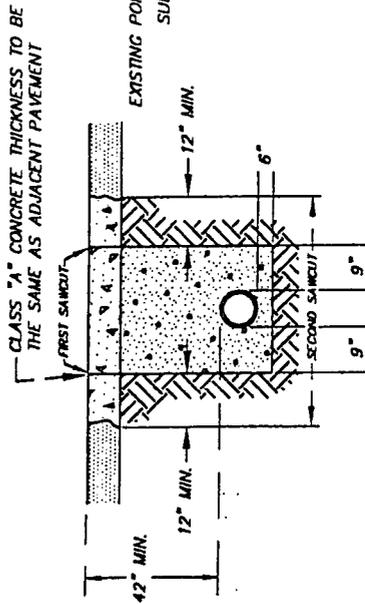
DRAWING NO. 4000

SCALE NONE

SHEET

1 OF 1

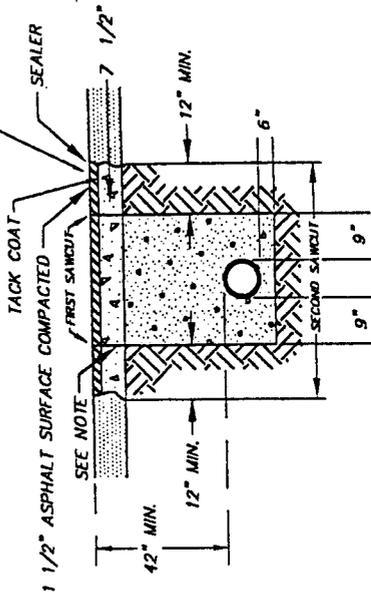
TOP ELEVATION OF CLASS "A" CONCRETE SUBBASE SHALL BE SAME AS TOP OF EXISTING CONCRETE BASE, BUT NOT TO EXCEED A DEPTH OF 5" FROM THE TOP OF EXISTING DRIVING SURFACE (UNLESS OTHERWISE DIRECTED BY THE PROJECT MANAGER.)



PERMANENT CONCRETE SURFACE

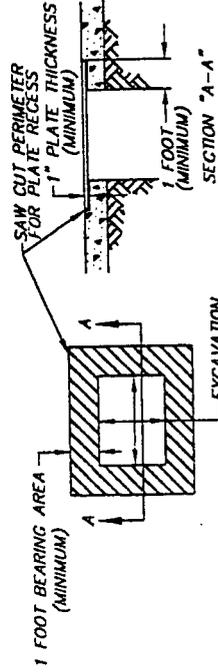
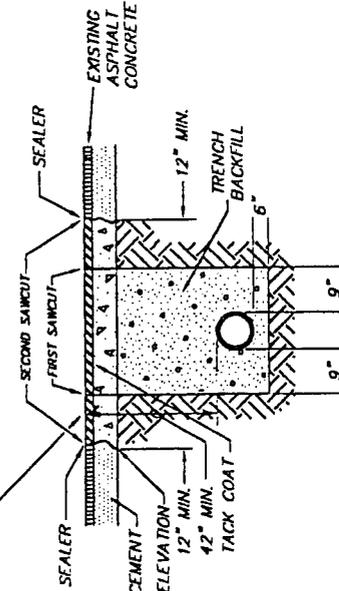
NOTE: ALL CUTS TO BE SECURELY PLATED DURING CONSTRUCTION ACCORDING TO SPECIFICATIONS

NOTE: THE CONCRETE BASE SHALL BE FLOAT FINISHED OR BROOMED OR LIGHTLY RAKED AFTER FLOATING TO A UNIFORM GRADE.



BASE OTHER THAN ASPHALT SURFACE HAVING AN ASPHALT SURFACE

DETAIL FOR BITUMINOUS SURFACE PAVEMENT RESTORATION



TYPICAL RECESSED PLATE

NO SCALE

CITY OF LOUISVILLE SPECIFICATIONS

1. BACKFILL SHALL BE DENSE-GRADED AGGREGATE OR SAND. DENSE-GRADE OR SAND SHALL BE PLACED IN MAXIMUM 6" LOOSE LIFTS OR AS SPECIFIED AND MECHANICALLY COMPACTED.
2. CONTRACTOR WILL BE HELD RESPONSIBLE DURING THE ENSUING 5 YEARS FOR PROPER BACKFILLING AND REPLACEMENT OF SURFACE. DURING THE 5 YEAR PERIOD AFTER THE CUT IS MADE, ANY PAVEMENT SETTLEMENT SHALL BE IMMEDIATELY REPAIRED IN AN APPROVED MANNER AT THE EXPENSE OF THE CONTRACTOR.
3. BACKFILLING UP TO BOTTOM OF SUBBASE ELEVATION SHALL BE COMPLETED PRIOR TO SECOND PAIR OF SAWCUTS AND EXCAVATION FOR THE ADDITIONAL 12" OF CONCRETE ON EACH SIDE OF THE TRENCH.
4. DILUTE SSBH (OR OTHER APPROVED TACK COAT MATERIAL) SHALL BE APPLIED AT THE RATE OF 0.1 GAL. PER SQUARE YARD OVER THE CONCRETE BASE. ALLOW SUFFICIENT TIME FOR IT TO "BREAK" BEFORE THE FINISHED BITUMINOUS CONCRETE IS PLACED, AND SEAL ALL JOINTS SECURELY AFTER PAVING.

LOUISVILLE WATER COMPANY
435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 568-3600

JOHN L. HUBER - PRESIDENT
GREGORY C. HERTZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING

CITY OF LOUISVILLE
BACKFILL AND PAVING
RESTORATION

DATE JAN. 1997

SCALE NONE

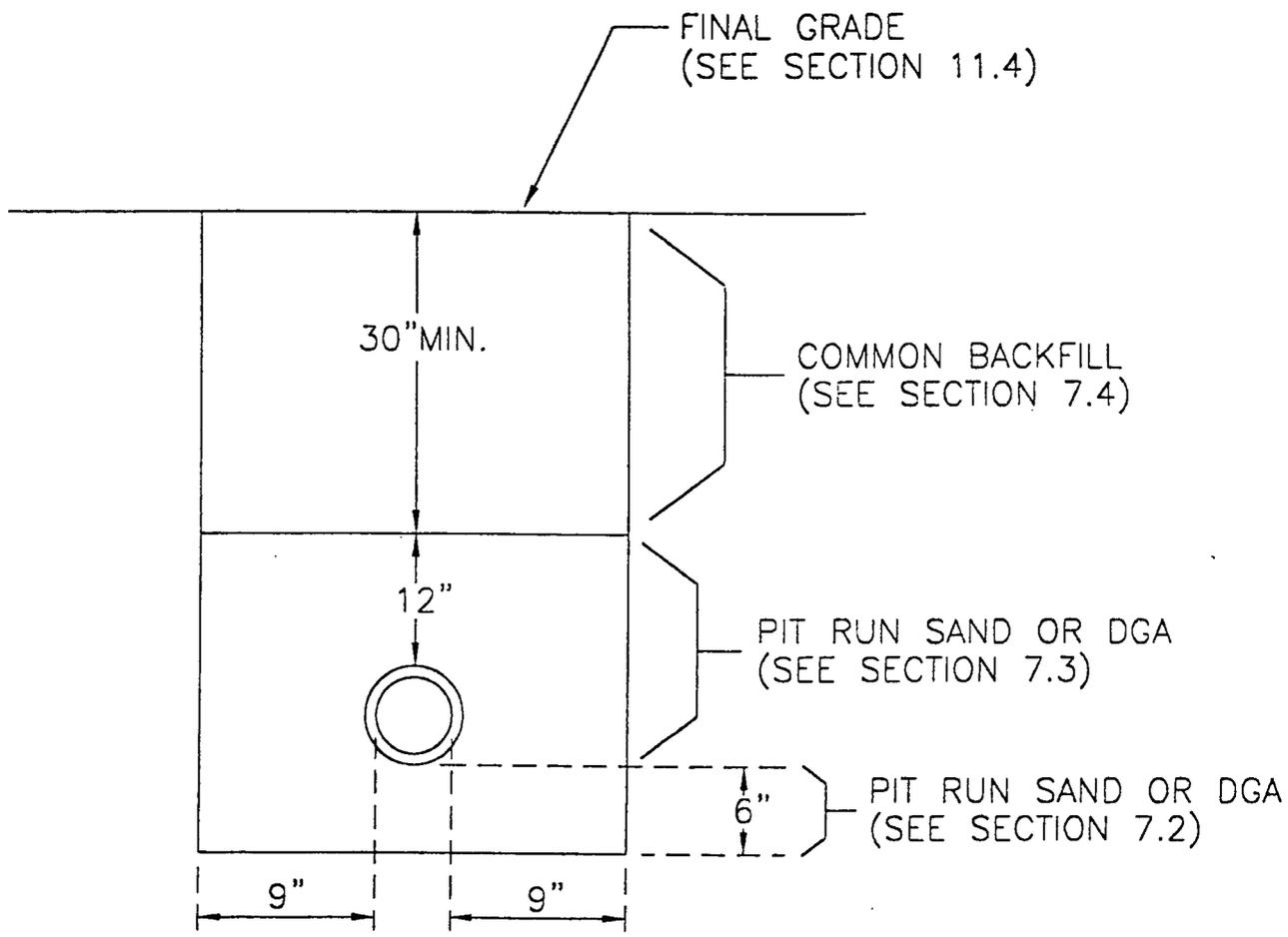
DRAWING NO. 4200

SHEET

1

OF

1



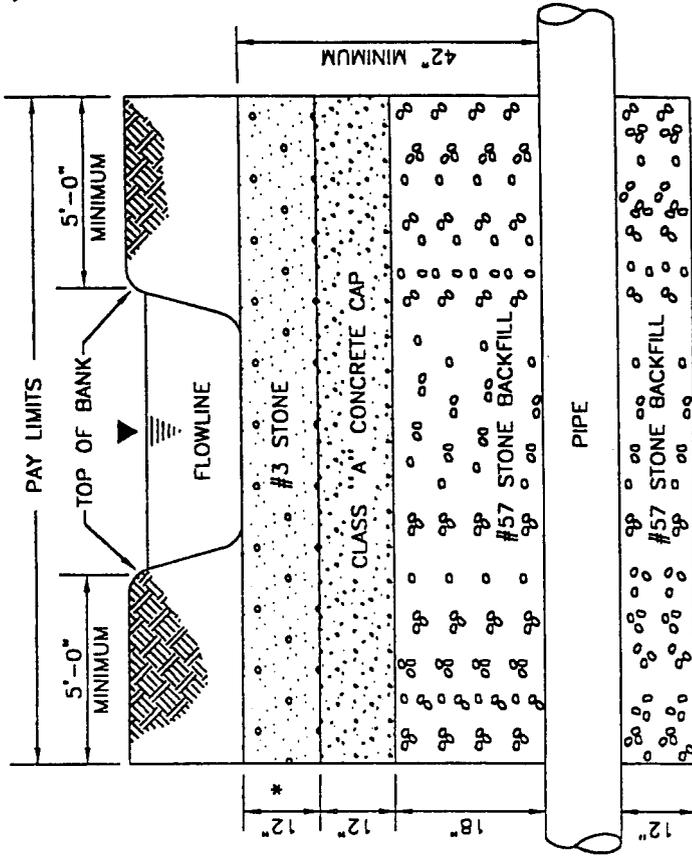
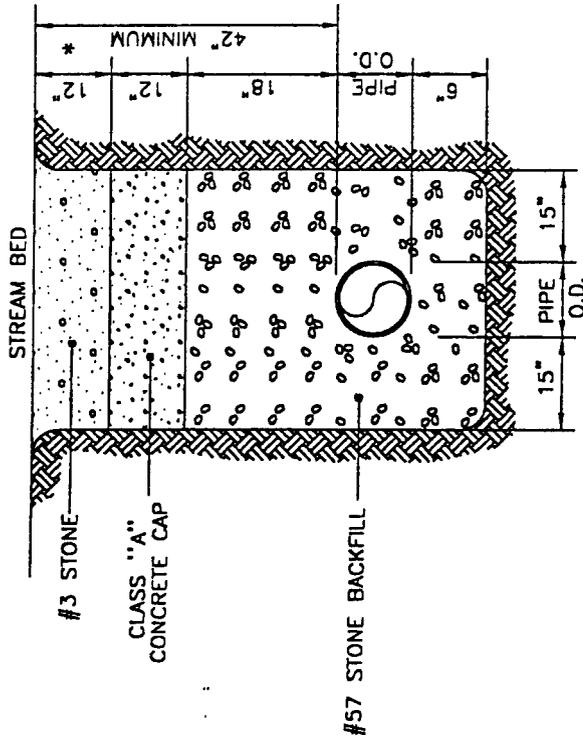
LOUISVILLE WATER COMPANY
 435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 589-3600
 JOHN L. HUBER - PRESIDENT
 GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING

COMMON BACKFILL AND
LAWN RESTORATION

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	4300	SHEET	1 OF 1

TYPICAL SECTION



TYPICAL PROFILE

STREAM CROSSING CONDITIONS

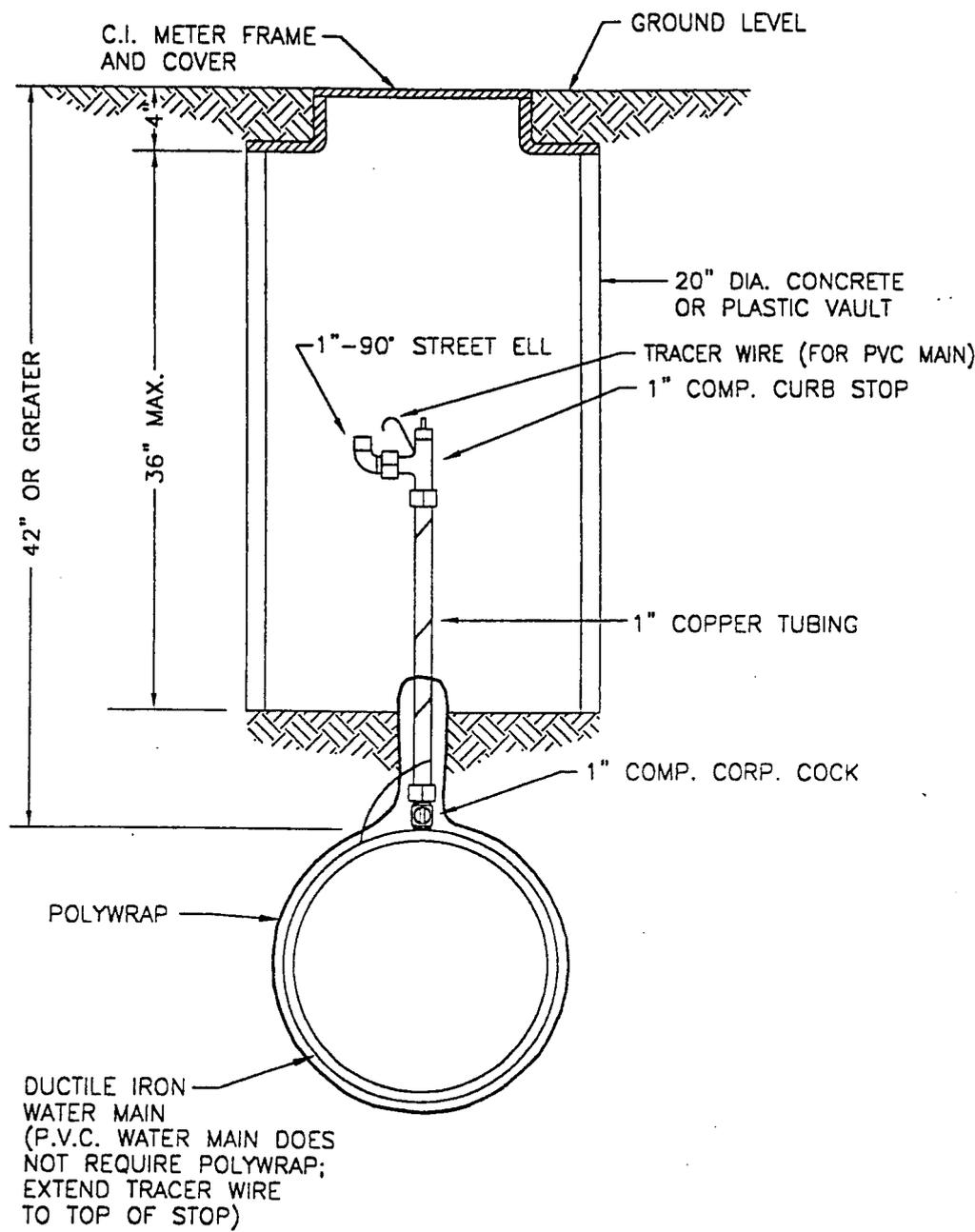
1. COMPLY WITH SECTION 1.7.4 OF THE LWC STANDARD SPECIFICATIONS.
2. THIS DETAIL APPLIES ONLY TO BLUE-LINE STREAMS, AS SHOWN ON THE PERTINENT USGS QUADRANGLE MAP.
3. MANAGEMENT CONSTRUCTION PRACTICES MUST BE USED AT ALL TIMES DURING CONSTRUCTION. ADEQUATE SILT CONTROL MUST BE PLACED PRIOR TO THE START OF CONSTRUCTION AND MAINTAINED UNTIL VEGETATION IS ESTABLISHED.
4. REVEGETATE ALL DISTURBED GRASSY AREAS ON THE STREAM SLOPES. SOD STAKES MAY BE REQUIRED TO SECURE SOD ON THE STREAM BANKS.
5. MAINTAIN AT LEAST 3.5' OF BACKFILL AT THE STREAM CROSSING FROM THE TOP OF PIPE TO THE ORIGINAL STREAM BED ELEVATION.
6. OBTAIN APPROVAL FROM THE METROPOLITAN SEWER DISTRICT PRIOR TO THE START OF THE STREAM CROSSING.
7. TO BE PAID PER LINEAL FOOT OF CONCRETE CAP.
8. THRUST BLOCKING SHALL BE CONSTRUCTED AT ALL BENDS.
9. VARIATION FROM THIS STANDARD REQUIRES LWC & KY. DIVISION OF WATER APPROVAL.

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STANDARD DRAWING

CREEK CROSSING
 WITH CONCRETE CAP

DATE	AUG. 1998	SCALE	NONE
DRAWING NO.	4501	SHEET	1 OF 1

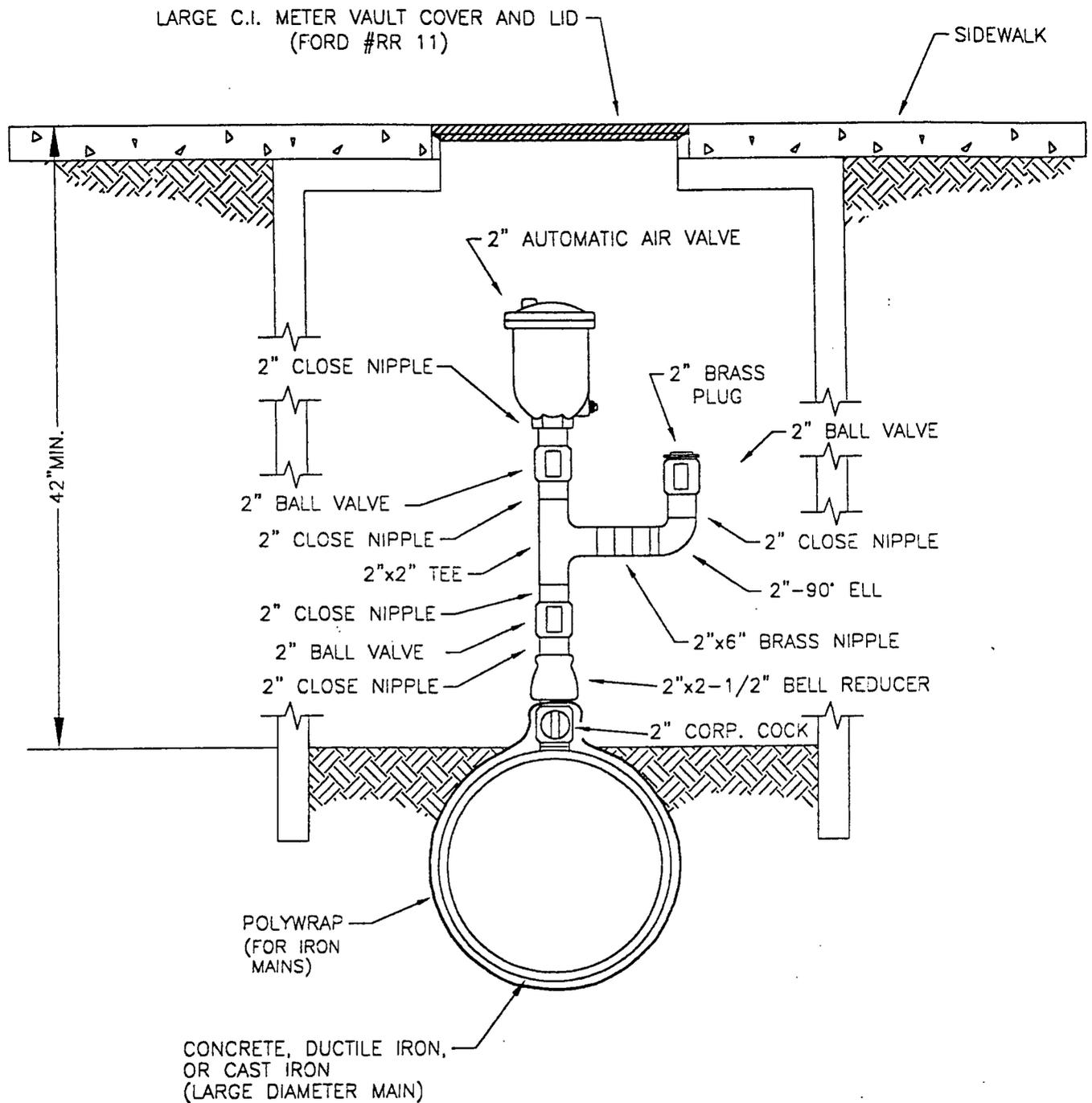


P.V.C. WATER MAIN
REQUIRES USE OF
SADDLE VERSUS
DIRECT TAPPING

LOUISVILLE WATER COMPANY
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GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
TYPICAL 1" MANUAL
AIR VALVE
(FOR MAINS UP TO 16")

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	1602	SHEET	1 OF 1

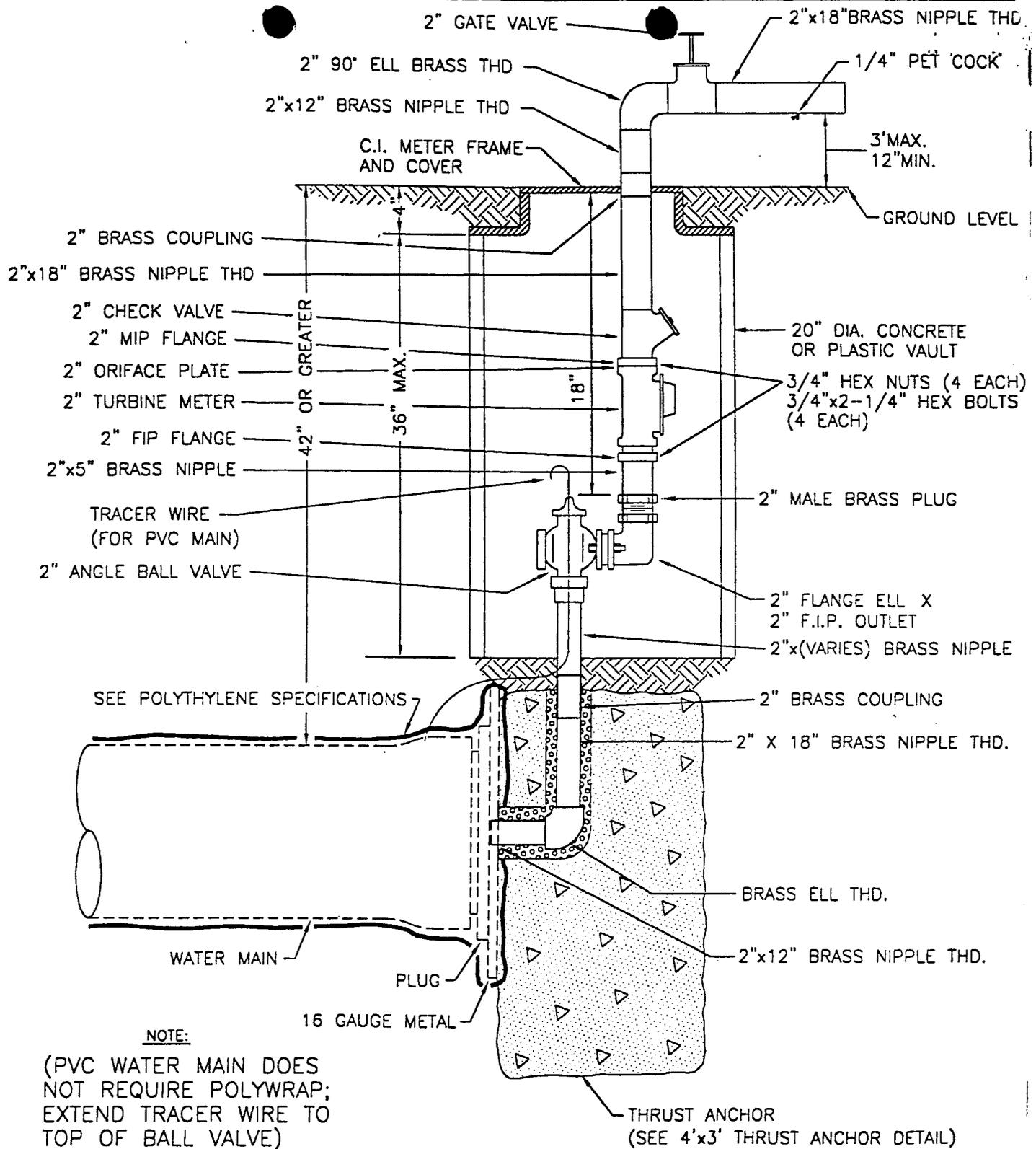


PREFAB VAULT DIMENSIONS VARY WITH MAIN SIZE

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 JOHN L. HUBER - PRESIDENT
 GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
 TYPICAL COMBINED 2" AUTOMATIC AND MANUAL AIR VALVE FOR MAINS 20" AND LARGER

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	1603	SHEET	1 OF 1



NOTE:
 (PVC WATER MAIN DOES NOT REQUIRE POLYWRAP; EXTEND TRACER WIRE TO TOP OF BALL VALVE)

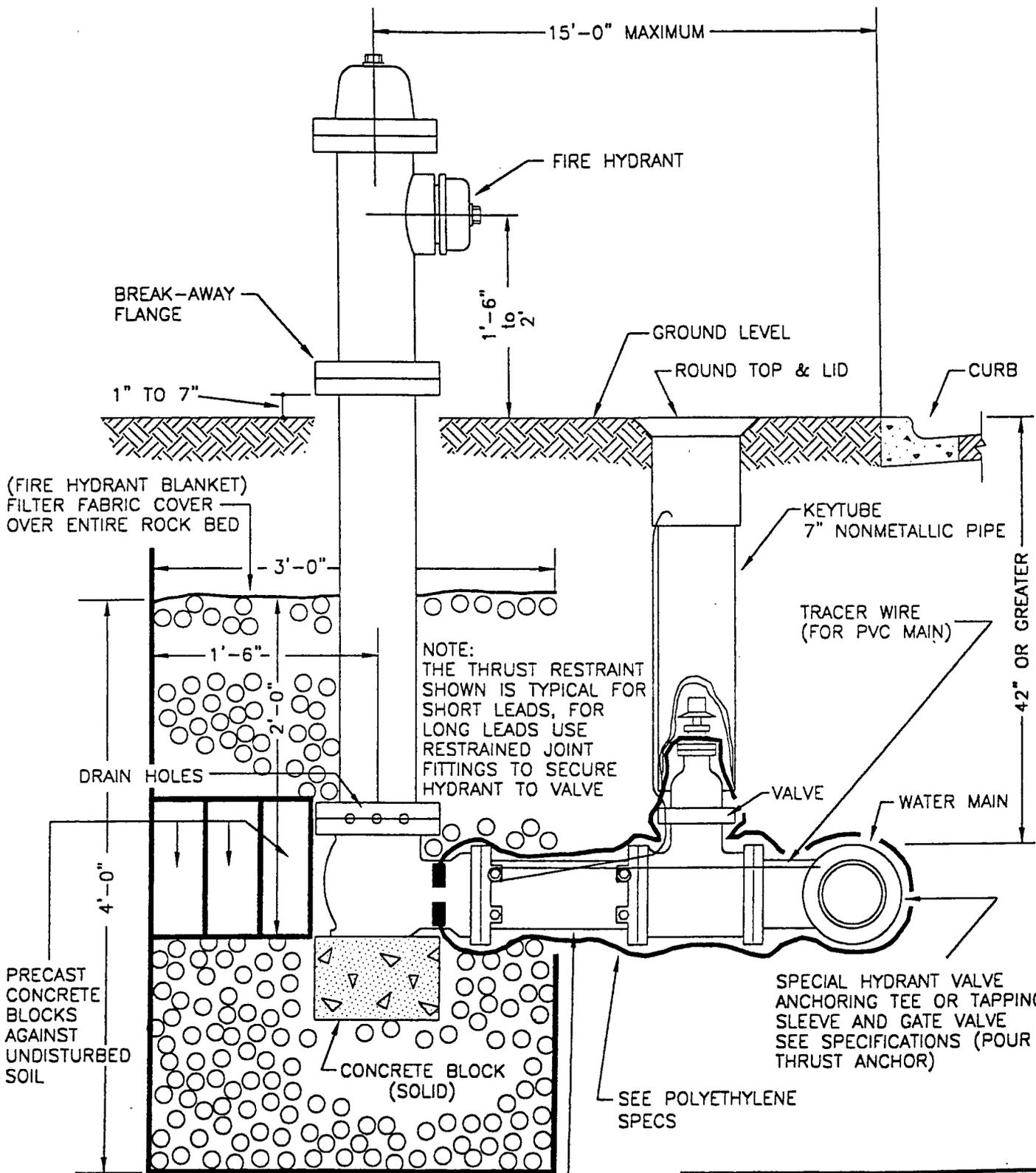
NOTE

2" TURBINE METER AND 2" CHECK VALVE ARE TO BE INSTALLED AFTER PIGGING OPERATIONS. A 2" HOSE IS TO BE USED DURING ALL FLUSHING OPERATIONS.

LOUISVILLE WATER COMPANY
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 JOHN L. HUBER - PRESIDENT
 GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
 TYPICAL 2"
 FLUSHING CONNECTION

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	1601	SHEET	1 OF 1



(FIRE HYDRANT BLANKET)
FILTER FABRIC COVER
OVER ENTIRE ROCK BED

NOTE:
THE THRUST RESTRAINT
SHOWN IS TYPICAL FOR
SHORT LEADS, FOR
LONG LEADS USE
RESTRAINED JOINT
FITTINGS TO SECURE
HYDRANT TO VALVE

SPECIAL HYDRANT VALVE
ANCHORING TEE OR TAPPING
SLEEVE AND GATE VALVE
SEE SPECIFICATIONS (POUR
THRUST ANCHOR)

SEE POLYETHYLENE
SPECS

PRECAST
CONCRETE
BLOCKS
AGAINST
UNDISTURBED
SOIL

CONCRETE BLOCK
(SOLID)

#3 ROCK

NOTE:
ALL FIRE HYDRANT
LEADS ARE TO BE
DUCTILE IRON PIPE

NOTE: L.W.Co. SUPPLIES HYDRANTS OF VARIOUS BURY DEPTHS
TO BE USED INSTEAD OF EXTENSION KITS.

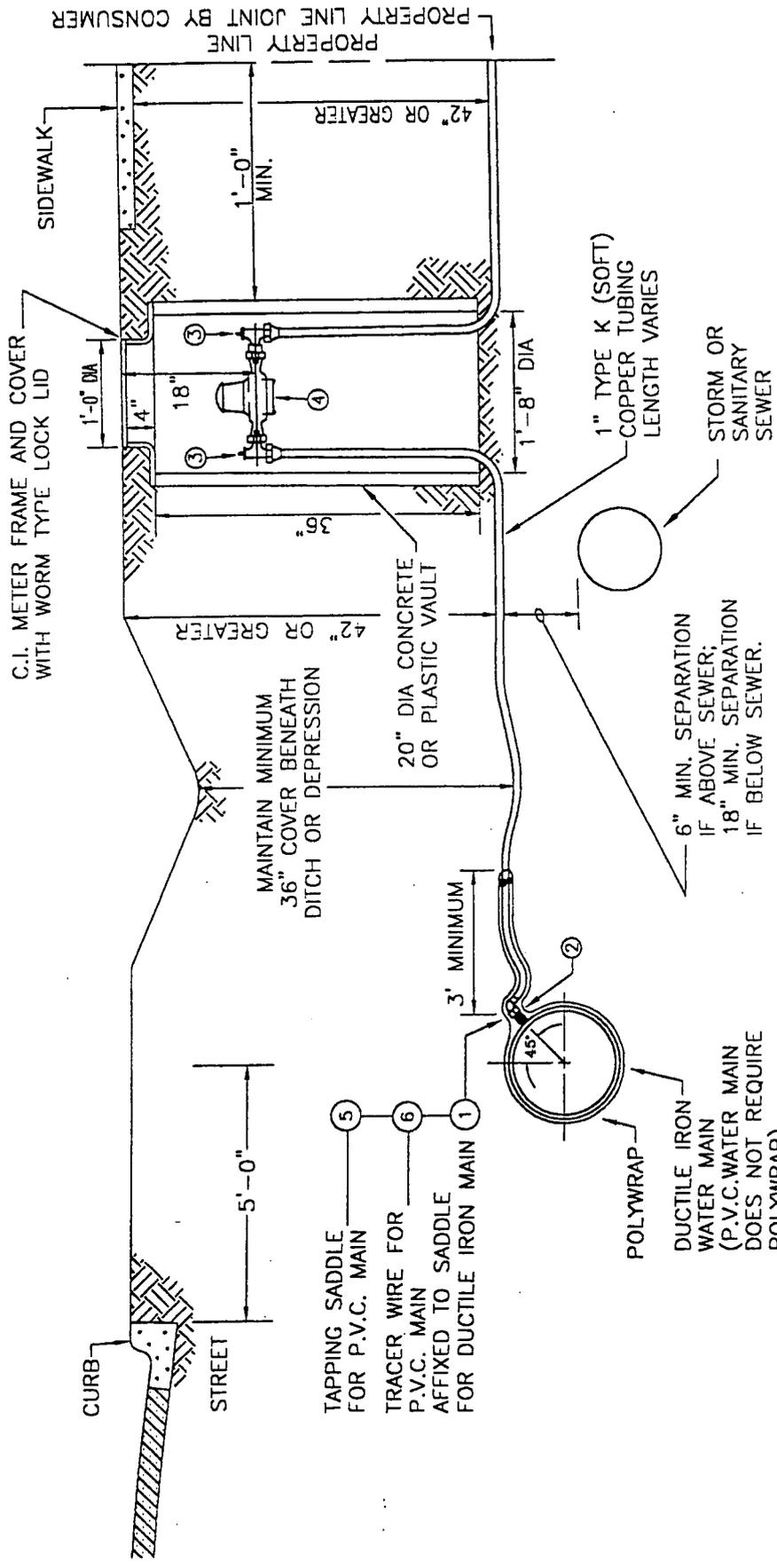
LOUISVILLE WATER COMPANY
436 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 582-3000
JOHN L. HUBER - PRESIDENT
GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
TYPICAL
FIRE HYDRANT INSTALLATION

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	2000	SHEET	1 OF 1

TYPICAL COPPER SERVICE 1" AND SMALLER

NO.	QUANTITY	FITTING	JOINT	SERVICE SIZES
1	1	Corporation Stop	Inlet - Male Thread (tapered) Outlet - Male Thread	<u>3/4"</u> <u>1"</u>
2	1	Adapter Bend (45 ° or 90°)	Inlet - Female Thread Outlet - Female Compression	3/4" 1" 3/4" 1"
3	2	Angle Meter Stop	Female Compression Female Thread	3/4" 1" 3/4" 1"
4	1	Meter	Male Thread	3/4" 1"

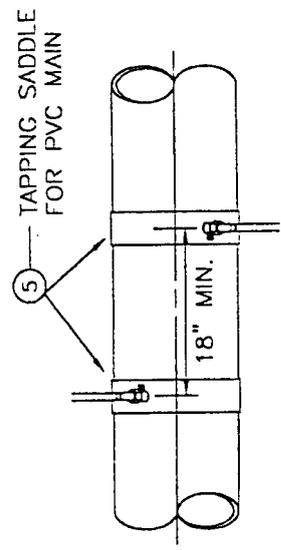


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 JOHN L. HUBER - PRESIDENT
 GREGORY C. BRITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING

TYPICAL SHORT
 COPPER SERVICE
 1" AND SMALLER

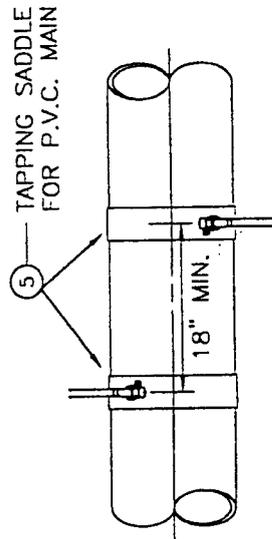
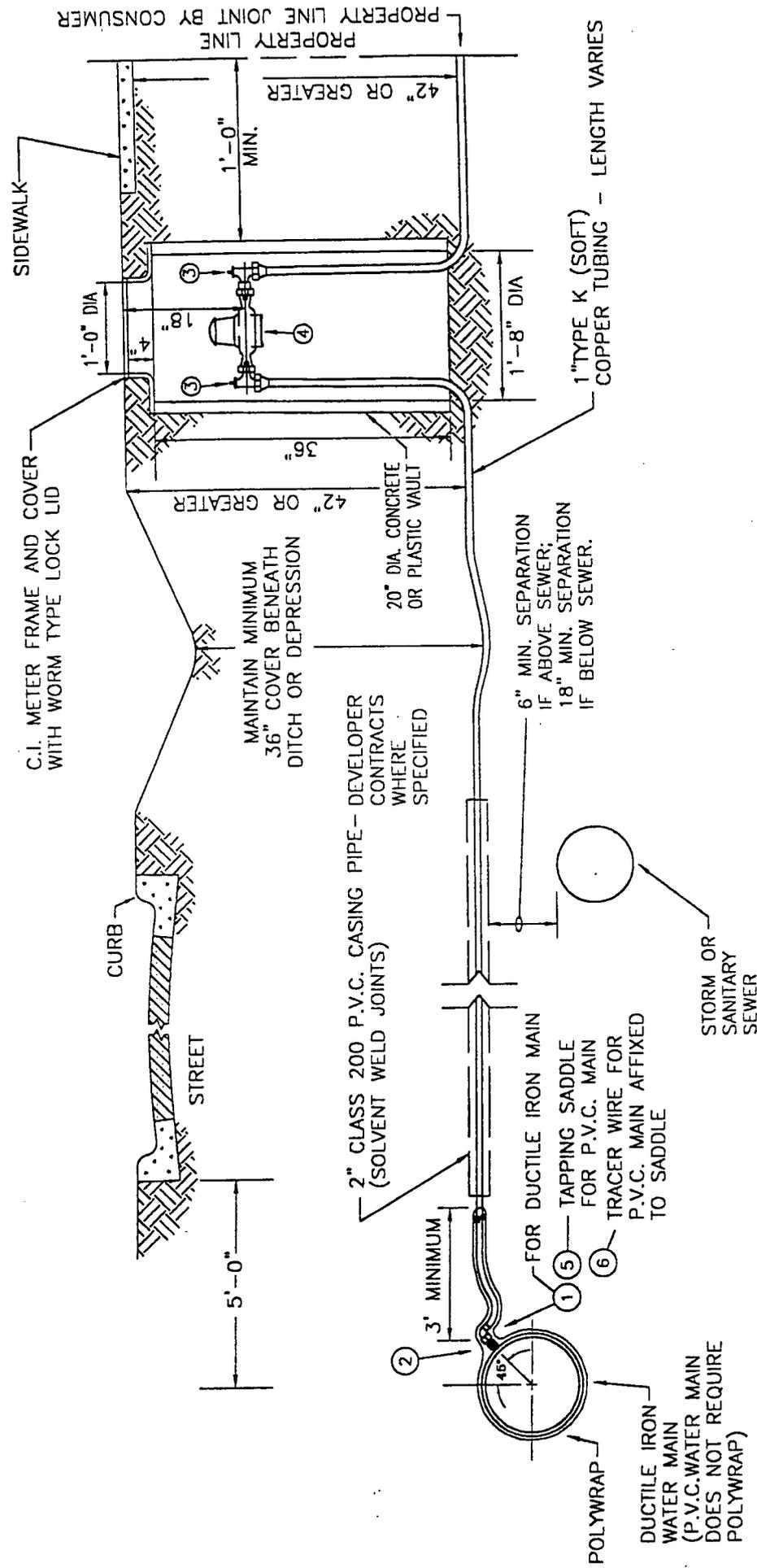
DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	3001	SHEET	1 OF 1



PLAN FOR
PVC MAIN

NOTE:

- 1) SEE MATERIAL SHEET FOR OPTIONAL SERVICE INSTALLATIONS.
- 2) ALL BENDS ARE TO BE MADE USING ONLY AN APPROVED TUBING BENDER.
- 3) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE. OTHERS SHALL BE PLASTIC.
- 4) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.



PLAN FOR
PVC MAIN

NOTE:

- 1) SEE MATERIAL SHEET FOR OPTIONAL SERVICE INSTALLATIONS.
- 2) ALL BENDS ARE TO BE MADE USING ONLY AN APPROVED TUBING BENDER.
- 3) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE. OTHERS SHALL BE PLASTIC.
- 4) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.

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 JOHN L. HUBER - PRESIDENT
 GREGORY C. HETZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING

TYPICAL LONG
 COPPER SERVICE
 1" AND SMALLER

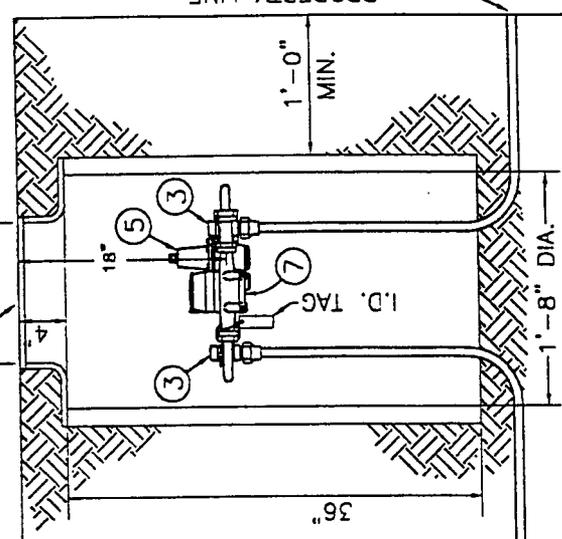
DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	3002	SHEET	1 OF 1

**TYPICAL 3/4" COPPER SERVICE
WITH PRESSURE REDUCING VALVE**

NO.	QUANTITY	FITTING	JOINT	SIZE
1	1	Corporate Stop	Inlet-Male Thread (Tapered)	3/4"
2	1	Adapter Bend (45° or 90°)	Outlet - Male Thread	3/4"
3	2	Angle Meter Stop	Inlet - Female Thread Outlet - Female Compression	3/4" 3/4"
4	2	Adapter for Pressure Regulator	Female Compression Female Thread	3/4" 3/4"
5	1	Pressure Regulator	Male Thread	3/4"
6	1	S-Tube	Female Thread	3/4"
7	1	Meter	Female Thread Male Thread	3/4" 5/8" x 3/4" (or 3/4")

C.I. METER FRAME AND COVER WITH WORM TYPE LOCK LID

1'-0" DIAMETER



PROPERTY LINE
BY CONSUMER

MAINTAIN MINIMUM 36" COVER BENEATH DITCH OR DEPRESSION

TYPE "K" (SOFT) COPPER TUBING LENGTH VARIES

36"

1'-0" MIN.

CURB

5' MIN.

2

3' MINIMUM

POLYWRAP

DUCTILE IRON WATER MAIN (P.V.C. WATER MAIN DOES NOT REQUIRE POLYWRAP)

1 FOR DUCTILE IRON MAIN TAPPING SADDLE FOR P.V.C. MAIN
8 TRACER WIRE FOR P.V.C. MAIN AFFIXED TO SADDLE
9

STORM OR SANITARY SEWER

20" DIA. CONCRETE OR PLASTIC VAULT

COPPER SERVICE FROM MAIN

8 TAPPING SADDLE FOR P.V.C. MAIN

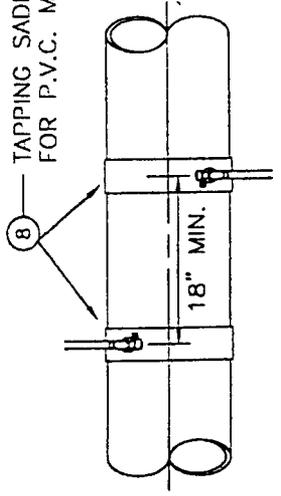
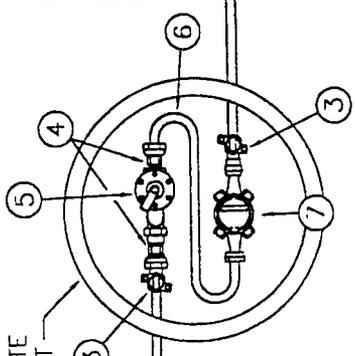
18" MIN.

COPPER SERVICE

NOTES:

- 1) SEE MATERIAL SHEET FOR OPTIONAL SERVICE INSTALLATIONS.
- 2) ALL BENDS ARE TO BE MADE USING ONLY AN APPROVED TUBING BENDER.
- 3) VAULT MATERIAL UNDER DRIVE SURFACES SHALL BE CONCRETE. OTHERS SHALL BE PLASTIC.
- 4) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.

PROPERTY LINE



LOUISVILLE WATER COMPANY
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STANDARD DRAWING

TYPICAL 3/4" COPPER SERVICE WITH PRESSURE REDUCING VALVE

DATE	JAN. 1997	SCALE	NONE
DRAWING No.	3004	SHEET	1 of 1

**TYPICAL 1" COPPER SERVICE
WITH PRESSURE REDUCING VALVE**

NO.	QUANTITY	FITTING	JOINT	SIZE
1	1	Corporation Stop	Inlet - Male Thread (Tapered) Outlet - Male Thread	1" 1"
2	1	Adapter Bend (45° or 90°)	Inlet - Female Thread Outlet - Female Compression	1" 1"
3	2	Adapter	Female Compression Male Thread	1" 1"
4	1	Ball Valve With handle	Female Thread	1"
5	1	Brass Nipple	Male Thread	1"
6	1	Pressure Reducing Valve	Female Thread	1"
7	2	Angle Meter Stop	Female Compression Female Thread	1" 1"
8	1	Meter	Meter Thread	1"

C.I. METER FRAME AND COVER WITH WORM TYPE LOCK LID

1'-0" DIAMETER

PROPERTY LINE
BY CONSUMER

1'-0" MIN.

36"

1'-8" DIA.

6" MIN. SEPARATION IF ABOVE SEWER;
18" MIN. SEPARATION IF BELOW SEWER.

MAINTAIN MINIMUM
36" COVER BENEATH
DITCH OR DEPRESSION

TYPE "K" (SOFT)
COPPER TUBING
LENGTH VARIES

STORM OR
SANITARY
SEWER

42" OR GREATER

3' MINIMUM

FOR DUCTILE IRON MAIN
TAPPING SADDLE
FOR P.V.C. MAIN
TRACER WIRE FOR
P.V.C. MAIN
AFFIXED TO SADDLE

CURB

5' MIN.

POLYWRAP

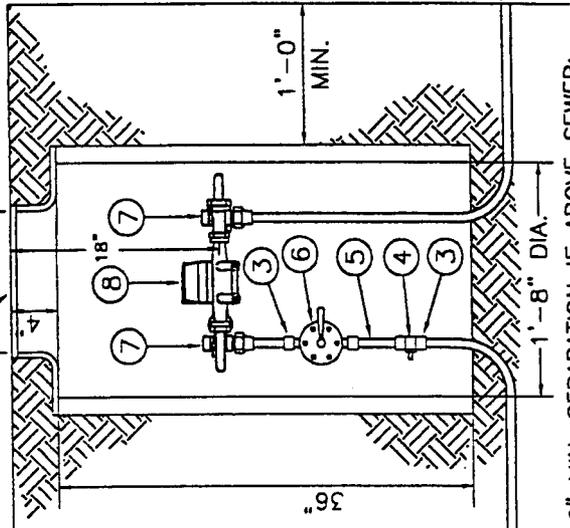
DUCTILE IRON
WATER MAIN
(P.V.C. WATER MAIN DOES
NOT REQUIRE POLYWRAP)

TAPPING SADDLE
FOR P.V.C. MAIN

18" MIN.

PLAN FOR PVC MAIN

COPPER SERVICE



NOTES:

- 1) SEE MATERIAL SHEET FOR OPTIONAL SERVICE INSTALLATIONS.
- 2) ALL BENDS ARE TO BE MADE USING ONLY AN APPROVED TUBING BENDER.
- 3) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE. OTHERS SHALL BE PLASTIC.
- 4) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.

LOUISVILLE WATER COMPANY
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JOHN L. HUBER - PRESIDENT
GREGORY C. HERTZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING

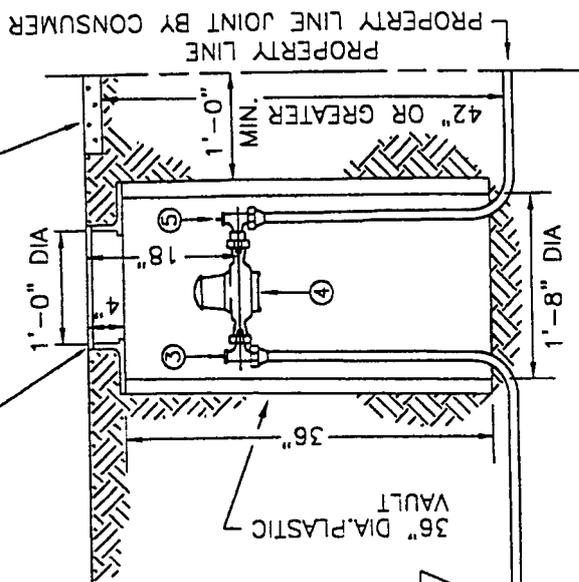
TYPICAL 1" COPPER SERVICE
WITH PRESSURE REDUCING VALVE

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	3003	SHEET	1 OF 1

TYPICAL DOUBLE DOMESTIC/IRRIGATION 1" COPPER SERVICE

NO.	QUANTITY	FITTING	JOINT	SIZE
1	1	Corporation Stop	Inlet - Male Thread (Tapered) Outlet - Male Thread	1" 1"
2	1	Adapter Bend (45° or 90°)	Inlet - Female Thread Outlet - Female Compression	1" 1"
3	1	Branch Piece, with 2 Angle Meter Stops	Inlet - Female Compression Outlet - Female Thread	1" 3/4"
4	2	Meter	Male Thread	3/4"
5	2	Angle Meter Stop	Female Thread Female Compression	3/4" 3/4" or 1"

RR 11 C.I. METER FRAME AND COVER



PROPERTY LINE
PROPERTY LINE JOINT BY CONSUMER

SIDEWALK

1'-0" DIA

1'-0" MIN.

1'-8" DIA

36" DIA. PLASTIC VAULT

42" OR GREATER

1" TYPE K (SOFT) COPPER TUBING LENGTH VARIES

36" COVER BENEATH DITCH OR DEPRESSION

3' MINIMUM

FOR DUCTILE IRON MAIN

TAPPING SADDLE FOR PVC MAIN

TRACER WIRE FOR PVC MAIN

6" MIN. SEPARATION IF ABOVE SEWER; 18" MIN. SEPARATION IF BELOW SEWER.

DUCTILE IRON WATER MAIN (P.V.C. WATER MAIN DOES NOT REQUIRE POLYWRAP)

POLYWRAP

STORM OR SANITARY SEWER

NOTE:

1) SEE MATERIAL SHEET FOR SERVICE INSTALLATION.

2) ALL BENDS ARE TO BE MADE USING ONLY AN APPROVED TUBING BENDER.

3) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE. OTHERS SHALL BE PLASTIC.

4) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.

CURB

STREET

5'-0"

36" DIA. PLASTIC VAULT

3/4" OR 1"

3/4" OR 1"

1"

I.D. TAG

I.D. TAG

36" DIA. PLASTIC VAULT

COPPER TAIL PIPE

3/4" OR 1"

3/4" OR 1"

1"

I.D. TAG

I.D. TAG

36" DIA. PLASTIC VAULT

COPPER TAIL PIPE

3/4" OR 1"

3/4" OR 1"

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I.D. TAG

36" DIA. PLASTIC VAULT

COPPER TAIL PIPE

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I.D. TAG

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COPPER TAIL PIPE

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COPPER TAIL PIPE

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36" DIA. PLASTIC VAULT

COPPER TAIL PIPE

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36" DIA. PLASTIC VAULT

COPPER TAIL PIPE

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36" DIA. PLASTIC VAULT

COPPER TAIL PIPE

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36" DIA. PLASTIC VAULT

COPPER TAIL PIPE

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36" DIA. PLASTIC VAULT

COPPER TAIL PIPE

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COPPER TAIL PIPE

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36" DIA. PLASTIC VAULT

COPPER TAIL PIPE

3/4" OR 1"

3/4" OR 1"

1"

I.D. TAG

I.D. TAG

36" DIA. PLASTIC VAULT

COPPER TAIL PIPE

3/4" OR 1"

3/4" OR 1"

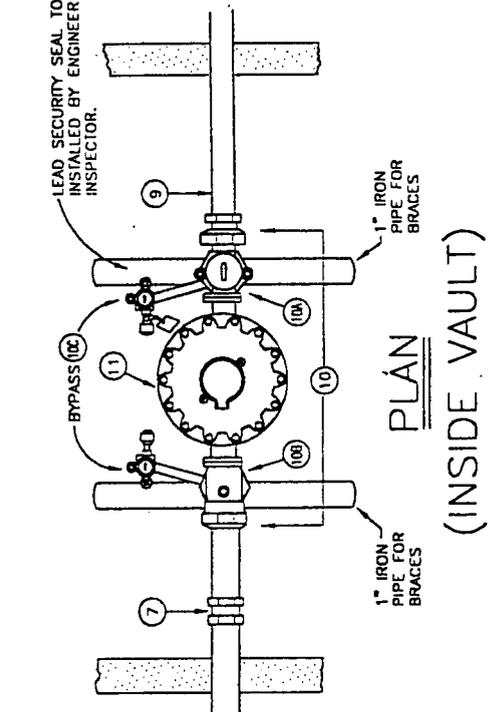
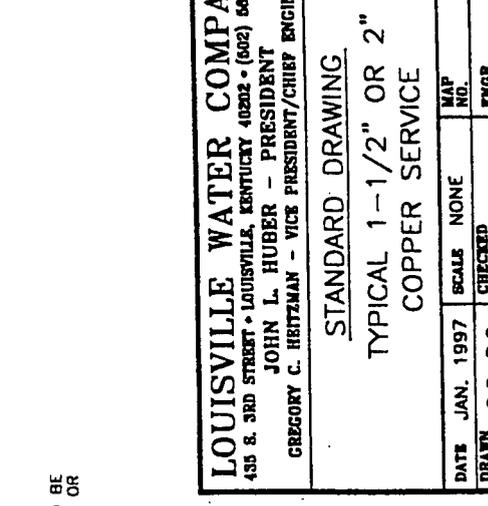
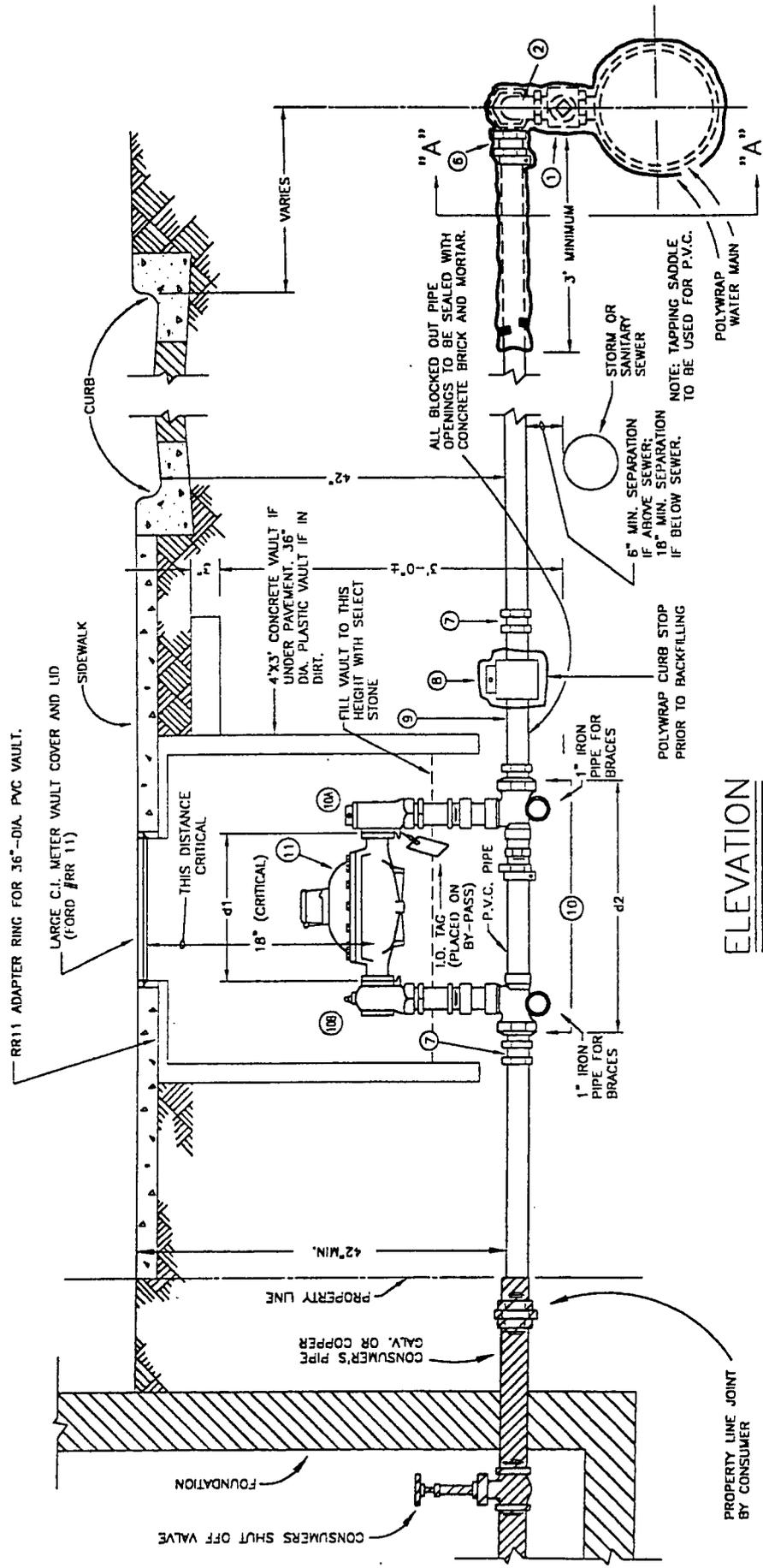
1"

**TYPICAL DOUBLE DOMESTIC / IRRIGATION 1 " COPPER SERVICE
WITH PRESSURE REDUCING VALVE**

NO.	QUANTITY	FITTING	JOINT	SIZE
1	1	Corporation Stop	Inlet - Male Thread (Tapered) Outlet - Male Thread	1" 1"
2	1	Adapter Bend (45° or 90°)	Inlet - Female Thread Outlet - Female Compression	1" 1"
3	2	Adapter	Female Compression Male Thread	1" 1"
4	1	Ball Valve with handle	Female Thread	1"
5	1	Brass Nipple	Male Thread	1"
6	1	Pressure Reducing Valve	Female Thread	1"
7	1	Brand Piece with 2 Angle Meter Stops	Inlet - Female Compression Outlet - Female Thread	1" 3/4"
8	2	Meter	Male Thread	3/4"
9	2	Angle Meter Stop	Female Thread Female Compression	3/4" 3/4" or 1"

TYPICAL 1-1/2" OR 2" COPPER SERVICE

NO.	QUANTITY	FITTING	JOINT	SERVICE SIZES	
				1-1/2"	2"
1	1	Corporation Stop	Inlet - Male Thread (Tapered) Outlet - Male Thread	1-1/2" 2"	2" 2-1/2"
2	1	Brass Reducing Ell	Inlet - Female Thread Outlet - Female Thread	2" 1-1/2"	2-1/2" 2"
3	1	Brass Nipple (close)	Male Thread	1-1/2"	2"
4	1	Brass Union	Female Thread	1-1/2"	2"
5	1	Brass Street Ell	Male Thread	1-1/2"	2"
6	1	Compression Coupling	Female Thread Female Compression	1-1/2" 1-1/2"	2" 2"
7	2	Adapter	Female Compression Male Thread	1-1/2" 1-1/2"	2" 2"
8	1	Curb Stop	Female Thread	1-1/2"	2"
9	1	Brass Nipple (x 6")	Male thread	1-1/2"	2"
10	1	Meter Setter	Female thread	1-1/2"	2"
10a		Angle Meter Stop			
10b		Angle Check Valve			
10c		By-Pass 1"			
10d1				13-3/8"	17-3/8"
10d2				22"	27-1/8"
11	1	Meter	Male Thread	1-1/2"	2"



SECTION "A-A"

NOTE: POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.

ELEVATION

PLAN
(INSIDE VAULT)

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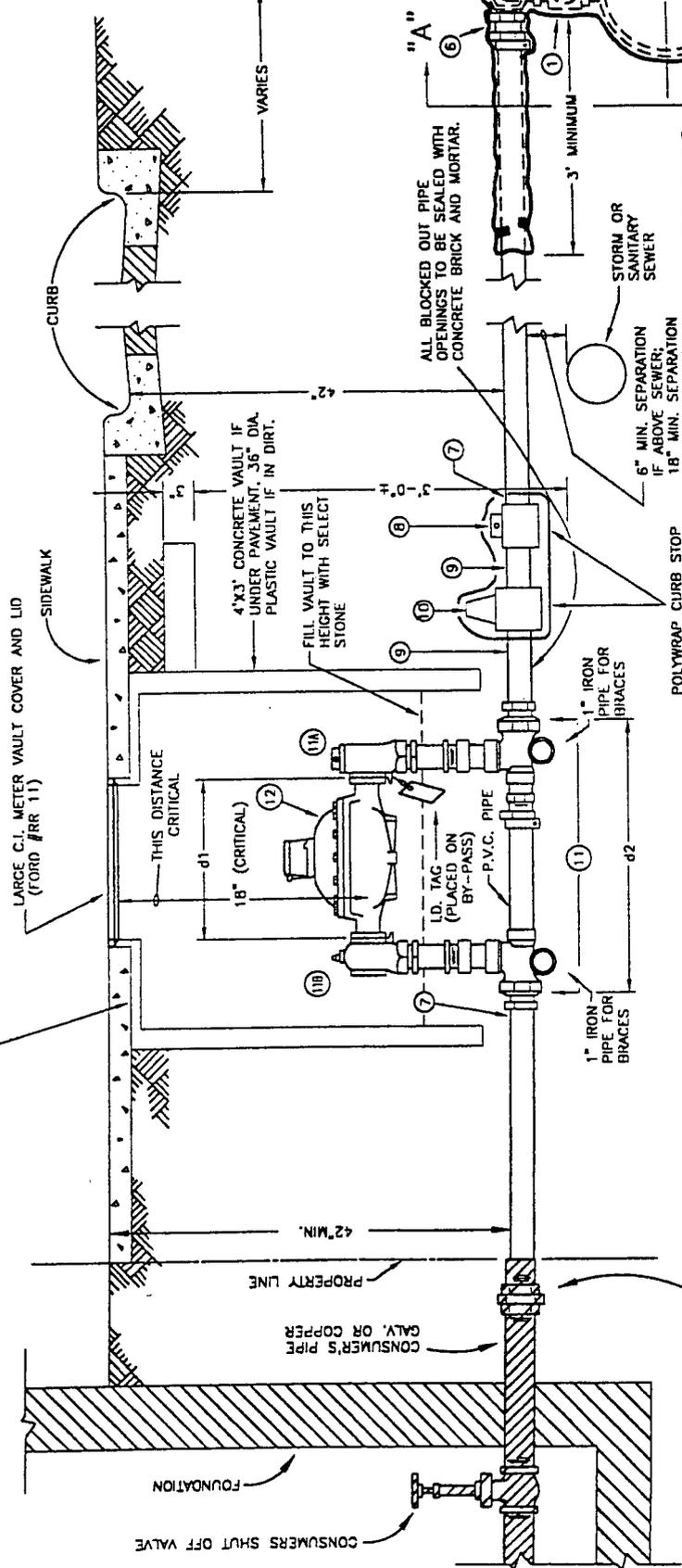
STANDARD DRAWING
 TYPICAL 1-1/2" OR 2" COPPER SERVICE

DATE	JAN. 1997	SCALE	NONE	MAP NO.
DRAWN BY	D.P. B.G.	CHECKED BY		ENGR.
PROJECT NO.	3200	SHEET	1	OF 1

TYPICAL 1-1/2" OR 2" COPPER SERVICE
WITH PRESSURE REDUCING VALVE

NO.	QUANTITY	FITTING	JOINT	SERVICE SIZES	
				1-1/2"	2"
1	1	Corporation Stop	Inlet - Male Thread (Tapered) Outlet - Male Thread	1-1/2" 2"	2" 2-1/2"
2	1	Brass Reducing Ell	Inlet - Female Thread Outlet - Female Thread	2" 1-1/2"	2-1/2" 2"
3	1	Brass Nipple (Close)	Male Thread	1-1/2"	2"
4	1	Brass Union	Female Thread	1-1/2"	2"
5	1	Brass Street Ell	Male Thread	1-1/2"	2"
6	1	Compression Coupling	Female Thread Female Compression	1-1/2" 1-1/2"	2" 2"
7	2	Adapter	Female Compression Male Thread	1-1/2" 1-1/2"	2" 2"
8	1	Curb Stop	Female Thread	1-1/2"	2"
9	2	Brass Nipple (x 6")	Male Thread	1-1/2"	2"
10	1	Pressure Reducing Valve	Female Thread	1-1/2"	2"
11	1	Metter Setter	Female Thread	1-1/2"	2"
11a		Angle Meter Stop			
11b		Angle Check Valve			
11c		By-pass (1")			
11d1				13-3/8"	17-3/8"
11d2				22"	27-1/8"
12	1	Meter	Male Thread	1-1/2"	2"

RR11 ADAPTER RING FOR 36"-DIA. PVC VAULT.



LARGE C.I. METER VAULT COVER AND LID (FORD #RR 11)

SIDEWALK

CURB

VARIES

4'x3' CONCRETE VAULT IF UNDER PAVEMENT, 36" DIA. PLASTIC VAULT IF IN DIRT.

FILL VAULT TO THIS HEIGHT WITH SELECT STONE

THIS DISTANCE CRITICAL

18" (CRITICAL)

L.D. TAG (PLACED ON BY-PASS)

P.V.C. PIPE

1" IRON PIPE FOR BRACES

6" MIN. SEPARATION IF ABOVE SEWER; 18" MIN. SEPARATION IF BELOW SEWER.

POLYWRAP CURB STOP AND PRESSURE REDUCING VALVE PRIOR TO BACK-FILLING.

1" IRON PIPE FOR BRACES

ALL BLOCKED OUT PIPE OPENINGS TO BE SEALED WITH CONCRETE BRICK AND MORTAR.

STORM OR SANITARY SEWER

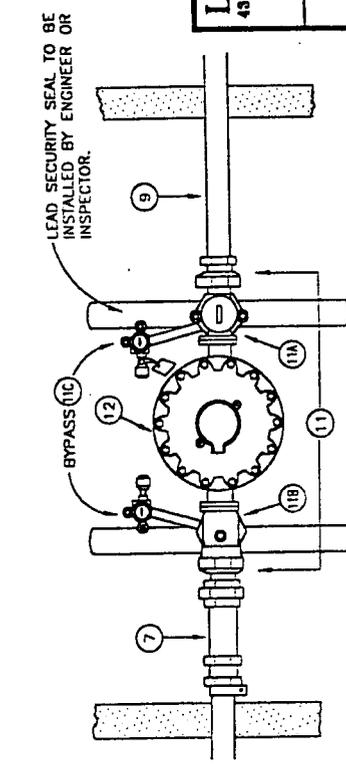
3' MINIMUM

POLYWRAP WATER MAIN

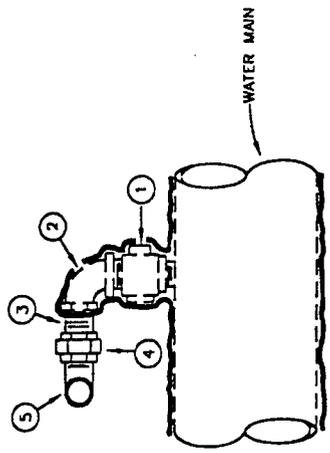
NOTE: TAPPING SADDLE TO BE USED FOR P.V.C.

SECTION "A-A"

ELEVATION



PLAN
(INSIDE VAULT)



SECTION "A-A"

NOTE: POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.

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STANDARD DRAWING

TYPICAL 1-1/2" OR 2" COPPER SERVICE WITH PRESSURE REDUCING VALVE

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	3202	SHEET	1 OF 1

TYPICAL DUCTILE IRON DOMESTIC SERVICE 4" AND LARGER

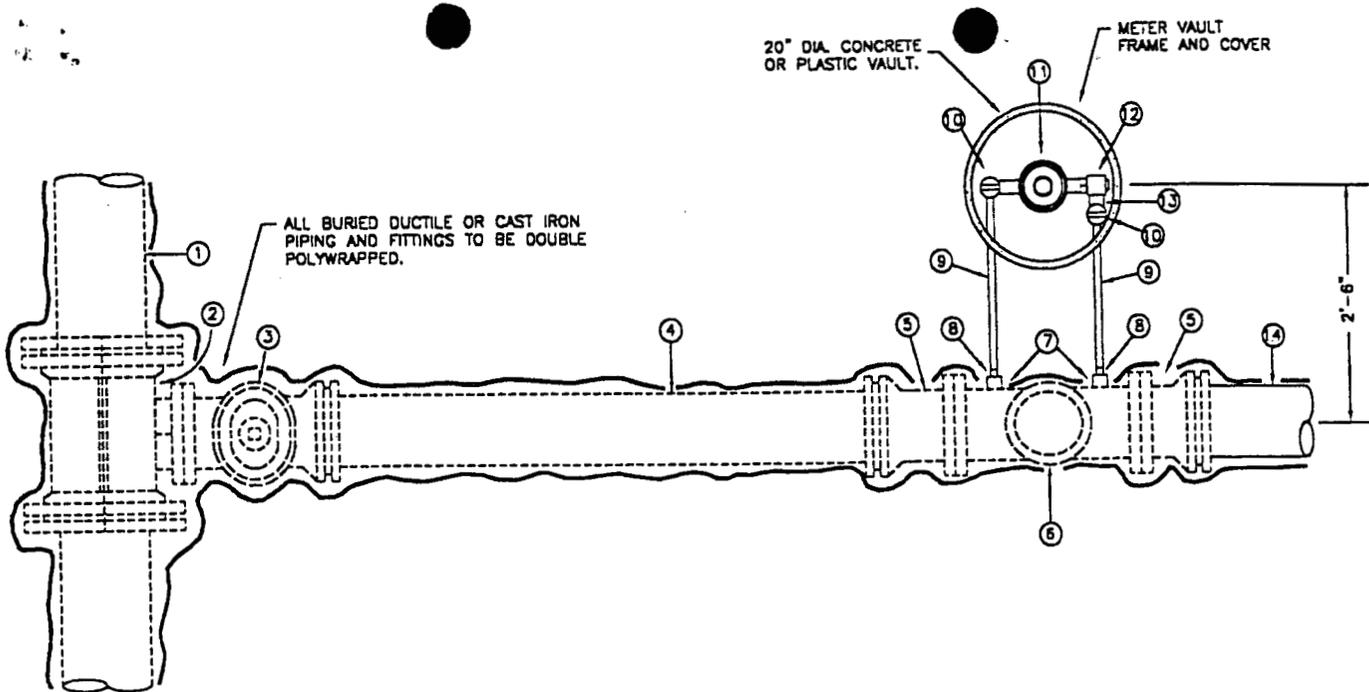
SERVICE SIZES

NO.	QUANTITY	FITTING	JOINT	SERVICE SIZES		
				4" x 3" Meter	4" x 4" Meter	6" x 6" Meter
1	—	Main in street	varies	varies	varies	
2	one	Tapping sleeve	M.J. x FLG.	4" x varies	6" x varies	
3	one	Tapping gate valve	FLG. x M.J.	4"	6"	
4	varies	Service piping (same material as main in street)	M.J. - B&S (restrain all joints)	4"	6"	
5	one	Vault	—	varies	varies	
6	two	Adapter with outlet	FLG. x FLG.	4"	6"	
6a	two	Adapter, reducing w/outlet	FLG. x FLG.	4" x 3"	—	
7	two	Gate valve, wheel	FLG. x FLG.	3"	6"	
8	one	Strainer	FLG. x FLG.	3"	6"	
9	one	Meter	FLG. x FLG.	3"	6"	
10	one	Check valve	FLG. x FLG.	3"	6"	
11	one	Spool piece with 2" Ball valve assembly (Male Thread)	FLG. x FLG. x Female Thread Male	3" x 2' - 0" Min	6"	
12	two or four	Nipple	Male Thread	2"	—	
13	two or four	Stop or valve	Male Thread	2"	—	
14	two or four	Street ell	Male Thread	2"	—	
15	two or four	Plug	Male Thread	2"	—	
16	one	Vault Cover & Lid (RR11 or Manhole)	—	—	—	
17	—	Customer Piping	—	—	—	
18	two	Adapter	FLG. X M.J. or FLG. X PE.	4"	6"	

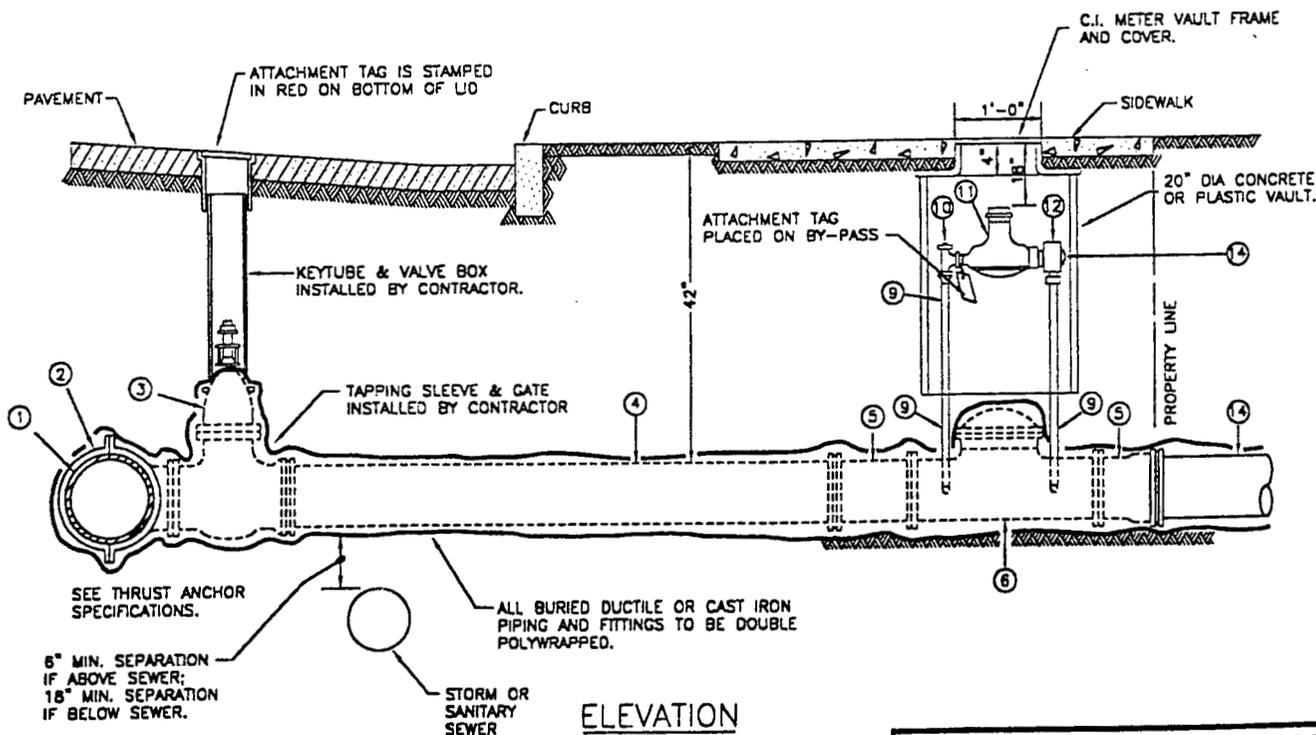
TYPICAL FIRE PROTECTION SERVICE 4" AND LARGER

FIRE SERVICE SIZES

NO.	QUANTITY	FITTING	JOINT	4"	6"
1	—	Main in Street	Varies	—	—
2	1	Tapping Sleeve	Flange	4"	6"
3	1	Tapping Gate Valve	Flange x MJ (restrained)	4"	6"
4	varies	Service Piping (Same material as main in street)	MJ / B & S (restrain all joints up to check valve)	4"	6"
5	2	Adapter	Flange x MJ or PE	4"	6"
6	1	Detector Check Valve	Flange	4"	6"
7	2	Bushing	Male Thread Female Thread	1" 3/4"	1-1/2" 3/4"
8	2	Adapter	Male Thread Female Compression	3/4"	3/4"
9	varies	Copper Tubing	Female Compression	3/4"	3/4"
10	2	Angle Meter Stop	Female Compression Female Thread	3/4"	3/4"
11	1	Meter	Male Thread	3/4"	3/4"
12	1	Angle Dual Check Valve	Female Thread	3/4"	3/4"
13	1	Pressure Reducing Valve Adapter	Male Thread	3/4"	3/4"
14		Customer Piping			



PLAN



ELEVATION

6" MIN. SEPARATION
IF ABOVE SEWER;
18" MIN. SEPARATION
IF BELOW SEWER.

STORM OR
SANITARY
SEWER

NOTES:

1. ALL DAMAGED POLYWRAP SHALL BE REPAIRED IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.
2. RESTRAIN ALL JOINTS BETWEEN THE MAIN AND THE DETECTOR CHECK VALVE.
3. IF ANY PORTION OF THE (4) PIPING IS ENCASED, THEN THE ENTIRE LENGTH OF (4) PIPING SHALL BE DUCTILE IRON.

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STANDARD DRAWING

TYPICAL
FIRE PROTECTION SERVICE
4" AND LARGER

DATE JAN. 1997

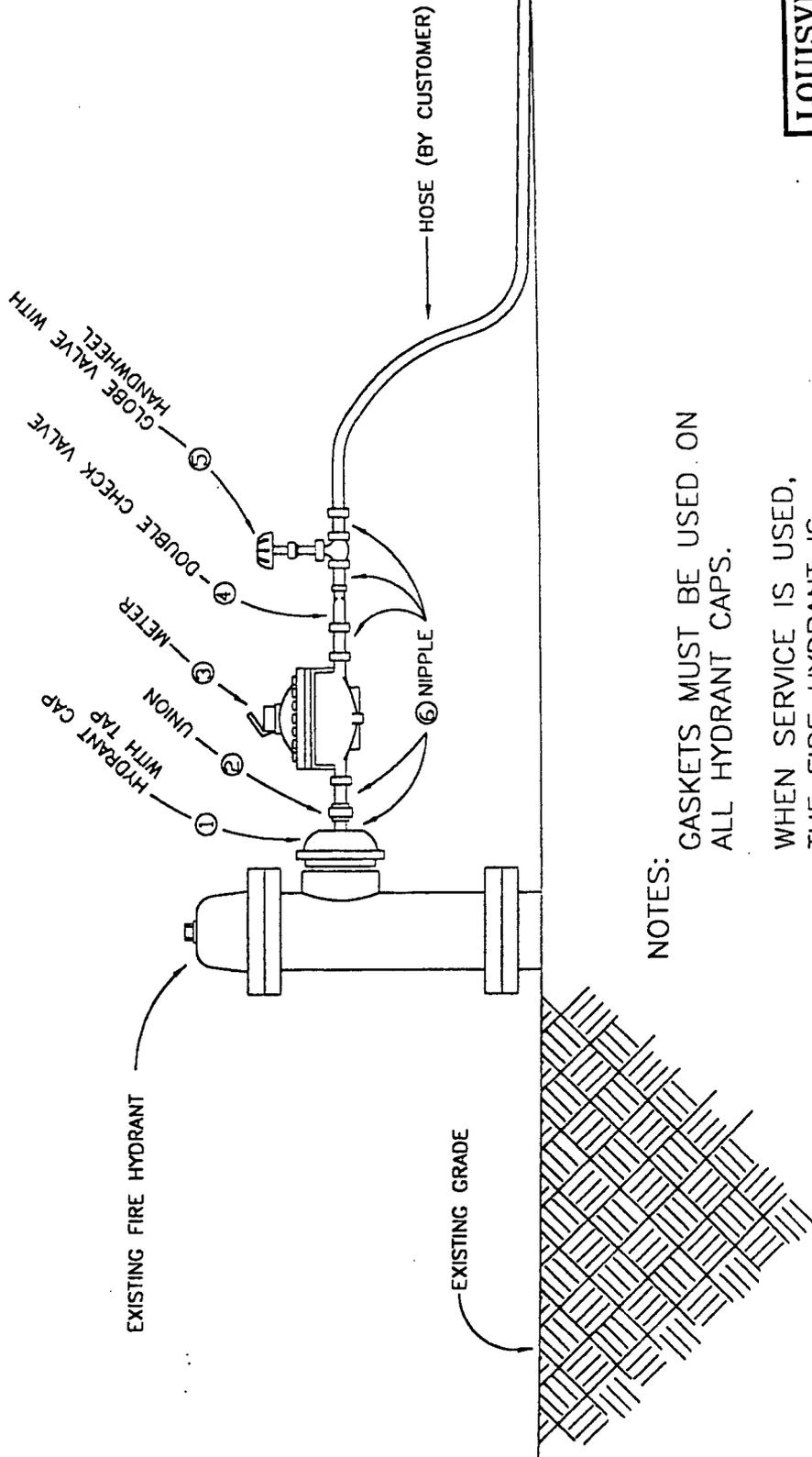
SCALE NONE

DRAWING NO. 3601

SHEET 1 OF 1

TYPICAL TEMPORARY SERVICE FROM FIRE HYDRANT

NO.	QUANTITY	FITTING	JOINT	SERVICE SIZES	
1	1	Hydrant Cap w/Gasket & Tap	Female Threaded	3/4"	1-1/2"
1	1		Female Threaded	4" x 3/4"	4" x 1-1/2"
2	1	Union	Female Threaded	3/4"	1-1/2"
3	1	Meter	Flanged	3/4"	1-1/2"
4	1	Check Valve	Female Threaded	3/4"	1-1/2"
5	1	Globe Valve w/Handwheel	Female Threaded	3/4"	1-1/2"
6	5	Nipple	Inlet-Male Threaded	3/4"	1-1/2"
			Outlet-Male Threaded	3/4"	1-1/2"



NOTES:

GASKETS MUST BE USED ON ALL HYDRANT CAPS.

WHEN SERVICE IS USED, THE FIRE HYDRANT IS TO BE FULLY TURNED ON. THE AMOUNT OF SERVICE FLOW IS TO BE CONTROLLED BY THE WHEEL VALVE ⑤.

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STANDARD DRAWING

TYPICAL TEMPORARY SERVICE
 FROM FIRE HYDRANT
 3/4" OR 1-1/2"

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	3600	SHEET	1 OF 1

SUPPLEMENTARY SPECIFICATIONS
98-794B
NICHOLS ELEMENTARY SCHOOL WATER MAIN EXTENSION

PROJECT SUMMARY

Project 98-794B includes installation of approximately 15,060 linear feet of 12-inch water main along Highway 44 from the Bullitt County line to Knob Creek Road (Highway 1526), and along Knob Creek Road from Highway 44 to Applegate Run Creek; installation of approximately 2,312 linear feet of 8-inch PVC water main along Highway 44 from Knob Creek Road to Knob Creek; installation of 16 fire hydrants; installation of valves, fittings, and appurtenances as shown on the project drawings.

BONDS

Performance and Payment Bonds will be required for this project. Bid Bonds are not required for this project.

EASEMENTS

- A. The Contractor is advised to obtain approval from the Project Manager prior to entering the properties for evaluation for bid.
- B. Contractor shall contact the Project Manager prior to entering a property on which the pipeline is being laid in an easement to ensure that the easement has been obtained.

SCOPE OF WORK

Work to be completed under Project 98-794B includes, but is not limited to the following:

- A. Install complete approximately 15,060 linear feet of 12-inch water main along Highway 44 from the Bullitt County line to Knob Creek Road (Highway 1526), and along Knob Creek Road from Highway 44 to Applegate Run Creek; install approximately 2,312 linear feet of 8-inch PVC water main along Highway 44 from Knob Creek Road to Knob Creek; installation of valves, fittings, appurtenances and any water main needed to reconnect to existing facilities; all as shown on the project drawings.

- B. Install complete sixteen (16) 6-inch double pumper fire hydrant with connecting pipe and hydrant valve as shown on the project drawings. Fire hydrant shall be placed not more than 15 feet from the edge of pavement and accessible to the Fire Department.
- C. Written Authorization is required from the Project Manager prior to addition/deletion of any change in scope including boring and installing casing pipe. Authorizations from other governing agencies do not constitute approval from Kentucky Turnpike Water District. Any deletions in the scope of work shall require a credit to be obtained from the Contractor utilizing unit prices as stated in the Bidders Proposal.
- D. All rock removal within the limits of this project shall be **UNCLASSIFIED**, and shall be included in the lump sum bid. All rock removal by blasting shall be as required in the "Blasting and Rock Excavation" section of the specifications. All blasting shall be conducted by a certified blaster licensed in the State of Kentucky. Pre-blast surveys shall be conducted on the project prior to removal of rock.
- E. If any tree bores are necessary, a bore of 10 feet on either side of centerline of each tree (where the proposed path of the pipeline is within the drip line of the tree) is required. The contractor shall be responsible for the tree disturbed by the installation for a period of two (2) years after final acceptance of the project.
- F. Manufactured sand will not be allowed for pipe bedding and backfill on this project.
- G. All sawcuts shall be straight and perpendicular to the driveway/roadway. Restoration shall be made with the same type material that is removed and restored to a condition equal to or better than the existing. State Road restoration shall be as specified in the detail for Backfill and Pavement Restoration included in the specifications.
- H. All damage to the edge of the pavement shall require the removal of and base repair of a minimum of two (2) feet in addition to the maximum width of the damage. The longitudinal edge is to be of uniform width with straight sawed edges. The lane is then to be milled a minimum of 5' in width with a 2" asphalt overlay. There will be no skip milling allowed and the minimum length will be determined in the field by the Project Inspector.
- I. Disturbed areas fronting residential lots shall be shaped and sodded. A minimum of 6" top soil free of rock shall be placed prior to final restoration. All ditchlines in residential lots shall be sodded and staked to eliminate erosion.
- J. Traffic control shall be as required in the traffic control section of this specification. At least one lane shall remain open to traffic at all times.

- K. Pig cleaning shall be performed on the newly installed water main as noted per section 8.1 "FILLING AND CLEANING THE PIPE" in the technical portion of the specifications. Discharge to a storm drain or surface can be made only after reducing the available chlorine to less than 0.1 ppm.
- L. The contractor shall supply temporary fencing when necessary to contain livestock. The contractor shall make arrangements with the property owners for removal/containment of the animals during placement of the fencing.
- M. The Contractor shall include a unit price in the Bidders Proposal for the installation of new domestic services. This unit price will be valid six months after the main is placed in service and may be utilized in the event a property owner along the proposed route requests a service connection to the newly installed 12- and 8-inch mains during this time. If the Contractor has completed the project and is no longer on the project site, one unit price for mobilization of the service crew shall be included per call-out, whether it be for installation of one service or a number of services on this main installation.
- N. The Contractor shall abide by and shall arrange for and pay for any and all permits involving the Kentucky Division of Water Regulations pertaining to erosion and sediment control. The Contractor shall comply with the applicable provisions of KRS Chapter 220 and 224 of the State Water Pollution Control Laws and other applicable statutes relating to the prevention or abatement of water pollution. Projects involving more than five (5) acres shall require the Contractor to submit a "Notice of Intent" letter to the Kentucky Division of Water.

Regardless of the size of the project, the Contractor shall exercise every reasonable precaution at all times to prevent water pollution by the erosion and disposition of sediment in stream, lakes, reservoirs; conduct and schedule operations so as to avoid or minimize the muddying or siltation of areas adjacent to the construction site including streets, storm sewers, vacant lots, etc.; and not leave partially completed areas of work in a manner that will contribute to erosion during the period in which work is suspended.

- O. A maximum of 500 lineal feet shall be disturbed at one time prior to final grade. Restoration of the area is required before the contractor is permitted to proceed.
- P. The Contractor is required to supply and install a metal or wood sign on each end of the project limits in accordance with Section 1.6 of the TECHNICAL SPECIFICATIONS. The sign shall be 24" x 36" in size with black letters on a white background. The sign will be installed prior to the start of construction and installed

on 4" x 4" treated lumber posts, buried 24" below existing grade. The text will be provided by KTWD prior to award of the contract and will identify the Kentucky Turnpike Water District, project name, project scope, funding source, engineer, contractor, anticipated project completion and telephone number.

- Q. The Louisville Water Company will obtain all encroachment permits identified in Section 1.7 of the **TECHNICAL SPECIFICATIONS**.
- R. Unless otherwise indicated on the Project Drawings or modified by these Supplementary Specifications, all applicable provisions of the **Kentucky Turnpike Water District Technical Specifications for Pipeline Construction** shall govern work on this project. Copies of the Standard Specifications are available at no charge from the Kentucky Turnpike Water District.

MATERIALS SUPPLIED BY KENTUCKY TURNPIKE WATER DISTRICT

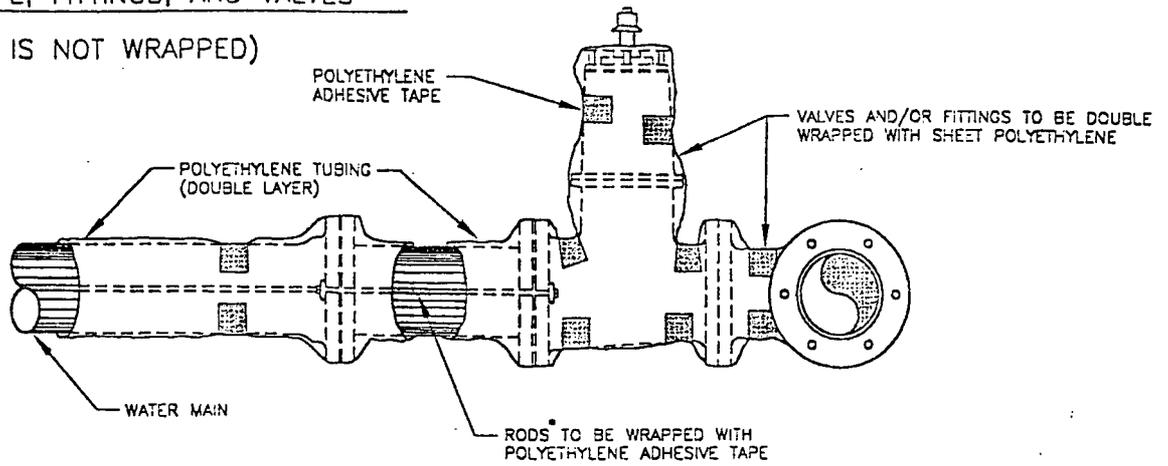
- A. All pipe, hydrants, valves, fittings, and pipe appurtenances will be supplied by the Louisville Water Company for the Kentucky Turnpike Water District in accordance with Section 4.2.1 of the Technical Specifications.
- B. Job site delivery of 12-inch and 8-inch PVC pipe from the manufacturer can be made available upon request by the Contractor in accordance with LWC's "Process for Jobsite Delivery" identified in Section 4.2.1 of the Technical Specification. The Kentucky Turnpike Water District will assist the Contractor in identifying suitable locations near the project to store bulk pipe materials.
- C. All unused pipeline materials must be returned to the Louisville Water Company Allmond Warehouse in accordance with Section 4.2.2 of the Technical Specifications.
- D. All other materials, not identified in Section 4.2.1 of the Technical Specifications, shall be provided by the Contractor as necessary to complete the project shown on the plans and specifications.

PROJECT MANAGER

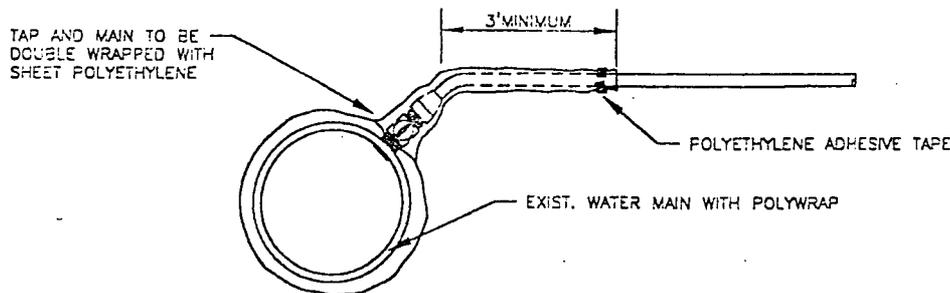
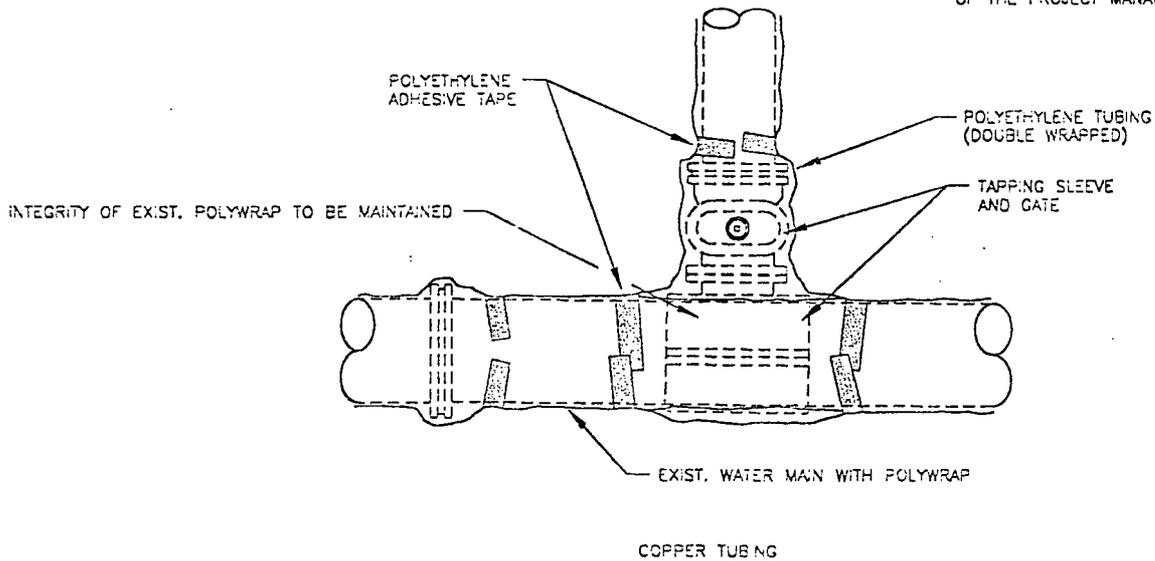
- A. The Project Manager for this project is Ms. Sheri Quinn, P.E. Questions regarding the Supplementary Specifications, Technical Specifications, or Project Drawings can be forwarded to the Project Manager at the Louisville Water Company, 550 South Third Street, Louisville, KY, 40202, (502) 569-3600, extension 2218.

METHOD FOR INSTALLING POLYETHYLENE WRAP
AROUND IRON PIPE, FITTINGS, AND VALVES

(PVC PIPE IS NOT WRAPPED)



*RODS ARE TO BE USED ONLY AS TEMPORARY THRUST RESTRAINT. THRUST BLOCKS MUST BE USED FOR ALL FITTINGS AS DETAILED IN THE STANDARD SPECIFICATIONS. (MEGALUGS MAY BE USED IN PLACE OF RODS AT THE DISCRETION OF THE PROJECT MANAGER.)



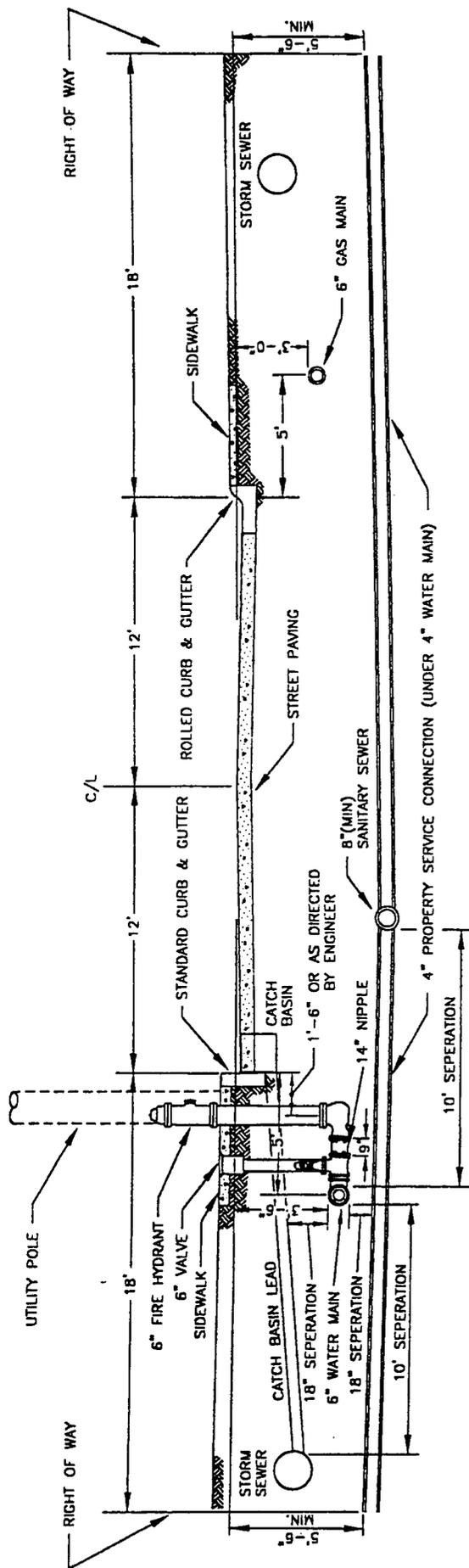
METHOD FOR RESTORING
POLYETHYLENE WRAP
WHEN TAPPING WATER MAINS

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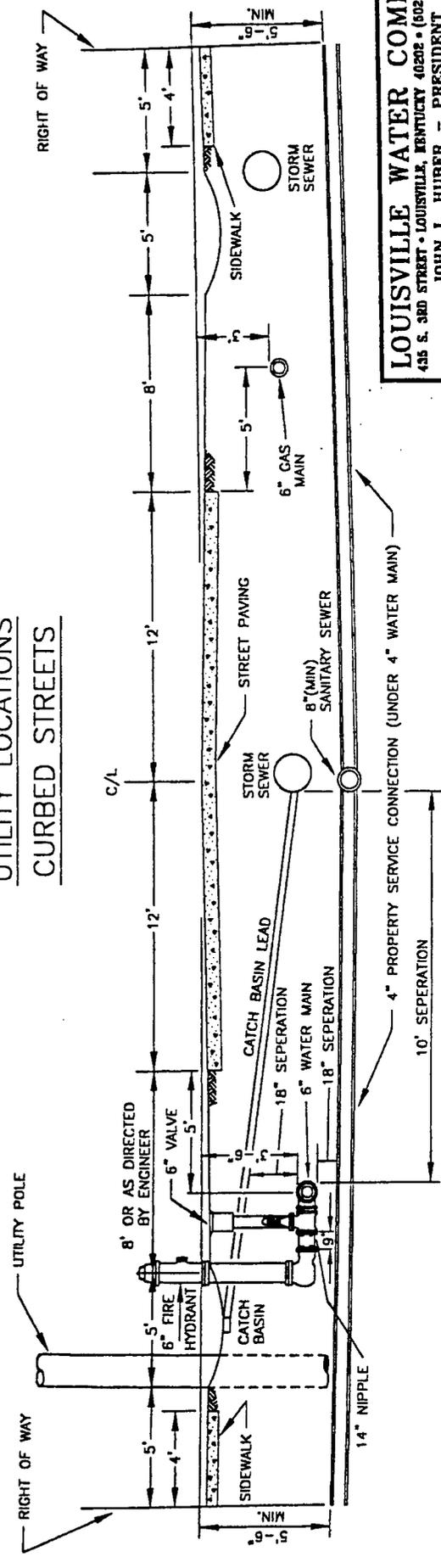
STANDARD DRAWING

METHODS FOR
 INSTALLING AND RESTORING
 POLYETHYLENE WRAP

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	1200	SHEET	1 OF 1



UTILITY LOCATIONS
CURBED STREETS

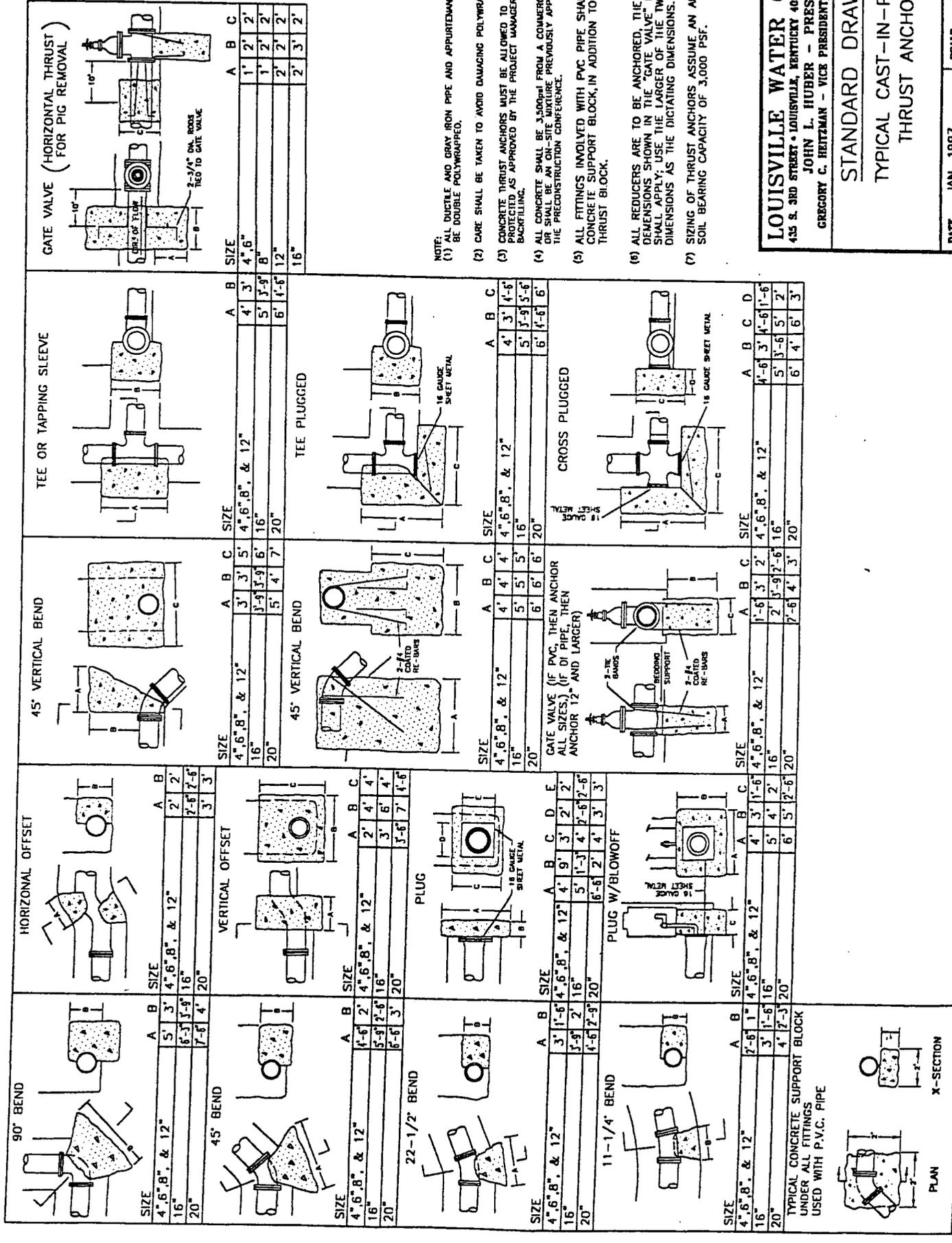


UTILITY LOCATIONS
WITHOUT CURBED STREETS

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STANDARD DRAWING
 TYPICAL
 UTILITY LOCATIONS

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	1000	SHEET	1 of 1

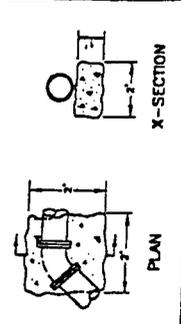


- NOTE:**
- (1) ALL DUCTILE AND GRAY IRON PIPE AND APPURTENANCES SHALL BE DOUBLE POLYWRAPPED.
 - (2) CARE SHALL BE TAKEN TO AVOID DAMAGING POLYWRAP.
 - (3) CONCRETE THRUST ANCHORS MUST BE ALLOWED TO CURE, OR PROTECTED AS APPROVED BY THE PROJECT MANAGER, BEFORE BACKFILLING.
 - (4) ALL CONCRETE SHALL BE 3,500psi FROM A COMMERCIAL PLANT, OR SHALL BE AN ON-SITE MIXTURE PREVIOUSLY APPROVED AT THE PRECONSTRUCTION CONFERENCE.
 - (5) ALL FITTINGS INVOLVED WITH PVC PIPE SHALL HAVE A CONCRETE SUPPORT BLOCK, IN ADDITION TO THE PERTINENT THRUST BLOCK.
 - (6) ALL REDUCERS ARE TO BE ANCHORED. THE ANCHOR DIMENSIONS SHOWN IN THE "GATE VALVE" DRAWING SHALL APPLY. USE THE LARGER OF THE TWO REDUCERS DIMENSIONS AS THE DICTATING DIMENSIONS.
 - (7) SIZING OF THRUST ANCHORS ASSUME AN ALLOWABLE SOIL BEARING CAPACITY OF 3,000 PSF.

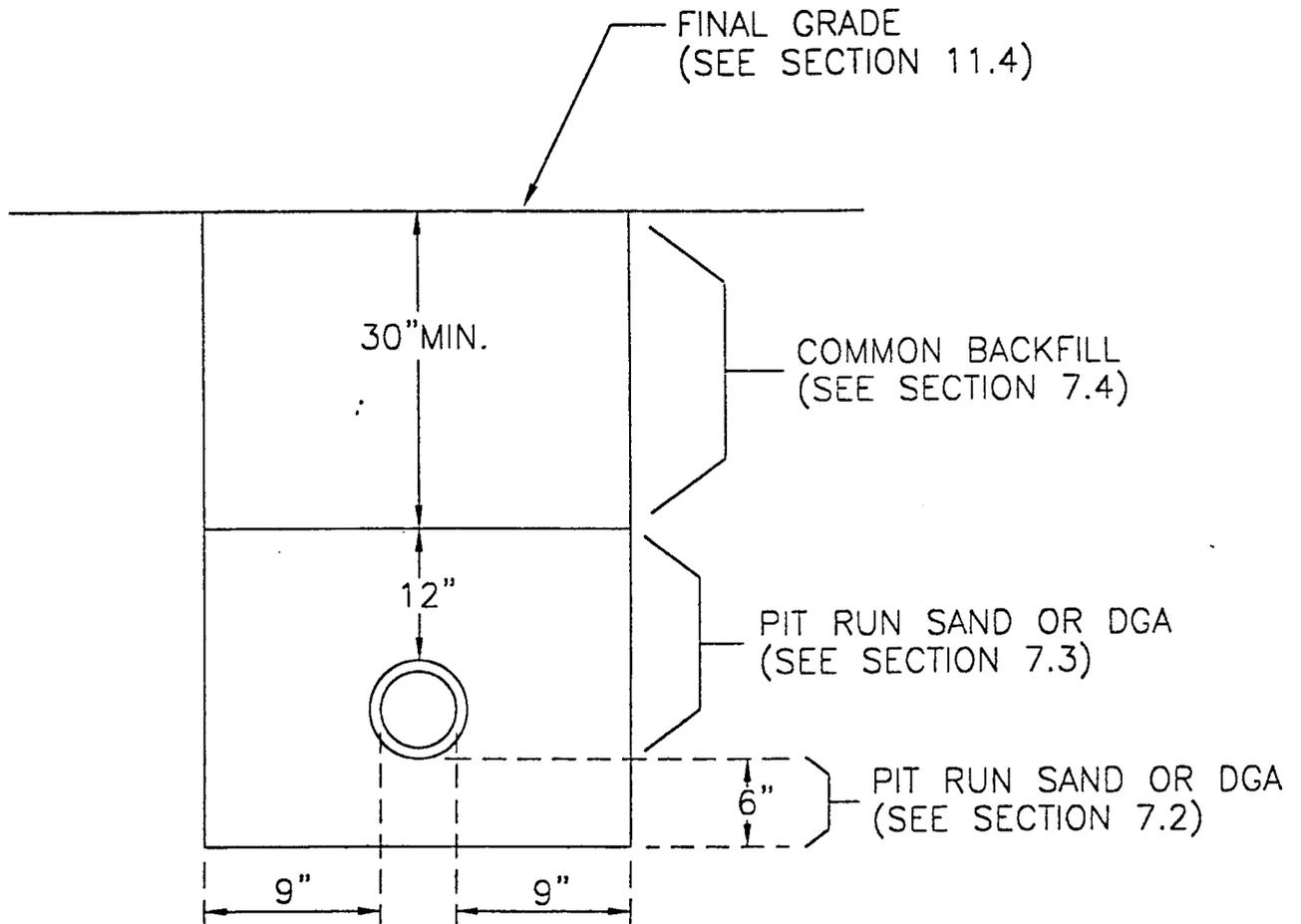
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 JOHN L. HUBER - PRESIDENT
 GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
 TYPICAL CAST-IN-PLACE
 THRUST ANCHORS

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	1400	SHEET	1 OF 1



TYPICAL CONCRETE SUPPORT BLOCK UNDER ALL FITTINGS USED WITH P.V.C. PIPE



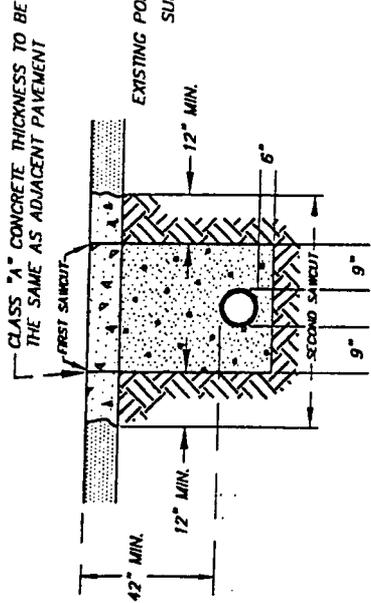
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 JOHN L. HUBER - PRESIDENT
 GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING

COMMON BACKFILL AND
LAWN RESTORATION

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	4300	SHEET	1 of 1

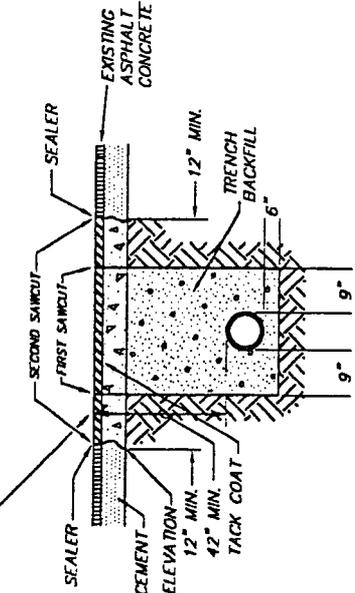
TOP ELEVATION OF CLASS "A" CONCRETE SUBBASE SHALL BE SAME AS TOP OF EXISTING CONCRETE BASE, BUT NOT TO EXCEED A DEPTH OF 5" FROM THE TOP OF EXISTING DRIVING SURFACE (UNLESS OTHERWISE DIRECTED BY THE PROJECT MANAGER.)



PERMANENT CONCRETE SURFACE

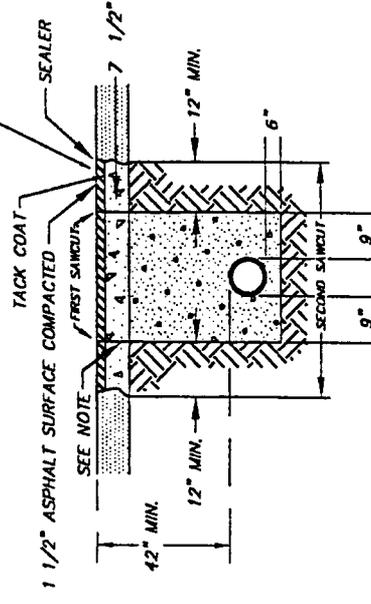
NOTE: ALL CUTS TO BE SECURELY PLATED DURING CONSTRUCTION ACCORDING TO SPECIFICATIONS

NOTE: THE CONCRETE BASE SHALL BE FLOAT FINISHED OR BROOMED OR LIGHTLY RAKED AFTER FLOATING TO A UNIFORM GRADE.

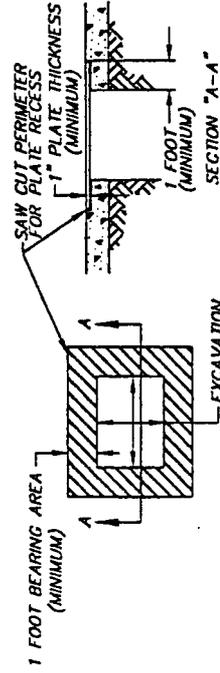


DETAIL FOR BITUMINOUS SURFACE PAVEMENT RESTORATION

COMPACTED ASPHALT SURFACE THICKNESS VARIES ACCORDING TO DEPTH OF TOP OF CONCRETE BASE (SEE NOTES BELOW)



BASE OTHER THAN CONCRETE HAVING AN ASPHALT SURFACE



TYPICAL RECESSED PLATE
NO SCALE

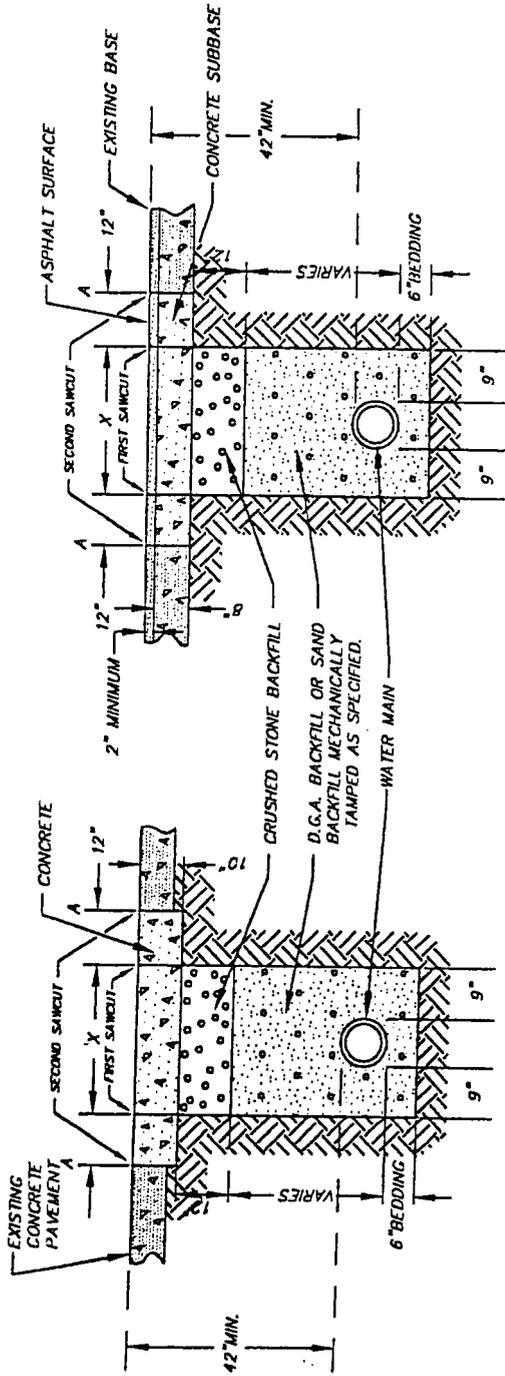
CITY OF LOUISVILLE SPECIFICATIONS

1. BACKFILL SHALL BE DENSE-GRADED AGGREGATE OR SAND. DENSE-GRADE OR SAND SHALL BE PLACED IN MAXIMUM 6" LOOSE LIFTS OR AS SPECIFIED AND MECHANICALLY COMPACTED.
2. CONTRACTOR WILL BE HELD RESPONSIBLE DURING THE ENSUING 5 YEAR PERIOD AFTER THE CUT IS MADE, ANY PAVEMENT SETTLEMENT SHALL BE IMMEDIATELY REPAIRED IN AN APPROVED MANNER AT THE EXPENSE OF THE CONTRACTOR.
3. BACKFILLING UP TO BOTTOM OF SUBBASE ELEVATION SHALL BE COMPLETED PRIOR TO SECOND PAIR OF SAWCUTS AND EXCAVATION FOR THE ADDITIONAL 12" OF CONCRETE ON EACH SIDE OF THE TRENCH.
4. DILUTE SS1H (OR OTHER APPROVED TACK COAT MATERIAL) SHALL BE APPLIED AT THE RATE OF 0.1 GAL. PER SQUARE YARD OVER THE CONCRETE BASE. ALLOW SUFFICIENT TIME FOR IT TO "BREAK" BEFORE THE FINISHED BITUMINOUS CONCRETE IS PLACED, AND SEAL ALL JOINTS SECURELY AFTER PAVING.

LOUISVILLE WATER COMPANY
430 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 568-3600
JOHN L. HUBER - PRESIDENT
GREGORY C. HERTZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
CITY OF LOUISVILLE
BACKFILL AND PAVING
RESTORATION

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	4200	SHEET	1 OF 1

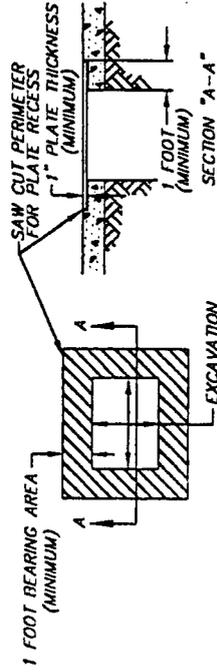


CONCRETE PAVEMENT

BITUMINOUS SURFACE
NEW ASPHALT SHALL BE
MINIMUM OF 2" THICK

JEFFERSON COUNTY SPECIFICATIONS

1. BACKFILL SHALL BE DENSE-GRADED AGGREGATE OR SAND. DENSE-GRADE OR SAND SHALL BE PLACED IN MAXIMUM 6" LOOSE LIFTS OR AS SPECIFIED AND MECHANICALLY COMPACTED.
2. CONTRACTOR WILL BE HELD RESPONSIBLE DURING THE ENSUING 5 YEARS FOR PROPER BACKFILLING AND REPLACEMENT OF SURFACE. DURING THE 5 YEAR PERIOD AFTER THE CUT IS MADE, ANY PAVEMENT SETTLEMENT SHALL BE IMMEDIATELY REPAIRED IN AN APPROVED MANNER AT THE EXPENSE OF THE CONTRACTOR.
3. BACKFILLING UP TO BOTTOM OF SUBBASE ELEVATION SHALL BE COMPLETED PRIOR TO SECOND PAIR OF SAWCUTS AND EXCAVATION FOR THE ADDITIONAL 12" OF CONCRETE ON EACH SIDE OF THE TRENCH.
4. DILUTE SS1H (OR OTHER APPROVED TACK COAT MATERIAL) SHALL BE APPLIED AT THE RATE OF 0.1 GAL. PER SQUARE YARD OVER THE CONCRETE BASE. ALLOW SUFFICIENT TIME FOR IT TO "BREAK" BEFORE THE FINISHED BITUMINOUS CONCRETE IS PLACED, AND SEAL ALL JOINTS SECURELY AFTER PAVING.



TYPICAL RECESSED PLATE

NO SCALE

LOUISVILLE WATER COMPANY
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JOHN L. HUBER - PRESIDENT
GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING

JEFFERSON COUNTY
BACKFILL AND PAVING
RESTORATION

DATE JAN. 1997

SCALE NONE

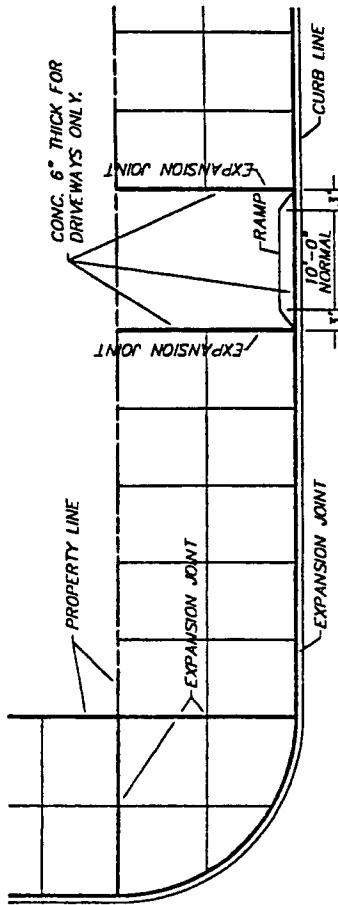
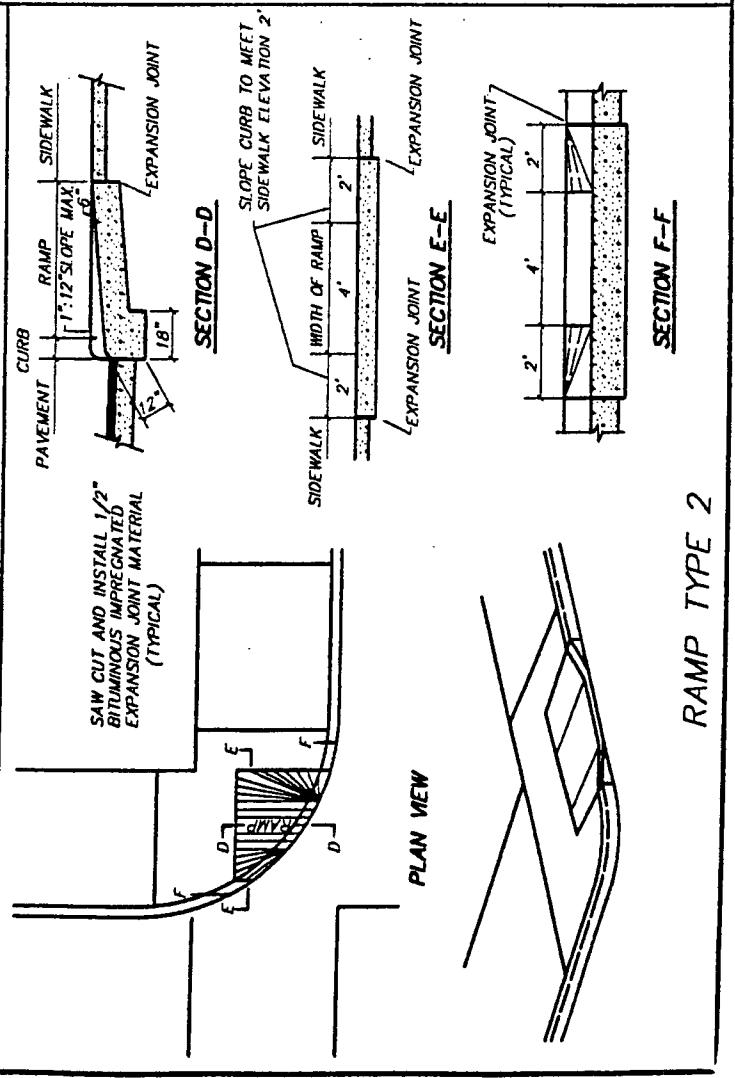
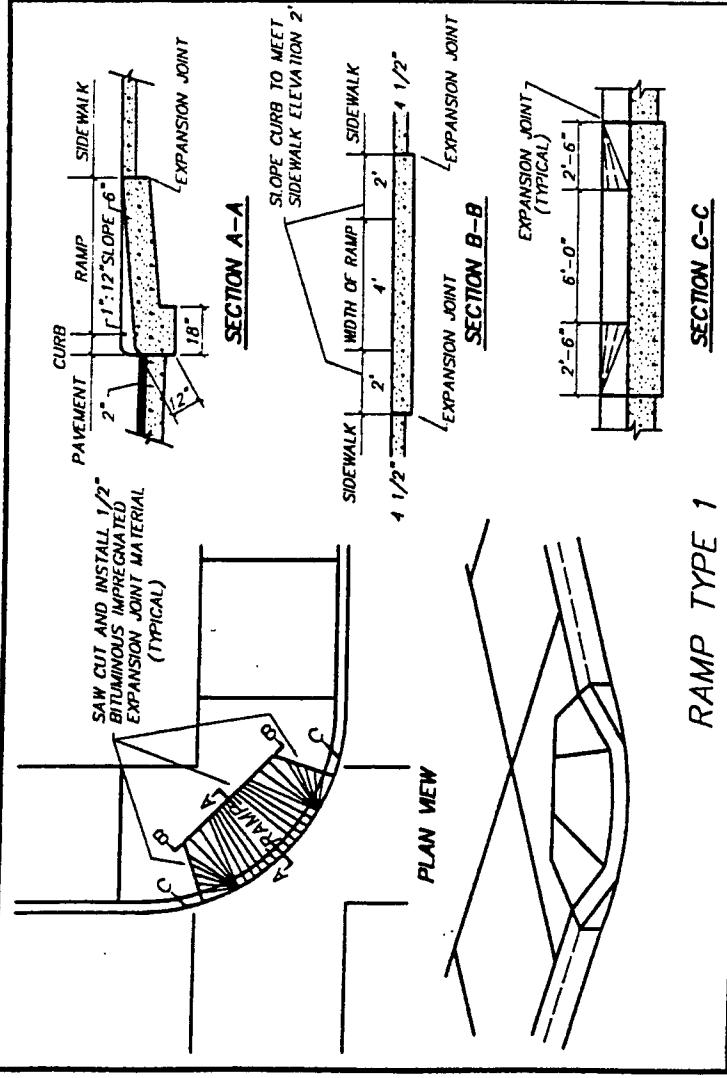
DRAWING NO. 4100

SHEET

1

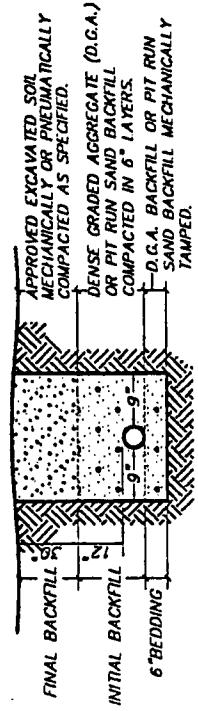
OF

1



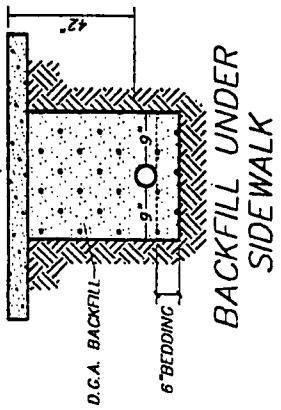
PLAN OF SIDEWALK AND DRIVEWAY-FULL WIDTH

NOTES:
 ALL SIDEWALKS SHALL BE 4 1/2" THICK. ALL DRIVEWAYS SHALL BE 6" THICK. ALL CONCRETE SHALL BE CLASS "A" (3500 LB. CONCRETE). WOOD FLOAT FINISH FOR ALL WORK. AN APPROVED TYPE OF LIQUID CURING COMPOUND WILL BE PERMITTED. EXPANSION JOINTS ACROSS THE LINE OF THE WALK SHALL BE SPACED NOT MORE THAN 50' APART. EXPANSION JOINTS PARALLEL TO THE LINE OF WALK WILL BE REQUIRED AT THE BACK OF CURB FOR FULL WIDTH WALKS. AT DRIVEWAYS, EXPANSION JOINTS SHALL BE USED ON BOTH SIDES AGAINST THE SIDEWALK. OTHER JOINTS DETERMINED BY THIS LOCATION. AT DRIVEWAYS AND ENTRANCE WALKS ACROSS GRASS PLOTS, AN EXPANSION JOINT SHALL BE USED AT BACK OF CURB. ALL EXPANSION MATERIAL SHALL BE APPROVED NON-EXTRUDING PREFORMED STRIPS 1/2" THICK. BLOCKS SHALL BE MARKED OR SCORED IN SUITABLE SIZED BLOCKS, BUT NOT LESS THAN 4' OR MORE THAN 6' ON A SIDE. CONTRACTION JOINTS (PLANES OF WEAKNESS) SHALL BE AT EVERY THIRD BLOCK AND SHALL BE CUT AT LEAST 1 1/2" IN DEPTH (IN LIEU OF A SCORE). AT BACK OF WALK, TERRACE SHALL BE HAND TRIMMED OR FINISHED TO A 1 TO 1 SLOPE OR FLATTER.
 ALL SIDEWALK AND DRIVEWAY CONSTRUCTION IN THE PUBLIC WAYS OF THE CITY OF LOUISVILLE SHALL CONFORM WITH THE REQUIREMENTS ON THIS SHEET UNLESS OTHERWISE APPROVED IN WRITING BY THE CHIEF ENGINEER. MINIMUM WIDTH OF SIDEWALK SHALL BE 5' EXCEPT WITH PERMISSION OF CHIEF ENGINEER.



BACKFILL NOT UNDER PAVEMENT

CLASS "A" 3500 LB. CONCRETE - 4 1/2" (6" CONC. FOR DRIVEWAYS)

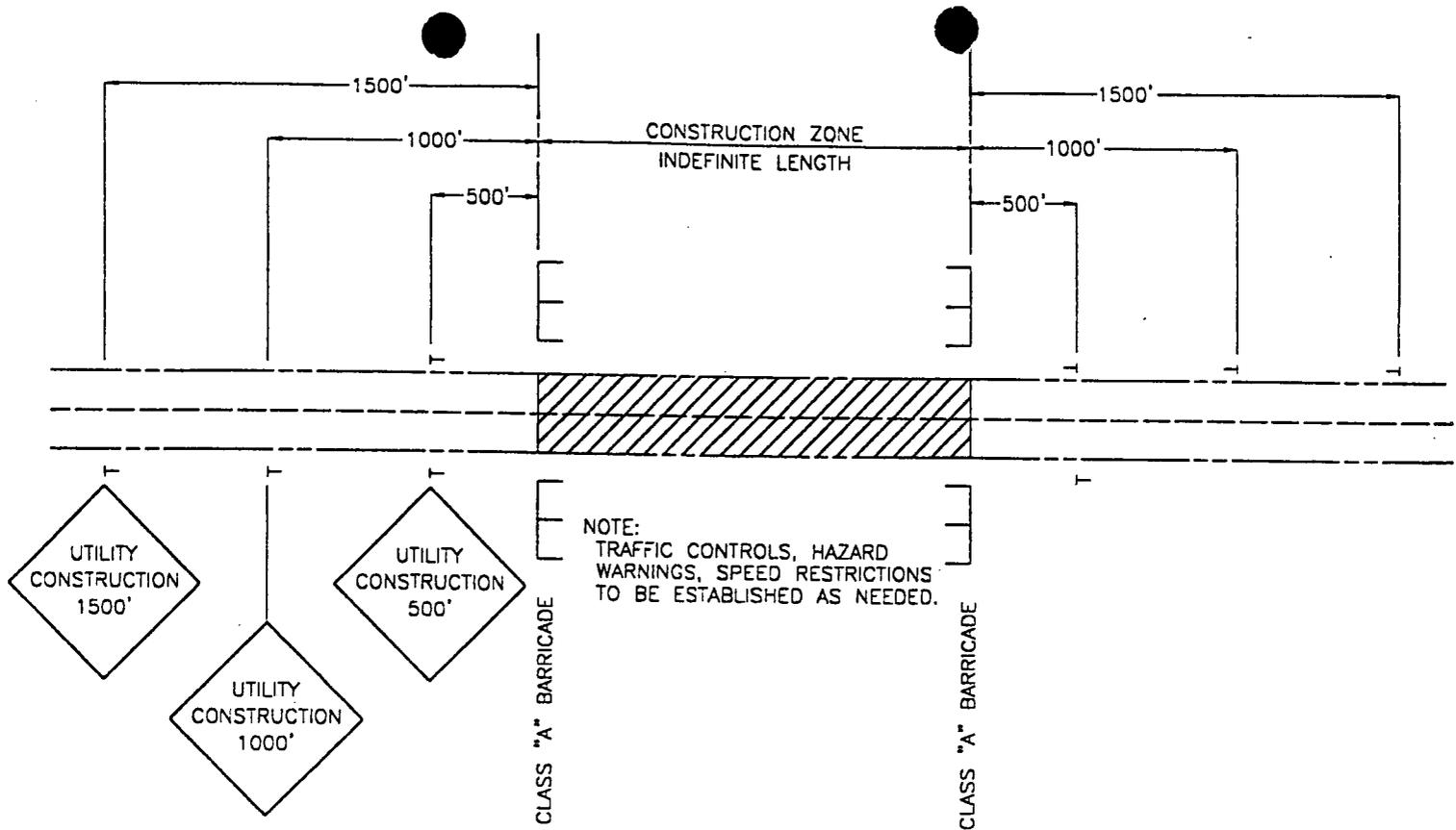


BACKFILL UNDER SIDEWALK

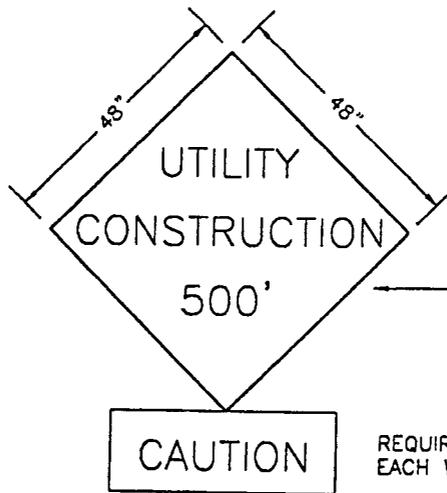
LOUISVILLE WATER COMPANY
 455 B. 3RD STREET - LOUISVILLE, KENTUCKY 40202 • (502) 589-3800
 JOHN L. HUBER - PRESIDENT
 GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
 SIDEWALK/BACKFILL
 DETAIL

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	4400	SHEET	1 OF 1



LOCATION OF
TRAFFIC CONTROL DEVICES



WARNING SIGNS

1. TREES ON STATE RIGHT-OF-WAY ARE NOT TO BE DAMAGED BY THIS INSTALLATION. NO TREE TRIMMING OR REMOVAL IS AUTHORIZED BY THIS PERMIT.
2. ALL DISTURBED PORTIONS OF THE STATE RIGHT-OF-WAY TO BE RESTORED TO ORIGINAL CONDITION BY SEEDING AND MULCHING IN ACCORDANCE WITH KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS.
3. ALL SIGNS AND CONTROL OF TRAFFIC TO BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOUISVILLE WATER COMPANY			
455 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 568-3800			
JOHN L. HUBER - PRESIDENT			
GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER			
STANDARD DRAWING			
TRAFFIC CONTROL DEVICES			
DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	4600	SHEET	1 OF 1

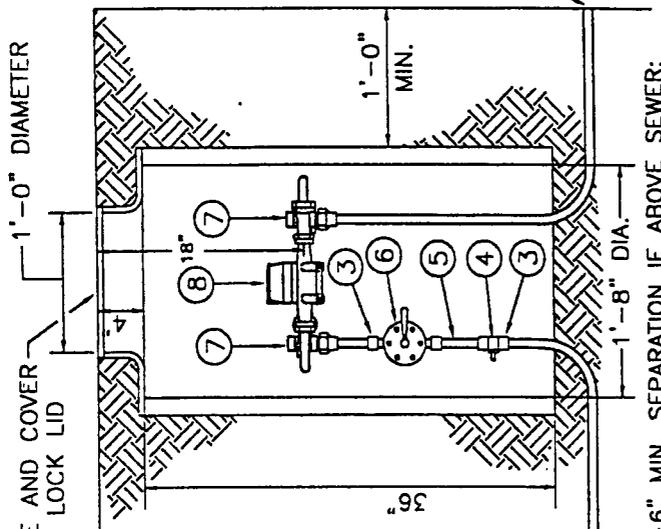
**TYPICAL 1" COPPER SERVICE
WITH PRESSURE REDUCING VALVE**

NO.	QUANTITY	FITTING	JOINT	SIZE
1	1	Corporation Stop	Inlet - Male Thread (Tapered) Outlet - Male Thread	1" 1"
2	1	Adapter Bend (45° or 90°)	Inlet - Female Thread Outlet - Female Compression	1" 1"
3	2	Adapter	Female Compression Male Thread	1" 1"
4	1	Ball Valve With handle	Female Thread	1"
5	1	Brass Nipple	Male Thread	1"
6	1	Pressure Reducing Valve	Female Thread	1"
7	2	Angle Meter Stop	Female Compression Female Thread	1" 1"
8	1	Meter	Meter Thread	1"

C.I. METER FRAME AND COVER WITH WORM TYPE LOCK LID

1'-0" DIAMETER

PROPERTY LINE BY CONSUMER



MAINTAIN MINIMUM 36" COVER BENEATH DITCH OR DEPRESSION

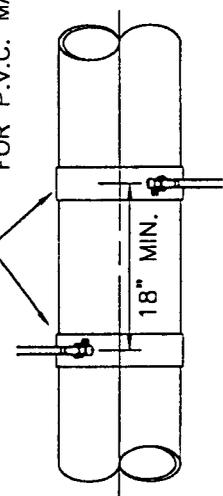
TYPE "K" (SOFT) COPPER TUBING LENGTH VARIES

6" MIN. SEPARATION IF ABOVE SEWER;
18" MIN. SEPARATION IF BELOW SEWER.

FOR DUCTILE IRON MAIN TAPPING SADDLE FOR P.V.C. MAIN TRACER WIRE FOR P.V.C. MAIN AFFIXED TO SADDLE

STORM OR SANITARY SEWER

TAPPING SADDLE FOR P.V.C. MAIN



PLAN FOR PVC MAIN

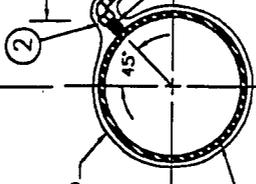
CURB

42" OR GREATER

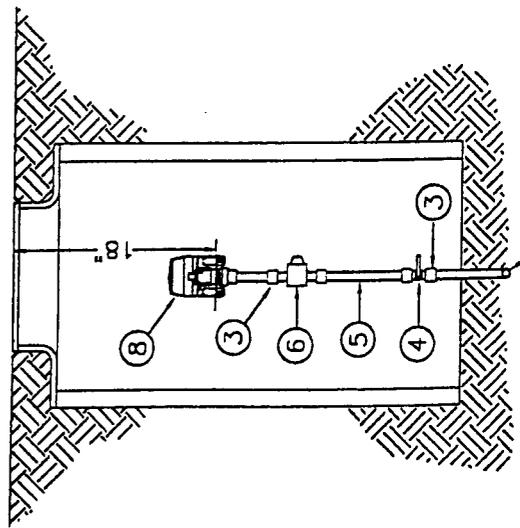
5' MIN.

3' MINIMUM

POLYWRAP



DUCTILE IRON WATER MAIN (P.V.C. WATER MAIN DOES NOT REQUIRE POLYWRAP)



COPPER SERVICE

NOTES:

- 1) SEE MATERIAL SHEET FOR OPTIONAL SERVICE INSTALLATIONS.
- 2) ALL BENDS ARE TO BE MADE USING ONLY AN APPROVED TUBING BENDER.
- 3) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE. OTHERS SHALL BE PLASTIC.
- 4) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.

LOUISVILLE WATER COMPANY
 435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 569-3000
 JOHN L. HUBER - PRESIDENT
 GREGORY C. BEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING

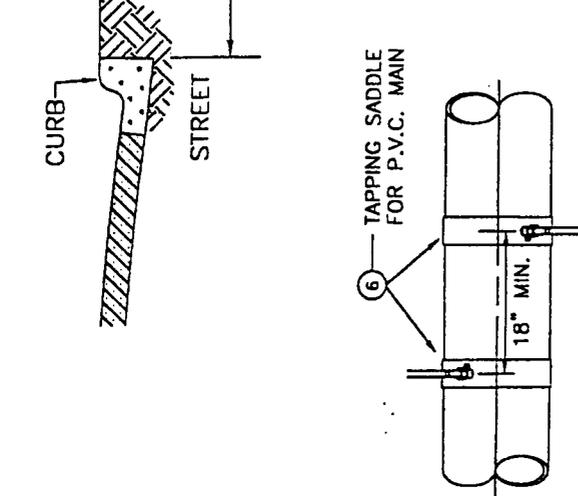
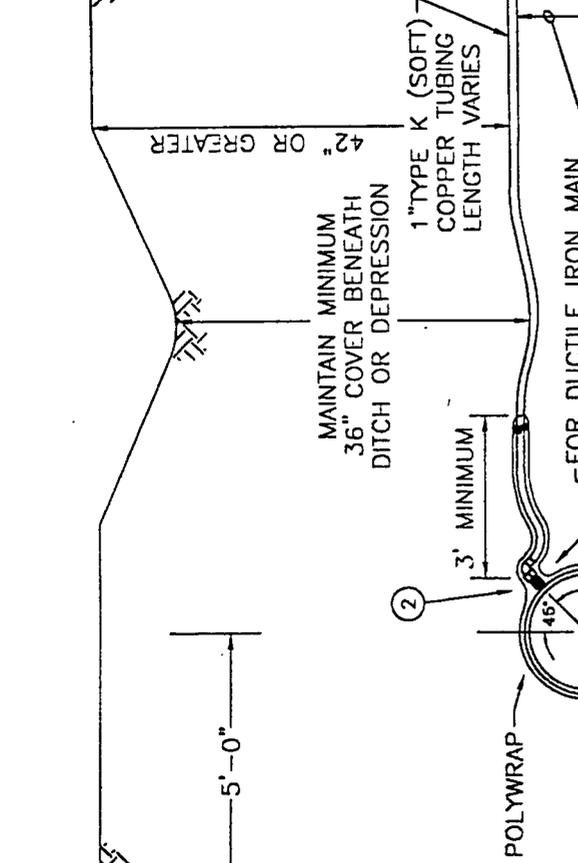
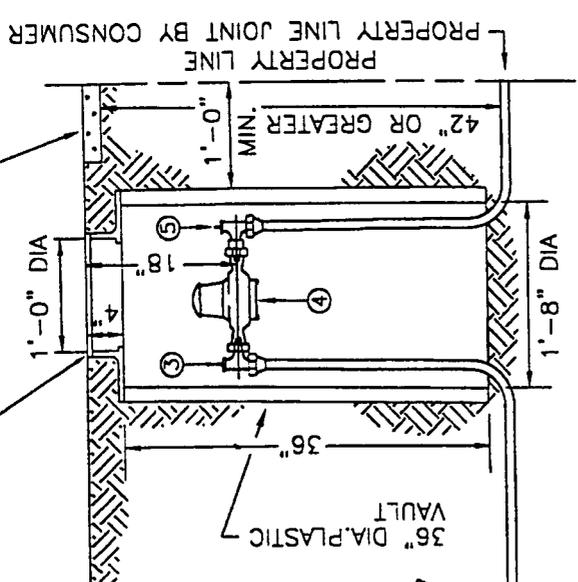
TYPICAL 1" COPPER SERVICE WITH PRESSURE REDUCING VALVE

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	3003	SHEET	1 of 1

TYPICAL DOUBLE DOMESTIC/IRRIGATION 1" COPPER SERVICE

NO.	QUANTITY	FITTING	JOINT	SIZE
1	1	Corporation Stop	Inlet - Male Thread (Tapered) Outlet - Male Thread	1" 1"
2	1	Adapter Bend (45° or 90°)	Inlet - Female Thread Outlet - Female Compression	1" 1"
3	1	Branch Piece, with 2 Angle Meter Stops	Inlet - Female Compression Outlet - Female Thread	1" 3/4"
4	2	Meter	Male Thread	3/4"
5	2	Angle Meter Stop	Female Thread Female Compression	3/4" 3/4" or 1"

#RR 11 C.I. METER FRAME AND COVER

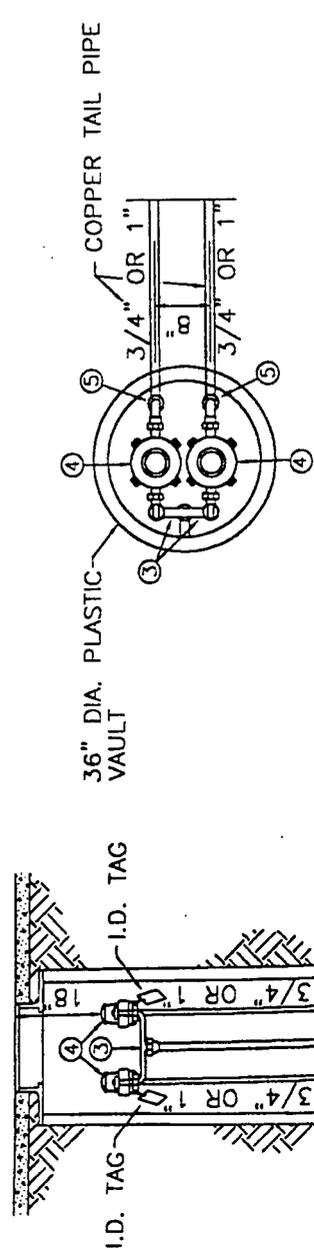


PLAN FOR PVC MAIN

NOTE:

- 1) SEE MATERIAL SHEET FOR SERVICE INSTALLATION.
- 2) ALL BENDS ARE TO BE MADE USING ONLY AN APPROVED TUBING BENDER.
- 3) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE. OTHERS SHALL BE PLASTIC.
- 4) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.

6" MIN. SEPARATION IF ABOVE SEWER;
18" MIN. SEPARATION IF BELOW SEWER.



LOUISVILLE WATER COMPANY
435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 646-3800
JOHN L. HUBER - PRESIDENT
GREGORY C. HETZMAN - VICE PRESIDENT/CHIEF ENGINEER

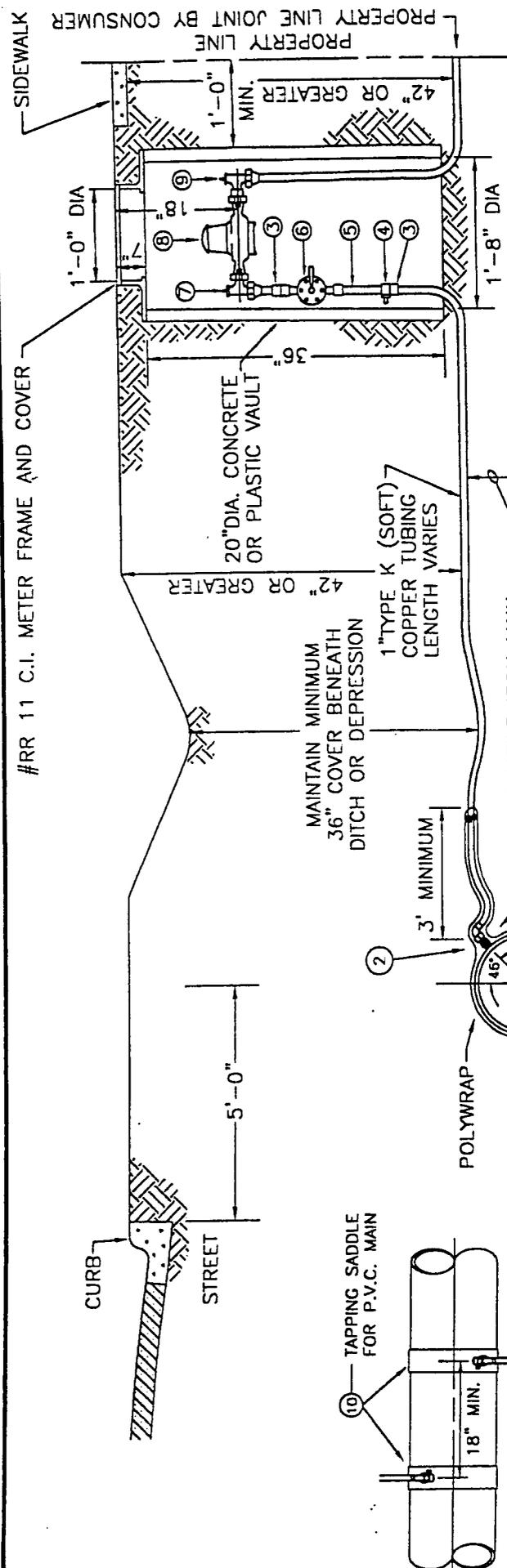
STANDARD DRAWING

TYPICAL DOUBLE 1" DOMESTIC/IRRIGATION COPPER SERVICE

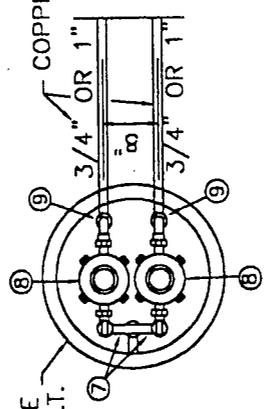
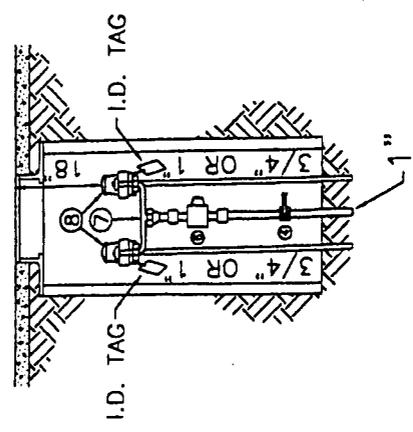
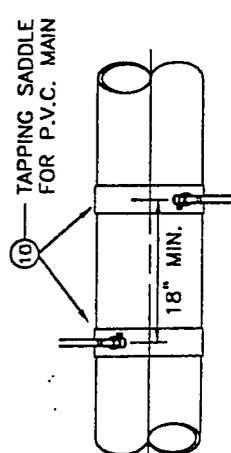
DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	3400	SHEET	1 OF 1

**TYPICAL DOUBLE DOMESTIC / IRRIGATION 1 " COPPER SERVICE
WITH PRESSURE REDUCING VALVE**

NO.	QUANTITY	FITTING	JOINT	SIZE
1	1	Corporation Stop	Inlet - Make Thread (Tapered) Outlet - Male Thread	1" 1"
2	1	Adapter Bend (45° or 90°)	Inlet - Female Thread Outlet - Female Compression	1" 1"
3	2	Adapter	Female Compression Male Thread	1" 1"
4	1	Ball Valve with handle	Female Thread	1"
5	1	Brass Nipple	Male Thread	1"
6	1	Pressure Reducing Valve	Female Thread	1"
7	1	Brand Piece with 2 Angle Meter Stops	Inlet - Female Compression Outlet - Female Thread	1" 3/4"
8	2	Meter	Male Thread	3/4"
9	2	Angle Meter Stop	Female Thread Female Compression	3/4" 3/4" or 1"



PLAN FOR PVC MAIN



- NOTE:**
- 1) SEE MATERIAL SHEET FOR SERVICE INSTALLATION.
 - 2) ALL BENDS ARE TO BE MADE USING ONLY AN APPROVED TUBING BENDER.
 - 3) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE. OTHERS SHALL BE PLASTIC.
 - 4) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.

6" MIN. SEPARATION IF ABOVE SEWER;
18" MIN. SEPARATION IF BELOW SEWER.

DUCTILE IRON WATER MAIN (P.V.C. WATER MAIN DOES NOT REQUIRE POLYWRAP)

LOUISVILLE WATER COMPANY
 435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 659-3600
 JOHN L. HUBER - PRESIDENT
 GREGORY C. HETTMAN - VICE PRESIDENT/CHIEF ENGINEER

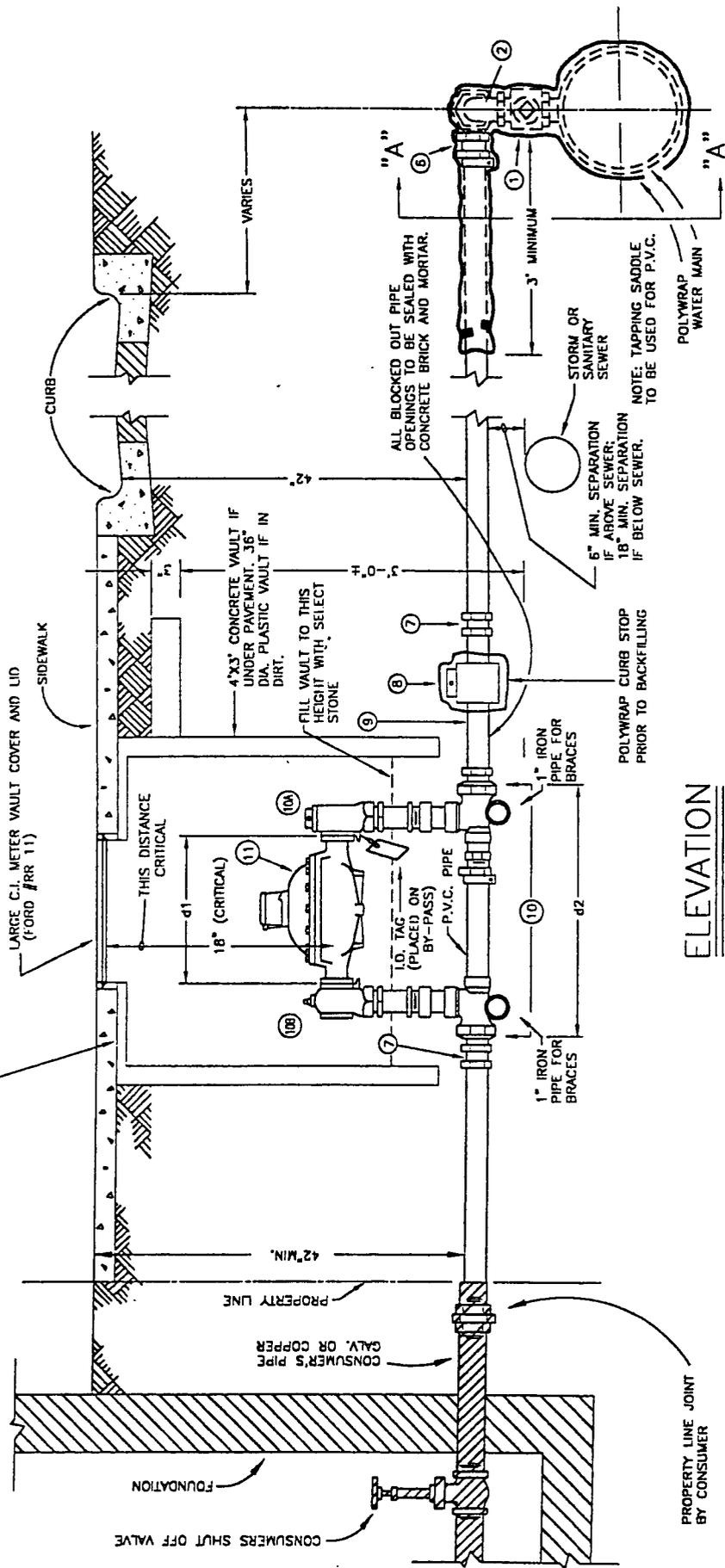
STANDARD DRAWING
 TYPICAL DOUBLE 1" DOMESTIC/IRRIGATION COPPER SERVICE WITH PRESSURE REDUCING VALVE

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	3401	SHEET	1 OF 1

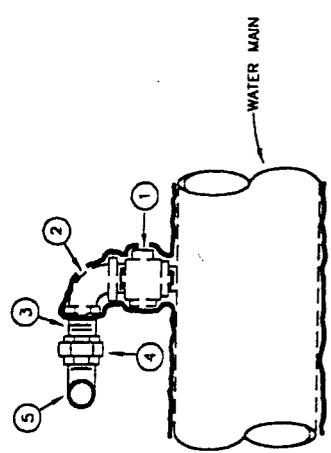
TYPICAL 1-1/2" OR 2" COPPER SERVICE

NO.	QUANTITY	FITTING	JOINT	SERVICE SIZES	
				1-1/2"	2"
1	1	Corporation Stop	Inlet - Male Thread (Tapered) Outlet - Male Thread	1-1/2" 2"	2" 2-1/2"
2	1	Brass Reducing Ell	Inlet - Female Thread Outlet - Female Thread	2" 1-1/2"	2-1/2" 2"
3	1	Brass Nipple (close)	Male Thread	1-1/2"	2"
4	1	Brass Union	Female Thread	1-1/2"	2"
5	1	Brass Street Ell	Male Thread	1-1/2"	2"
6	1	Compression Coupling	Female Thread Female Compression	1-1/2" 1-1/2"	2" 2"
7	2	Adapter	Female Compression Male Thread	1-1/2" 1-1/2"	2" 2"
8	1	Curb Stop	Female Thread	1-1/2"	2"
9	1	Brass Nipple (x 6")	Male thread	1-1/2"	2"
10	1	Meter Setter	Female thread	1-1/2"	2"
10a		Angle Meter Stop			
10b		Angle Check Valve			
10c		By-Pass 1"			
10d1				13-3/8"	17-3/8"
10d2				22"	27-1/8"
11	1	Meter	Male Thread	1-1/2"	2"

RR11 ADAPTER RING FOR 36"-DIA. PVC VAULT.



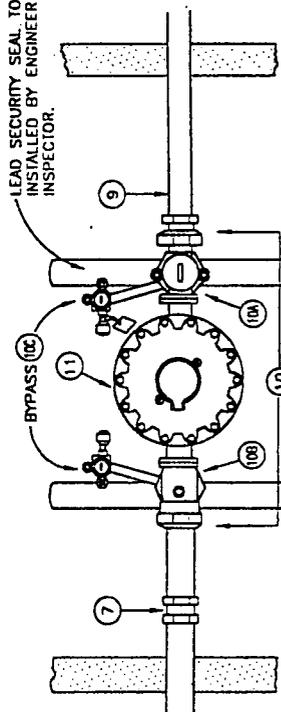
ELEVATION



SECTION "A-A"

NOTE: POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.

LEAD SECURITY SEAL TO BE INSTALLED BY ENGINEER OR INSPECTOR.



PLAN
(INSIDE VAULT)

LOUISVILLE WATER COMPANY
435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (602) 549-3600
JOHN L. HUBER - PRESIDENT
GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

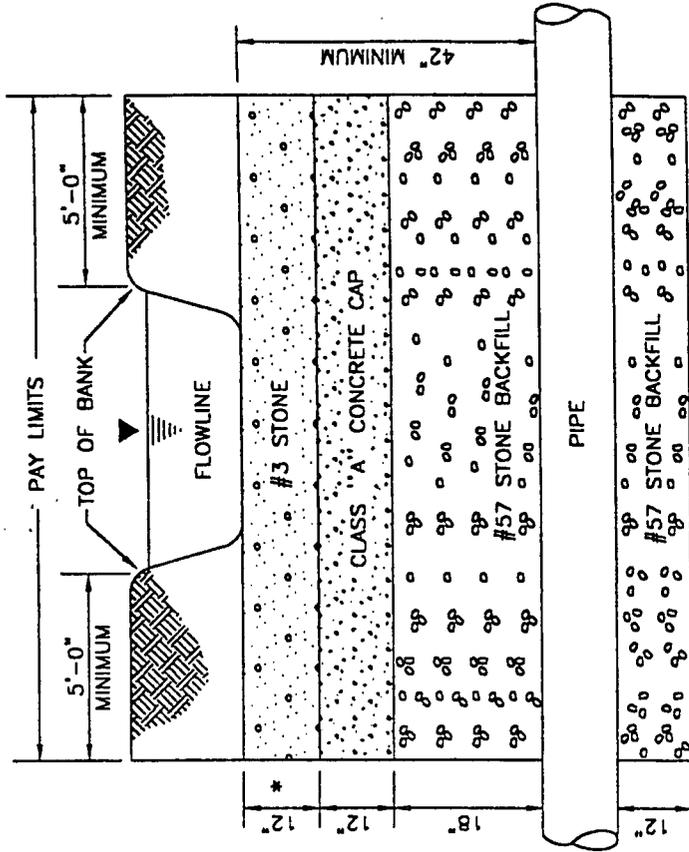
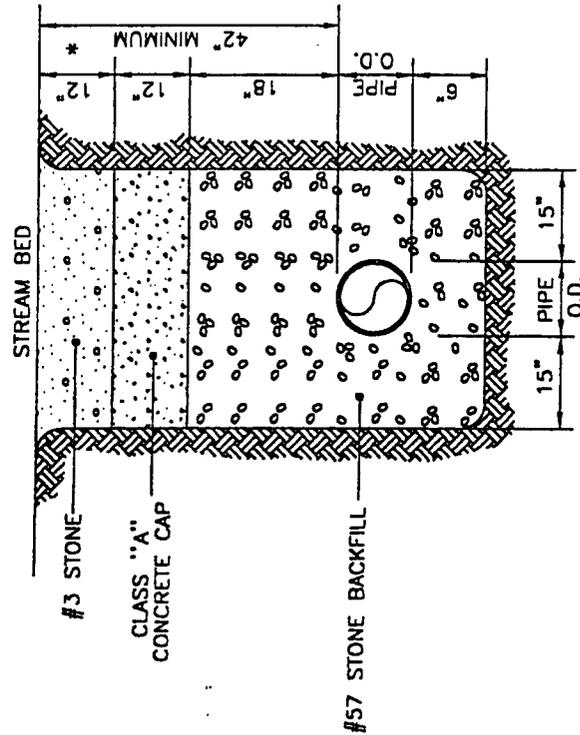
STANDARD DRAWING
TYPICAL 1-1/2" OR 2"
COPPER SERVICE

DATE	JAN. 1997	SCALE	NONE	MAP NO.	
DRAWN BY	D.P. B.G.	CHECKED BY		ENGR.	
PROJECT NO.	3200	SHEET	1	OF	1

TYPICAL 1-1/2" OR 2" COPPER SERVICE
WITH PRESSURE REDUCING VALVE

NO.	QUANTITY	FITTING	JOINT	SERVICE SIZES	
				1-1/2"	2"
1	1	Corporation Stop	Inlet - Male Thread (Tapered) Outlet - Male Thread	1-1/2" 2"	2" 2-1/2"
2	1	Brass Reducing Ell	Inlet - Female Thread Outlet - Female Thread	2" 1-1/2"	2-1/2" 2"
3	1	Brass Nipple (Close)	Male Thread	1-1/2"	2"
4	1	Brass Union	Female Thread	1-1/2"	2"
5	1	Brass Street Ell	Male Thread	1-1/2"	2"
6	1	Compression Coupling	Female Thread Female Compression	1-1/2" 1-1/2"	2" 2"
7	2	Adapter	Female Compression Male Thread	1-1/2" 1-1/2"	2" 2"
8	1	Curb Stop	Female Thread	1-1/2"	2"
9	2	Brass Nipple (x 6")	Male Thread	1-1/2"	2"
10	1	Pressure Reducing Valve	Female Thread	1-1/2"	2"
11	1	Meter Setter	Female Thread	1-1/2"	2"
11a		Angle Meter Stop			
11b		Angle Check Valve			
11c		By-pass (1")			
11d1				13-3/8"	17-3/8"
11d2				22"	27-1/8"
12	1	Meter	Male Thread	1-1/2"	2"

TYPICAL SECTION



TYPICAL PROFILE

STREAM CROSSING CONDITIONS

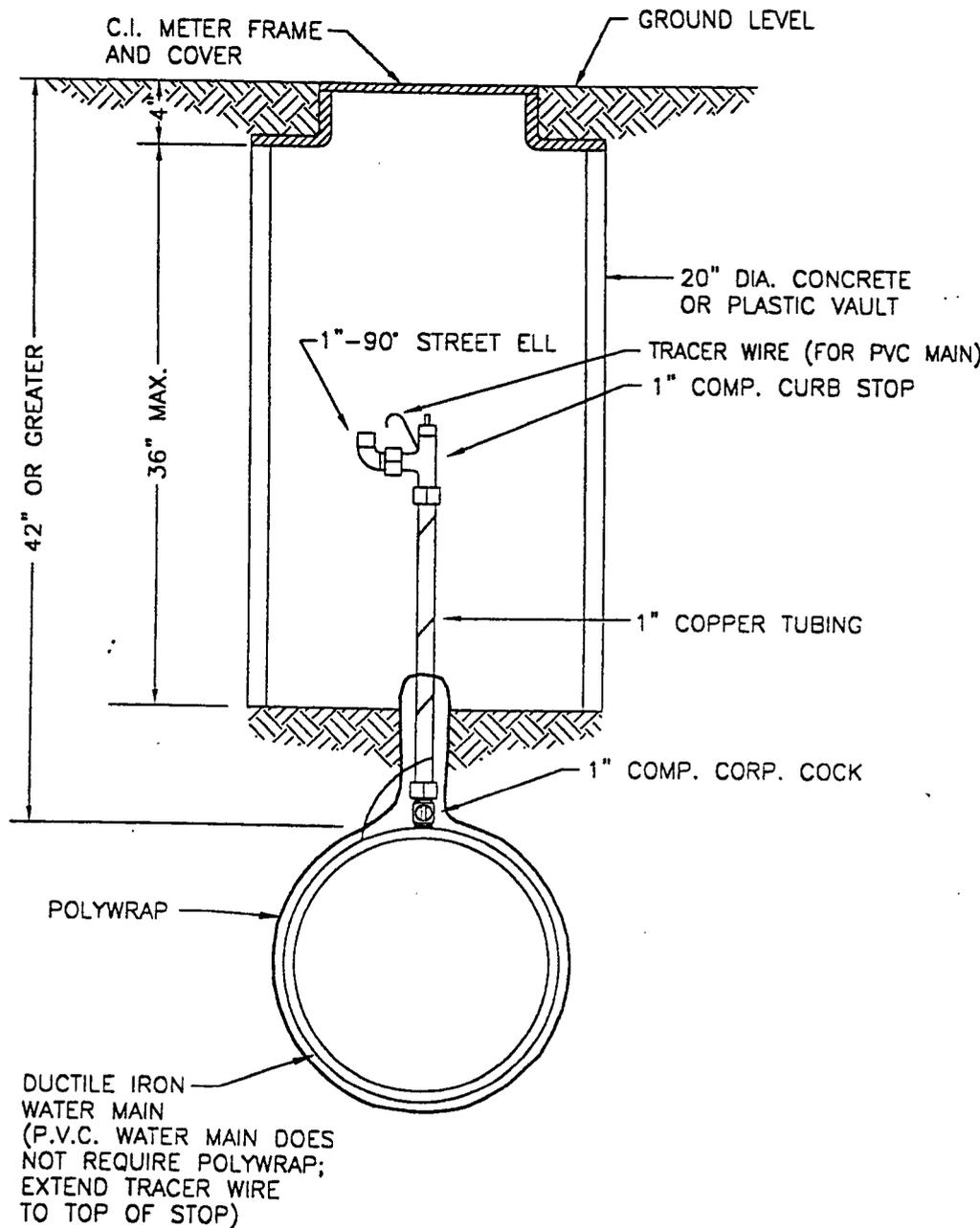
1. COMPLY WITH SECTION 1.7.4 OF THE LWC STANDARD SPECIFICATIONS.
2. THIS DETAIL APPLIES ONLY TO BLUE-LINE STREAMS, AS SHOWN ON THE PERTINENT USGS QUADRANGLE MAP.
3. MANAGEMENT CONSTRUCTION PRACTICES MUST BE USED AT ALL TIMES DURING CONSTRUCTION. ADEQUATE SILT CONTROL MUST BE PLACED PRIOR TO THE START OF CONSTRUCTION AND MAINTAINED UNTIL VEGETATION IS ESTABLISHED.
4. REVEGETATE ALL DISTURBED GRASSY AREAS ON THE STREAM SLOPES. SOD STAKES MAY BE REQUIRED TO SECURE SOD ON THE STREAM BANKS.
5. MAINTAIN AT LEAST 3.5' OF BACKFILL AT THE STREAM CROSSING FROM THE TOP OF PIPE TO THE ORIGINAL STREAM BED ELEVATION.
6. OBTAIN APPROVAL FROM THE METROPOLITAN SEWER DISTRICT PRIOR TO THE START OF THE STREAM CROSSING.
7. TO BE PAID PER LINEAL FOOT OF CONCRETE CAP.
8. THRUST BLOCKING SHALL BE CONSTRUCTED AT ALL BENDS.
9. VARIATION FROM THIS STANDARD REQUIRES LWC & KY. DIVISION OF WATER APPROVAL.

LOUISVILLE WATER COMPANY
 436 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 668-3600
 JOHN L. HUBER - PRESIDENT
 GREGORY C. BERTZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING

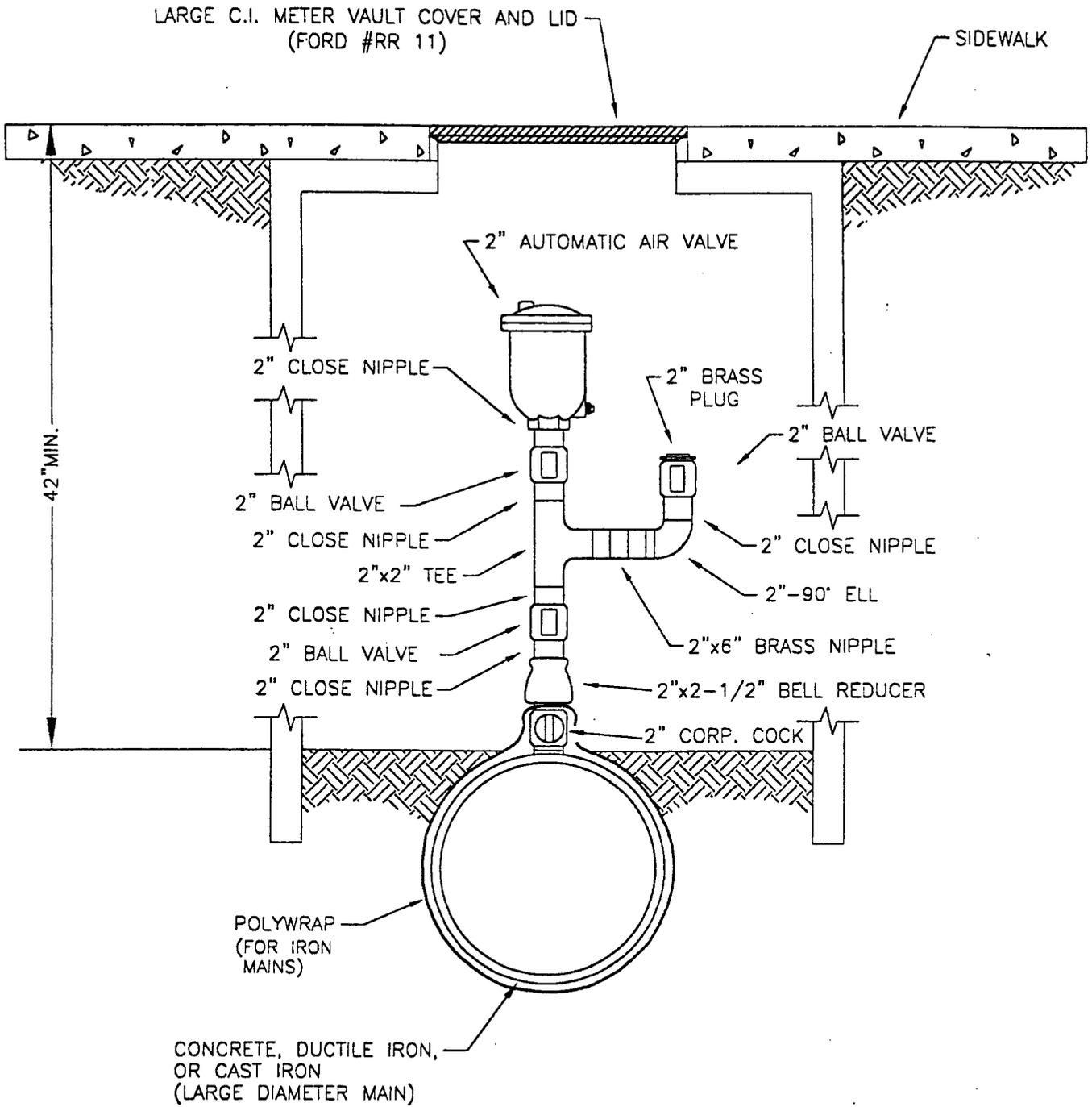
CREEK CROSSING
 WITH CONCRETE CAP

DATE	AUG. 1998	SCALE	NONE
DRAWING NO.	4501	SHEET	1 OF 1



P.V.C. WATER MAIN
REQUIRES USE OF
SADDLE VERSUS
DIRECT TAPPING

LOUISVILLE WATER COMPANY			
435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 569-3800			
JOHN L. HUBER - PRESIDENT			
GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER			
STANDARD DRAWING			
TYPICAL 1" MANUAL AIR VALVE (FOR MAINS UP TO 16")			
DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	1602	SHEET	1 OF 1

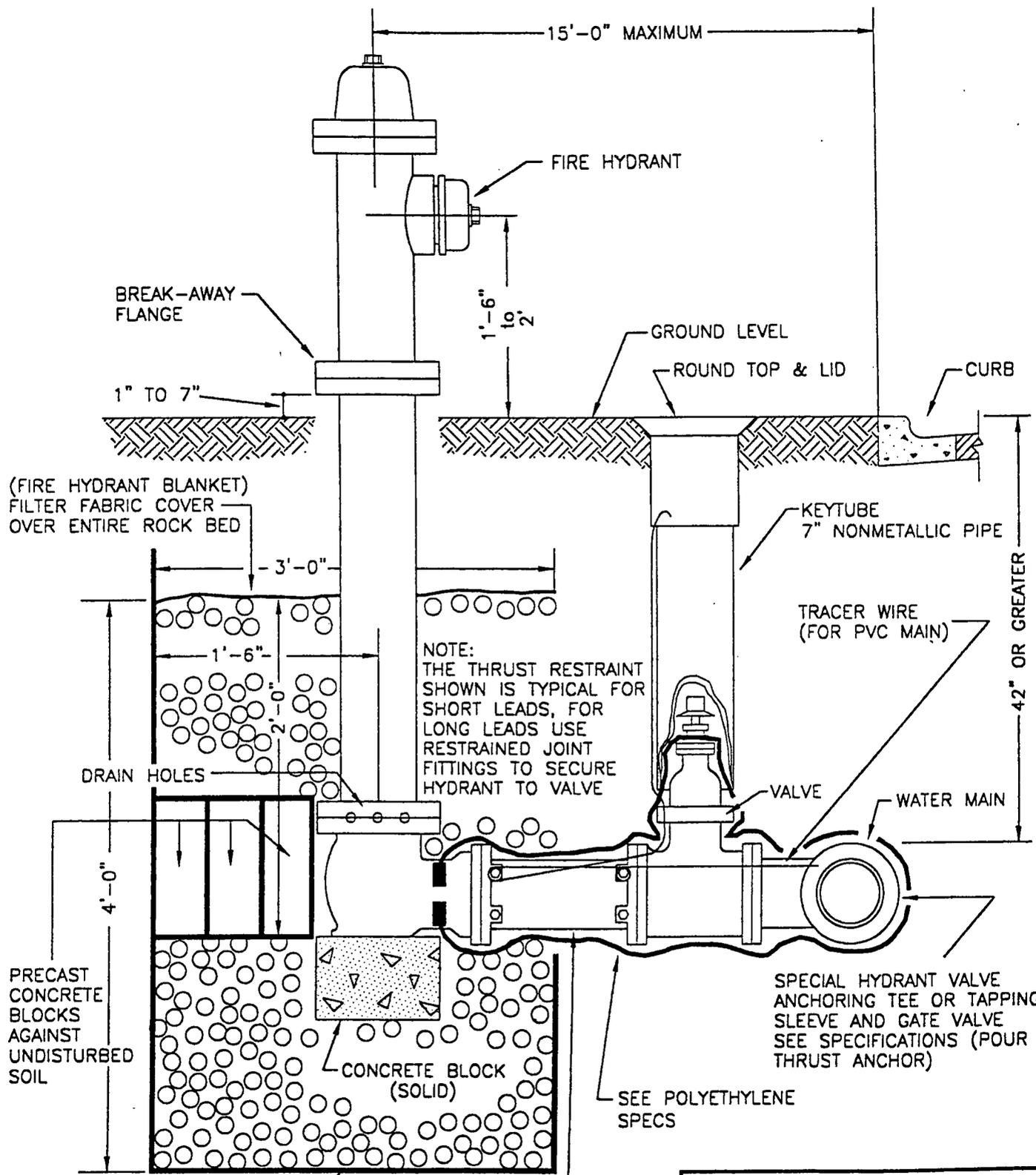


PREFAB VAULT DIMENSIONS VARY WITH MAIN SIZE

LOUISVILLE WATER COMPANY
 435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 569-3600
 JOHN L. HUBER - PRESIDENT
 GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
 TYPICAL COMBINED 2" AUTOMATIC AND MANUAL AIR VALVE FOR MAINS 20" AND LARGER

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	1603	SHEET	1 of 1



NOTE: L.W.Co. SUPPLIES HYDRANTS OF VARIOUS BURY DEPTHS TO BE USED INSTEAD OF EXTENSION KITS.

NOTE: ALL FIRE HYDRANT LEADS ARE TO BE DUCTILE IRON PIPE

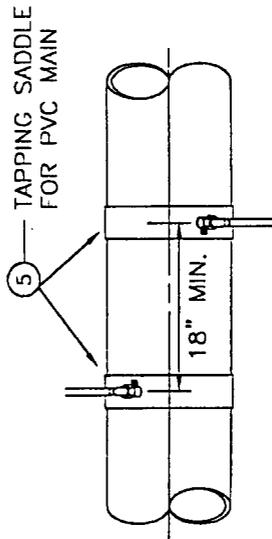
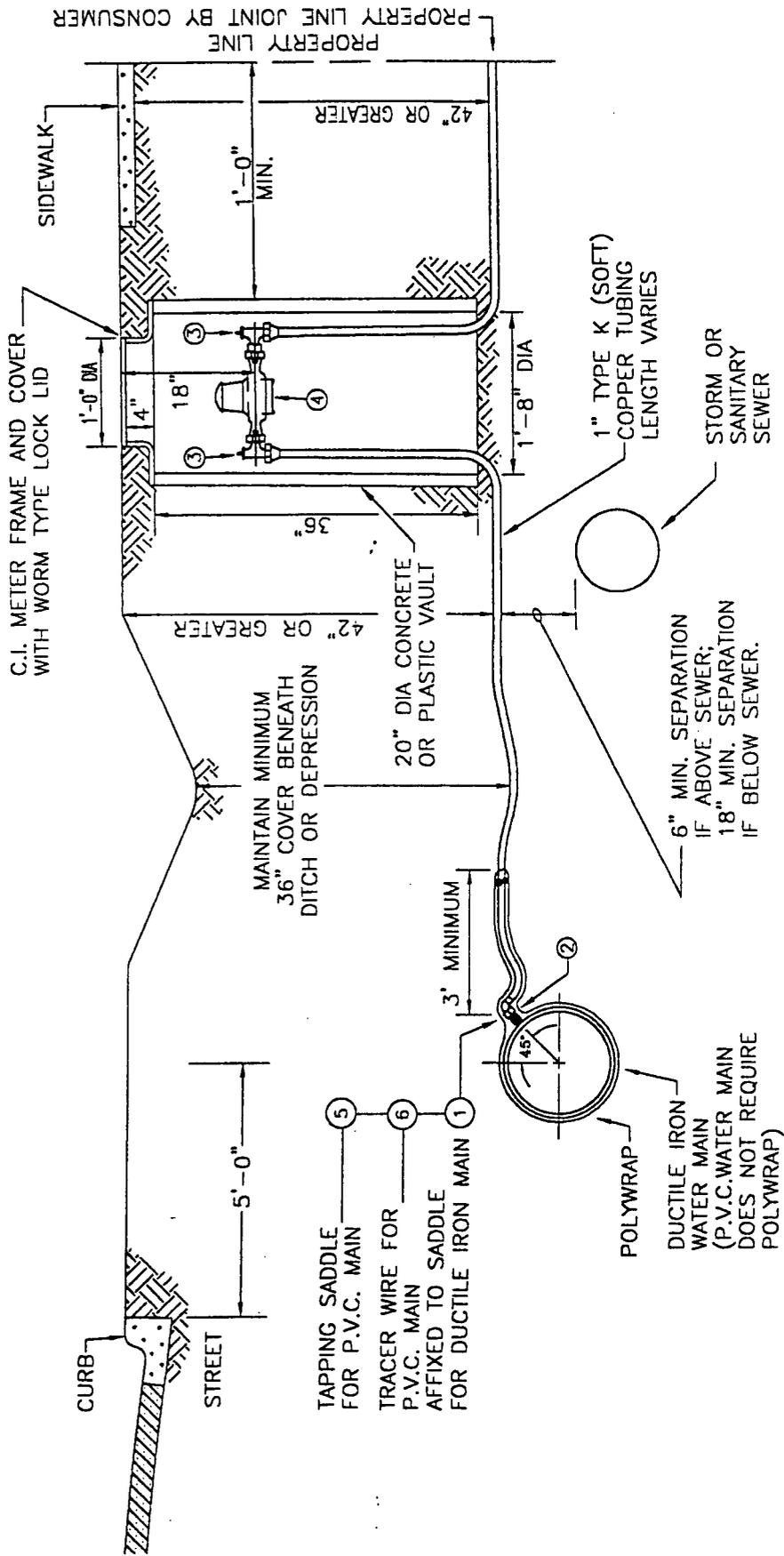
LOUISVILLE WATER COMPANY
 436 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 689-3690
 JOHN L. HUBER - PRESIDENT
 GREGORY C. KRITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
 TYPICAL
 FIRE HYDRANT INSTALLATION

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	2000	SHEET	1 OF 1

TYPICAL COPPER SERVICE 1" AND SMALLER

NO.	QUANTITY	FITTING	JOINT	3/4"	1"
1	1	Corporation Stop	Inlet - Male Thread (tapered) Outlet - Male Thread	3/4"	1"
2	1	Adapter Bend (45 ° or 90 °)	Inlet - Female Thread Outlet - Female Compression	3/4"	1"
3	2	Angle Meter Stop	Female Compression Female Thread	3/4"	1"
4	1	Meter	Male Thread	3/4"	1"



PLAN FOR
PVC MAIN

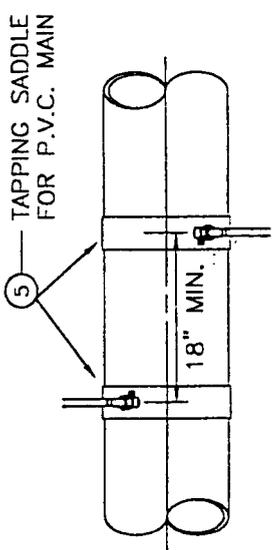
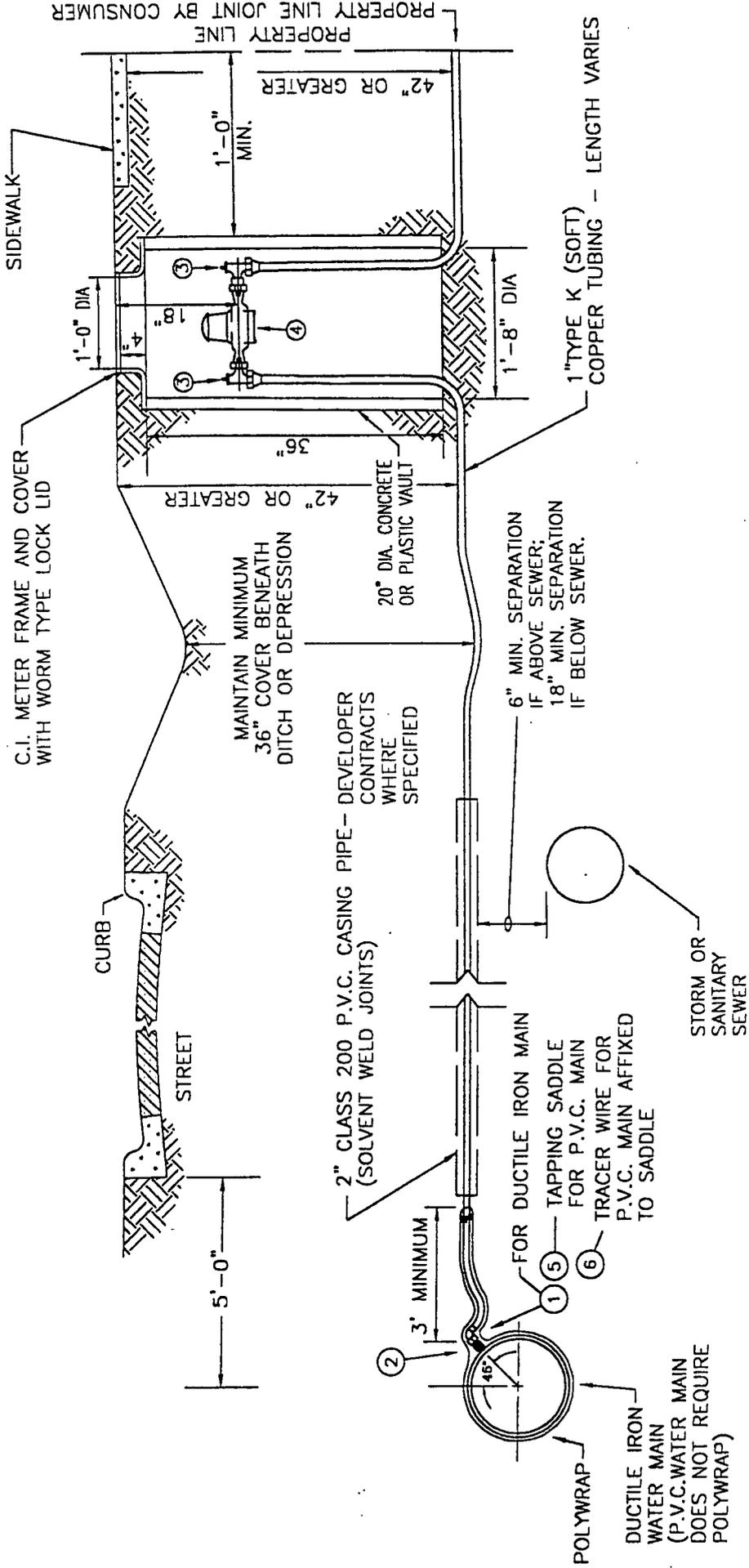
NOTE:

- 1) SEE MATERIAL SHEET FOR OPTIONAL SERVICE INSTALLATIONS.
- 2) ALL BENDS ARE TO BE MADE USING ONLY AN APPROVED TUBING BENDER.
- 3) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE. OTHERS SHALL BE PLASTIC.
- 4) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.

LOUISVILLE WATER COMPANY
 435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 569-3600
 JOHN L. HUBER - PRESIDENT
 GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
 TYPICAL SHORT
 COPPER SERVICE
 1" AND SMALLER

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	3001	SHEET	1 OF 1



PLAN FOR
PVC MAIN

- NOTE:**
- 1) SEE MATERIAL SHEET FOR OPTIONAL SERVICE INSTALLATIONS.
 - 2) ALL BENDS ARE TO BE MADE USING ONLY AN APPROVED TUBING BENDER.
 - 3) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE. OTHERS SHALL BE PLASTIC.
 - 4) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.

LOUISVILLE WATER COMPANY
 435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (606) 569-3600
 JOHN L. HUBER - PRESIDENT
 GREGORY C. HETTMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING

TYPICAL LONG
 COPPER SERVICE
 1" AND SMALLER

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	3002	SHEET	1 of 1

PROPERTY LINE
 PROPERTY LINE JOINT BY CONSUMER

SIDEWALK

C.I. METER FRAME AND COVER
 WITH WORM TYPE LOCK LID

CURB

STREET

5'-0"

MAINTAIN MINIMUM
 36" COVER BENEATH
 DITCH OR DEPRESSION

42" OR GREATER

2" CLASS 200 P.V.C. CASING PIPE -- DEVELOPER
 CONTRACTS WHERE
 SPECIFIED

3' MINIMUM

FOR DUCTILE IRON MAIN
 TAPPING SADDLE
 FOR P.V.C. MAIN
 TRACER WIRE FOR
 P.V.C. MAIN AFFIXED
 TO SADDLE

POLYWRAP
 DUCTILE IRON
 WATER MAIN
 (P.V.C. WATER MAIN
 DOES NOT REQUIRE
 POLYWRAP)

6" MIN. SEPARATION
 IF ABOVE SEWER;
 18" MIN. SEPARATION
 IF BELOW SEWER.

STORM OR
 SANITARY
 SEWER

1" TYPE K (SOFT)
 COPPER TUBING - LENGTH VARIES

1'-8" DIA

42" OR GREATER

1'-0" MIN.

1'-0" DIA

**TYPICAL 3/4" COPPER SERVICE
WITH PRESSURE REDUCING VALVE**

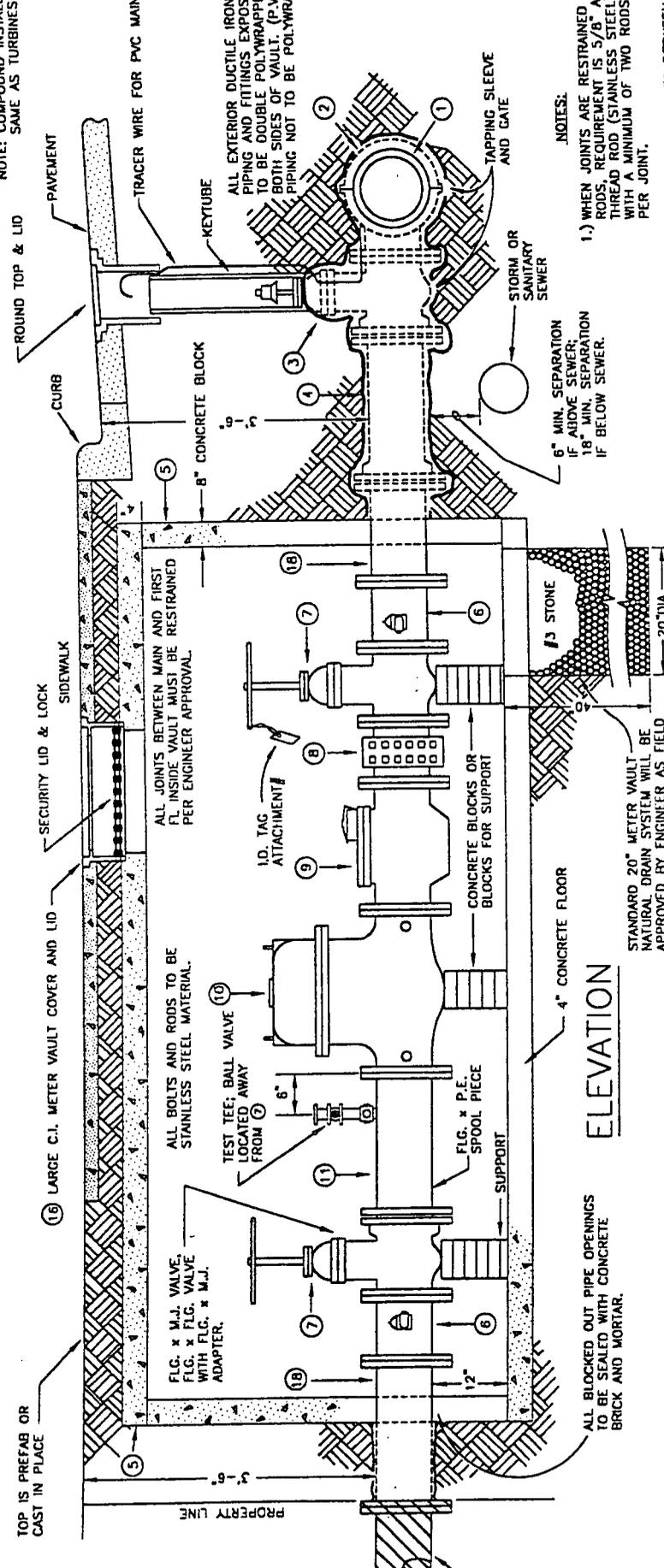
NO.	QUANTITY	FITTING	JOINT	SIZE
1	1	Corporate Stop	Inlet-Male Thread (Tapered)	3/4"
2	1	Adapter Bend (45° or 90°)	Outlet - Male Thread	3/4"
3	2	Angle Meter Stop	Inlet - Female Thread Outlet - Female Compression	3/4" 3/4"
4	2	Adapter for Pressure Regulator	Female Compression Female Thread	3/4" 3/4"
5	1	Pressure Regulator	Male Thread	3/4"
6	1	S-Tube	Female Thread	3/4"
7	1	Meter	Female Thread Male Thread	3/4" 5/8" x 3/4" (or 3/4")

TYPICAL DUCTILE IRON DOMESTIC SERVICE 4" AND LARGER

SERVICE SIZES

NO.	QUANTITY	FITTING	JOINT	SERVICE SIZES		
				4" x 3" Meter	4" x 4" Meter	6" x 6" Meter
1	—	Main in street	varies	varies	varies	
2	one	Tapping sleeve	M.J. x FLG.	4" x varies	6" x varies	
3	one	Tapping gate valve	FLG. x M.J.	4"	6"	
4	varies	Service piping (same material as main in street)	M.J. - B&S (restrain all joints)	4"	6"	
5	one	Vault	—	varies	varies	
6	two	Adapter with outlet	FLG. x FLG.	4"	6"	
6a	two	Adapter, reducing w/outlet	FLG. x FLG.	4" x 3"	—	
7	two	Gate valve, wheel	FLG. x FLG.	4"	6"	
8	one	Strainer	FLG. x FLG.	4"	6"	
9	one	Meter	FLG. x FLG.	4"	6"	
10	one	Check valve	FLG. x FLG.	4"	6"	
11	one	Spool piece with 2" Ball valve assembly (Male Thread)	FLG. x FLG. x Female Thread Male	3" x 2' - 0" Min	6"	
12	two or four	Nipple	Male Thread	2"	—	
13	two or four	Stop or valve	Male Thread	2"	—	
14	two or four	Street ell	Male Thread	2"	—	
15	two or four	Plug	Male Thread	2"	—	
16	one	Vault Cover & Lid (RR11 or Manhole)	—	—	—	
17	—	Customer Piping	—	—	—	
18	two	Adapter	FLG. X M.J. or FLG. X PE.	4"	6"	

NOTE: COMPOUND INSTALLATIONS SAME AS TURBINES.



NOTES:

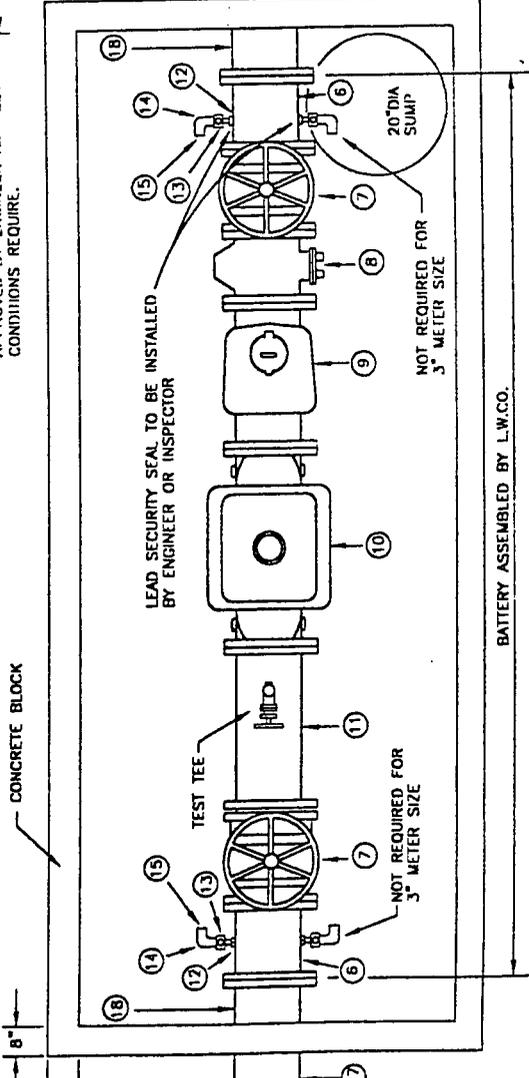
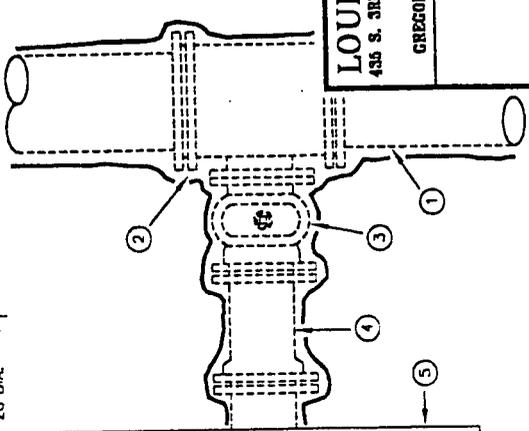
- 1.) WHEN JOINTS ARE RESTRAINED WITH RODS, REQUIREMENT IS 5/8" ALL THREAD ROD (STAINLESS STEEL) WITH A MINIMUM OF TWO RODS PER JOINT.
- 2.) RESTRAIN ALL JOINTS BETWEEN THE MAIN AND THE ADAPTER FLANGE JOINT THAT'S INSIDE THE VAULT.
- 3.) IF ANY PORTION OF THE (4) PIPING IS ENCASED, THEN THE ENTIRE LENGTH OF (4) PIPING SHALL BE DUCTILE IRON.

6" MIN. SEPARATION IF ABOVE SEWER; 18" MIN. SEPARATION IF BELOW SEWER.

STANDARD 20" METER VAULT WILL BE APPROVED BY ENGINEER AS FIELD CONDITIONS REQUIRE.

ALL BLOCKED OUT PIPE OPENINGS TO BE SEALED WITH CONCRETE BRICK AND MORTAR.

ELEVATION



BATTERY ASSEMBLED BY L.W.CO.

PLAN

LOUISVILLE WATER COMPANY
 435 S. 3RD STREET - LOUISVILLE, KENTUCKY 40202 - (602) 689-3600
 JOHN L. HUBER - PRESIDENT
 GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING

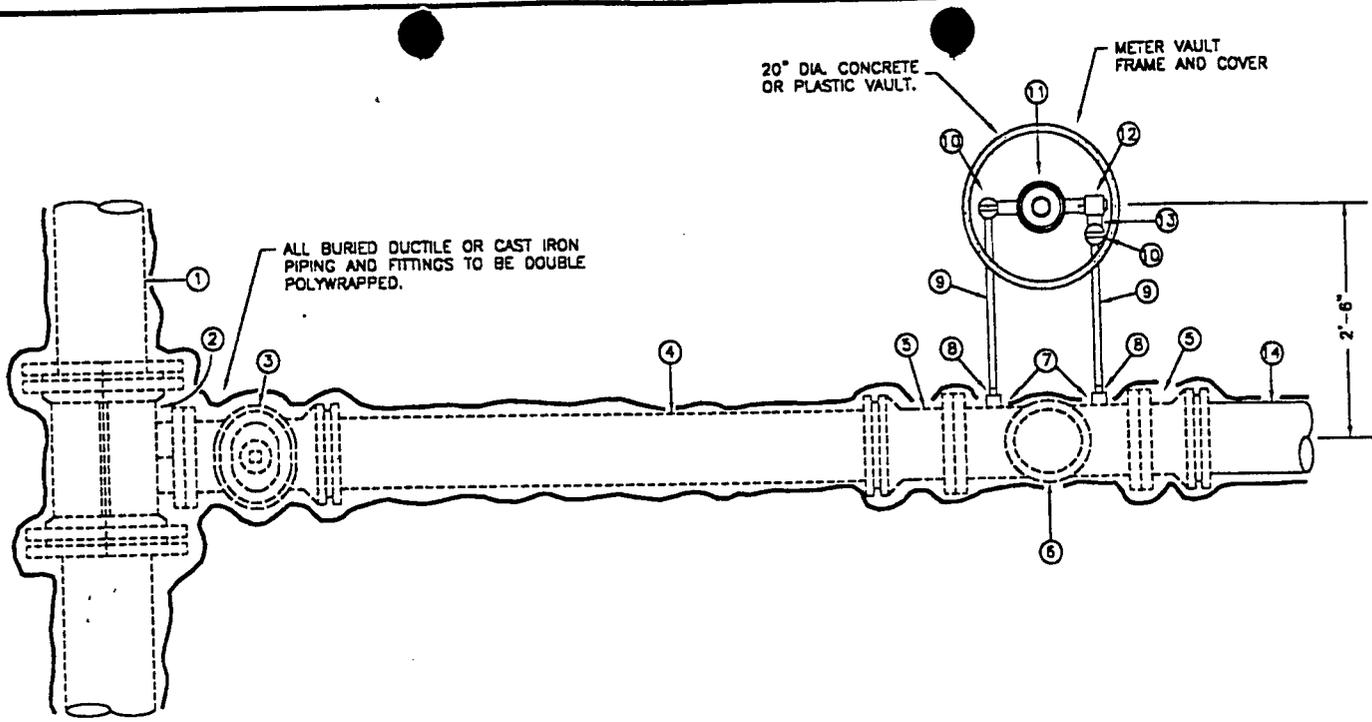
TYPICAL DUCTILE IRON
 DOMESTIC SERVICE
 4" AND LARGER

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	3203	SHEET	1 OF 1

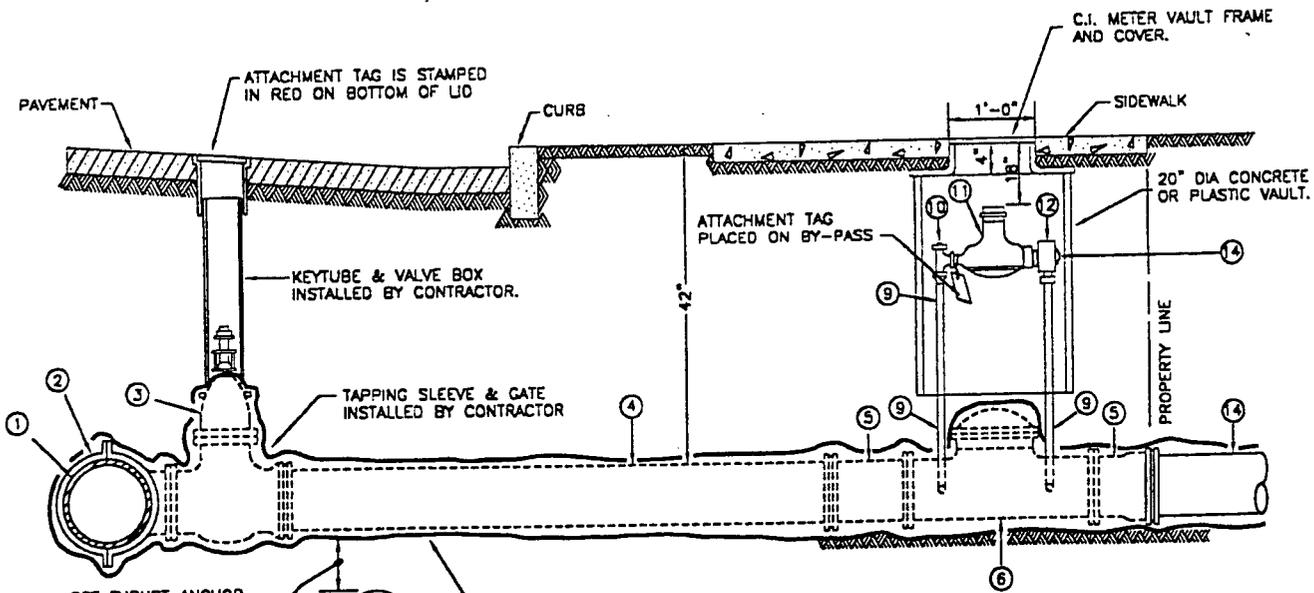
TYPICAL FIRE PROTECTION SERVICE 4" AND LARGER

--- FIRE SERVICE SIZES ---

NO.	QUANTITY	FITTING	JOINT	4"	6"
1	—	Main in Street	Varies	4"	6"
2	1	Tapping Sleeve	Flange	4"	6"
3	1	Tapping Gate Valve	Flange x MJ (restrained)	4"	6"
4	varies	Service Piping (Same material as main in street)	MJ / B & S (restrain all joints up to check valve)	4"	6"
5	2	Adapter	Flange x MJ or PE	4"	6"
6	1	Detector Check Valve	Flange	4"	6"
7	2	Bushing	Male Thread Female Thread	1" 3/4"	1-1/2" 3/4"
8	2	Adapter	Male Thread Female Compression	3/4"	3/4"
9	varies	Copper Tubing	Female Compression	3/4"	3/4"
10	2	Angle Meter Stop	Female Compression Female Thread	3/4" 3/4"	3/4" 3/4"
11	1	Meter	Male Thread	3/4"	3/4"
12	1	Angle Dual Check Valve	Female Thread	3/4"	3/4"
13	1	Pressure Reducing Valve Adapter	Male Thread	3/4"	3/4"
14		Customer Piping			



PLAN



ELEVATION

SEE THRUST ANCHOR SPECIFICATIONS.

6" MIN. SEPARATION IF ABOVE SEWER;
18" MIN. SEPARATION IF BELOW SEWER.

STORM OR SANITARY SEWER

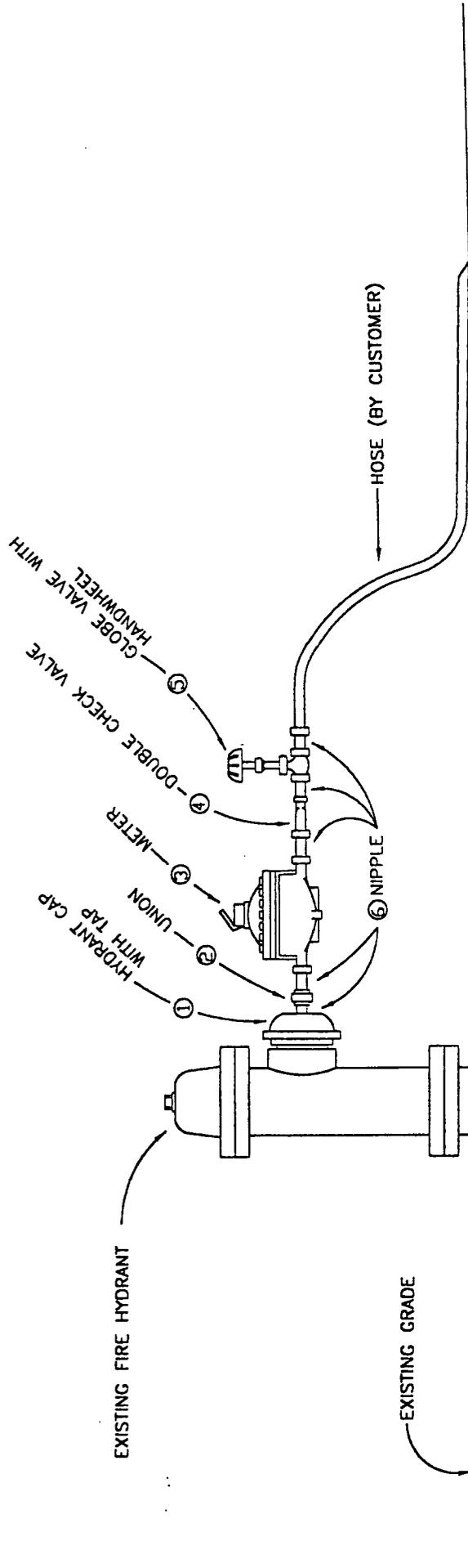
NOTES:

1. ALL DAMAGED POLYWRAP SHALL BE REPAIRED IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.
2. RESTRAIN ALL JOINTS BETWEEN THE MAIN AND THE DETECTOR CHECK VALVE.
3. IF ANY PORTION OF THE ④ PIPING IS ENCASED, THEN THE ENTIRE LENGTH OF ④ PIPING SHALL BE DUCTILE IRON.

LOUISVILLE WATER COMPANY			
435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 589-3600			
JOHN L. HUBER - PRESIDENT			
GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER			
STANDARD DRAWING			
TYPICAL FIRE PROTECTION SERVICE 4" AND LARGER			
DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	3601	SHEET	1 OF 1

TYPICAL TEMPORARY SERVICE FROM FIRE HYDRANT

NO.	QUANTITY	FITTING	JOINT	SERVICE SIZES	
1	1	Hydrant Cap w/Gasket & Tap	Female Threaded	3/4"	1-1/2"
2	1	Union	Female Threaded	4" x 3/4"	4" x 1-1/2"
3	1	Meter	Female Threaded	3/4"	1-1/2"
4	1	Check Valve	Flanged	3/4"	1-1/2"
5	1	Globe Valve w/Handwheel	Female Threaded	3/4"	1-1/2"
6	5	Nipple	Female Threaded	3/4"	1-1/2"
			Inlet-Male Threaded	3/4"	1-1/2"
			Outlet-Male Threaded	3/4"	1-1/2"



NOTES:

GASKETS MUST BE USED ON ALL HYDRANT CAPS.

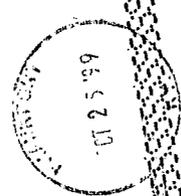
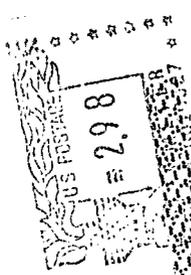
WHEN SERVICE IS USED, THE FIRE HYDRANT IS TO BE FULLY TURNED ON. THE AMOUNT OF SERVICE FLOW IS TO BE CONTROLLED BY THE WHEEL VALVE ③.

LOUISVILLE WATER COMPANY
 435 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 569-3600
 JOHN L. HUBER - PRESIDENT
 GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING

TYPICAL TEMPORARY SERVICE FROM FIRE HYDRANT
 3/4" OR 1-1/2"

DATE	JAN. 1997	SCALE	NONE
DRAWING NO.	3600	SHEET	1 OF 1



Fold at line over top of envelope to the right of the return address

CERTIFIED

Z 319 077 537

MAIL

AFTER 10 DAYS RETURN TO
PUBLIC SERVICE COMMISSION OF KENTUCKY
730 SCHENKEL LANE
P. O. BOX 616
FRANKFORT, KENTUCKY 40602

99-237
Circulated copies to:

- Rice
- K. Harrod
- Reid
- Wuetcher

GEORGE MILLER
POST OFFICE BOX 128
SHEPHERDSTOWN, KY
Return to Sender



UNCLAIMED

10/26
11-9-11
11-12-11
KJET



40602/0616

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

3. Article Addressed to:

George Miller

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)
X

46 99-237

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

4a. Article Number

239 077 537

4b. Service Type

- Registered
- Express Mail
- Return Receipt for Merchandise
- Certified
- Insured
- COD

7. Date of Delivery

NOV 15 1999

8. Addressee's Address (Only if requested and fee is paid)

102595-98-8-0229

Domestic Return Receipt

Thank you for using Return Receipt Service.



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
730 SCHENKEL LANE
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FRANKFORT, KENTUCKY 40602
www.psc.state.ky.us
(502) 564-3940
Fax (502) 564-3460

Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Helen Helton
Executive Director
Public Service Commission

Paul E. Patton
Governor

October 25, 1999

Dan Thibodeaux
740 E. Indian Stone Road
Shepherdsville, Kentucky 40165-9354

George Miller
P.O. Box 128
Shepherdsville, Kentucky 40165-0128

Elmer Mills
2928 Brooks Hill Road
Brooks, Kentucky 40109-5000

Raymond Abell
3396 Burkland Boulevard
Shepherdsville, Kentucky 40165-8927

Re: Case No. 99-237

We enclose one attested copy of the Commission's Order entered October 20,
1999 in the above case.

Sincerely,

A handwritten signature in black ink that reads "Stephanie Bell".

Stephanie Bell
Secretary of the Commission

SB/hv
Enclosure
Certified Mail



COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY TURNPIKE WATER)
DISTRICT FOR A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY TO CONSTRUCT) CASE NO. 99-237
A WATER MAIN EXTENSION TO THE NICHOLS)
AREA OF BULLITT COUNTY, KENTUCKY)

ORDER

Kentucky Turnpike Water District ("Kentucky Turnpike"), a water district formed pursuant to KRS Chapter 74, has applied for a Certificate of Public Convenience and Necessity to construct approximately 4 miles of water transmission main to provide water service to Nichols Elementary School and the surrounding area in Bullitt County, Kentucky.

Having reviewed the evidence of record and being otherwise sufficiently advised, the Commission finds that:

1. On July 27, 1999, Kentucky Turnpike Water District filed an application for a Certificate of Public Convenience and Necessity to construct approximately 4 miles of water transmission main to provide water service to Nichols Elementary School and the surrounding area in Bullitt County, Kentucky.
2. On September 13, 1999, while its application was still pending before the Commission, Kentucky Turnpike advised the Commission that construction on the

proposed facilities had commenced before its application for a certificate had been filed.¹

4. Kentucky Turnpike subsequently announced that construction of the proposed facilities had been completed and that these facilities were in service.²

5. KRS 278.020(1) prohibits any person, partnership, public or private corporation, or combination thereof from beginning construction of any plant, equipment, property, or facility for furnishing to the public any of the services enumerated in KRS 278.010 until such person has obtained from the Commission a certificate that the public convenience and necessity require such construction.

6. No Certificate of Public Convenience and Necessity may be issued for utility facilities already constructed. Boone County Water and Sewer District, Case No. 92-532 (Ky. P.S.C. December 9, 1993); Southern Madison Water District, Case No. 90-305 (Ky. P.S.C. November 1, 1991).

7. As the proposed facilities have already been constructed, Kentucky Turnpike's application should be denied.

8. A prima facie showing has been made that Kentucky Turnpike has violated KRS 278.020(1) by its construction of the proposed facilities without first obtaining a Certificate of Public Convenience and Necessity from the Commission.

9. A prima facie showing has been made that Raymond Abell, Kentucky Turnpike's General Manager, and Dan Thibodeaux, George Miller, and Elmer Mills, the

¹ Letter from Jason P. Thomas, counsel for Kentucky Turnpike Water District, to Gerald Wuetcher, Commission counsel (September 13, 1999).

² Missy Baxter, Bullitt County School Will Finally Get Water Line, The Courier-Journal, September 27, 1999, at B-2 (Metro Edition).

members of Kentucky Turnpike's Board of Commissioners, have aided and abetted Kentucky Turnpike in its failure to comply with KRS 278.020(1).

IT IS THEREFORE ORDERED that:

1. Kentucky Turnpike's Application for a Certificate of Public Convenience and Necessity is denied.³

2. Kentucky Turnpike shall appear before the Commission on February 16, 2000 at 9:00 a.m., Eastern Standard Time, in the Commission's offices at 211 Sower Boulevard, Frankfort, Kentucky, for the purposes of presenting evidence concerning its alleged violation of KRS 278.020(1) and of showing cause why it should not be subject to the penalties prescribed in KRS 278.990(1) for this alleged violation.

3. Raymond Abell, Dan Thibodeaux, George Miller, and Elmer Mills shall also appear before the Commission on February 16, 2000 at the same time and place as stated above for the purposes of presenting evidence concerning their conduct to aid and abet Kentucky Turnpike's violation of KRS 278.020(1) and of showing cause why they should not be subject to the penalties prescribed in KRS 278.990(1) for their alleged conduct.

4. Kentucky Turnpike, Raymond Abell, Dan Thibodeaux, George Miller, and Elmer Mills each shall respond to the Commission in writing within 20 days of the date of this Order to the allegations contained herein.

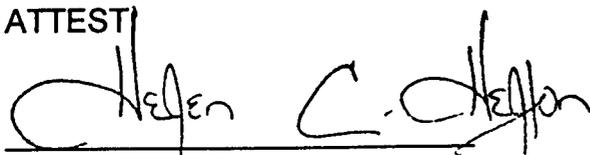
³ Our denial of Kentucky Turnpike's application should not be construed as declaring the operation of transmission main illegal or requiring the water district to cease its operation of this transmission main. At Kentucky Turnpike's next general rate adjustment proceeding, the Commission will determine whether the facilities in question are used and useful in providing utility service and whether the expenses associated with the facilities may or may not be recovered through the utility's rates.

5. Any motion requesting any informal conference with Commission Staff to consider any matter that may aid in the handling or disposition of this proceeding shall be filed with the Commission no later than 20 days from the date of this Order.

Done at Frankfort, Kentucky, this 20th day of October, 1999.

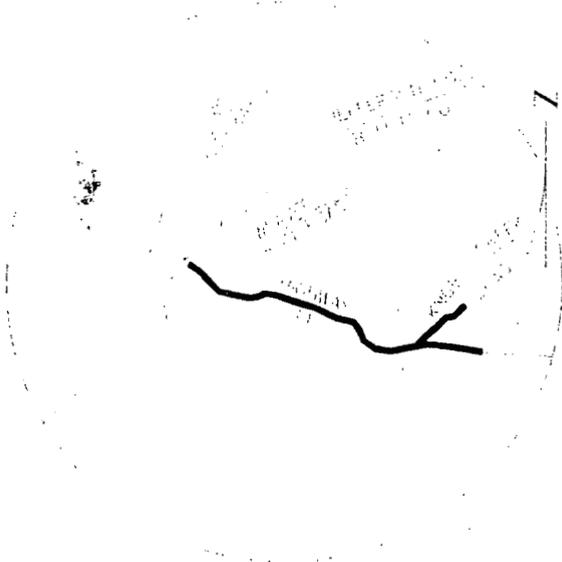
By the Commission

ATTEST

A handwritten signature in black ink, appearing to read "Helen C. Steffen". The signature is written in a cursive style with a horizontal line underneath the name.

Executive Director

VISION #1



RECEIVED

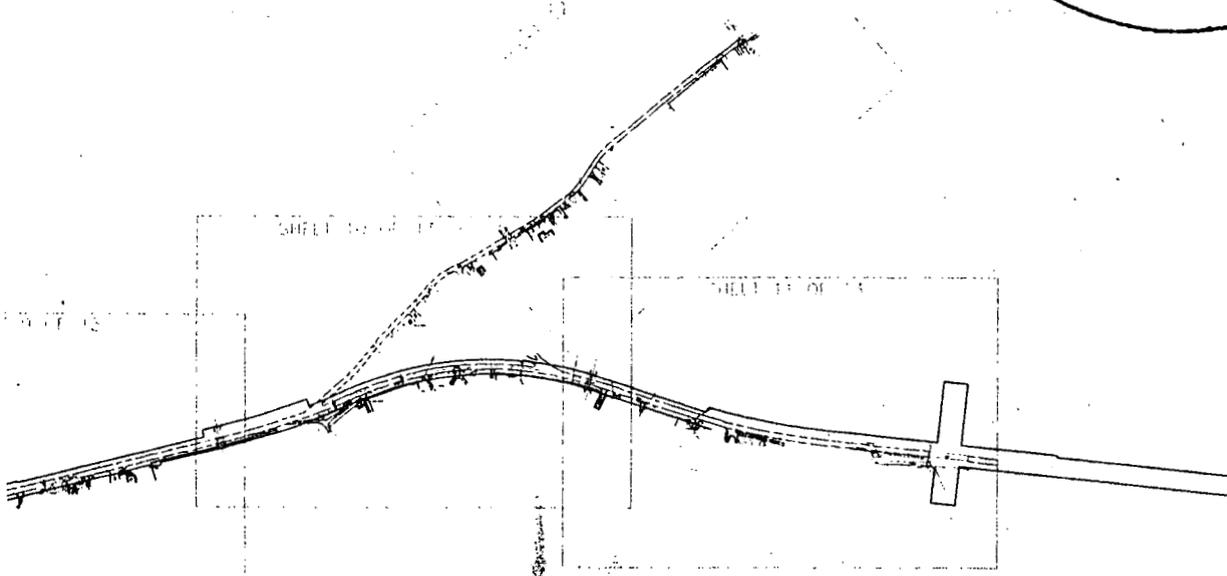
JUN 14 1999

PUBLIC SERVICE
COMMISSION

99-237

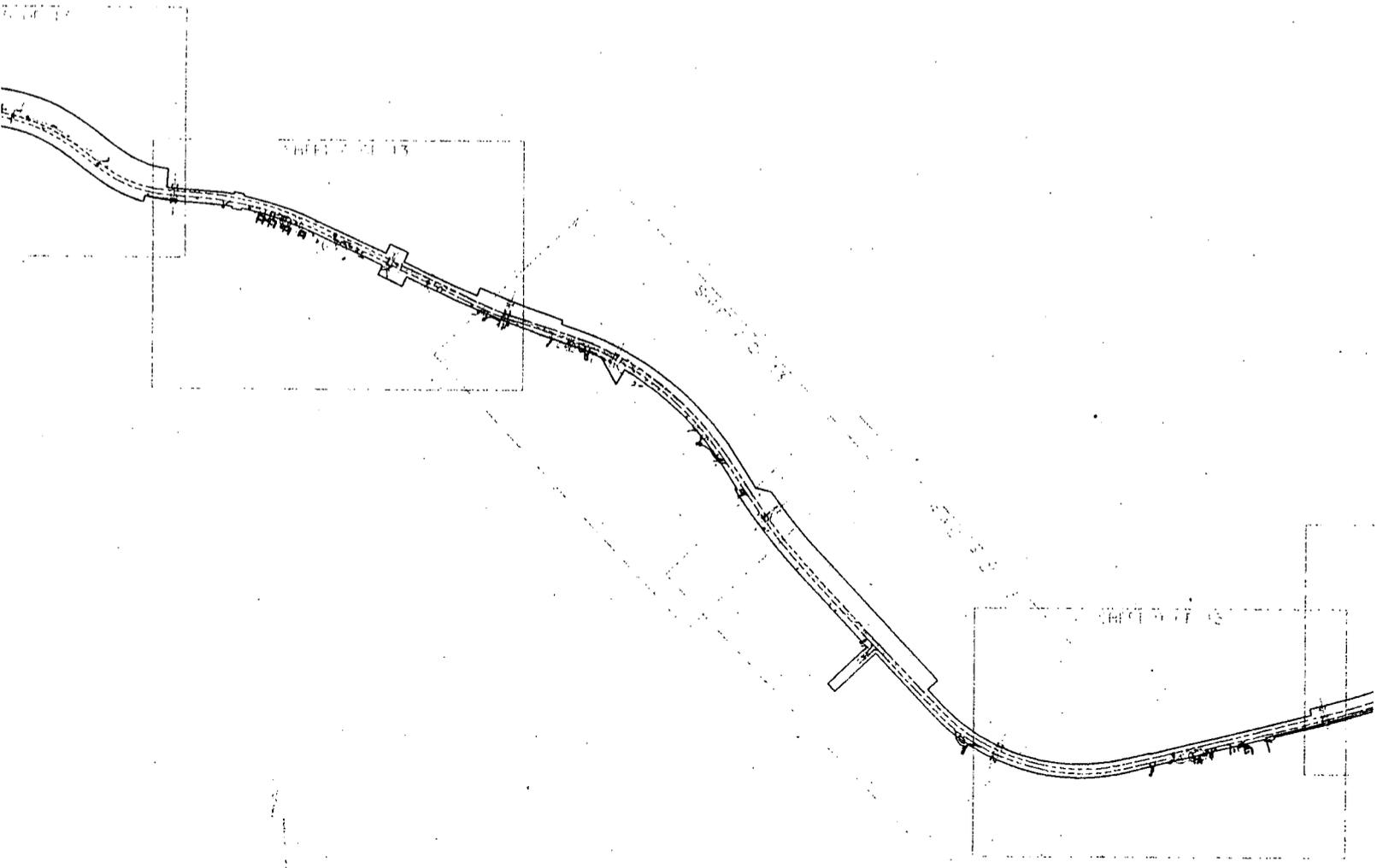


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Louisville Area Dial 361-2351
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**2 WORKING DAYS
NOTICE**



WATER DISTRICT - DIVISION

PROJECT #98-794B



PLANS FOR

MENTARY SCI

AIN EXTENSION

WATER DISTRICT - DIVISIC

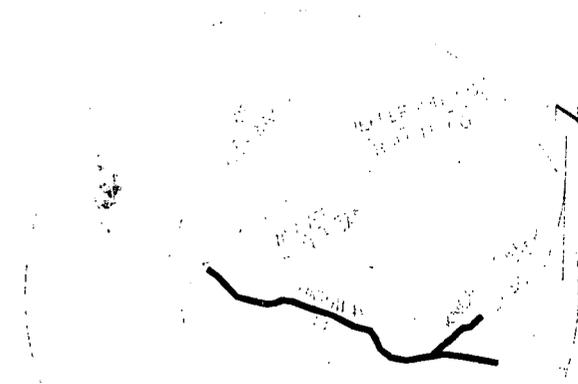
JECT #98-794B

SCHOOL

N

VISION #1

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1999
PRICE
SION



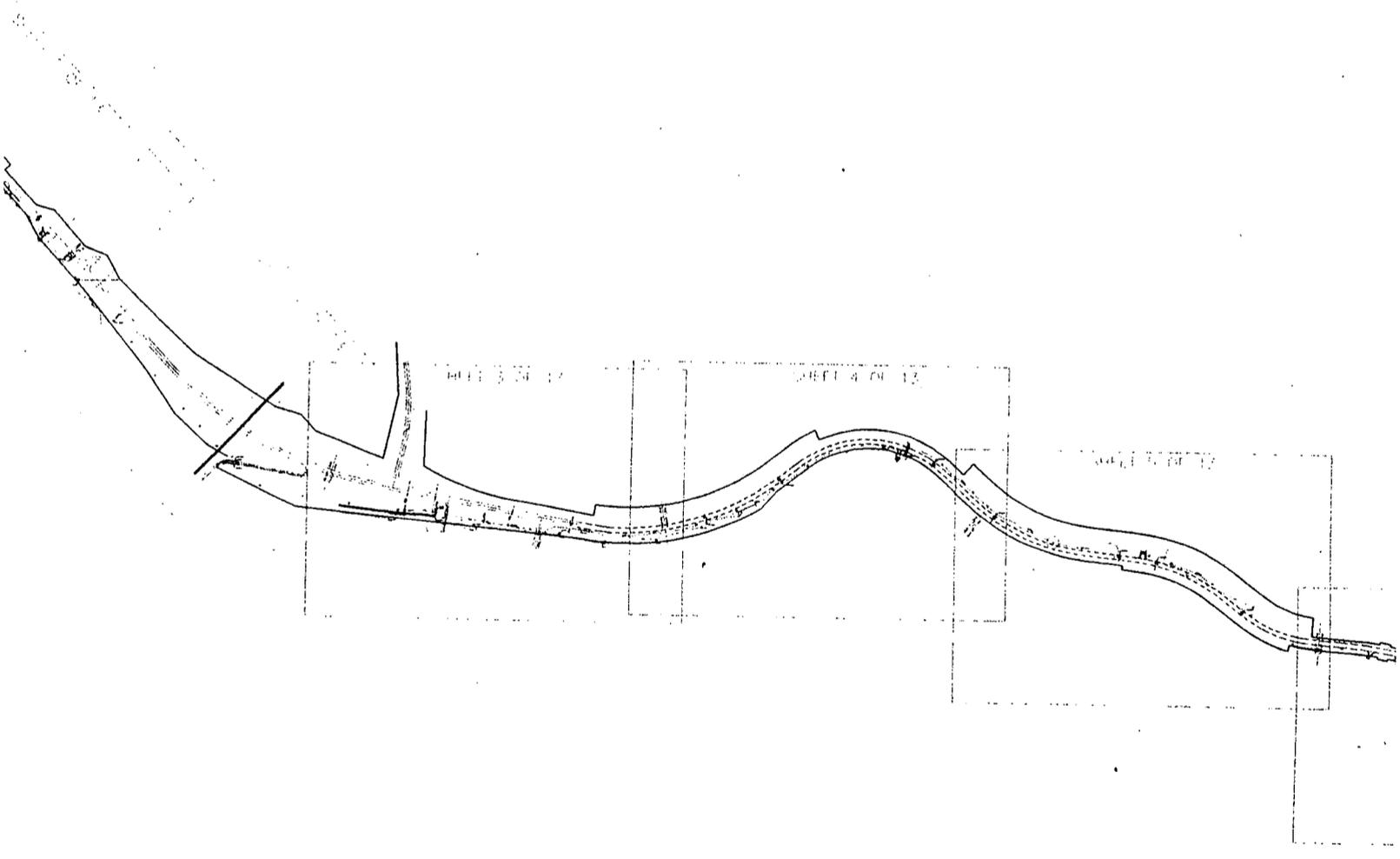
RECEIVED

JUN 14 1999

PUBLIC SERVICE

KENTUCKY TURNPIKE WATER

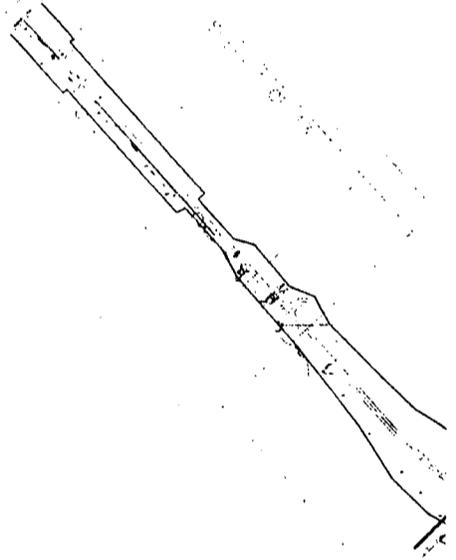
PROJECT



PLAN

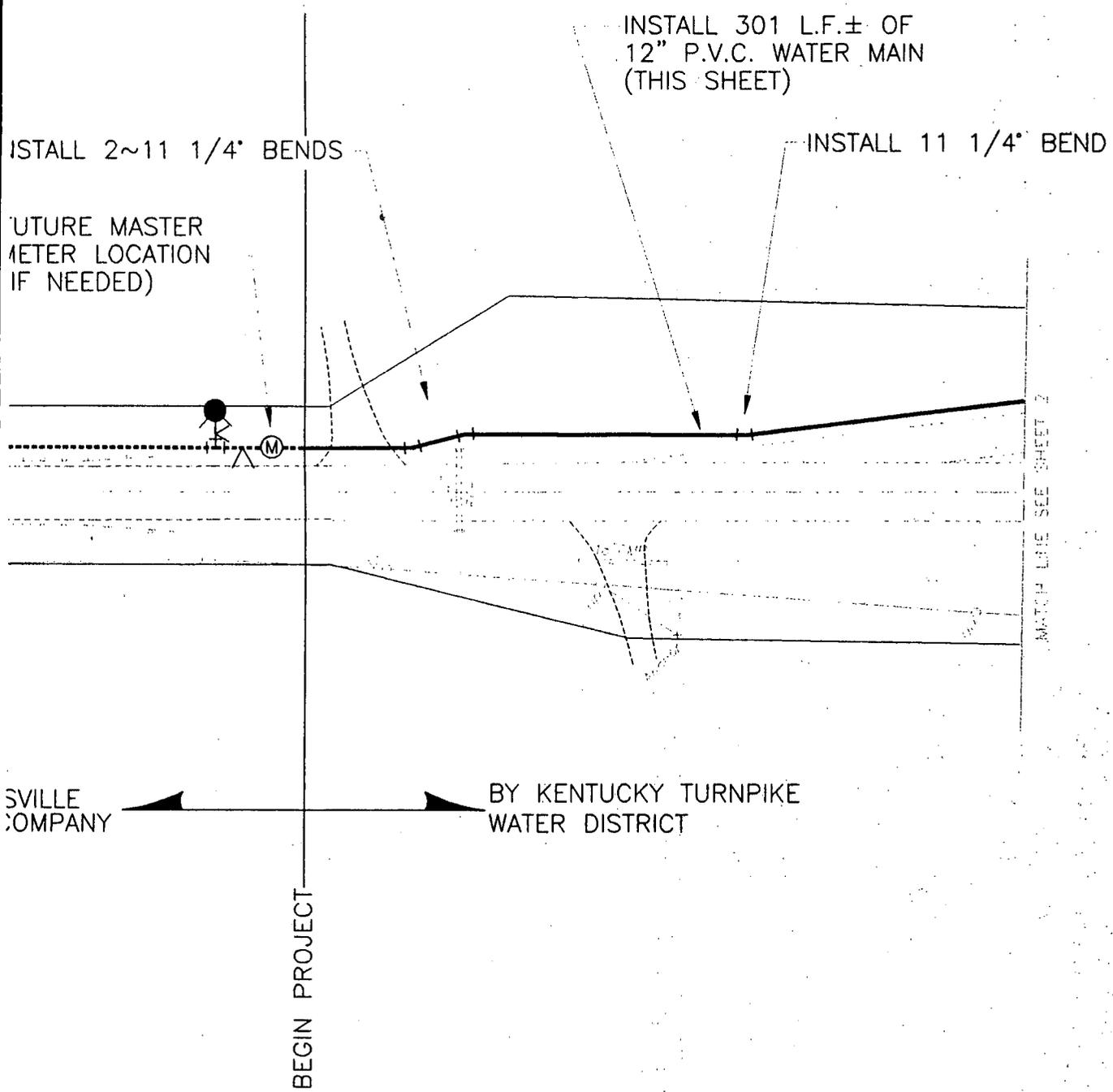
CHOLS ELEME
WATER MAIN
KENTUCKY TURNPIKE WAT
PROJECT

KENT



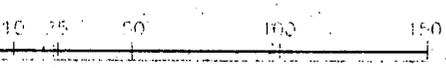
NICH

KENT



LOUISVILLE WATER COMPANY ← BY KENTUCKY TURNPIKE WATER DISTRICT →

UTILITIES LOCATIONS ARE SHOWN FROM AVAILABLE INFORMATION AND ARE APPROXIMATE. CONTRACTORS ARE URGED TO MAKE THEIR OWN DETERMINATION OF EXACT LOCATIONS.



PREPARED BY LOU. WATER CO. FOR KY. TURNPIKE WATER DIST. USE ONLY



LOUISVILLE WATER COMPANY
 550 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 569-3600
JOHN L. HUBER - PRESIDENT
GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

**NICHOLS ELEMENTARY SCHOOL
 MAIN EXTENSION**

DATE	PREPARED BY	CHECKED BY	APPROVED BY
	DRH	GCH	GCH

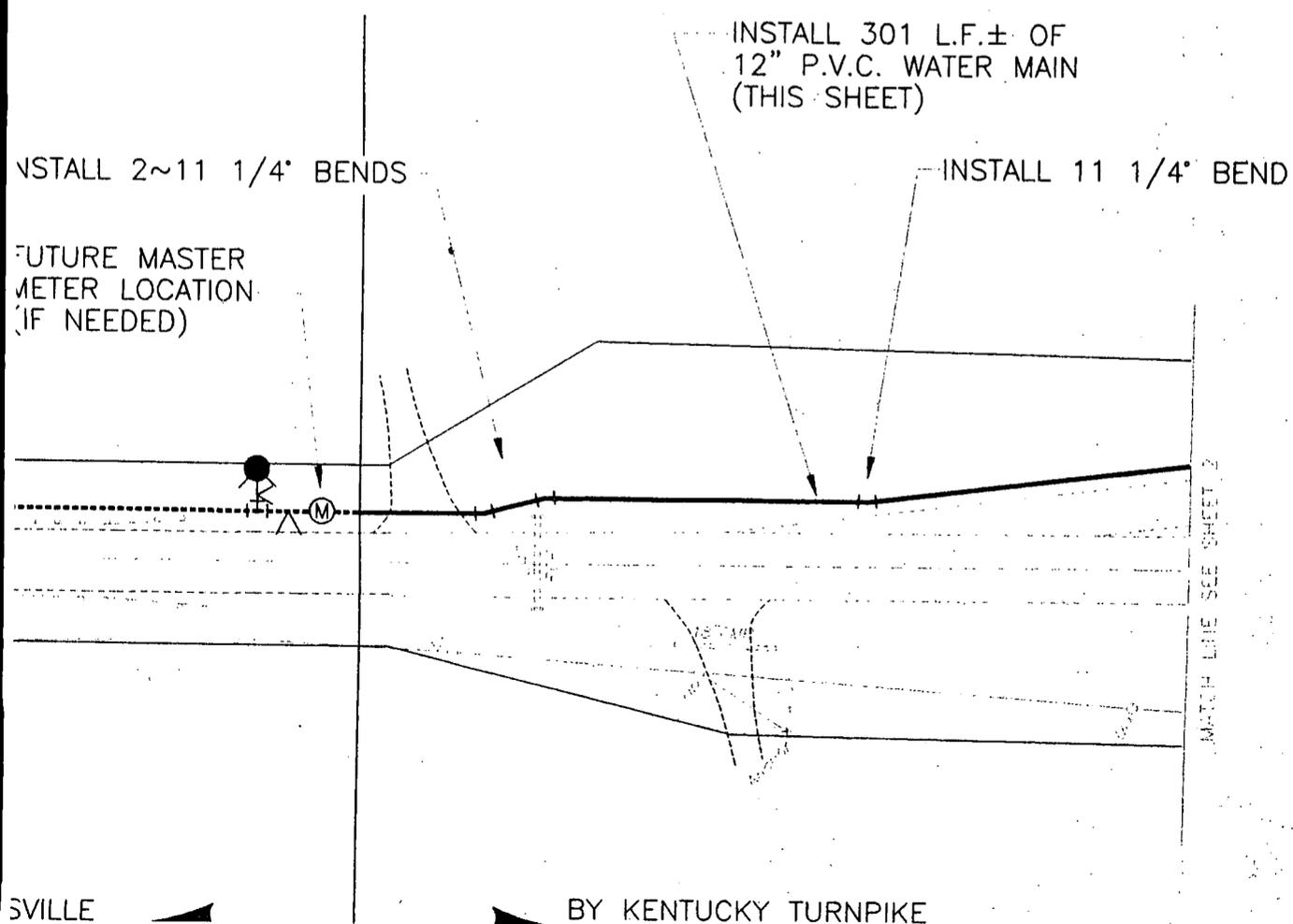
Gregory C. Heitzman
 SIGNATURE
 5/5/99
 DATE

DATE: APRIL 1999	SCALE: 1"=50'	MAP NO.
DRAWN BY: D-HOULETTE	CHECKED BY: GCH	ENGR. G. HEITZMAN / S. QUINN
PROJECT NO. 98-794B	COUNTY: BULLITT	SHEET 1 OF 13

THE CONTRACTOR SHALL ABIDE BY AND SHALL ARRANGE FOR AND PAY FOR ANY AND ALL PERMITS INVOLVING THE KENTUCKY DIVISION OF WATER REGULATIONS PERTAINING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS. THE CONTRACTOR SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF KRS CHAPTER 220 AND 224 OF THE STATE WATER POLLUTION CONTROL LAWS AND OTHER APPLICABLE STATUTES RELATING TO THE PREVENTION OR ABATEMENT OF WATER POLLUTION.

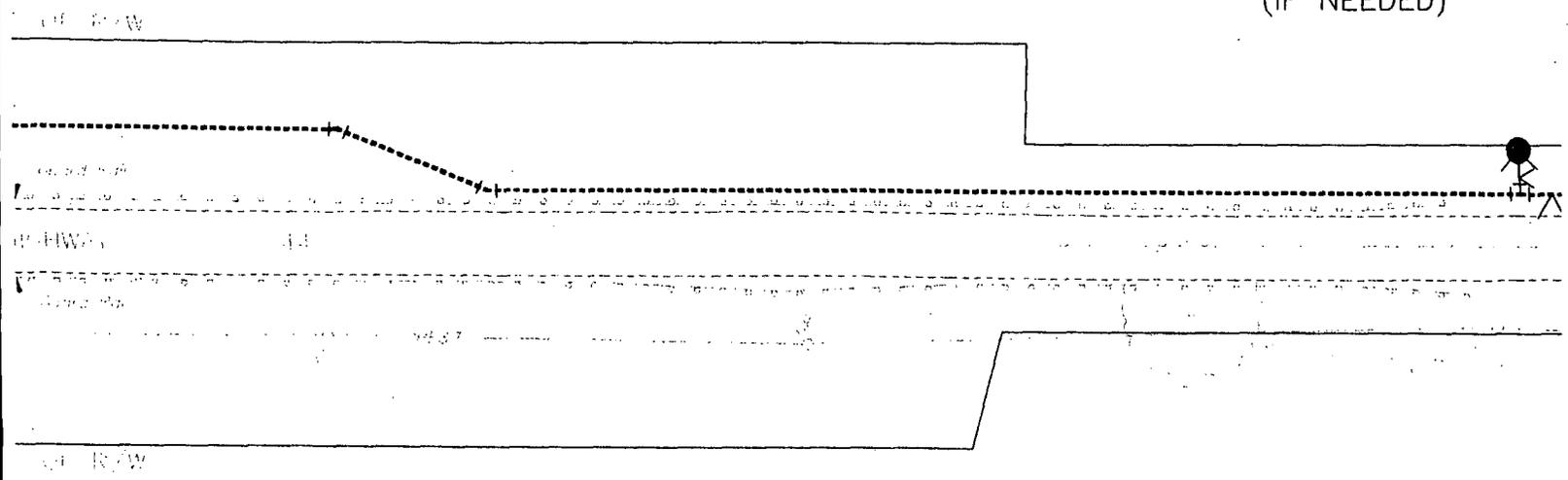
NOTE:

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2. CONTRACTOR SHALL BORE 10' ON EITHER SIDE OF THE CENTERLINE OF EACH TREE FOR WHICH THE DRIP LINE IS TO BE WITHIN THE PROPOSED PATH OF THE PIPELINE INSTALLATION.
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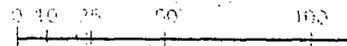


INSTALL 2~11 1/4"

FUTURE MASTER
METER LOCATION
(IF NEEDED)



BY LOUISVILLE
WATER COMPANY

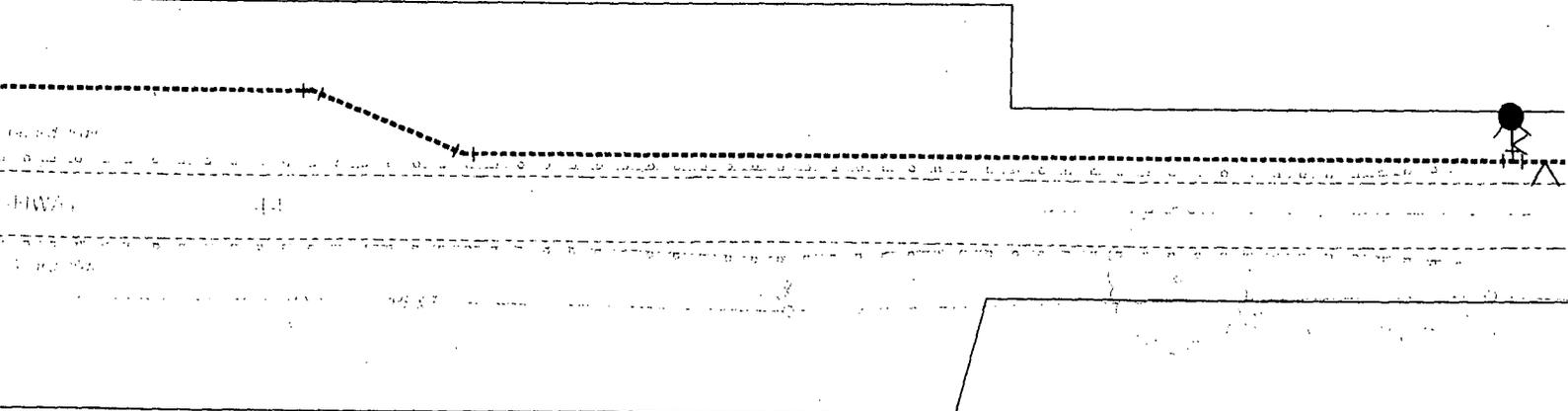


REVISION	DATE	DESCRIPTION	PREPARED BY
1	5/4/99	INST. REVISIONS PER SCH	DRH

INSTALL 2~11 1/4"

FUTURE MASTER
METER LOCATION
(IF NEEDED)

Dr. R/W



Dr. R/W

BY LOUISVILLE
UNIVERSITY

JEFFERSON COUNTY
BULLITT COUNTY

EDGE OF R/W



100.00'

100.00'

ROAD

EDGE OF R/W

EDGE OF R/W

INDETERMINATE COUNTY
BOUNDARY (PER USGS TOPO)

JEFFERSON COUNTY
BULLITT COUNTY

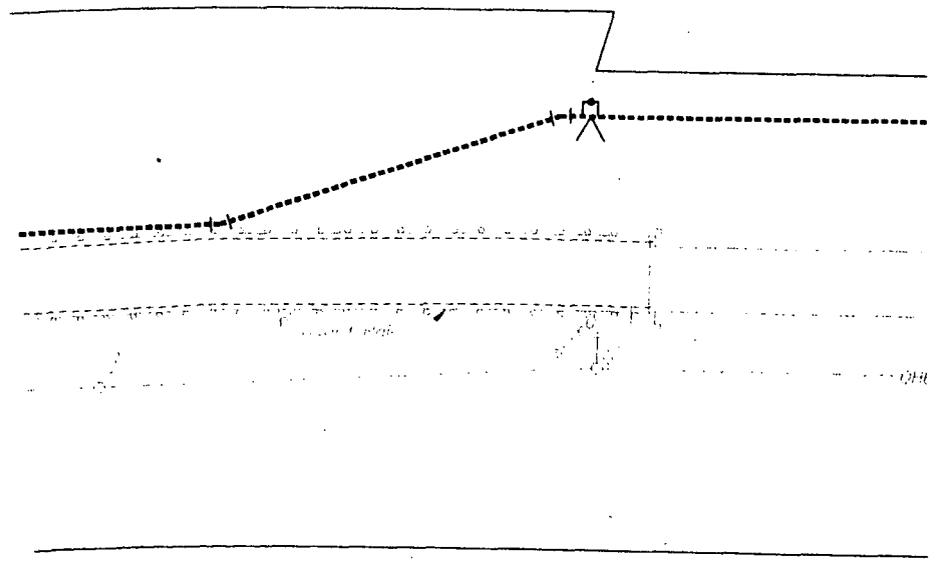
EDGE OF ROW

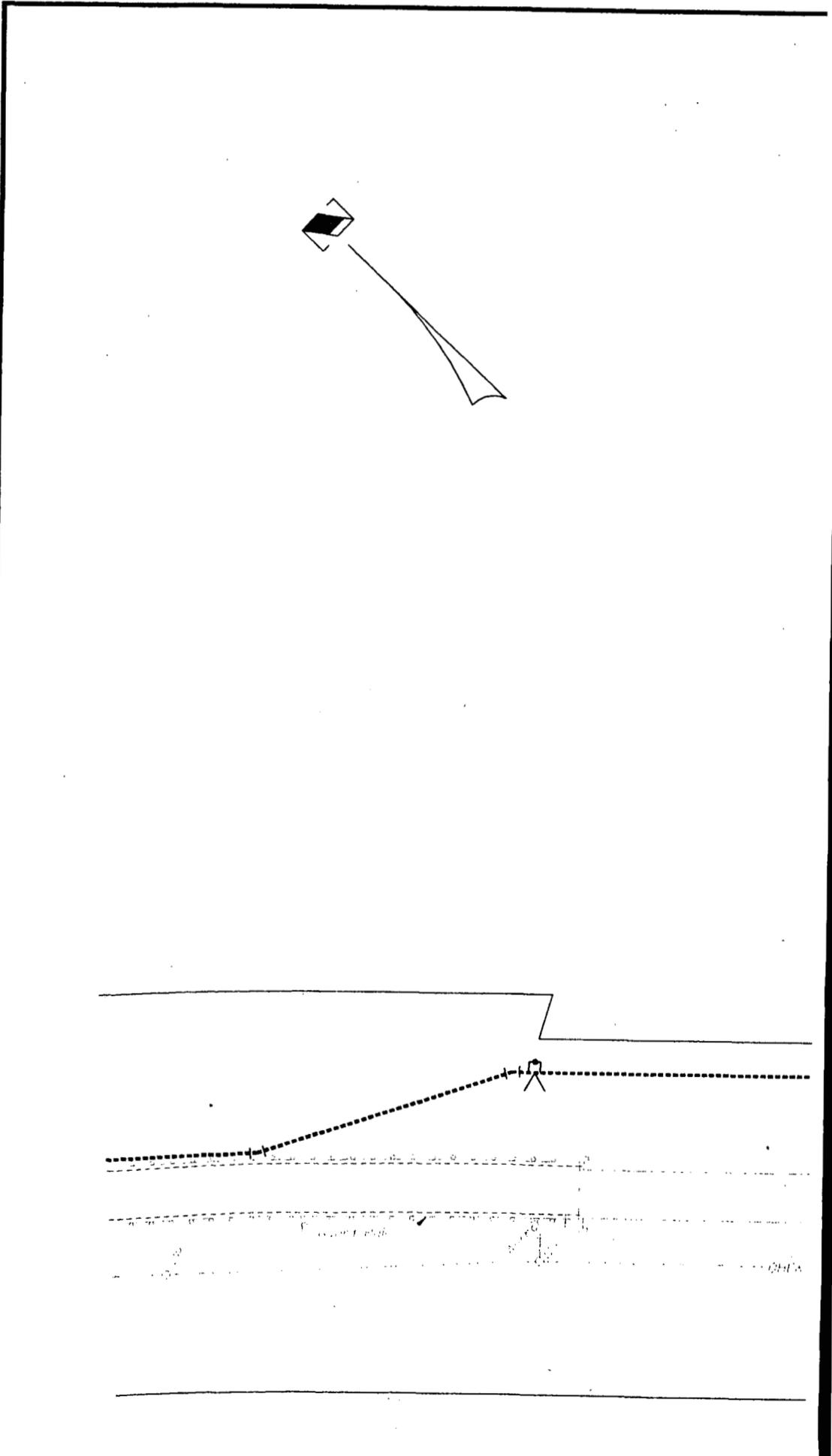


PCND

JNTY
S TOPO)

EDGE OF ROW





MAINTAIN 18" MIN. VERT.
CLEARANCE FROM STORM
LINE

VERT. CLEARANCE
FROM STORM LINE

SECTION OF OLD KY. 44
TO BE ABANDONED

UTILITIES LOCATIONS ARE SHOWN FROM AVAILABLE
INFORMATION AND ARE APPROXIMATE. CONTRACTORS
ARE URGED TO MAKE THEIR OWN DETERMINATION OF
EXACT LOCATIONS.

PREPARED BY LOU. WATER CO. FOR KY. TURNPIKE WATER DIST. USE ONLY

LOUISVILLE WATER COMPANY

550 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 569-3600

JOHN L. HUBER - PRESIDENT

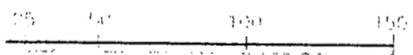
GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

**NICHOLS ELEMENTARY SCHOOL
MAIN EXTENSION**

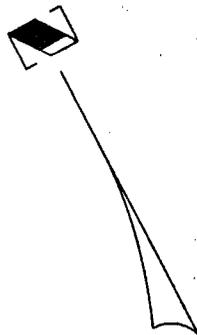


Gregory C. Heitzman
SIGNATURE
5/5/99
DATE

DATE	APRIL 1999	SCALE	1"=50'	MAP NO.	
DRAWN BY	T. HOULETTE	CHECKED BY	GCH	ENGR.	G. HEITZMAN / QUINN
PROJECT NO.	98-794B	COUNTY	BULLITT	SHEET	2 OF 13



REVISION	PREPARED BY	CHECKED BY	APPROVED BY
CHS PER GCH	DPH	GCH	GCH



BORE & INSTALL 40 L.F. ± OF 12" D.I.W.M.
IN 30 L.F. ± OF 20" STEEL CASING PIPE

INSTALL WATER MAIN ABOVE
60" CMP WITH 36" COVER
MAINTAIN 18" MIN. VERT.
CLEARANCE FROM STORM
LINE

INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE

SECTION OF OLD KY. 44
TO BE ABANDONED

MATCH LINE SEE SHEET 3

30
18
N
)

INSTALL 1572 L.F. ± OF
12" P.V.C. WATER MAIN
(THIS SHEET)

PE D.P.

EDGE OF FLOW

OLD

NEW

HIGHWAY

44

10

10

10

10

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10

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10

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10

10

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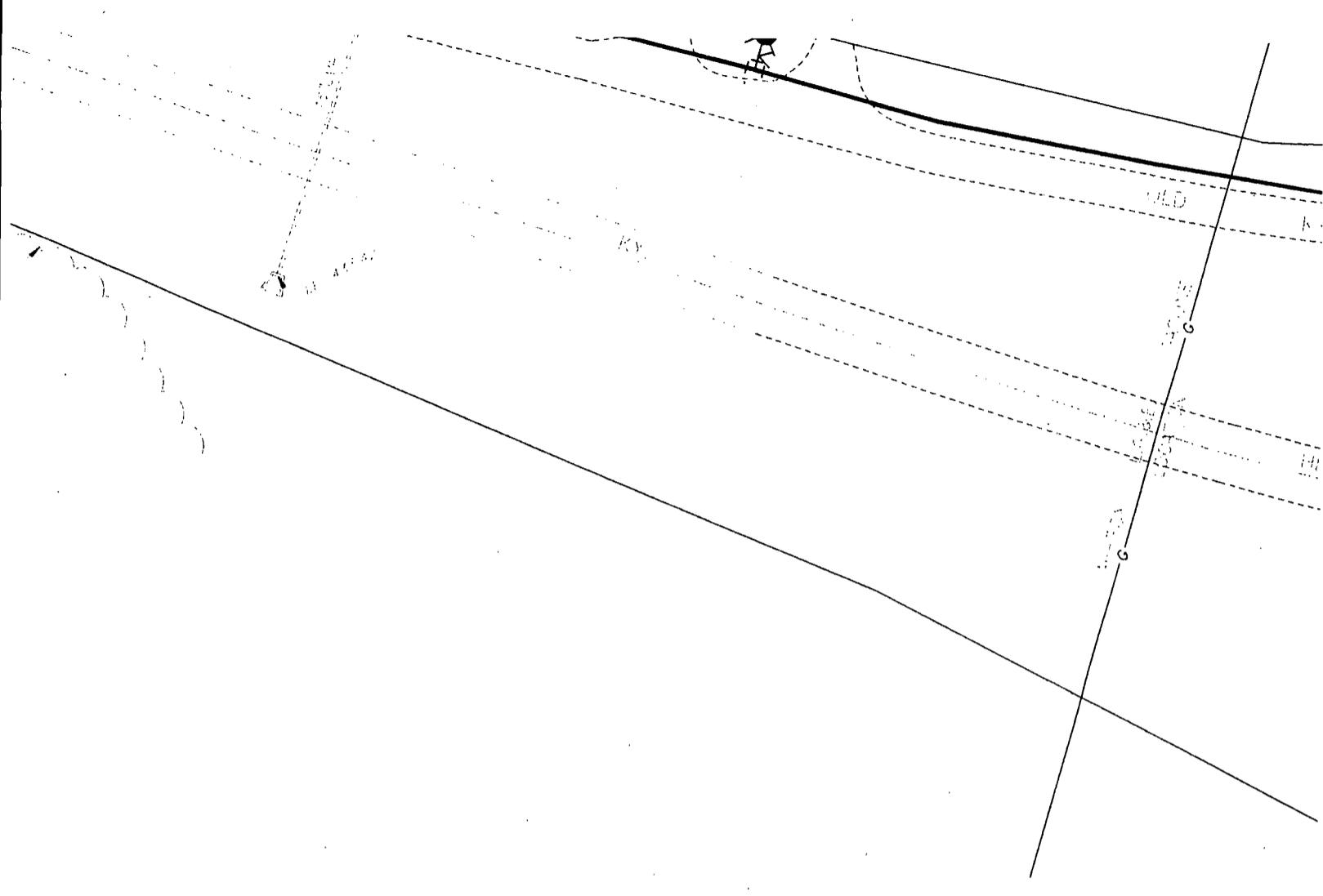
10

10

HIGHWAY

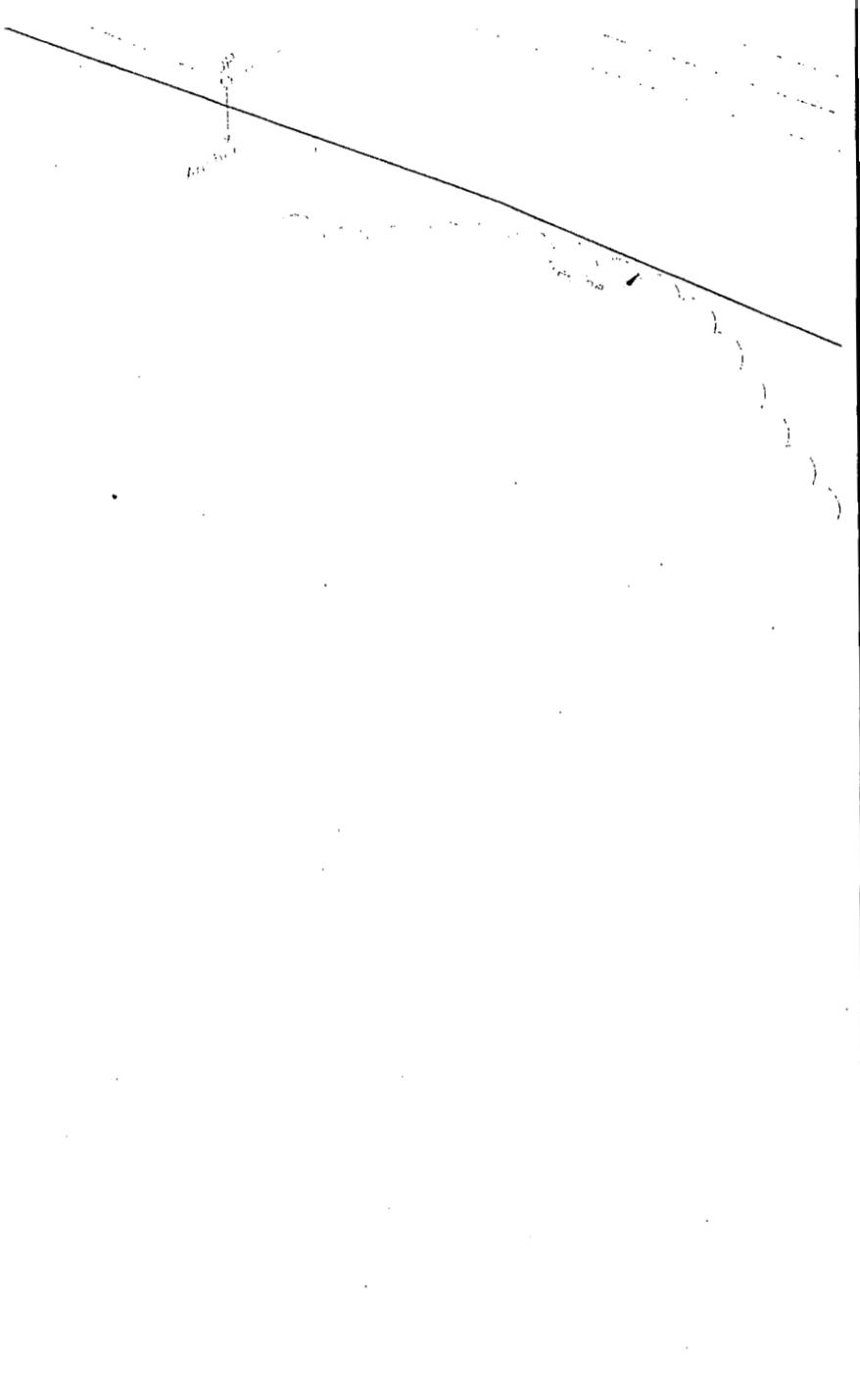
FD

83



ALL ARRANGE FOR AND
THE KENTUCKY
G TO EROSION AND
ONTRACTOR SHALL COMPLY
CHAPTER 220 AND 224
LAWS AND OTHER
REVENTION OR ABATEMENT

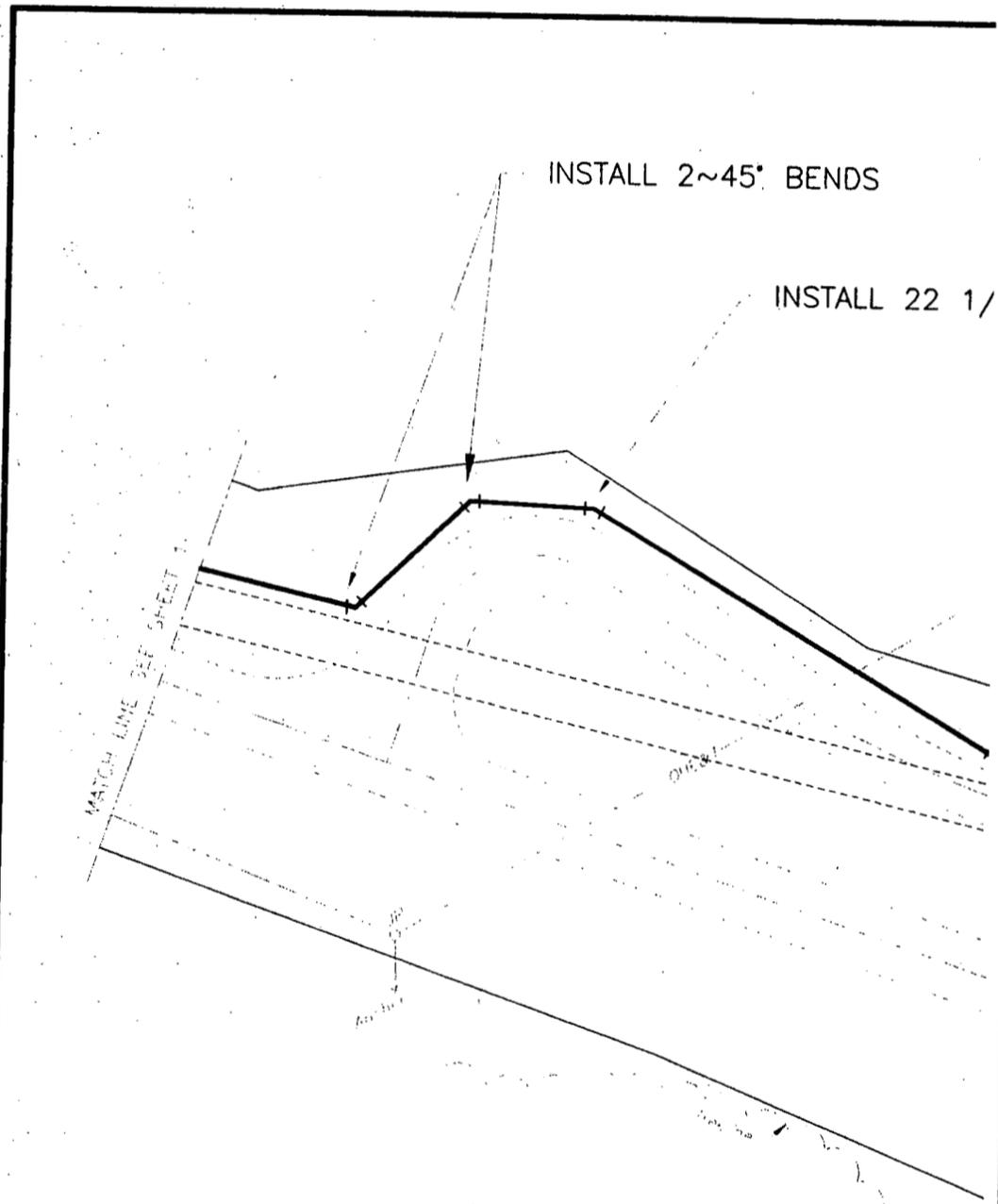
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FOR
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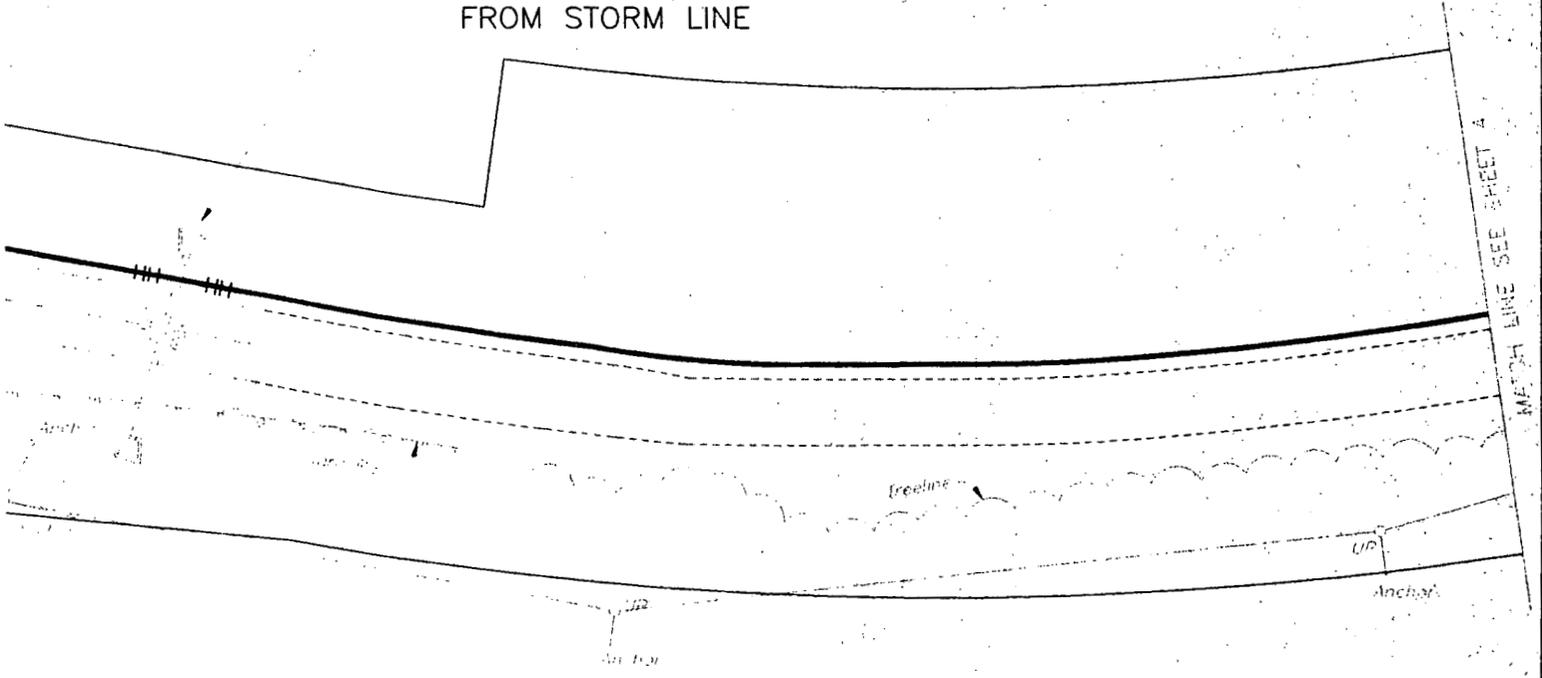


4. CONTRACTOR SHALL BE RESPONSIBLE FOR TWO (2) GROWING SEASONS FOR EACH TREE IN WHICH THE ROOT SYSTEM IS DISTURBED DURING THE MAIN INSTALLATION.

INSTALL 6" F.H. TYPE D.P.
ATT. #607470

INSTALL 12" GATE VALVE

INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE



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PREPARED BY LOU. WATER CO. FOR KY. TURNPIKE WATER DIST. USE ONLY



LOUISVILLE WATER COMPANY

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JOHN L. HUBER - PRESIDENT
GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

**NICHOLS ELEMENTARY SCHOOL
 MAIN EXTENSION**

DATE	PREPARED BY	CHECKED BY	APPROVED BY
5/5/99	D.H.	GCH	GCH

Gregory C. Heitzman
 SIGNATURE
 5/5/99
 DATE

DATE	APRIL 1999	SCALE	1"=50'	MAP NO.	
DRAWN BY	D HOULETTE	CHECKED BY	GCH	ENGR.	G. HEITZMAN / S. QUINN
PROJECT NO.	98-794B	COUNTY	BULLITT	SHEET	3 OF 13

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INSTALL 6" F.H. TYPE D.P.
ATT. #607470

INSTALL 12" GATE VALVE

INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE

LINE SEE SHEET 4

INSTALL 1473 L.F. ± OF
12" P.V.C. WATER MAIN
(THIS SHEET)

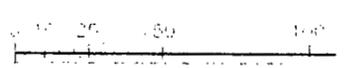
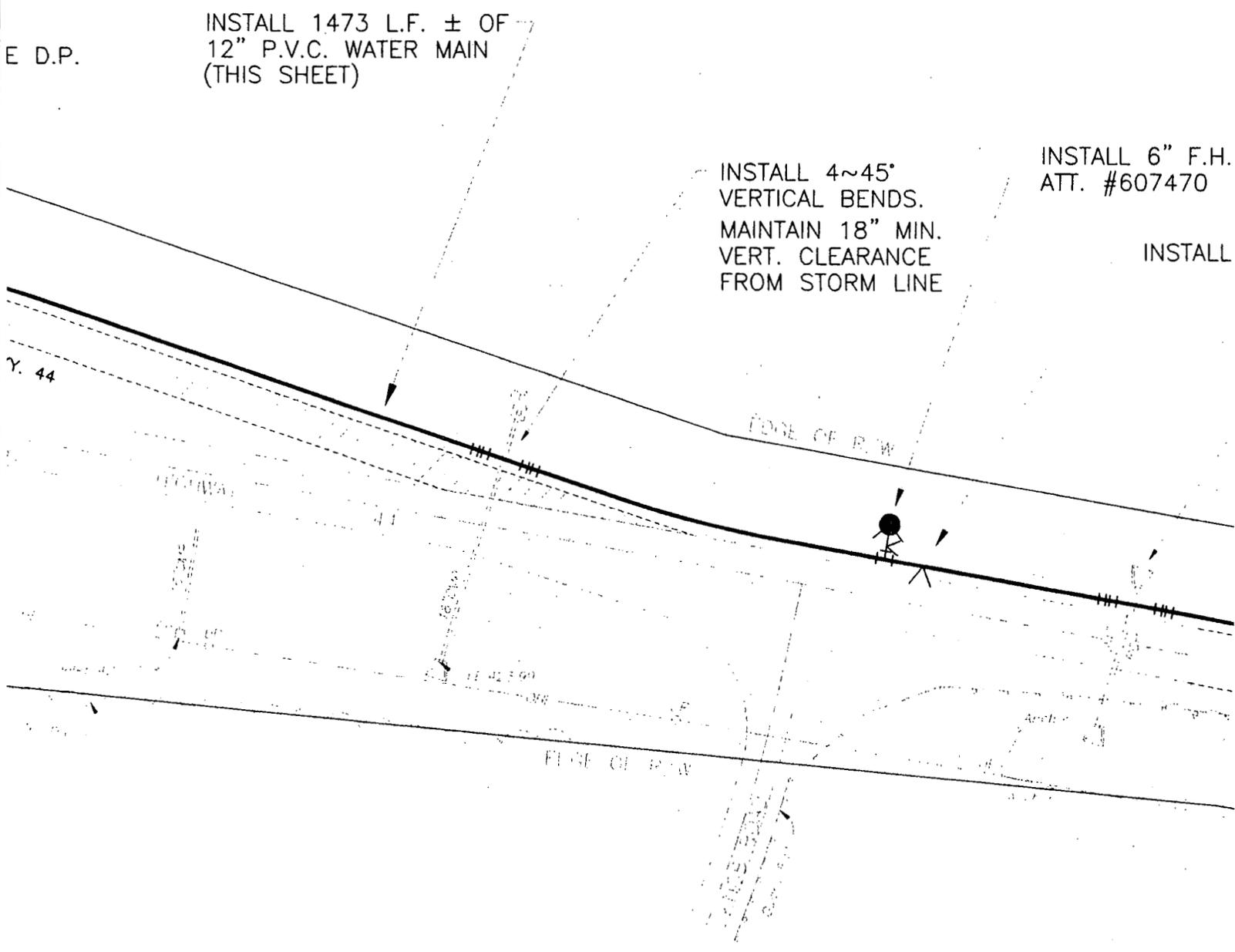
E D.P.

INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE

INSTALL 6" F.H.
ATT. #607470

INSTALL

Y. 44



PL. NO.	DATE	DESCRIPTION	PREPARED BY
1	5/4/99	MISC. REVISIONS PER CCH	LRH

INSTALL 1473 L.F. ± OF
12" P.V.C. WATER MAIN
(THIS SHEET)

INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE

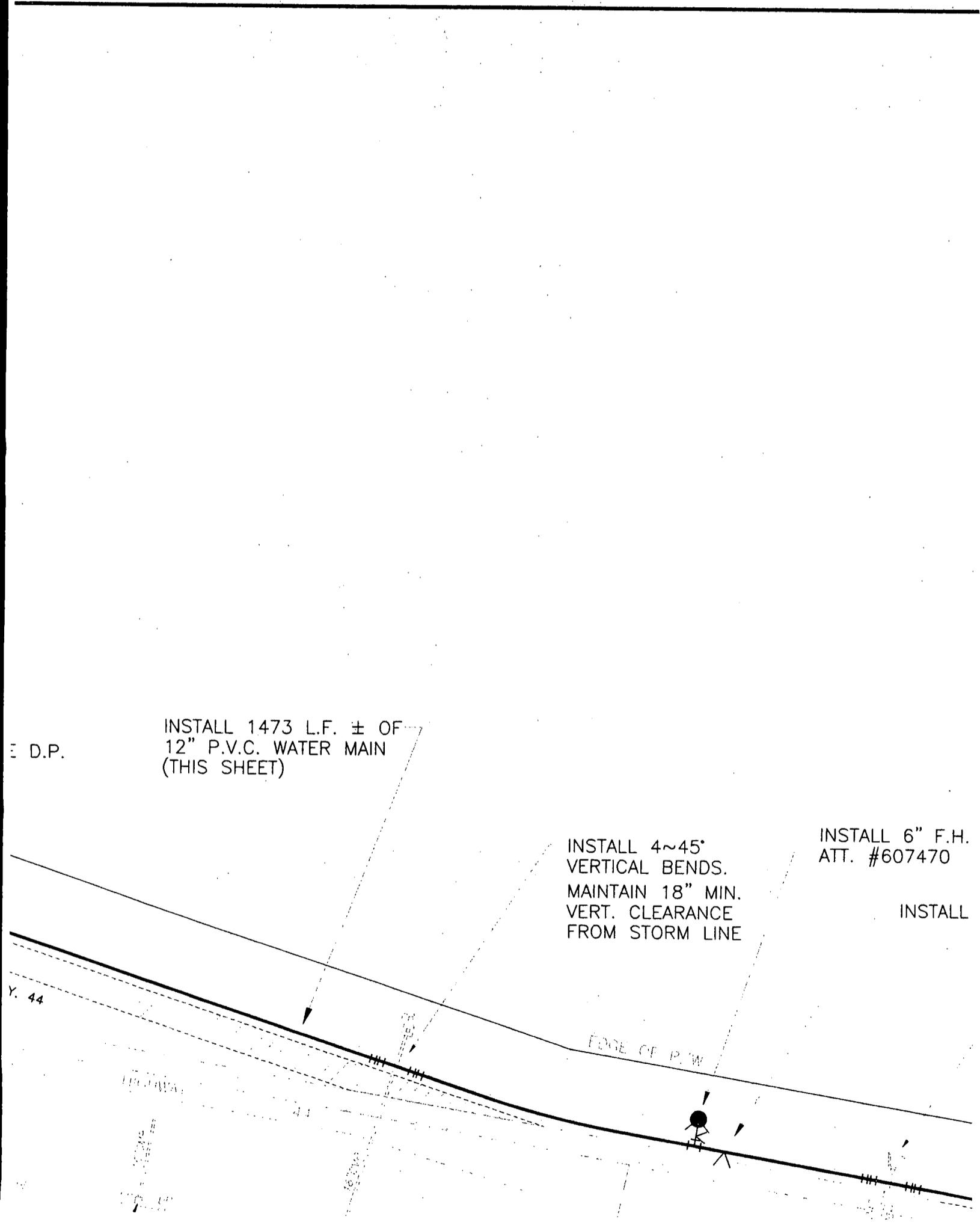
INSTALL 6" F.H.
ATT. #607470

INSTALL

E D.P.

Y. 44

EDGE OF P.W

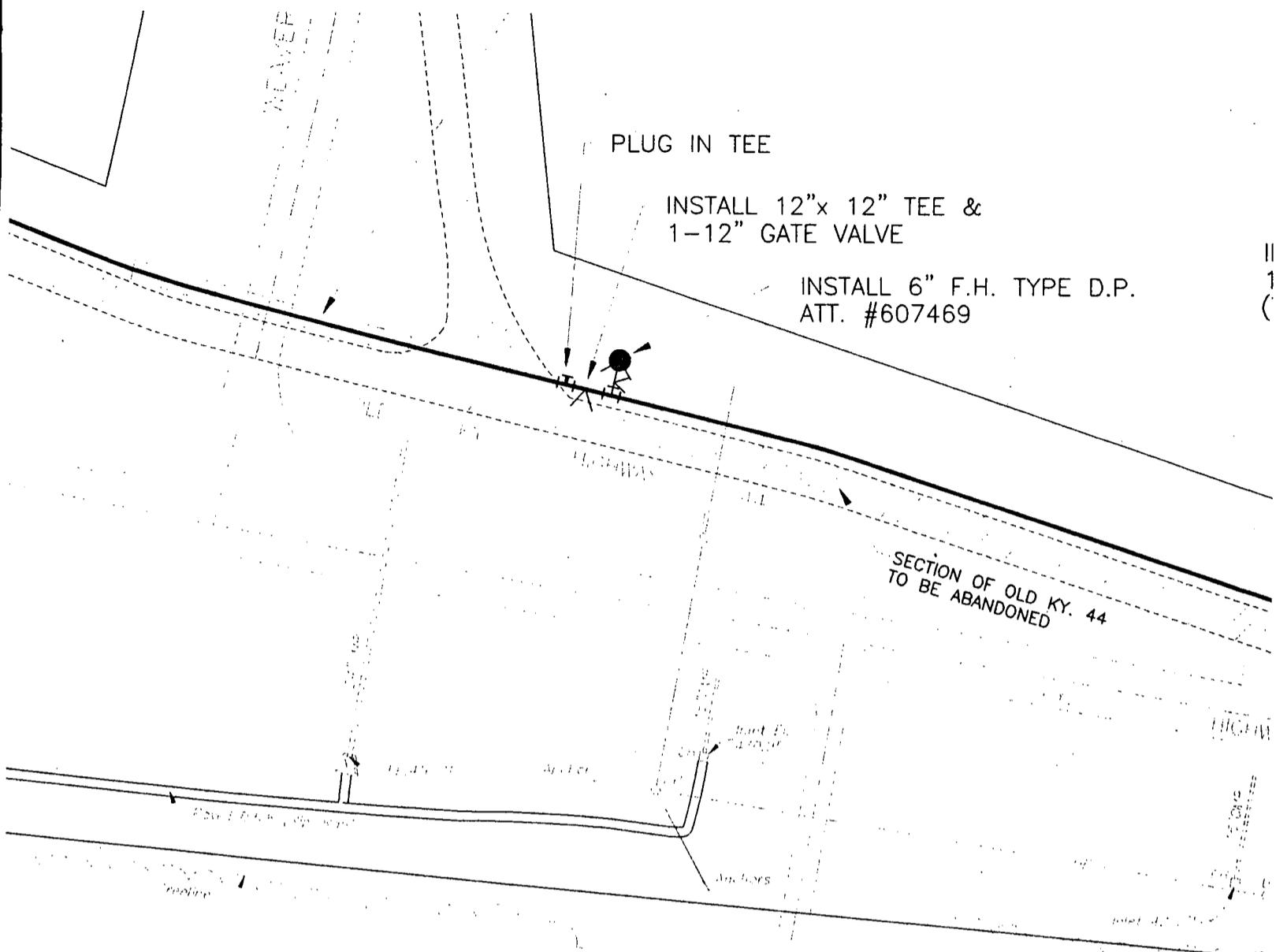


PLUG IN TEE

INSTALL 12"x 12" TEE &
1-12" GATE VALVE

INSTALL 6" F.H. TYPE D.P.
ATT. #607469

SECTION OF OLD KY. 44
TO BE ABANDONED



WEAVER RUN ROAD

SECTION OF WEAVER RUN RD.
TO BE ABANDONED

INSTALL 135 L.F.± OF D.I.W.M.
IN 125 L.F.± 20" CASING PIPE
COORDINATE WITH RELOCATION
OF WEAVER RUN ROAD
(IN PROGRESS).

PLUG IN TEE

INSTALL 12"x 12" TEE &
1-12" GATE VALVE

INSTALL 6" F.H. TYPE D.P.
ATT. #607469

SECTION OF OLD KY. 44
TO BE ABANDONED

HIGHWAY

HIGHWAY

Dist. P.
4 30.00'

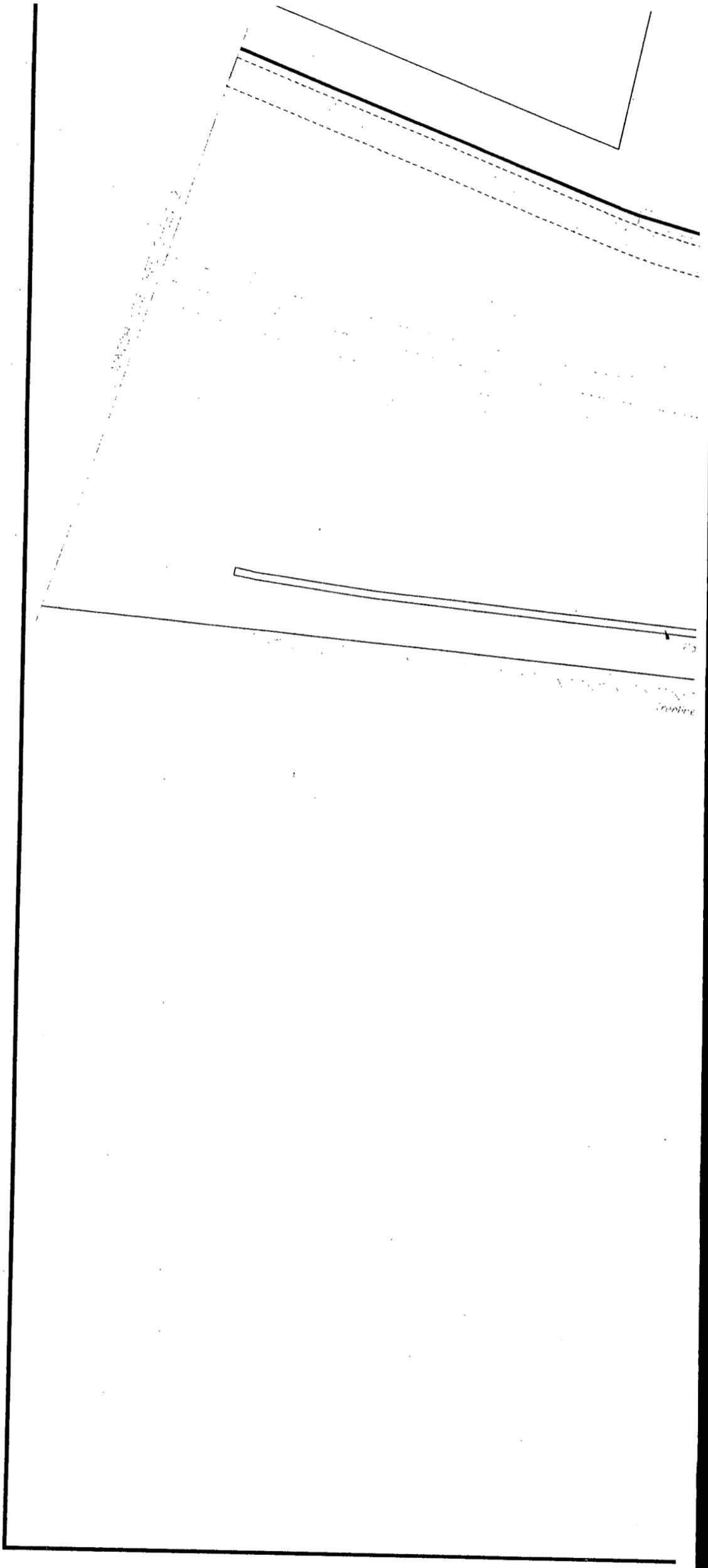
Dist. P.
4 1.00'

Dist. P.
4 5.00'

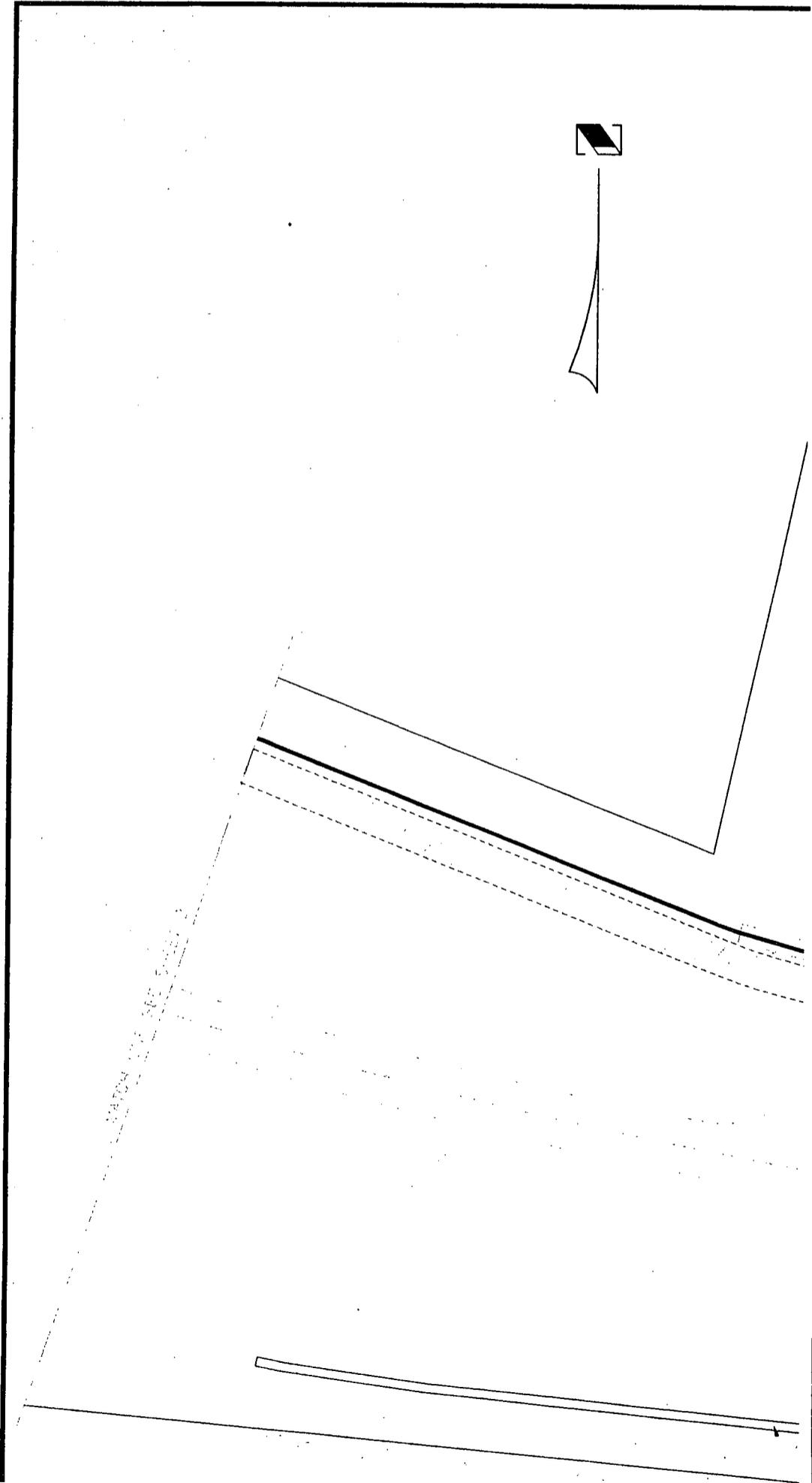
Dist. P.
4 10.00'

Dist. P.
4 15.00'

ST
HIS

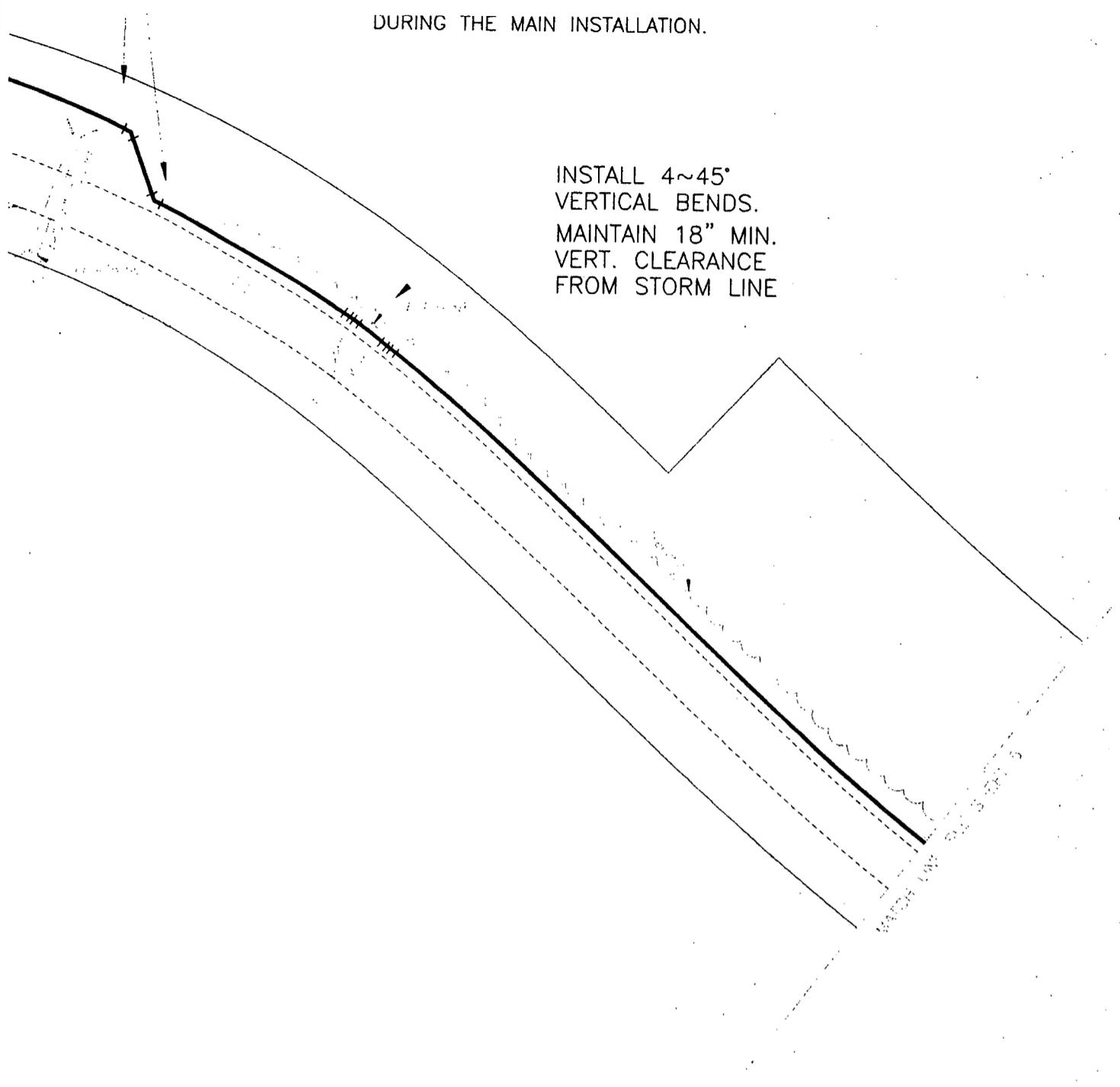


100 =



DURING THE MAIN INSTALLATION.

INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE



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JOHN L. HUBER - PRESIDENT

GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

**NICHOLS ELEMENTARY SCHOOL
MAIN EXTENSION**



Gregory C. Heitzman
SIGNATURE
5/5/99
DATE

DATE APRIL 1999	SCALE 1"=50'	MAP NO.
DRAWN BY D. ROULETTE	CHECKED BY GCH	ENGR. G. HEITZMAN / S. QUINN
PROJECT NO. 98-794B	COUNTY BULLITT	SHEET 4 of 13

DESIGN	PREPARED BY	CHECKED BY	APPROVED BY
DRS, P.R. GCH	DRH	GCH	GCH

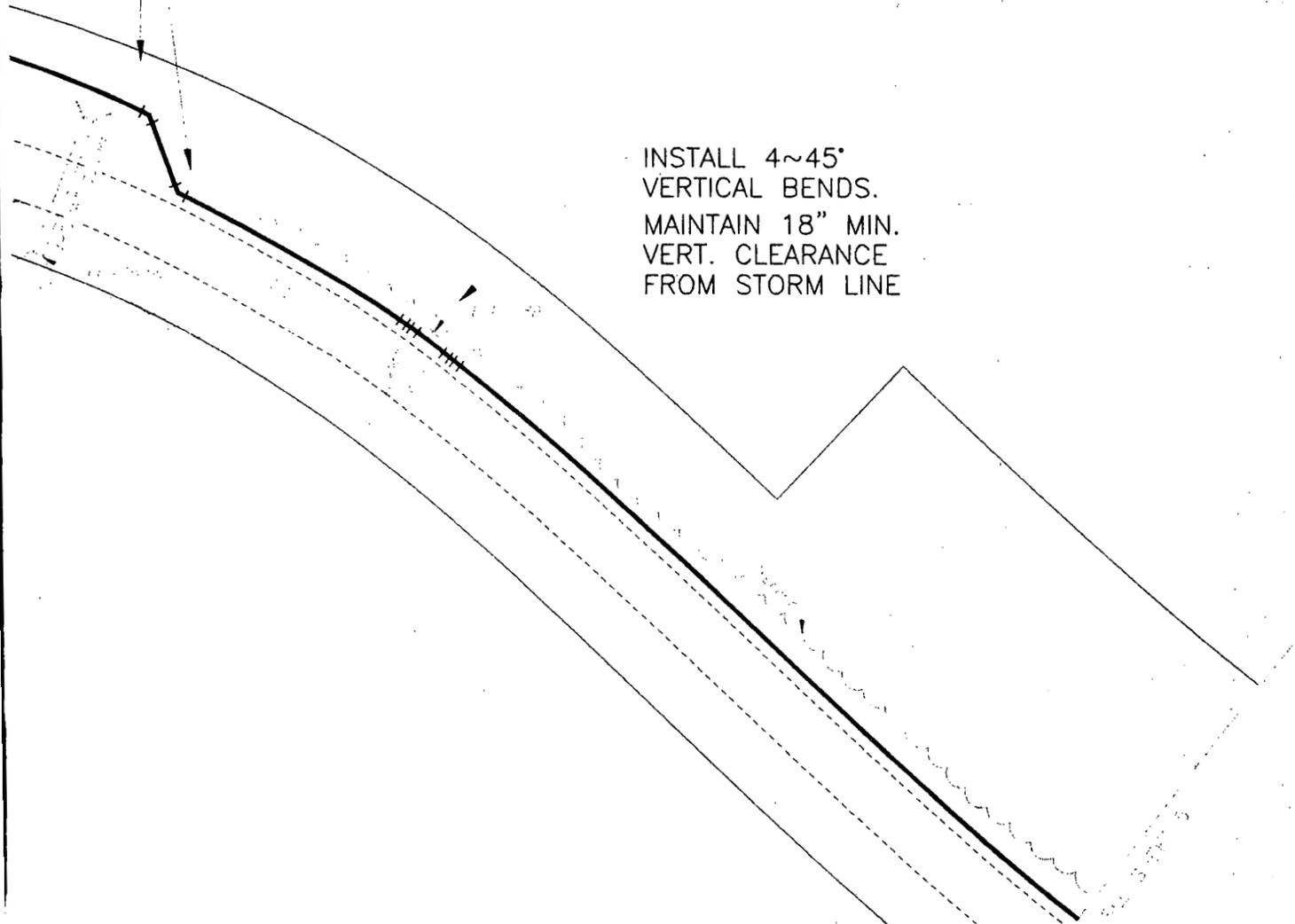
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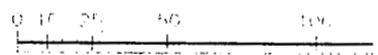
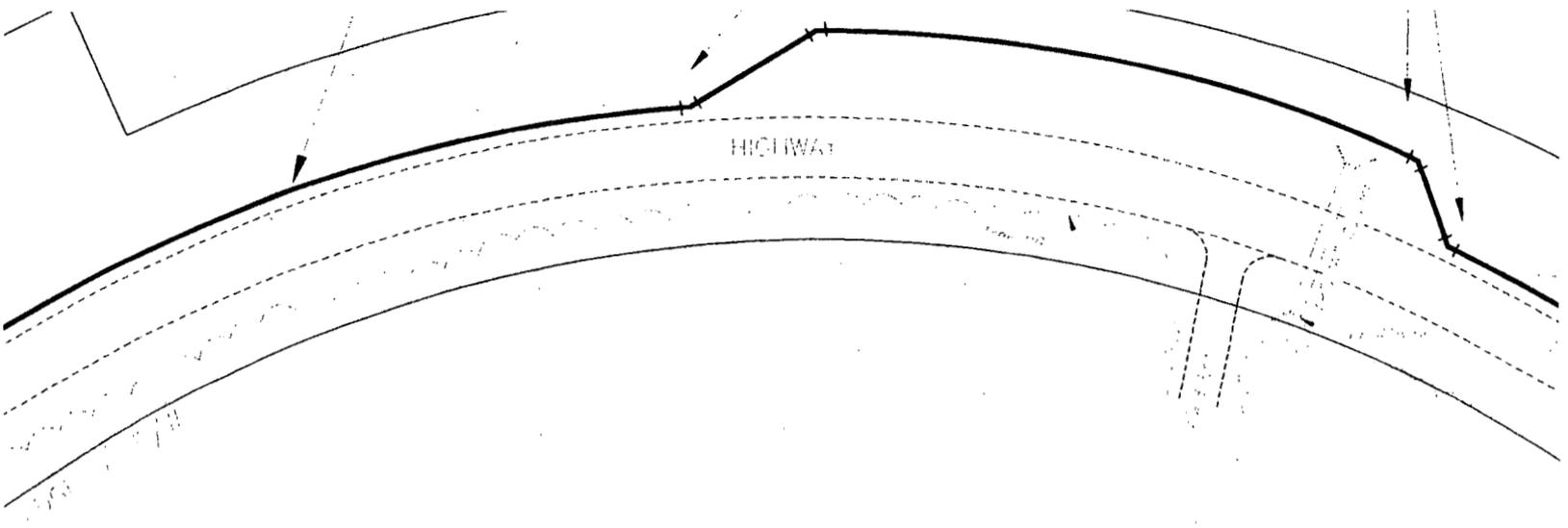
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BENDS

INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE

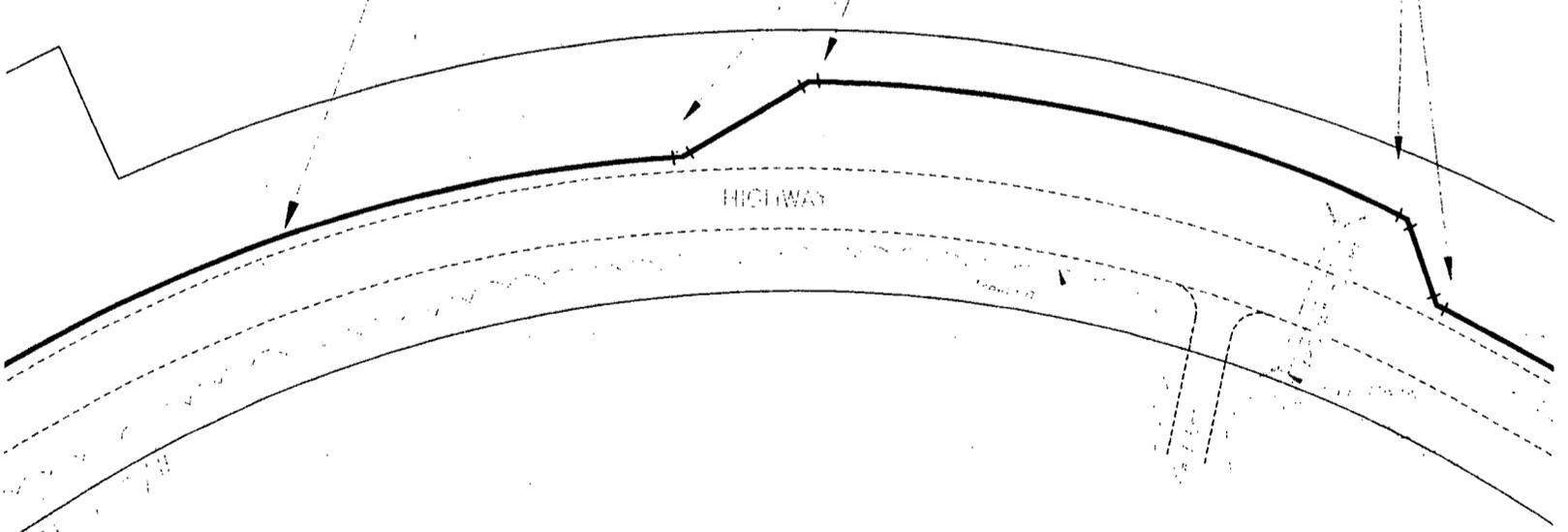




REVISION	DATE	DESCRIPTION	APPROVED BY
1	5/4/79	MMF: REVISIONS PER COH	DBP

INSTALL 1776 L.F. ± OF
12" P.V.C. WATER MAIN
(THIS SHEET)

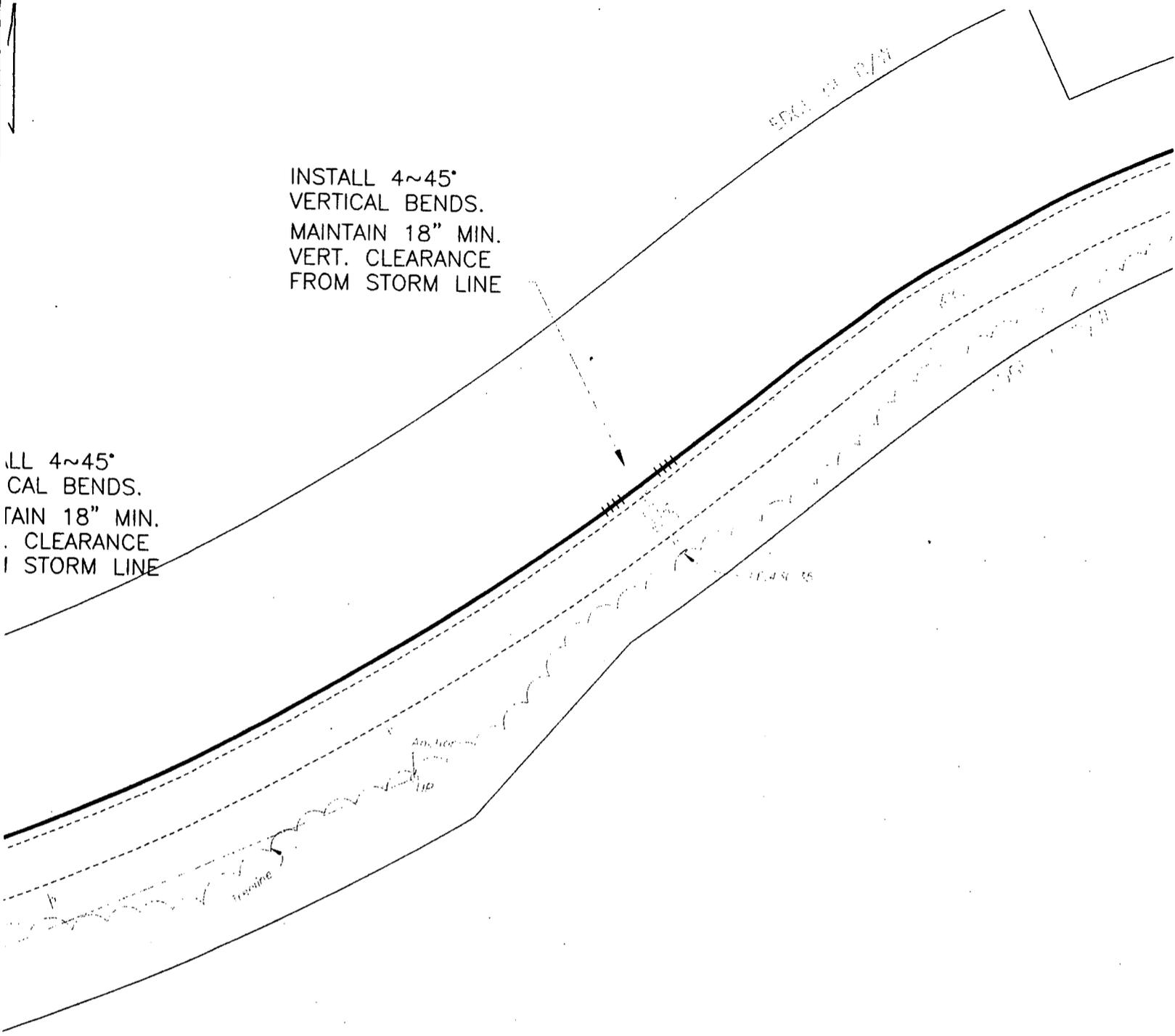
INSTALL 4~22 1/2' BENDS



EDGE OF P/W

INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE

INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE

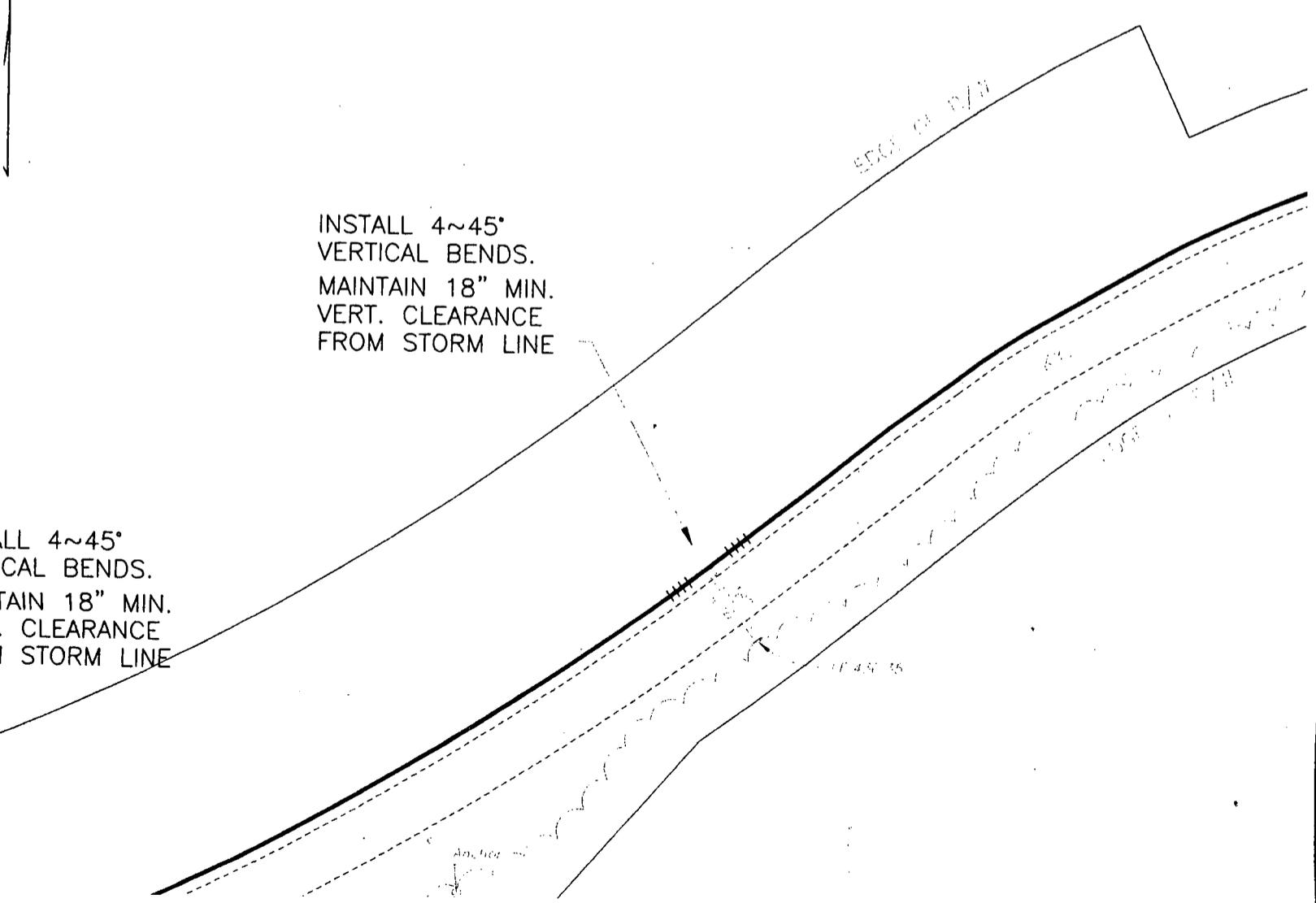


INSTALL 1776
12" P.V.C. WA
(THIS SHEET)

INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE

5503 12" P.V.C.

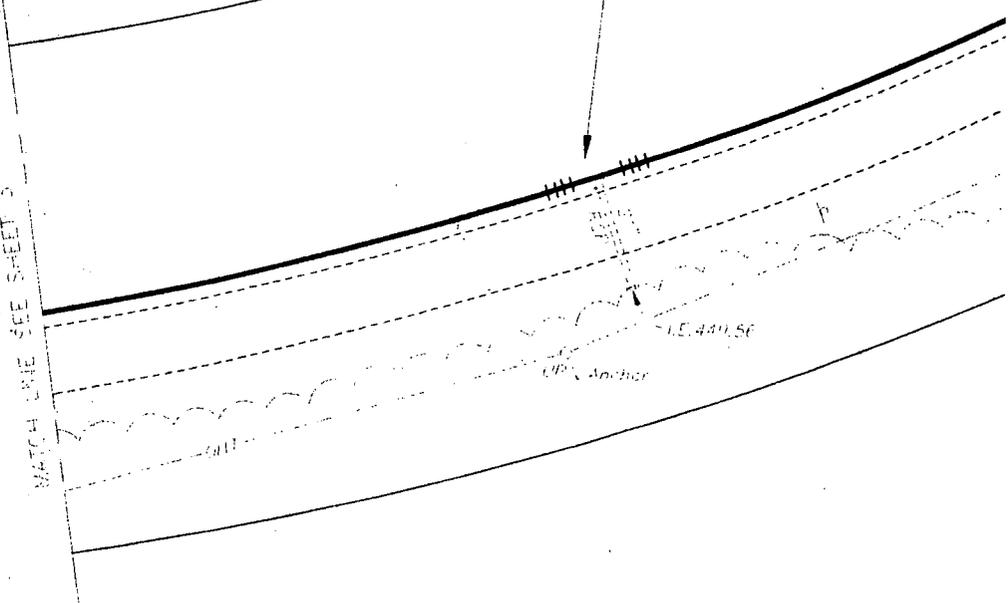
INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE





INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE

MATCH LINE SEE SHEET 3



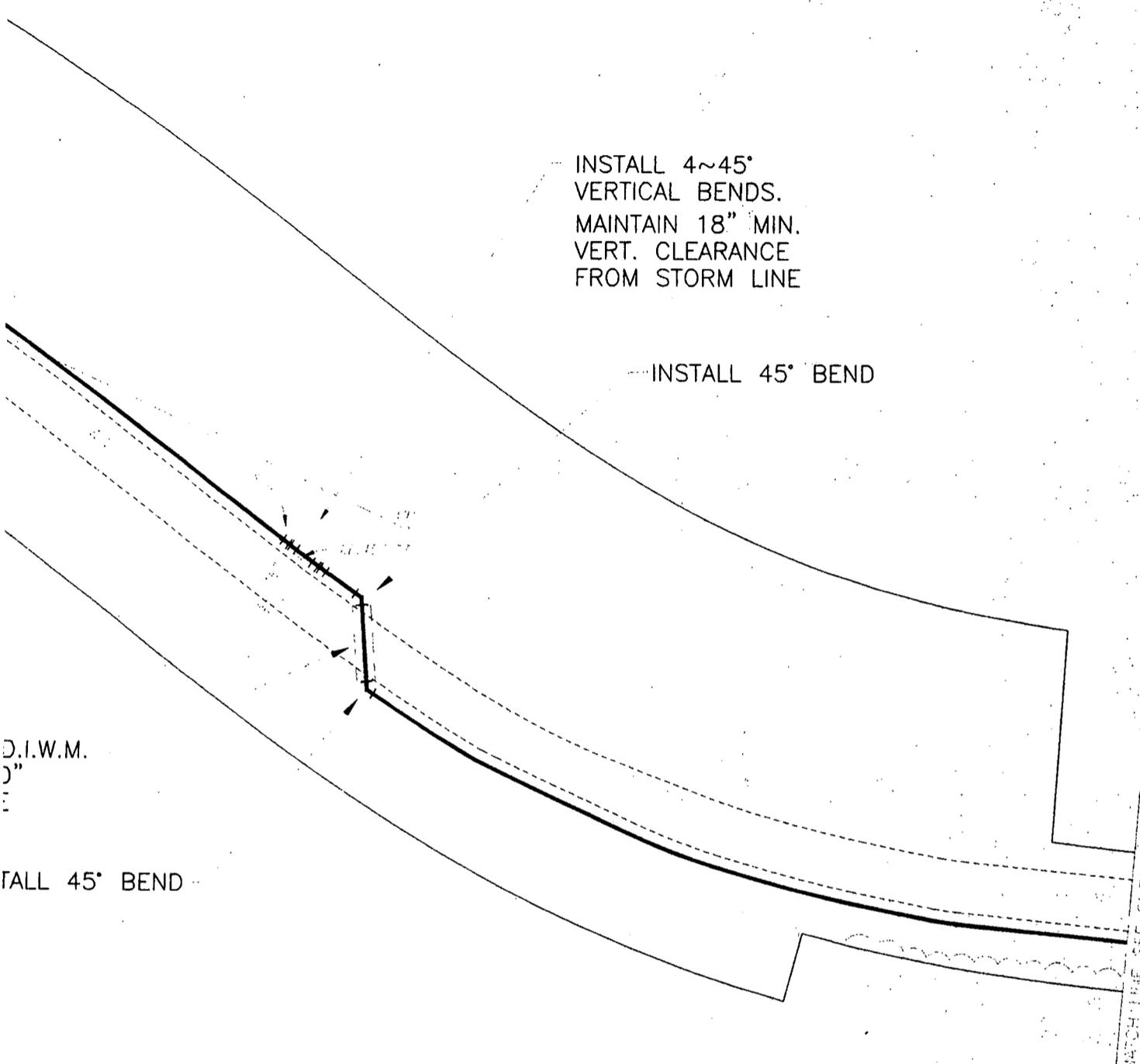


INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE

4. CONTRACTOR SHALL BE RESPONSIBLE FOR TWO (2) GROWING SEASONS FOR EACH TREE IN WHICH THE ROOT SYSTEM IS DISTURBED DURING THE MAIN INSTALLATION.

INSTALL 4~45° VERTICAL BENDS. MAINTAIN 18" MIN. VERT. CLEARANCE FROM STORM LINE

INSTALL 45° BEND



D.I.W.M.
 10"
 1"
 FALL 45° BEND

MATCH LINE SEE SHEET 6

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PREPARED BY LOU. WATER CO. FOR KY. TURNPIKE WATER DIST. USE ONLY



LOUISVILLE WATER COMPANY
 550 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 569-3600
JOHN L. HUBER - PRESIDENT
GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

NICHOLS ELEMENTARY SCHOOL
 MAIN EXTENSION

Gregory C. Heitzman
 SIGNATURE
 5/5/99
 DATE

DATE APRIL 1999	SCALE 1"=50'	MAP NO.
DRAWN BY D.HOULETTE	CHECKED BY GCH	ENGR. G. HEITZMAN / S. QUINN
PROJECT NO. 98-794B	COUNTY BULLITT	SHEET 5 OF 13

DESIGNED BY	CHECKED BY	APPROVED BY
D.HOULETTE	GCH	GCH

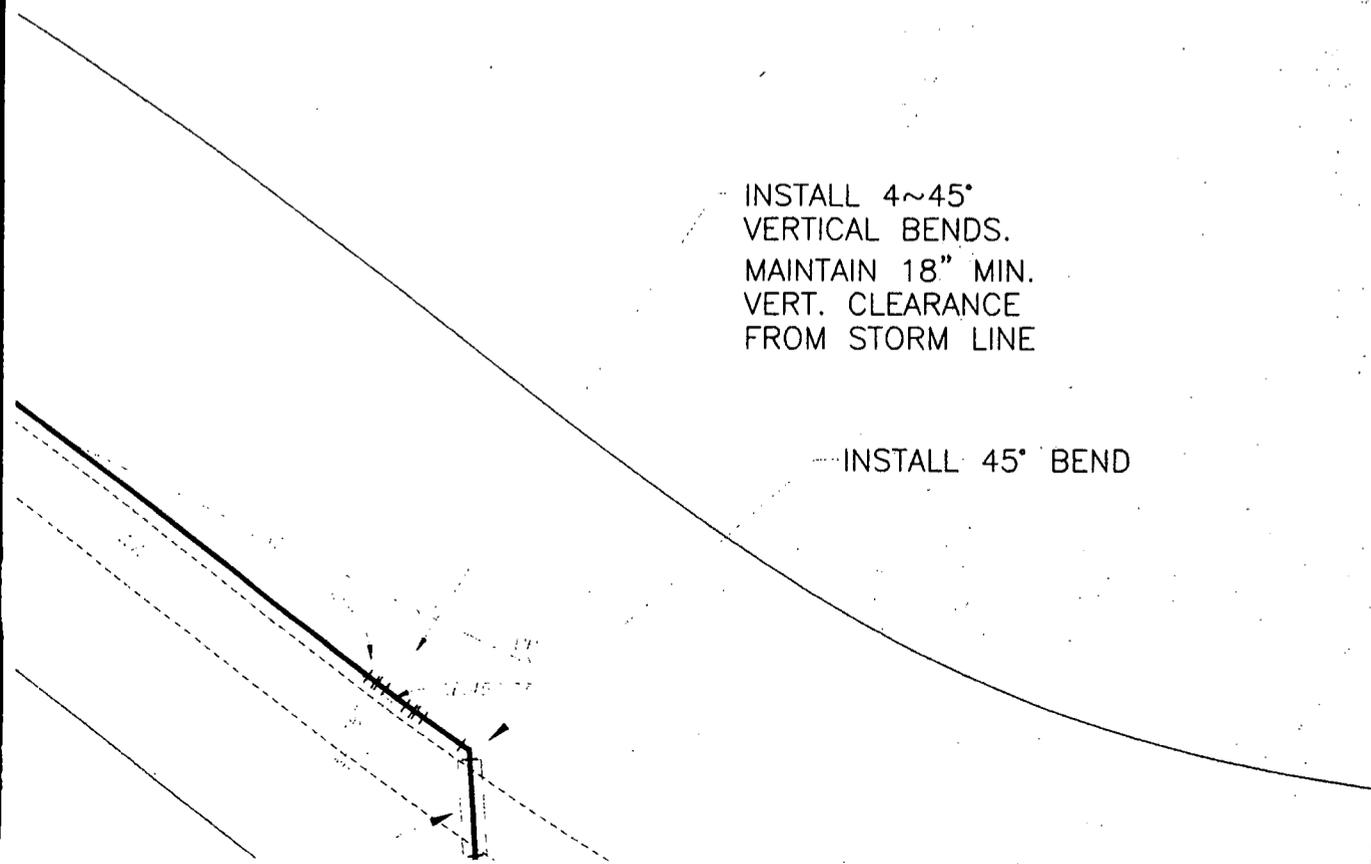
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INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE

INSTALL 45° BEND

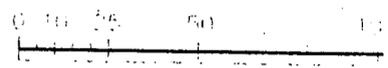


7

EDGE OF R.W.

BORE & INSTALL
42 L.F.± OF 12" D.I.W.M.
IN 37 L.F.± OF 20"
STEEL CASING PIPE

INSTALL 45° BEND

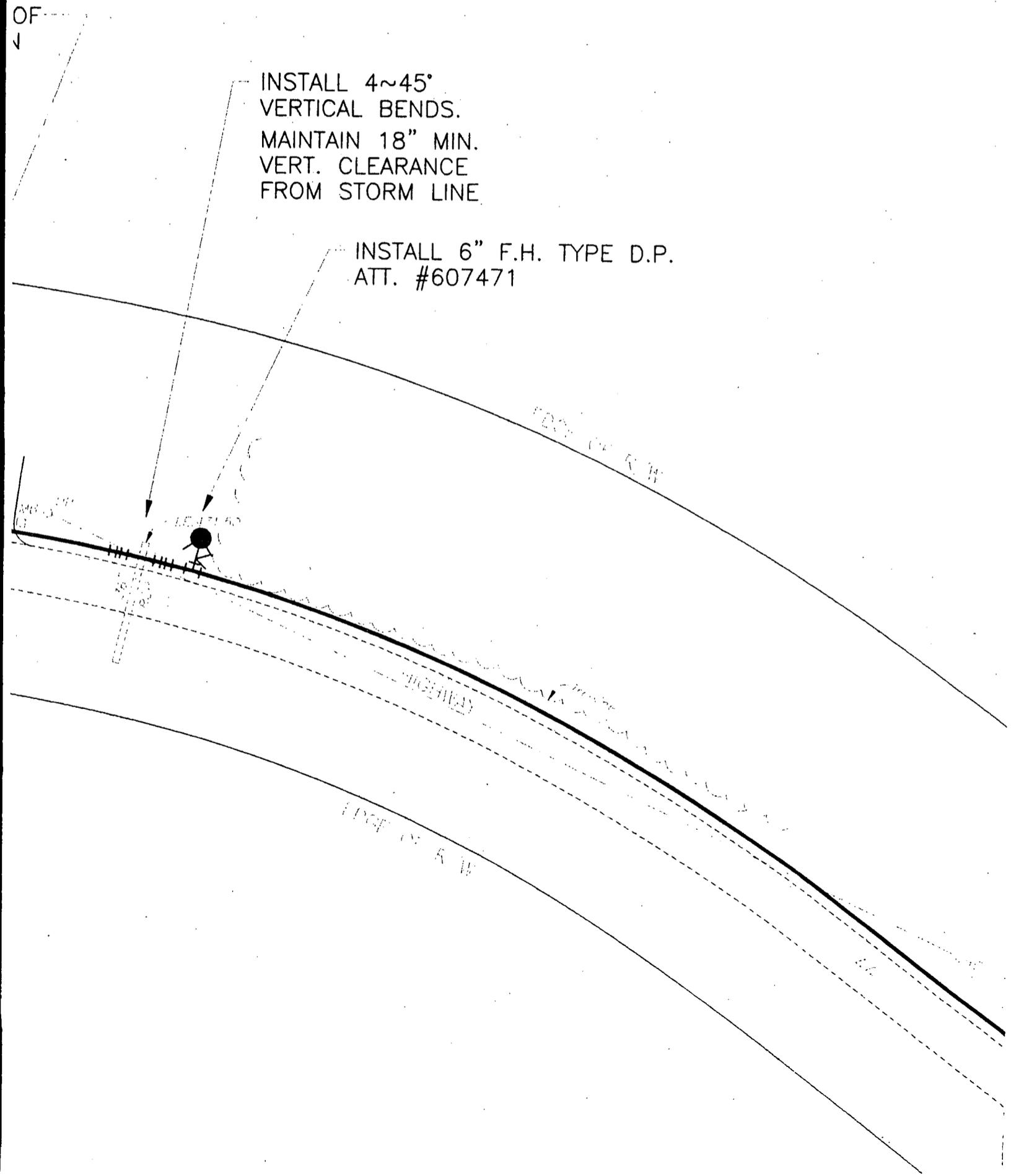


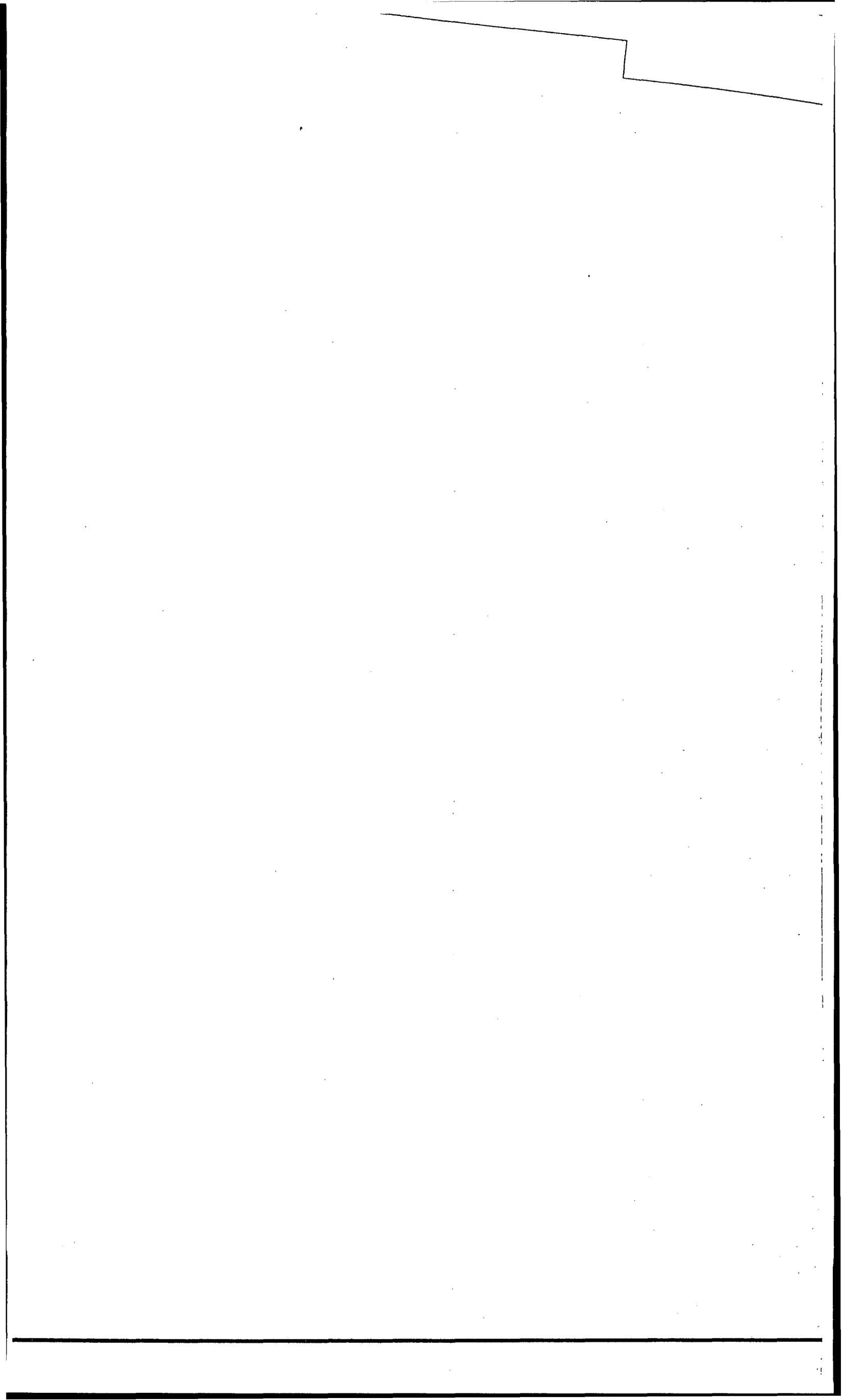
REVISION	DATE	DESCRIPTION	DR
1	5/4/99	MISC. REVISIONS PER OCH	DR

OF
↓

INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE.

INSTALL 6" F.H. TYPE D.P.
ATT. #607471

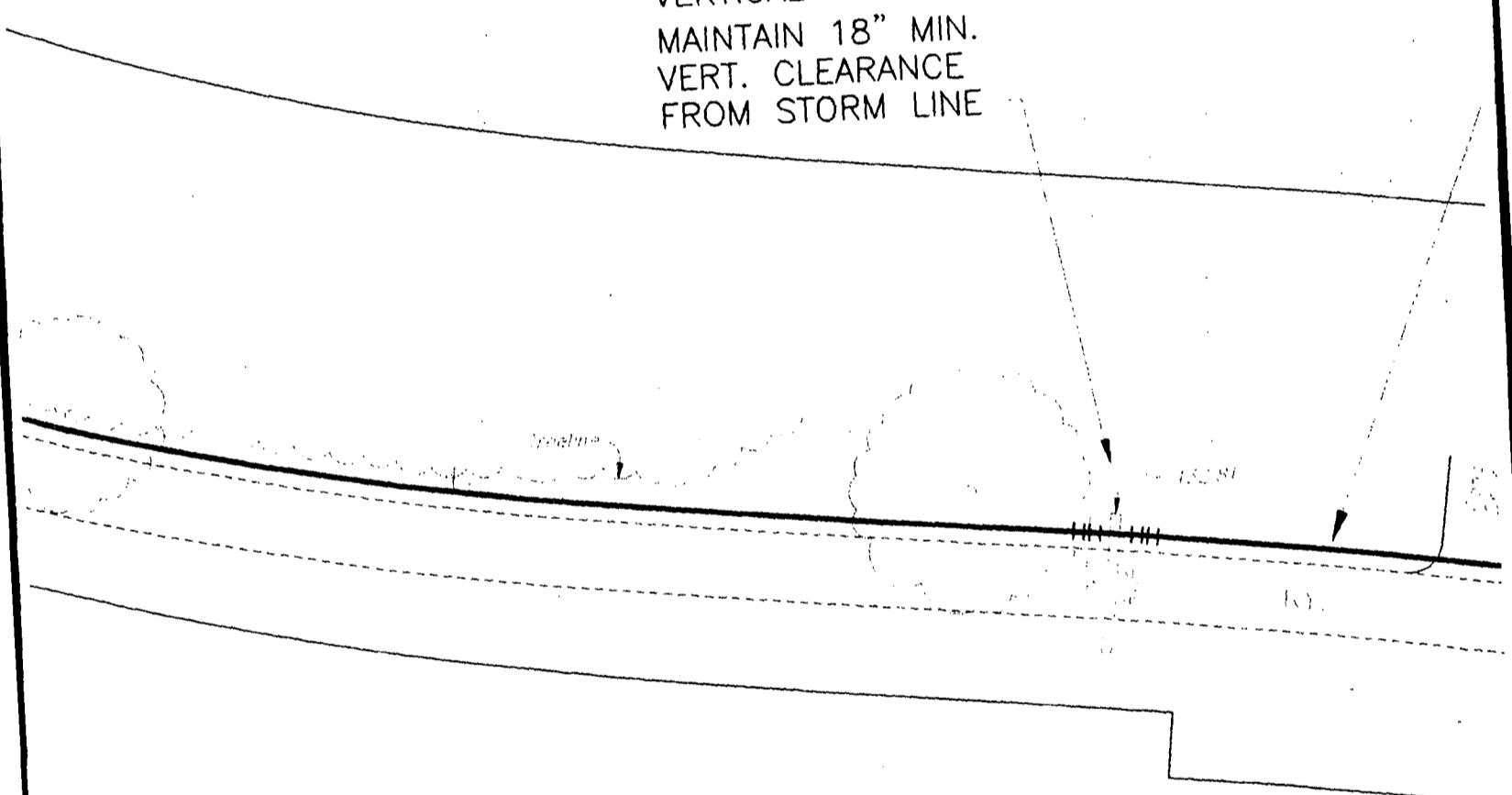




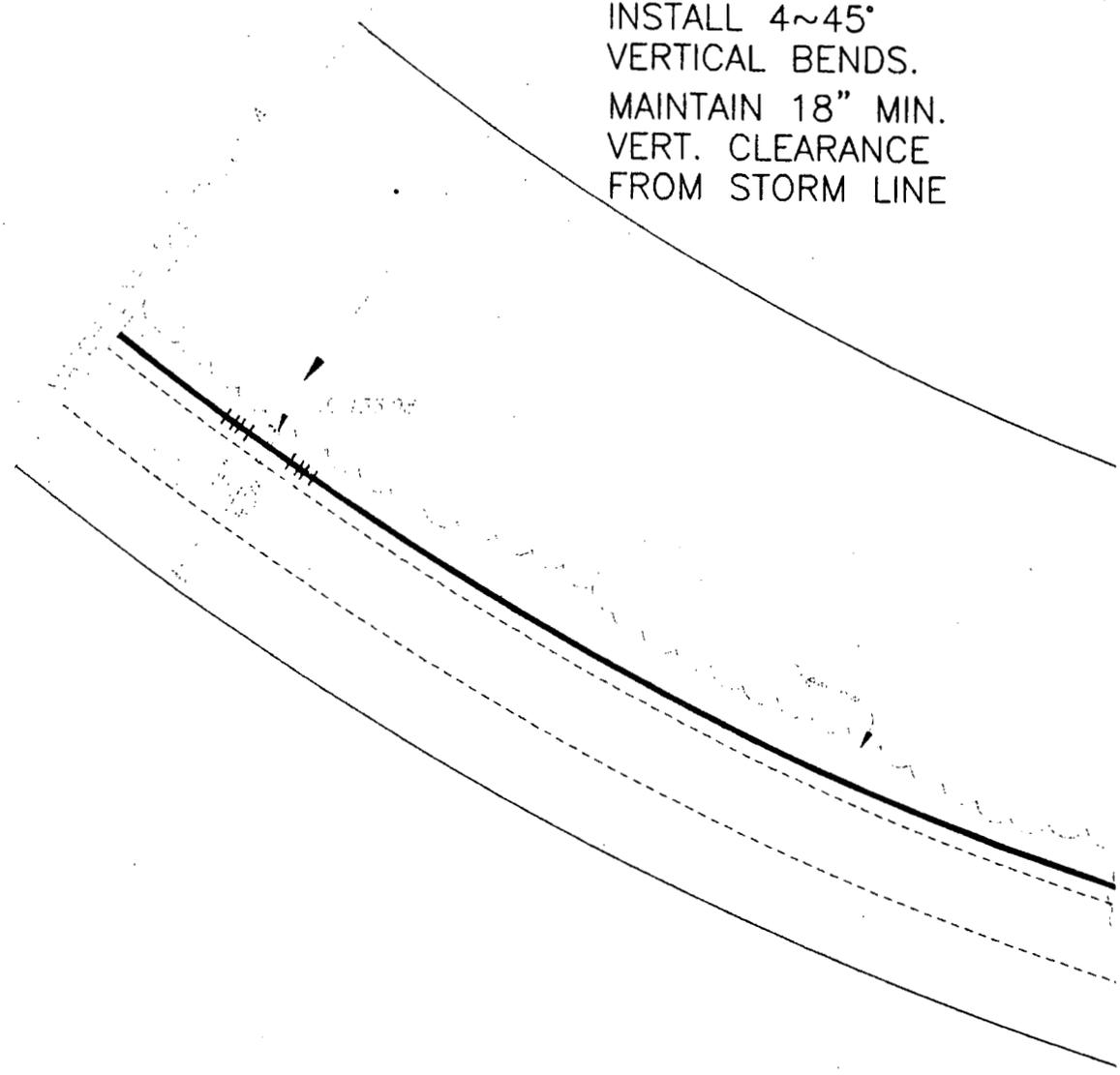


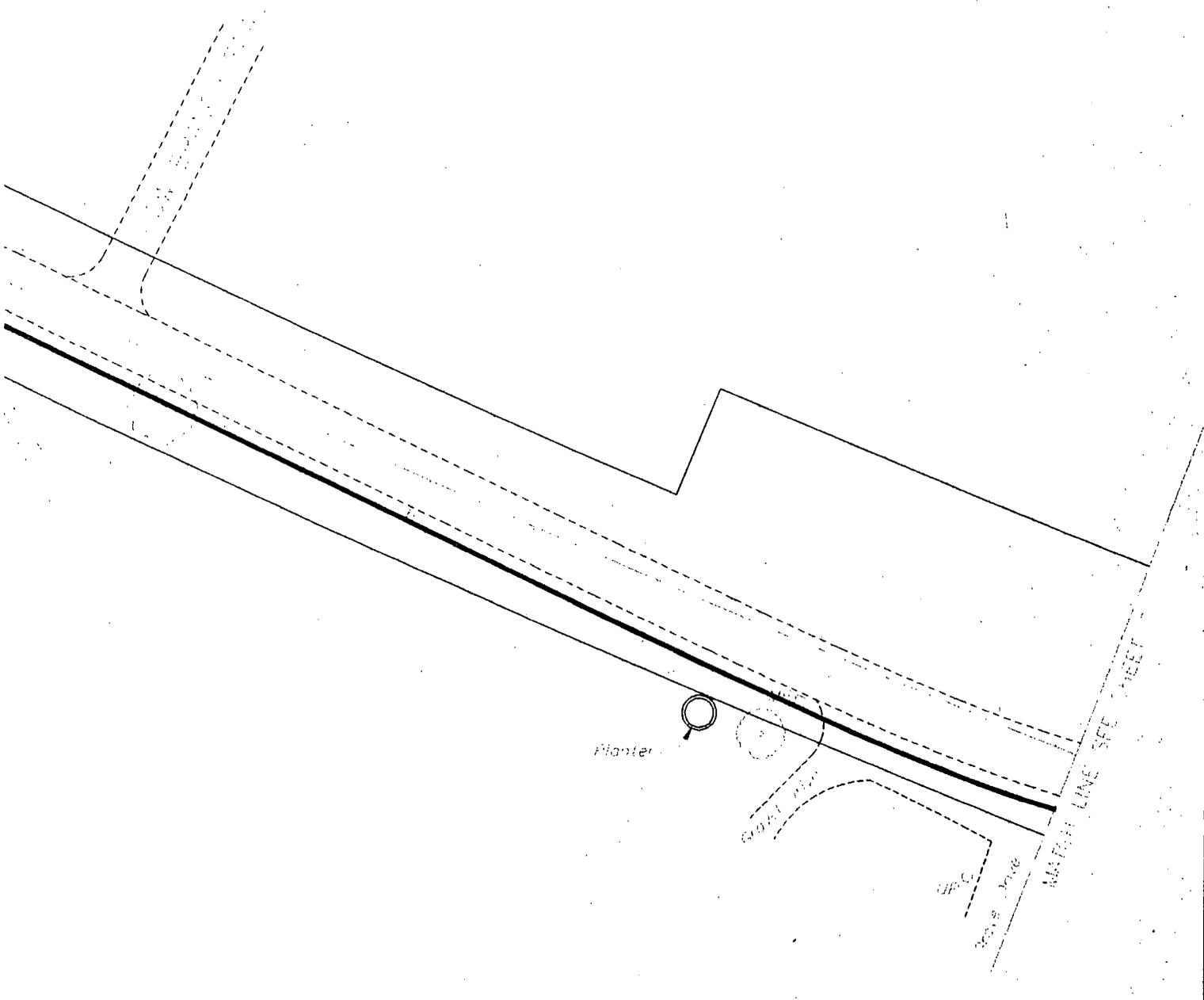
INSTALL 1722 L.F. ±
12" P.V.C. WATER MAIN
(THIS SHEET)

INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE



INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE





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JOHN L. HUBER - PRESIDENT

GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

NICHOLS ELEMENTARY SCHOOL MAIN EXTENSION

DATE	CHECKED BY	REVISION
2/4	TON	GCH

Gregory C. Heitzman
SIGNATURE
5/5/99
DATE

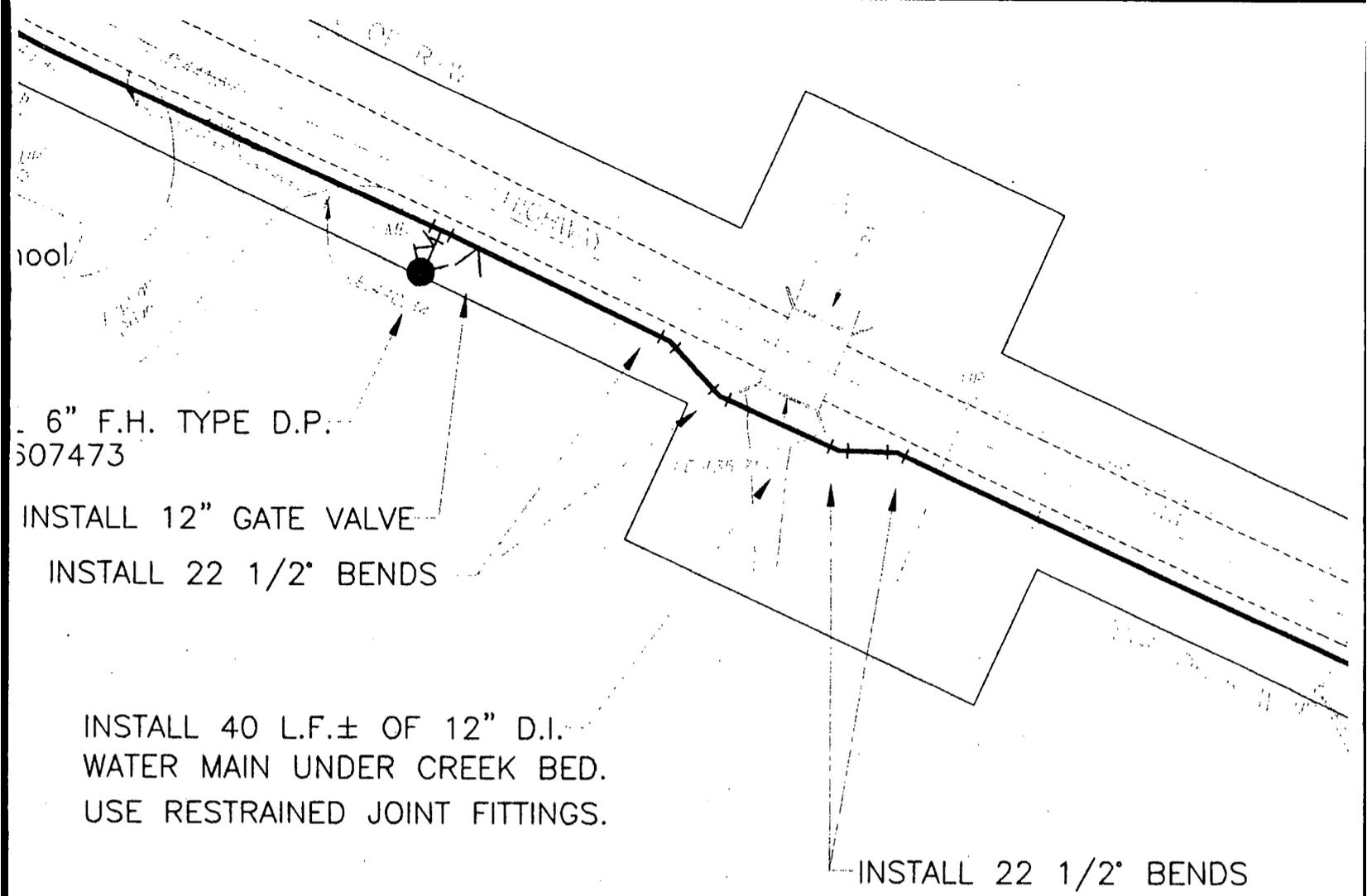
DATE	APRIL 1999	SCALE	1"=50'	MAP NO.	
DRAWN BY	D. HOULFITE	CHECKED BY	GCH	ENGR.	G. HEITZMAN / S. QUINN
PROJECT NO.	98-794B	COUNTY	BULLITT	SHEET	6 OF 13

THE CONTRACTOR SHALL ABIDE BY AND SHALL ARRANGE FOR AND PAY FOR ANY AND ALL PERMITS INVOLVING THE KENTUCKY DIVISION OF WATER REGULATIONS PERTAINING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS. THE CONTRACTOR SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF KRS CHAPTER 220 AND 224 OF THE STATE WATER POLLUTION CONTROL LAWS AND OTHER APPLICABLE STATUTES RELATING TO THE PREVENTION OR ABATEMENT OF WATER POLLUTION.

NOTE:

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2. CONTRACTOR SHALL BORE 10' ON EITHER SIDE OF THE CENTERLINE OF EACH TREE FOR WHICH THE DRIP LINE IS TO BE WITHIN THE PROPOSED PATH OF THE PIPELINE INSTALLATION.
3. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM THE ENGINEER PRIOR TO REMOVAL OF ANY TREES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR TWO (2) GROWING SEASONS FOR EACH TREE IN WHICH THE ROOT SYSTEM IS DISTURBED DURING THE MAIN INSTALLATION.



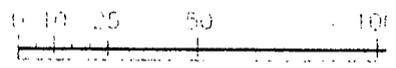


6" F.H. TYPE D.P.
507473

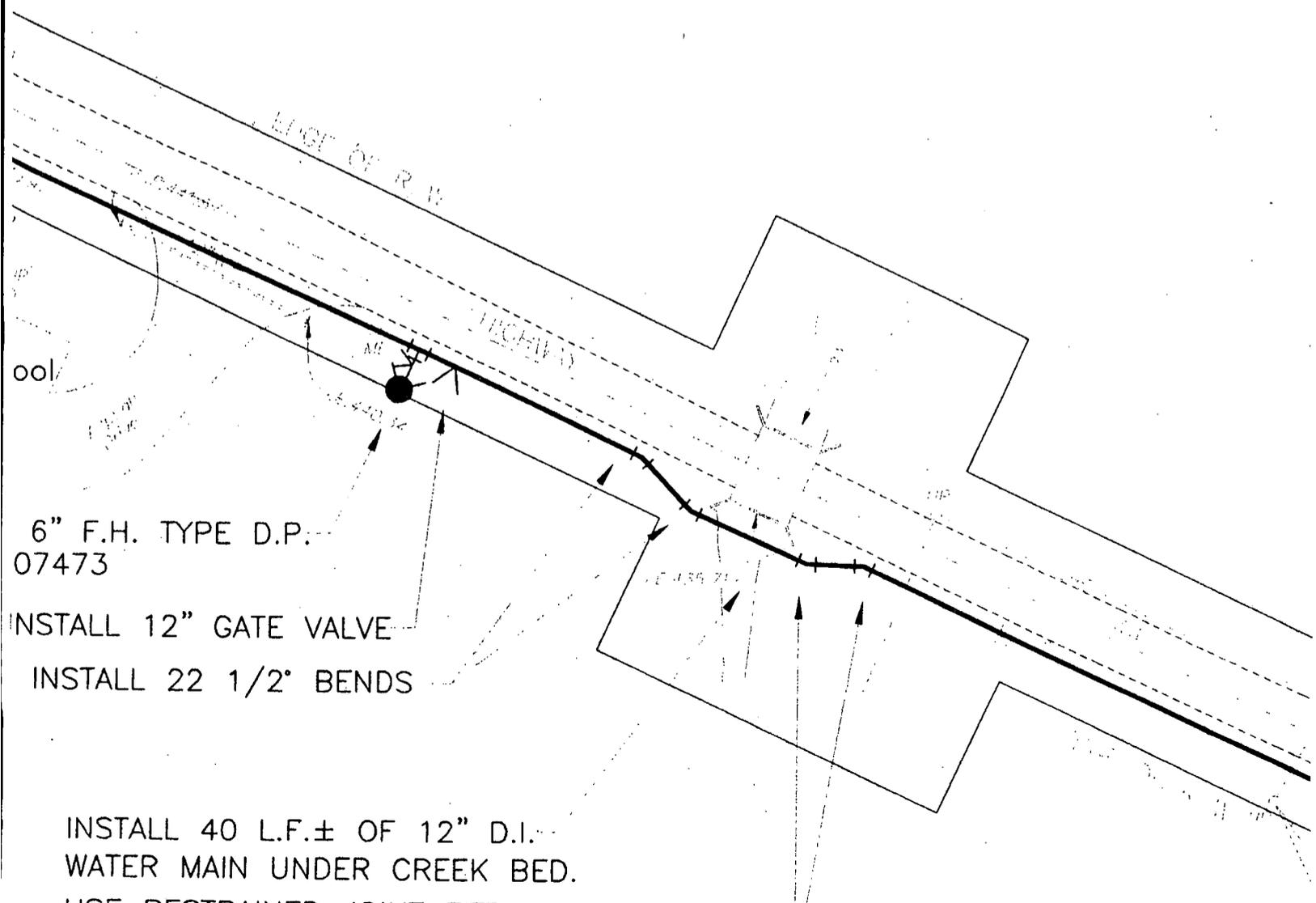
INSTALL 12" GATE VALVE
INSTALL 22 1/2° BENDS

INSTALL 40 L.F.± OF 12" D.I.
WATER MAIN UNDER CREEK BED.
USE RESTRAINED JOINT FITTINGS.

INSTALL 22 1/2° BENDS



REVISION	DATE	DESCRIPTION	BY
1	5/4/90	MINOR REVISIONS PER VALVE	D

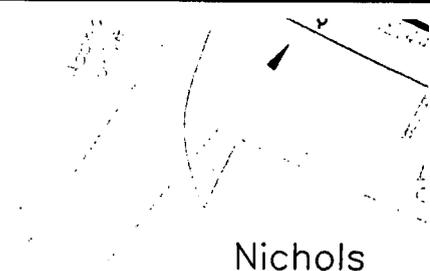


6" F.H. TYPE D.P.
07473

INSTALL 12" GATE VALVE

INSTALL 22 1/2° BENDS

INSTALL 40 L.F.± OF 12" D.I.
WATER MAIN UNDER CREEK BED.

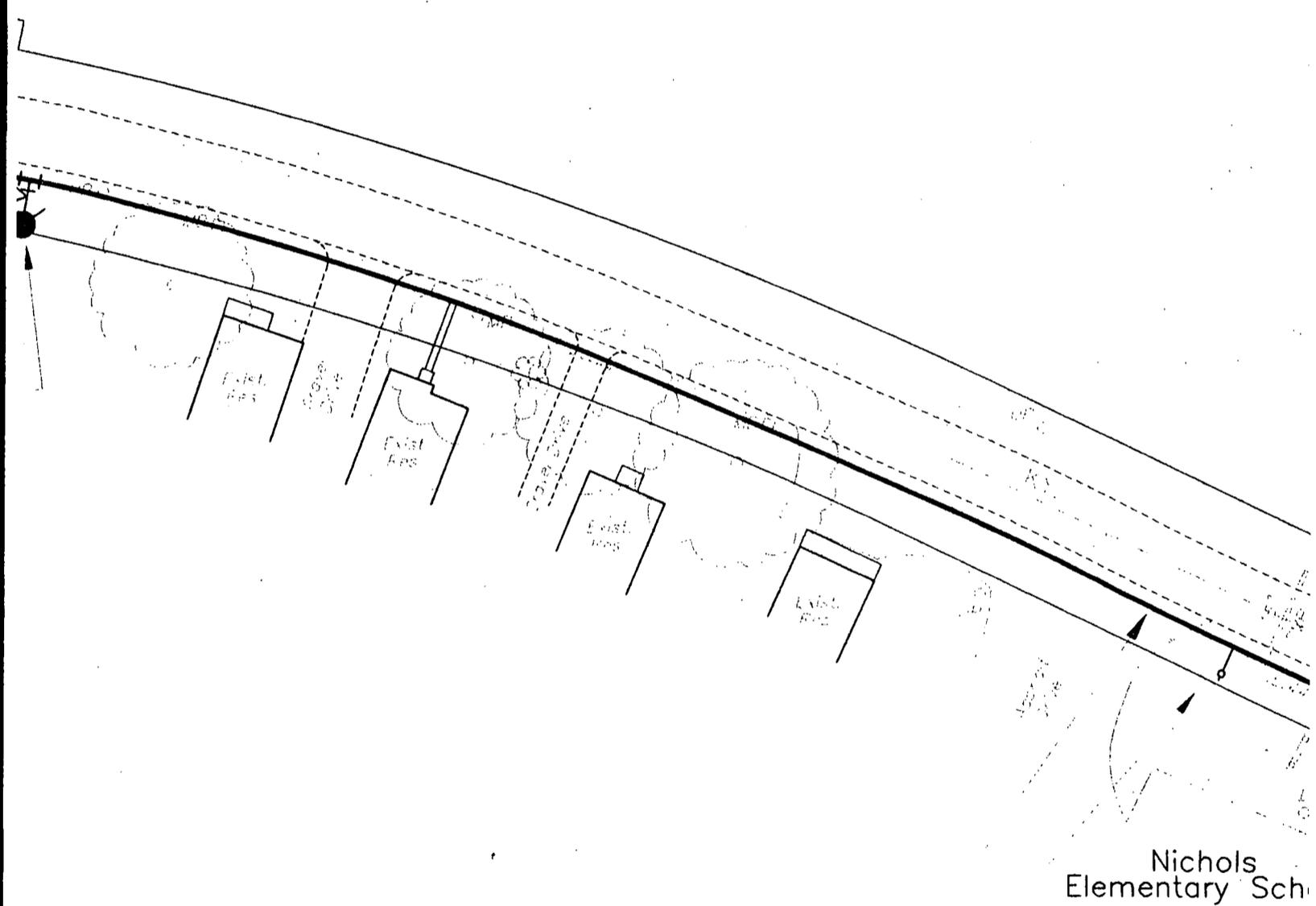


Nichols
Elementary Sch

INSTALL 1655 L.F. \pm OF
12" P.V.C. WATER MAIN
(THIS SHEET)

INSTALL
ATT. #6

INSTALL 2" D.S. TO
NICHOLS ELEMENTARY SCHOOL
ATT. #
(LOCATION TO BE COORDINATED
WITH KTWD PROJECT INSPECTOR)



INSTALL 1655 L.F. ± OF
12" P.V.C. WATER MAIN
(THIS SHEET)

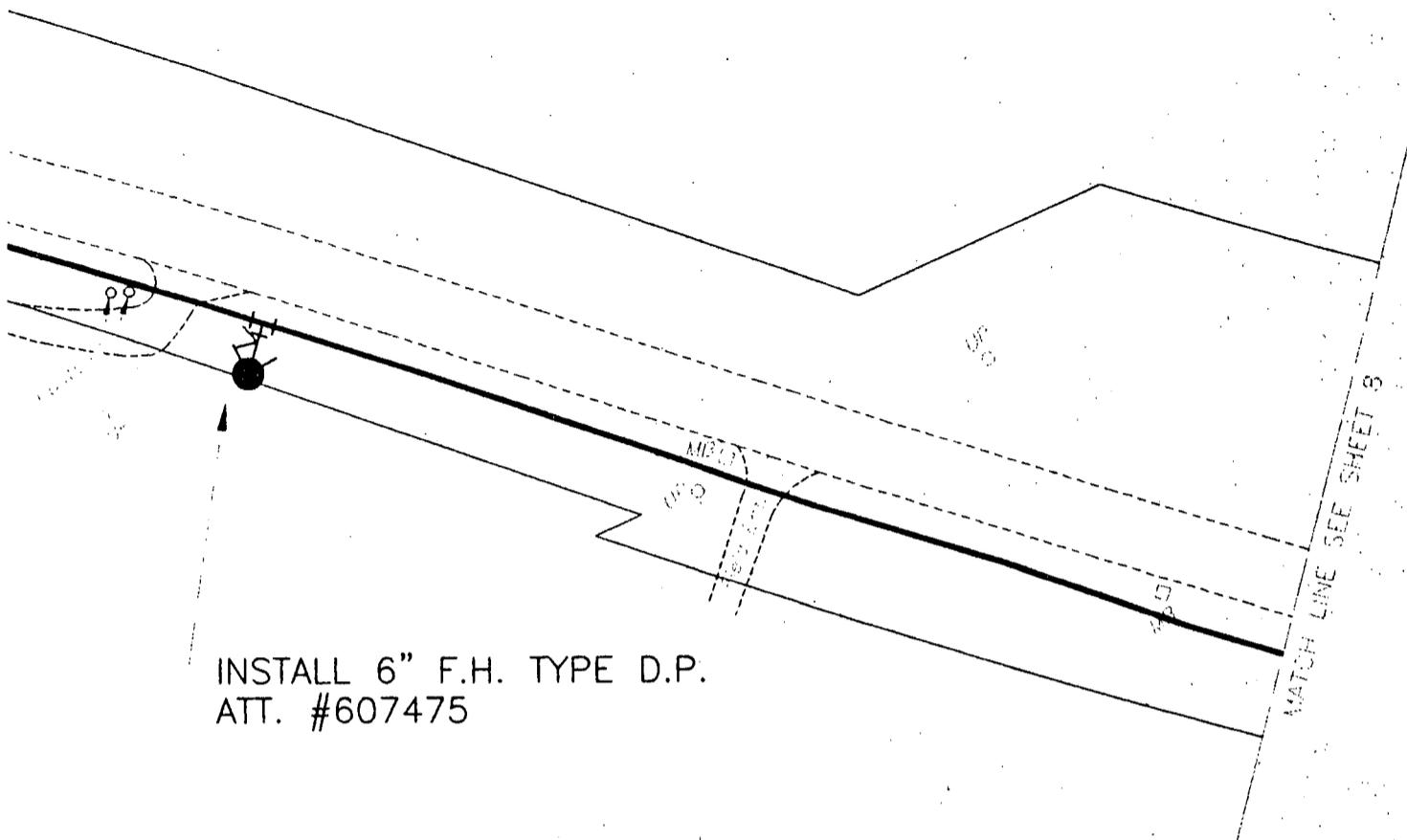
INSTALL
ATT. #6

INSTALL 2" D.S. TO
NICHOLS ELEMENTARY SCHOOL
ATT. #
(LOCATION TO BE COORDINATED
WITH KTWD PROJECT INSPECTOR)

MATCH LINE SEE SHEET 5

INSTALL 6" F.H. TYPE D
ATT. #607472

4
T
19

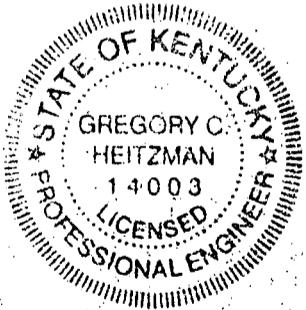


INSTALL 6" F.H. TYPE D.P.
ATT. #607475

CONTRACTOR SHALL CONTACT BELL SOUTH TO DETERMINE EXACT LOCATION OF BURIED FIBER-OPTIC CABLE.

UTILITIES LOCATIONS ARE SHOWN FROM AVAILABLE INFORMATION AND ARE APPROXIMATE. CONTRACTORS ARE URGED TO MAKE THEIR OWN DETERMINATION OF EXACT LOCATIONS.

PREPARED BY LOU. WATER CO. FOR KY. TURNPIKE WATER DIST. USE ONLY



LOUISVILLE WATER COMPANY

550 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 569-3600

JOHN L. HUBER - PRESIDENT

GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

NICHOLS ELEMENTARY SCHOOL
MAIN EXTENSION

PREPARED BY	CHECKED BY	APPROVED BY
RH	GCH	GCH

Gregory C. Heitzman
SIGNATURE
5/5/99
DATE

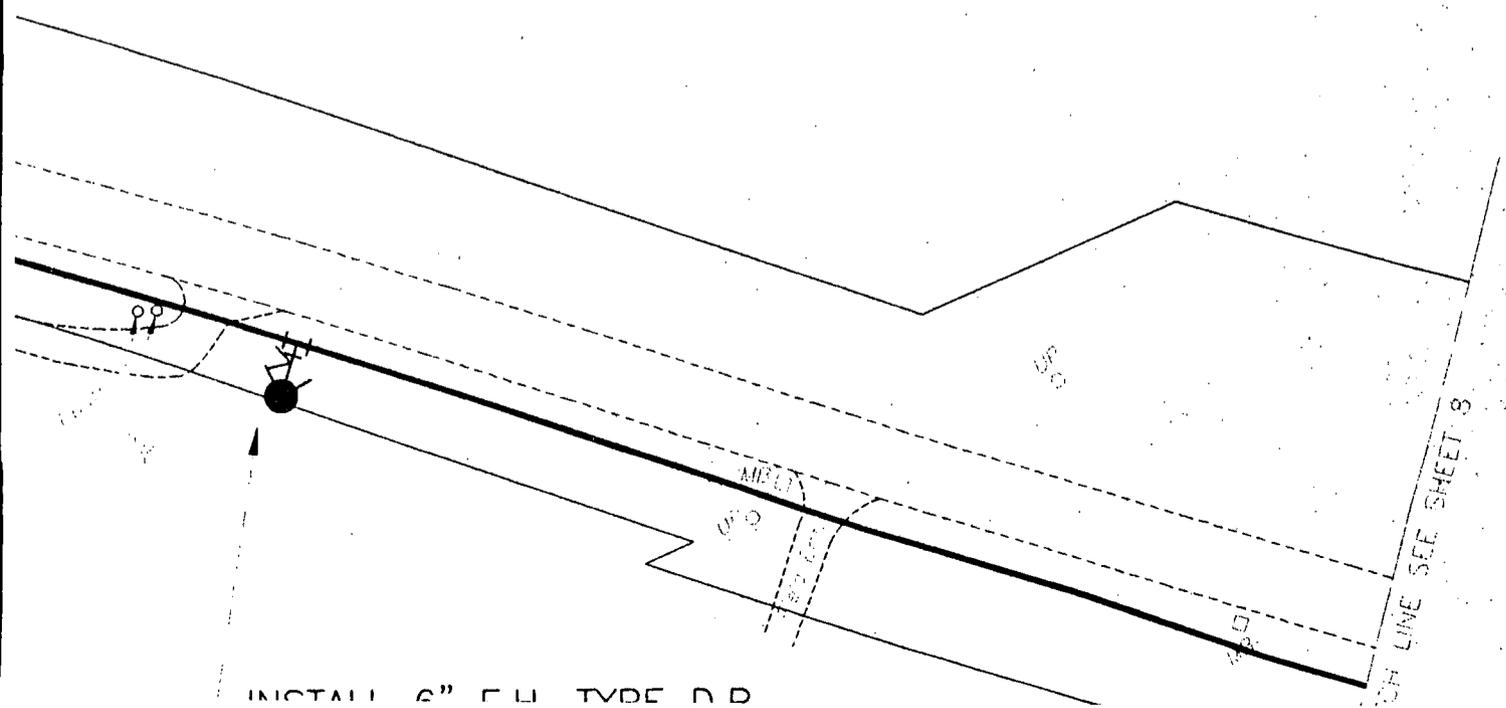
DATE APRIL 1999	SCALE 1"=50'	MAP NO.
DRAWN BY D. HOULETTE	CHECKED BY GCH	ENGR. G. HEITZMAN / S. QUINN
PROJECT NO. 98-794B	COUNTY BULLITT	SHEET 7 OF 13

150

THE CONTRACTOR SHALL ABIDE BY AND SHALL ARRANGE FOR AND PAY FOR ANY AND ALL PERMITS INVOLVING THE KENTUCKY DIVISION OF WATER REGULATIONS PERTAINING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS. THE CONTRACTOR SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF KRS CHAPTER 220 AND 224 OF THE STATE WATER POLLUTION CONTROL LAWS AND OTHER APPLICABLE STATUTES RELATING TO THE PREVENTION OR ABATEMENT OF WATER POLLUTION.

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INSTALL 6" CU TYPE D.D

TOP LINE SEE SHEET 8

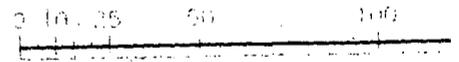
EDGE OF R.W.

HIGHWAY

11

EDGE OF R.W.

INSTALL 1603 L.F. ± OF
2" P.V.C. WATER MAIN
(THIS SHEET)



REVISION	DATE	DESCRIPTION	APPROVED BY
1	5/4/99	MISC. REVISIONS PER GCH	ENR

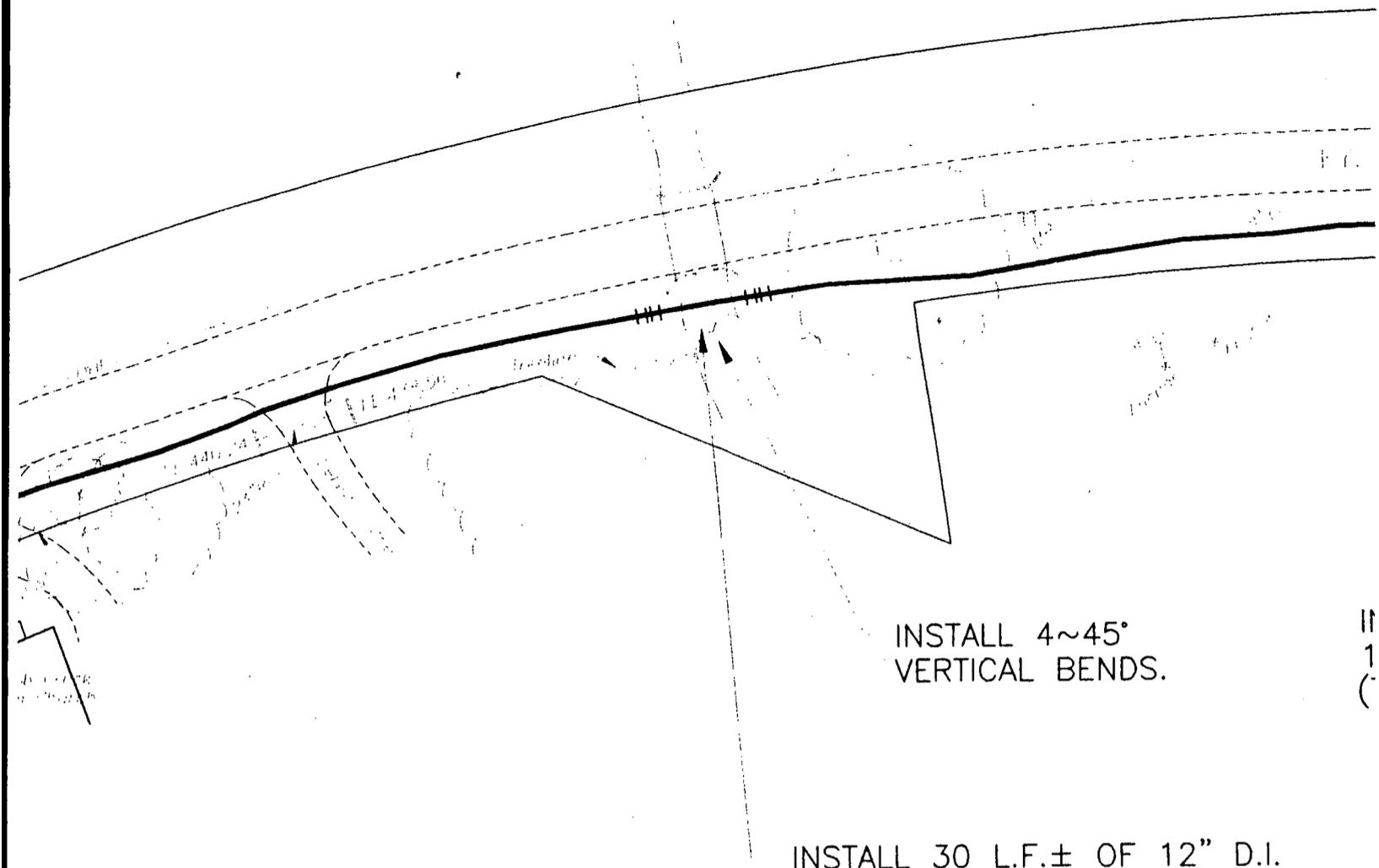
EDGE OF R.W.

HIGHWAY

44

EDGE OF R.W.

INSTALL 1603 L.F. ± OF
2" P.V.C. WATER MAIN
(THIS SHEET)

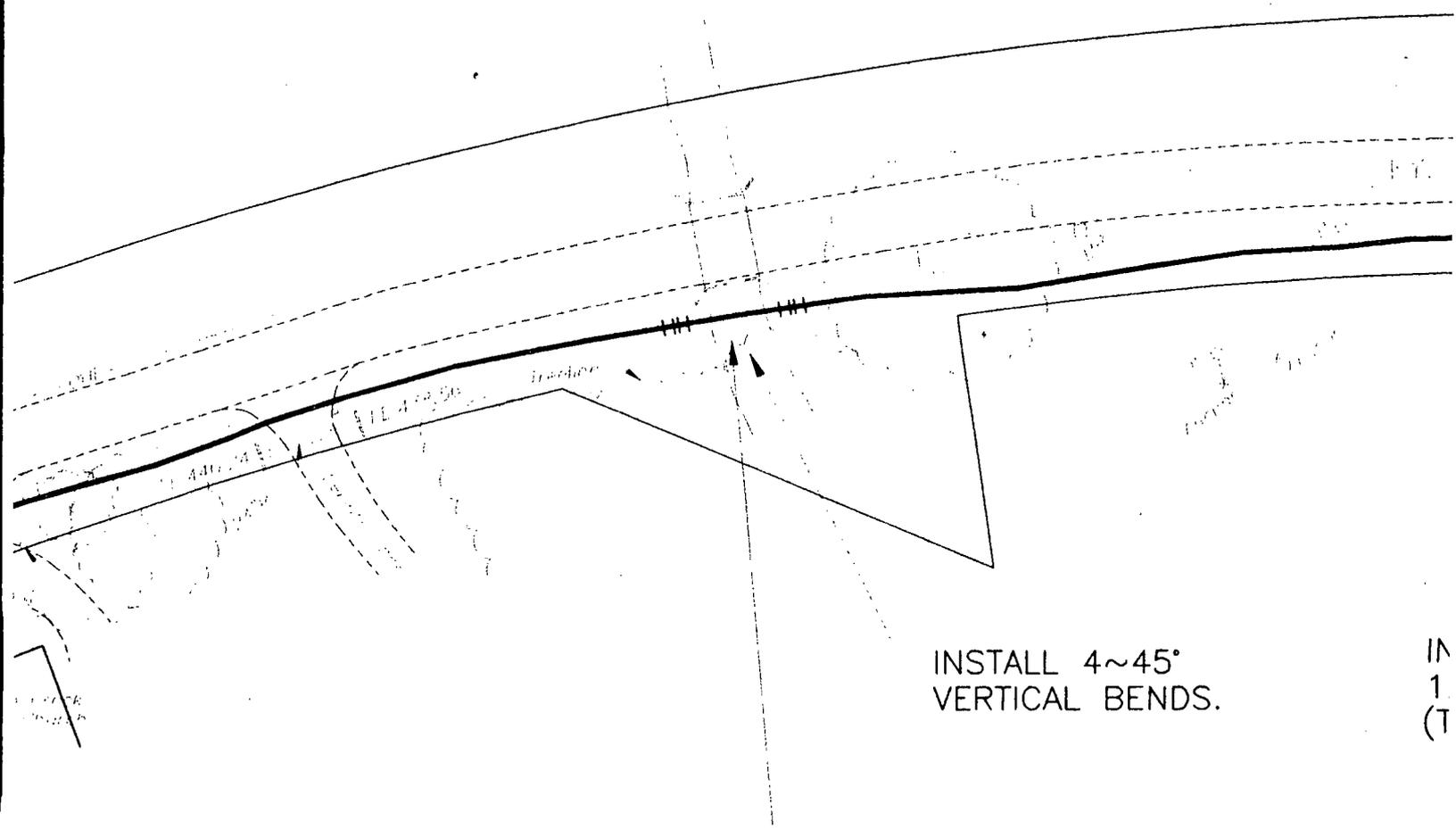


INSTALL 4~45°
VERTICAL BENDS.

INSTALL 30 L.F.± OF 12" D.I.
WATER MAIN UNDER CREEK BED.
USE RESTRAINED JOINT FITTINGS.

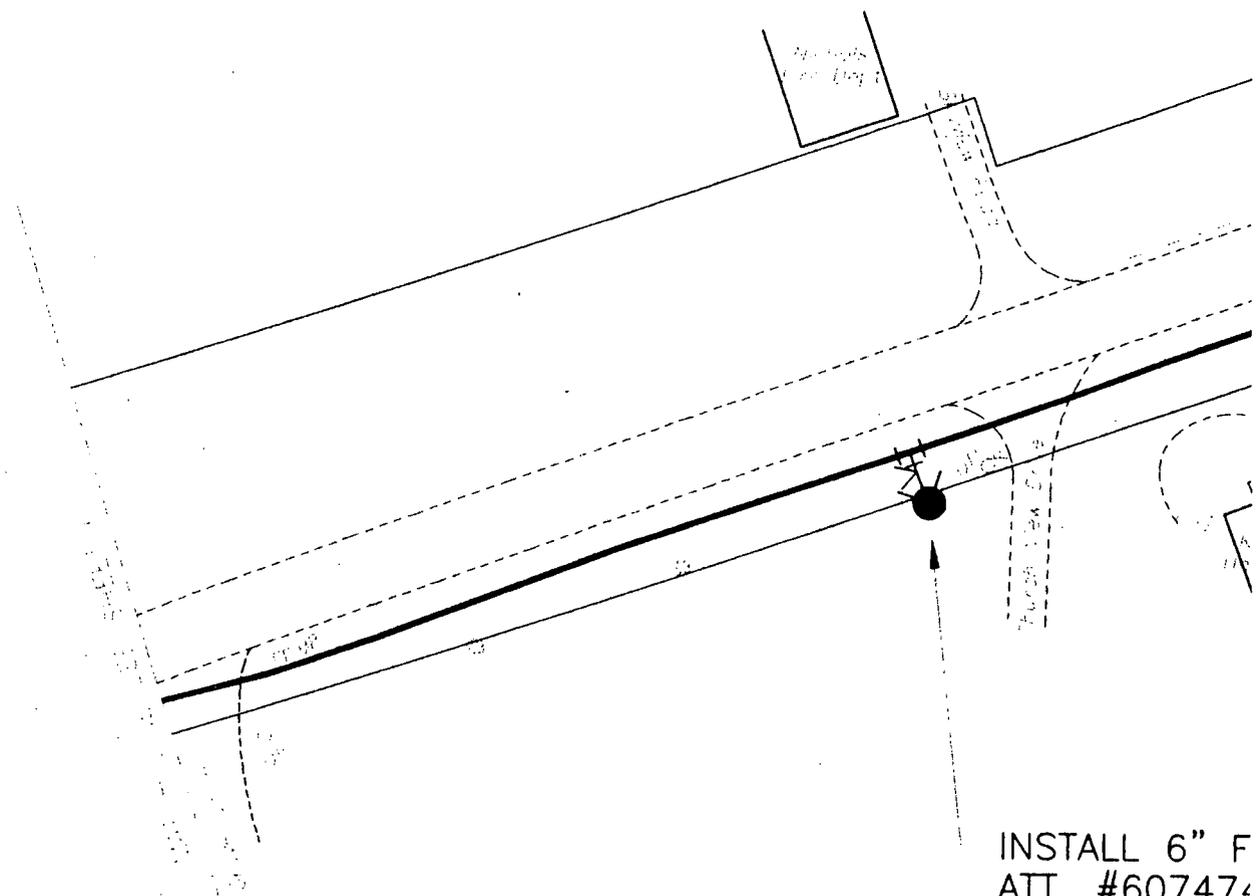
H. TYPE D.P.

11
1
(

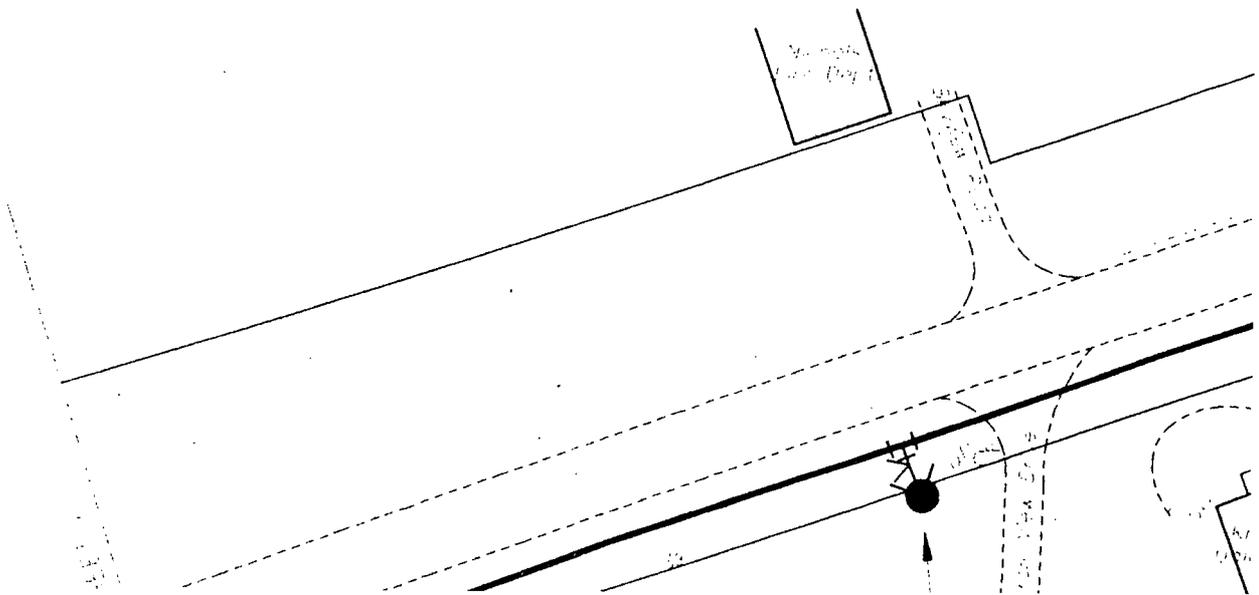
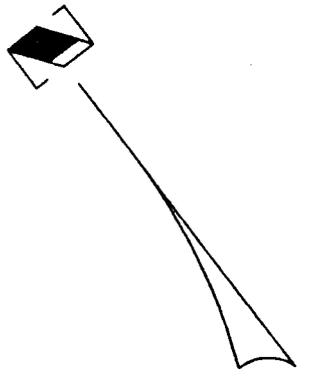


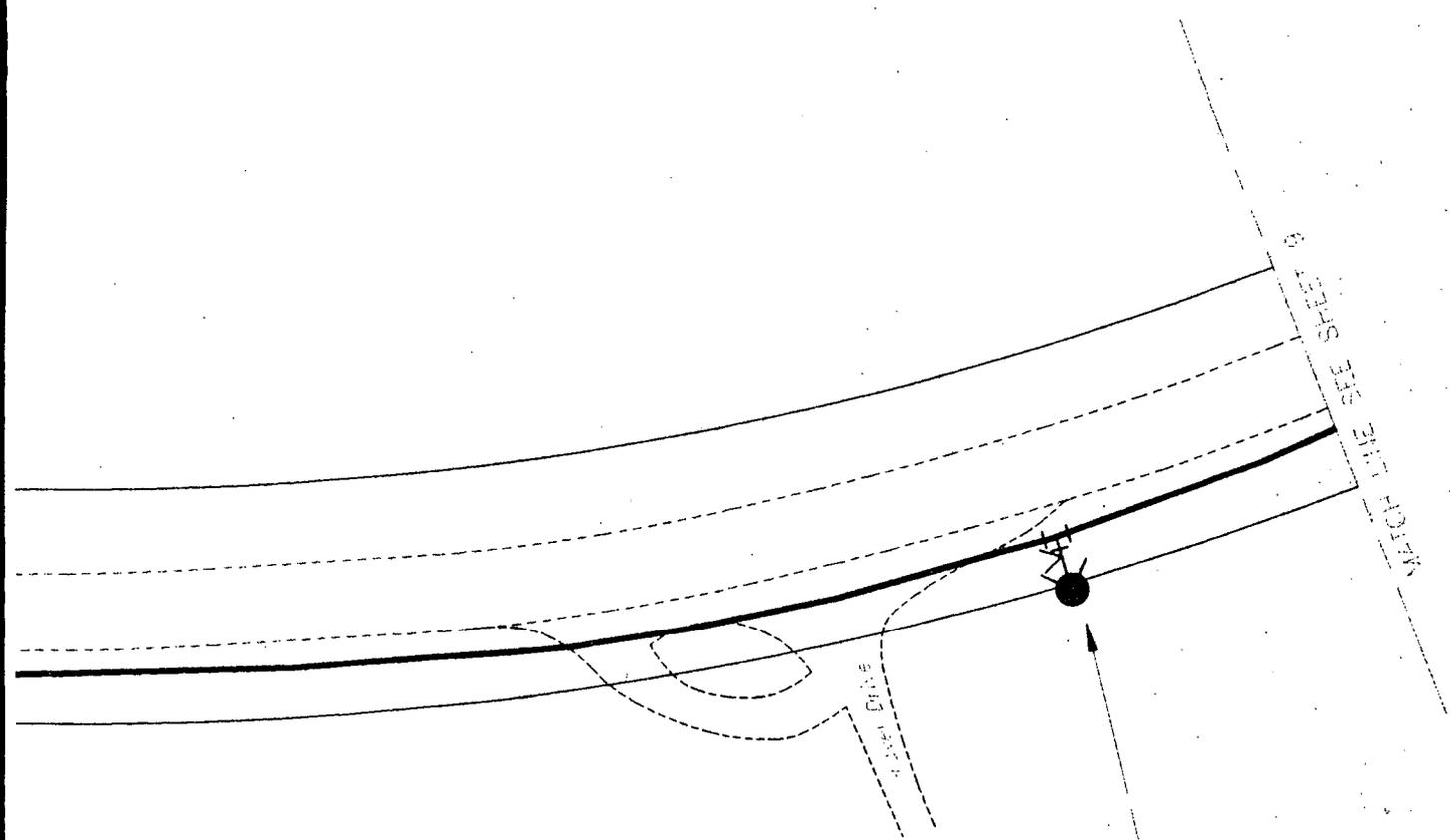
INSTALL 4~45°
VERTICAL BENDS.

IN
1
(T



INSTALL 6" F
ATT. #60747





INSTALL 6" F.H. TYPE D.P.
ATT. #607477

CONTRACTOR SHALL CONTACT BELL SOUTH TO
DETERMINE EXACT LOCATION OF BURIED FIBER-
OPTIC CABLE.

UTILITIES LOCATIONS ARE SHOWN FROM AVAILABLE
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PREPARED BY LOU. WATER CO. FOR KY. TURNPIKE WATER DIST. USE ONLY



LOUISVILLE WATER COMPANY

550 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 569-3600
JOHN L. HUBER - PRESIDENT
GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

**NICHOLS ELEMENTARY SCHOOL
 MAIN EXTENSION**

DATE	PROJECT	APPROVED
5/5/99	GCH	GCH

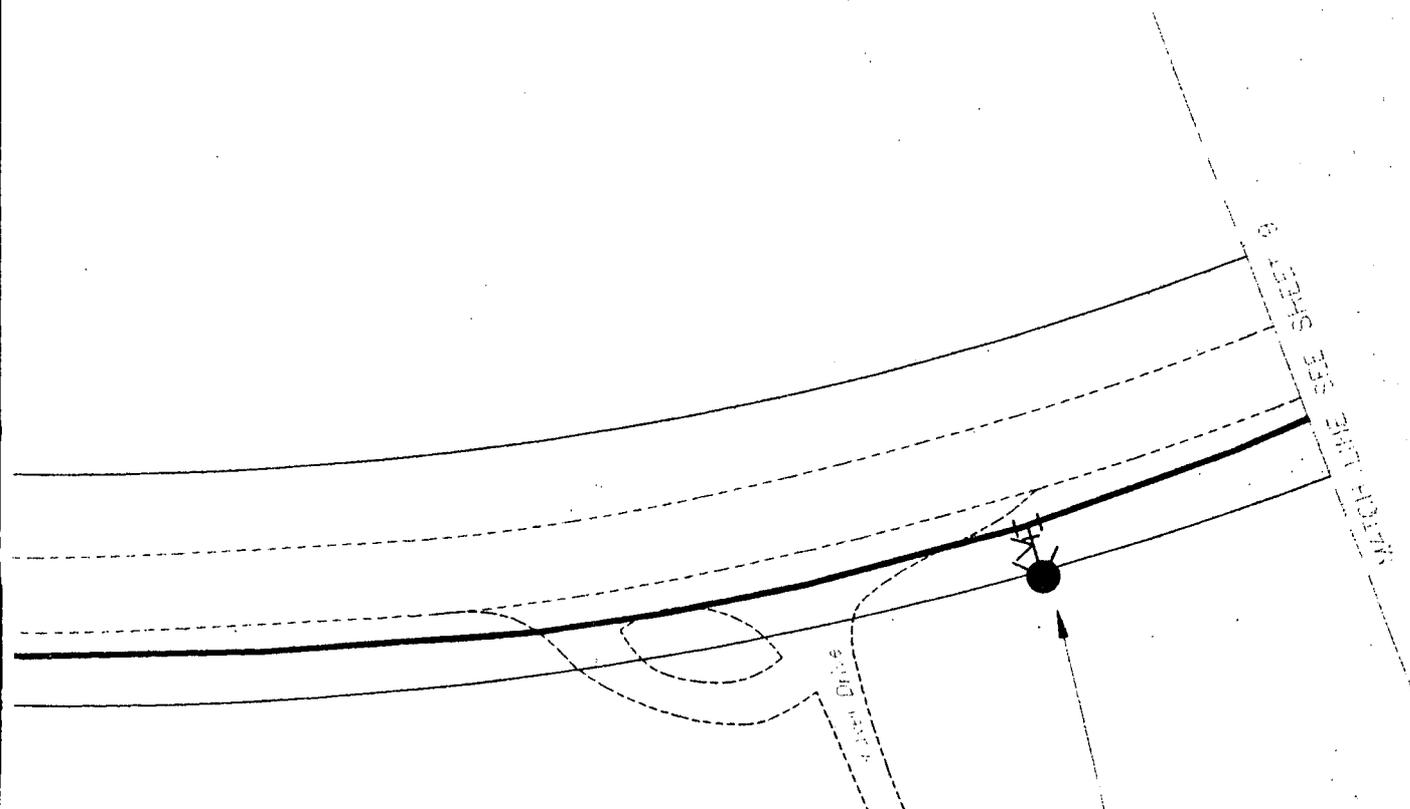
Gregory C. Heitzman
 SIGNATURE
 5/5/99
 DATE

DATE	APRIL 1999	SCALE	1"=50'	MAP NO.	
DRAWN BY	D. HOULETTE	CHECKED BY	GCH	ENGR.	G. HEITZMAN / S. OULIN
PROJECT NO.	98-794B	COUNTY	BULLITT	SHEET	8 of 13

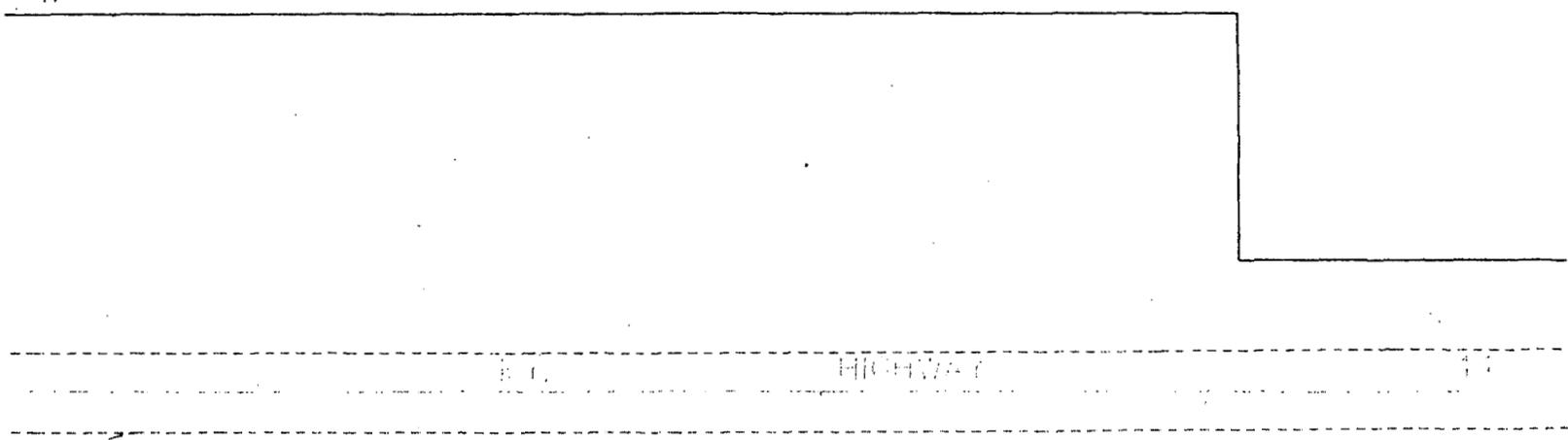
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P/W



HIGHWAY

EDGE OF P/W

INSTALL 4~45°
VERTICAL BENDS.

100' 0" 0"

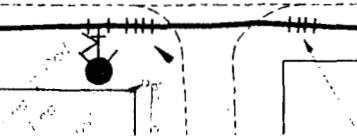
0 10 25 50 100

REVISION	DATE	DESCRIPTION	PREP
1	5/4/99	MISC. REVISIONS PER GCH	D

EDGE OF R/W

ET. HIGHWAY

EDGE OF R/W



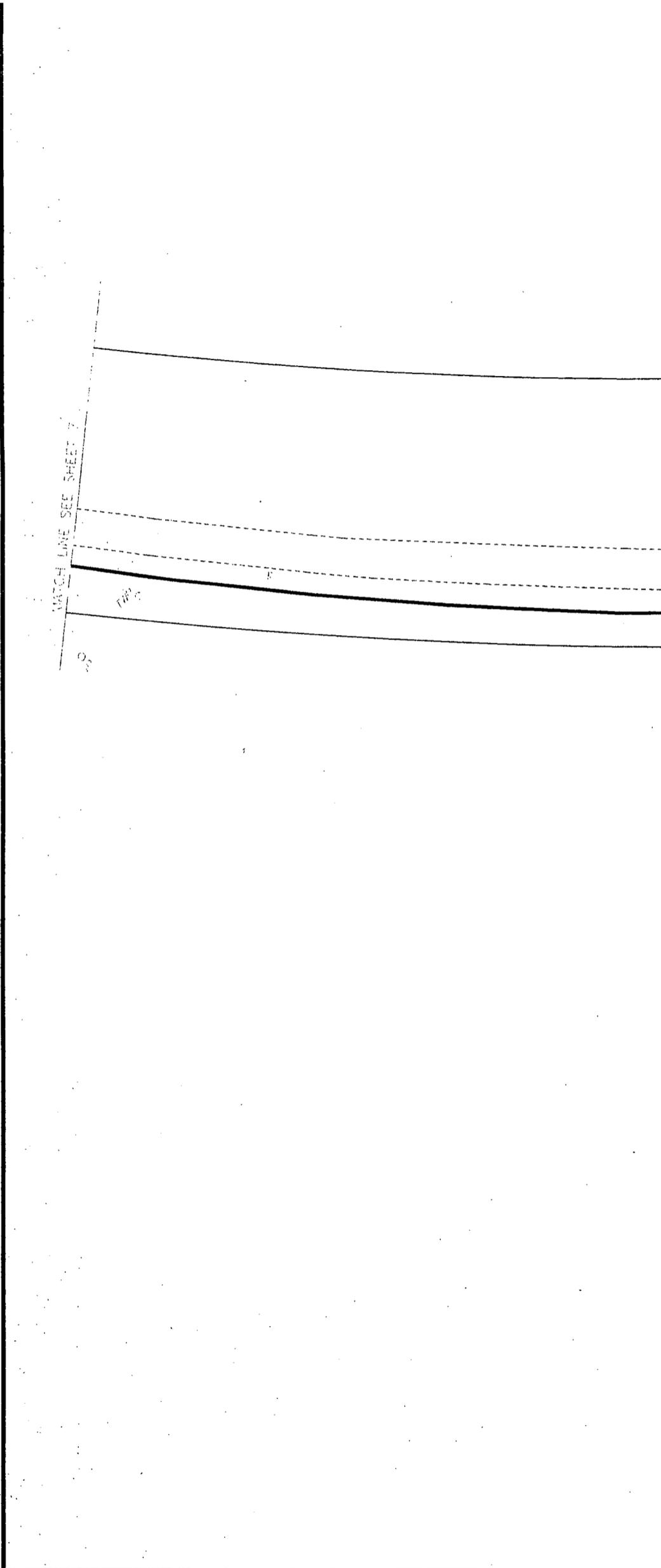
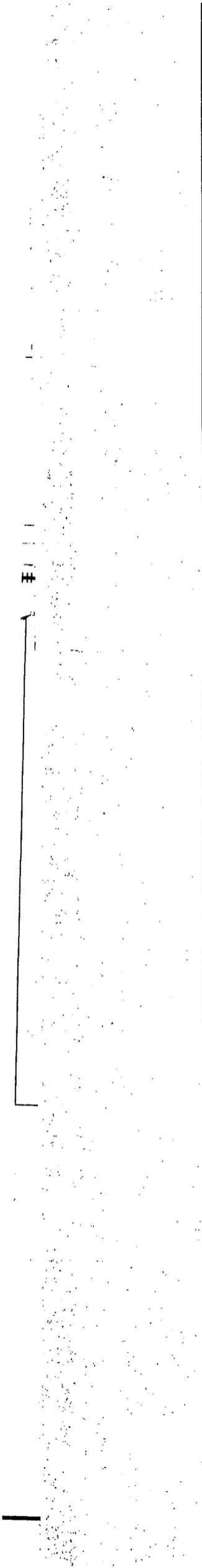
EDGE

INSTALL 1603 L.F. ± OF
12" P.V.C. WATER MAIN
(THIS SHEET)

INSTALL 6" F.H. TYPE D.P.
ATT. #607476



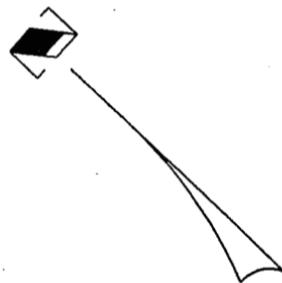




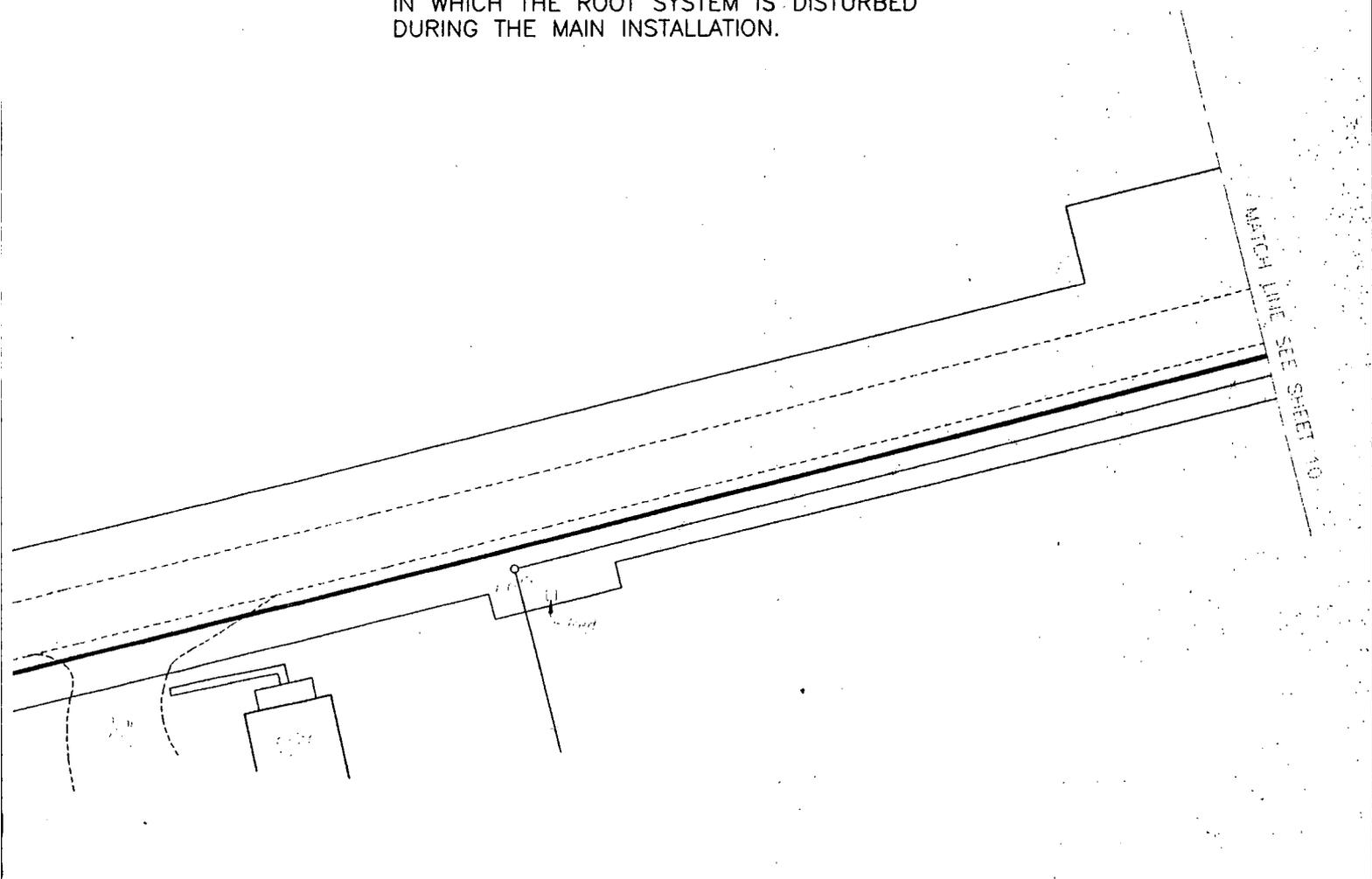
11-1

MATCH LINE SEE SHEET 7

100'



TWO (2) GROWING SEASONS FOR EACH TREE
 IN WHICH THE ROOT SYSTEM IS DISTURBED
 DURING THE MAIN INSTALLATION.



INSTALL 6" F.H. TYPE D.P.
 ATT. #607478

CONTRACTOR SHALL CONTACT BELL SOUTH TO
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 OPTIC CABLE.

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 EXACT LOCATIONS.

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JOHN L. HUBER - PRESIDENT
GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

**NICHOLS ELEMENTARY SCHOOL
 MAIN EXTENSION**

DATE	PREPARED BY	CHECKED BY	APPROVED BY
	D.P.H.	D.P.H.	G.C.H.

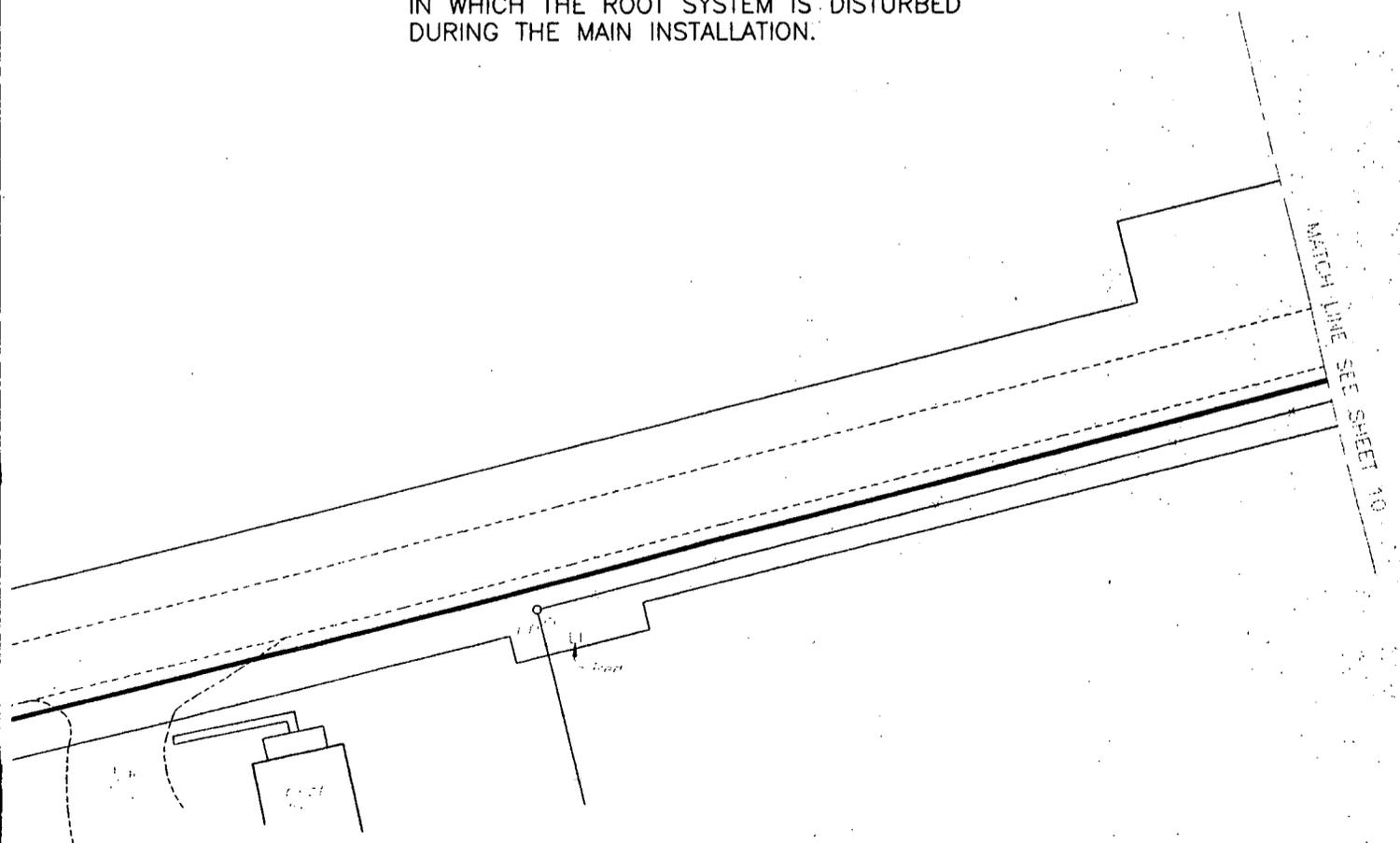
Gregory C. Heitzman
 SIGNATURE
 5/5/99
 DATE

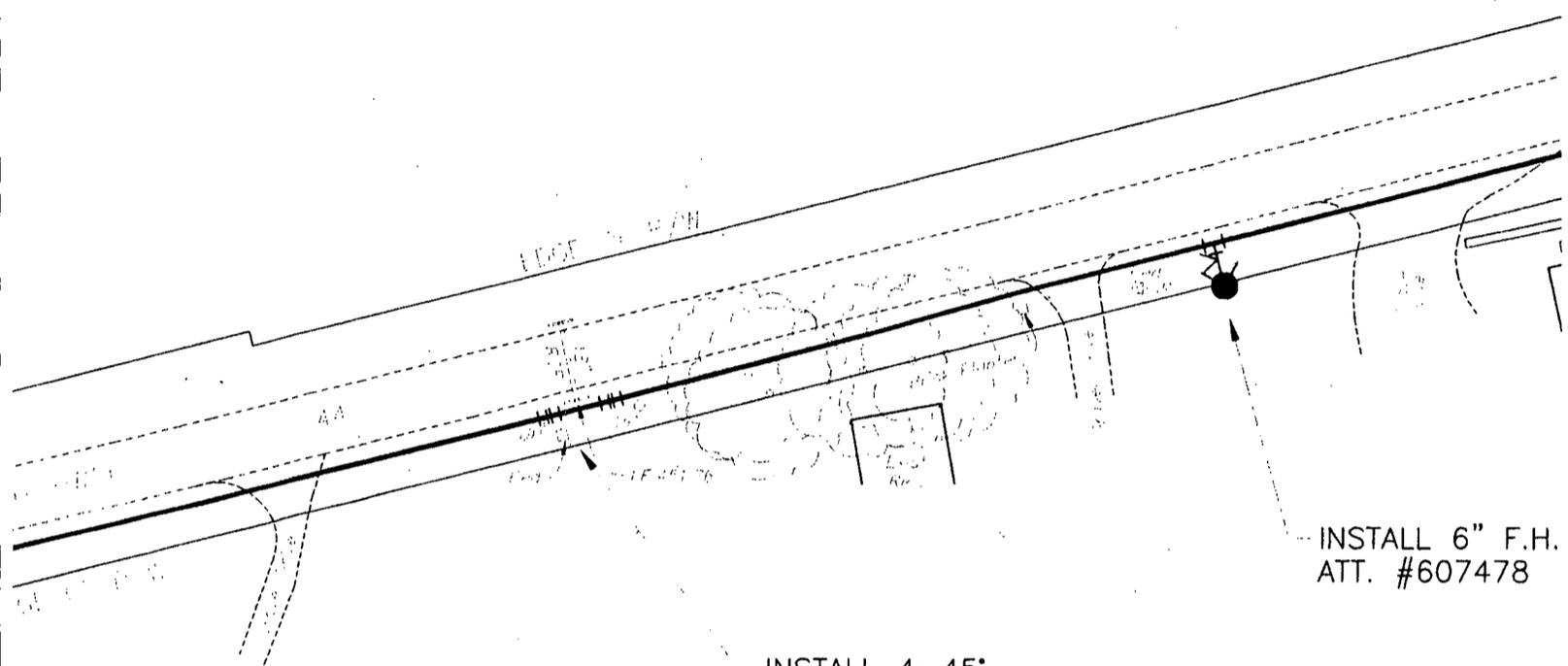
DATE	APRIL 1999	SCALE	1"=50'	MAP NO.	
DRAWN BY	D. HOULETTE	CHECKED BY	GCH	ENGR.	G. HEITZMAN / S. QUINN
PROJECT NO.	98-794B	COUNTY	BULLITT	SHEET	9 OF 13

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NOTE:

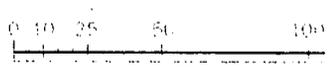
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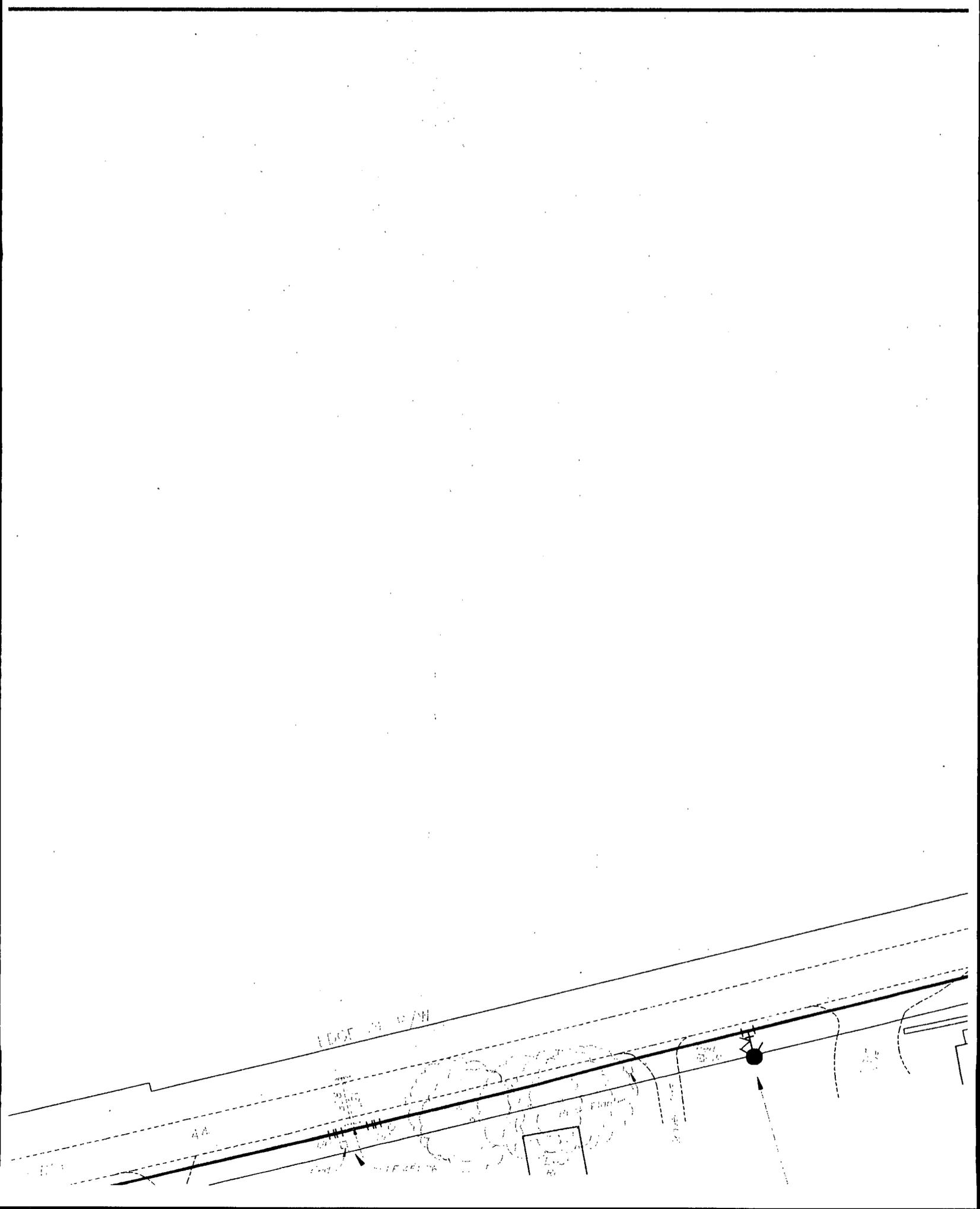


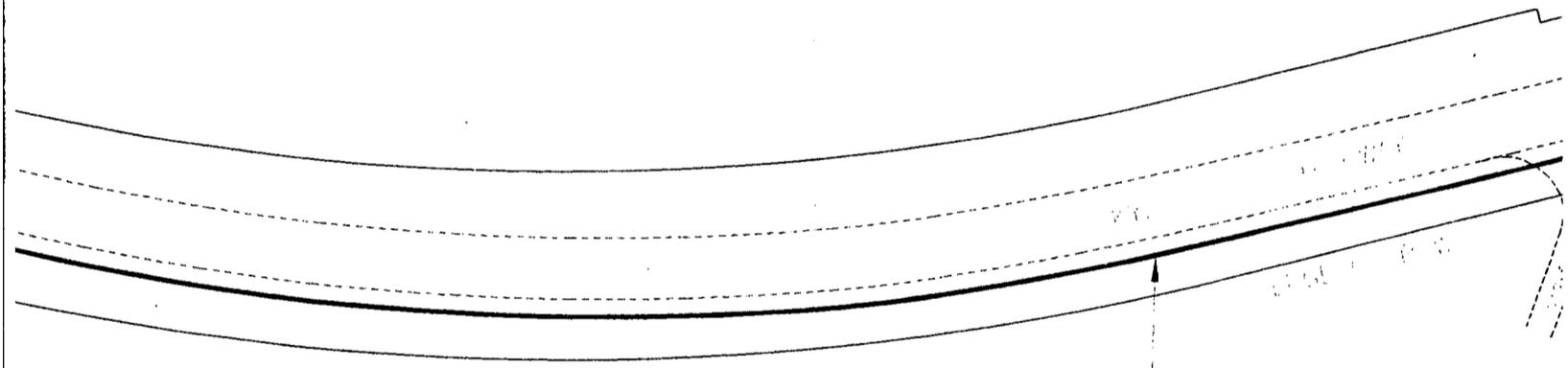
INSTALL 6" F.H.
ATT. #607478

INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE

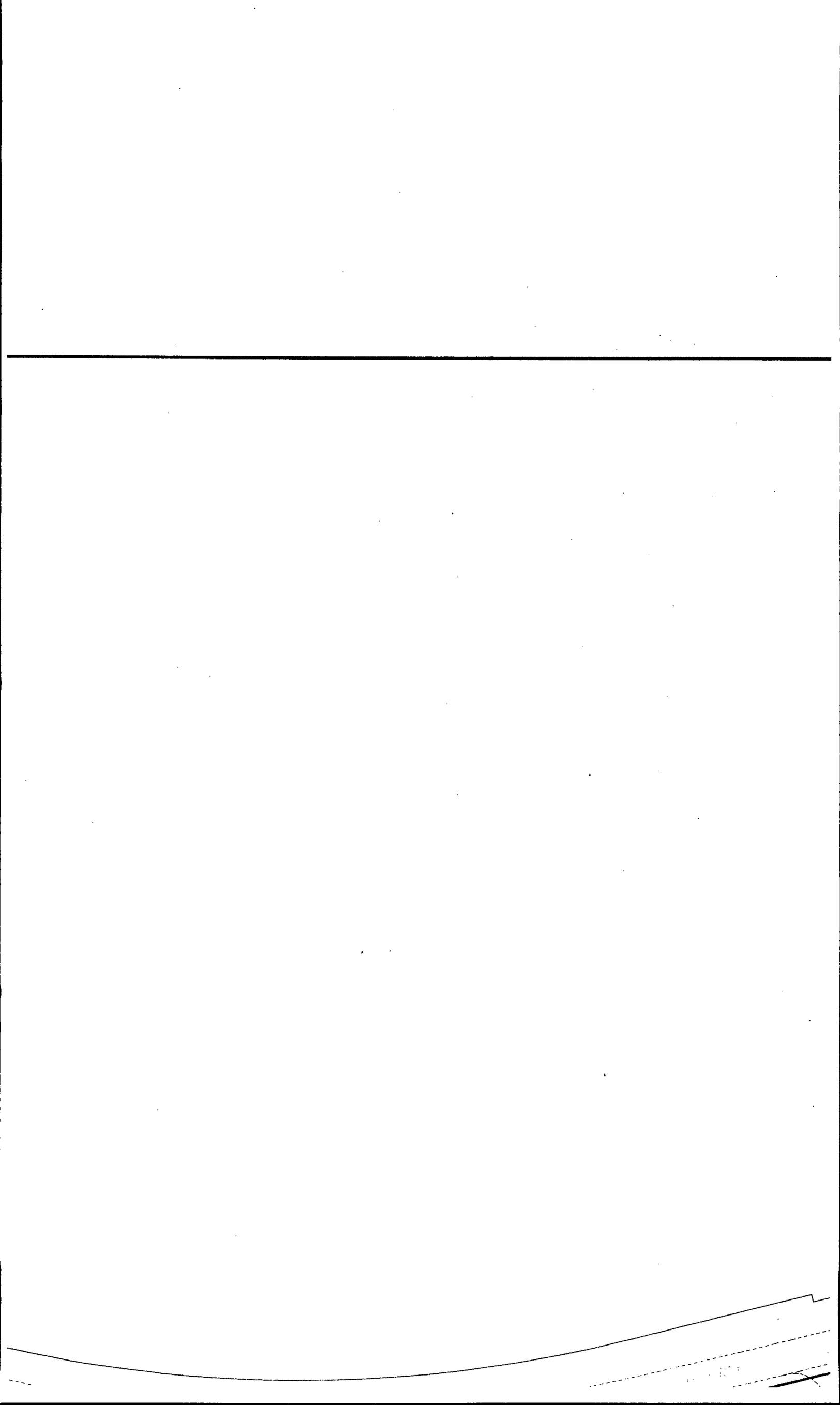


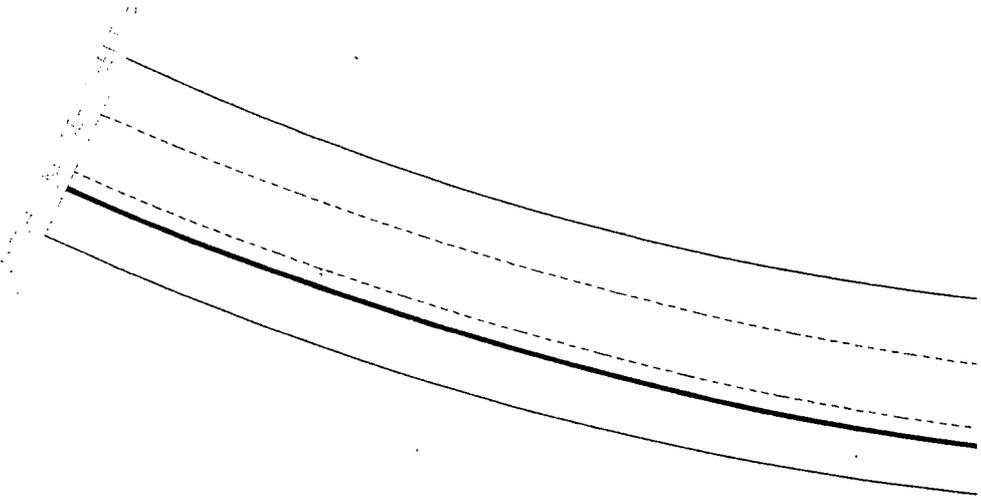
REVISION	DATE	DESCRIPTION	BY
1	5/7/99	MIN. REVISIONS DEP. SCH.	

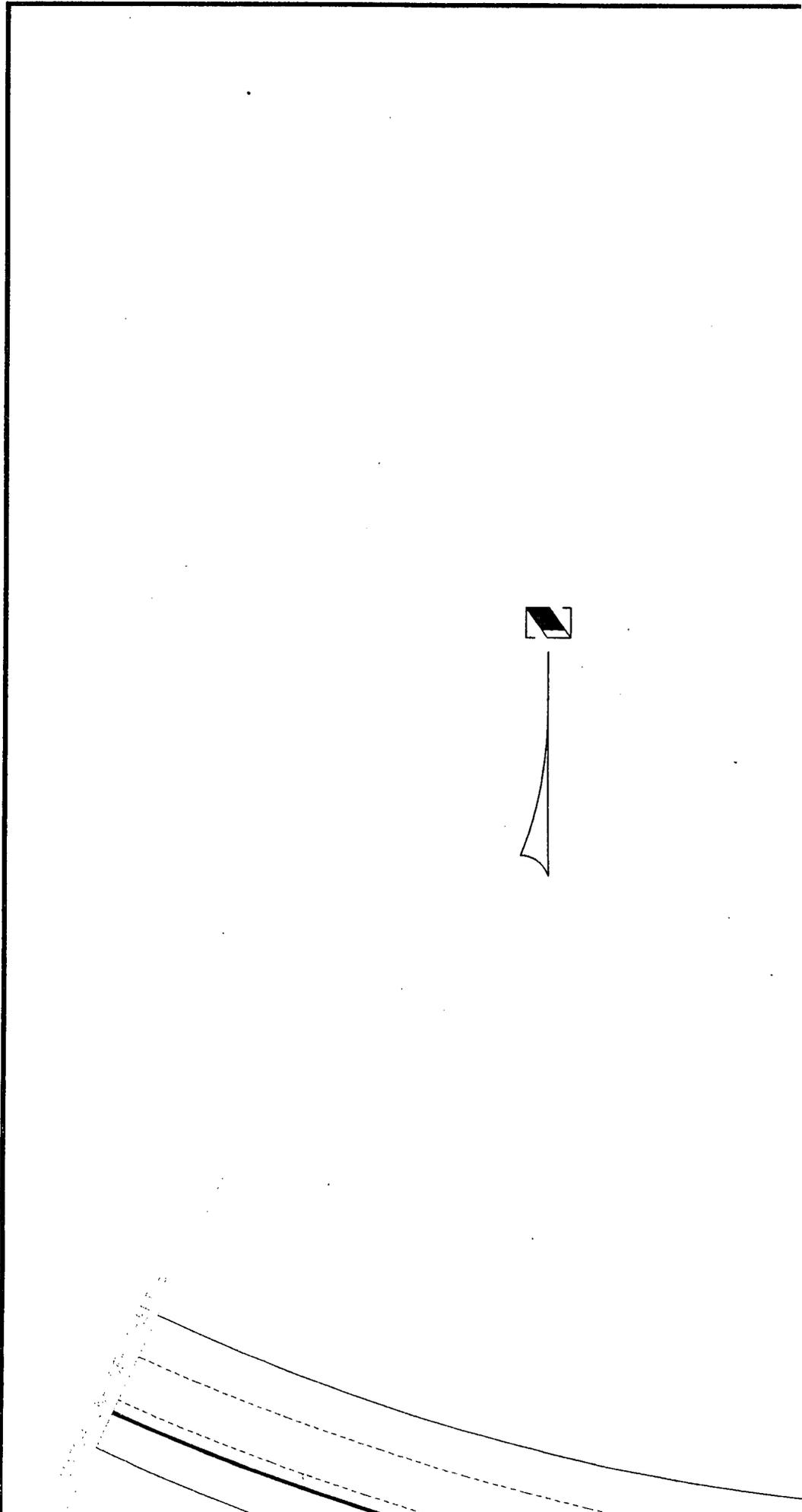


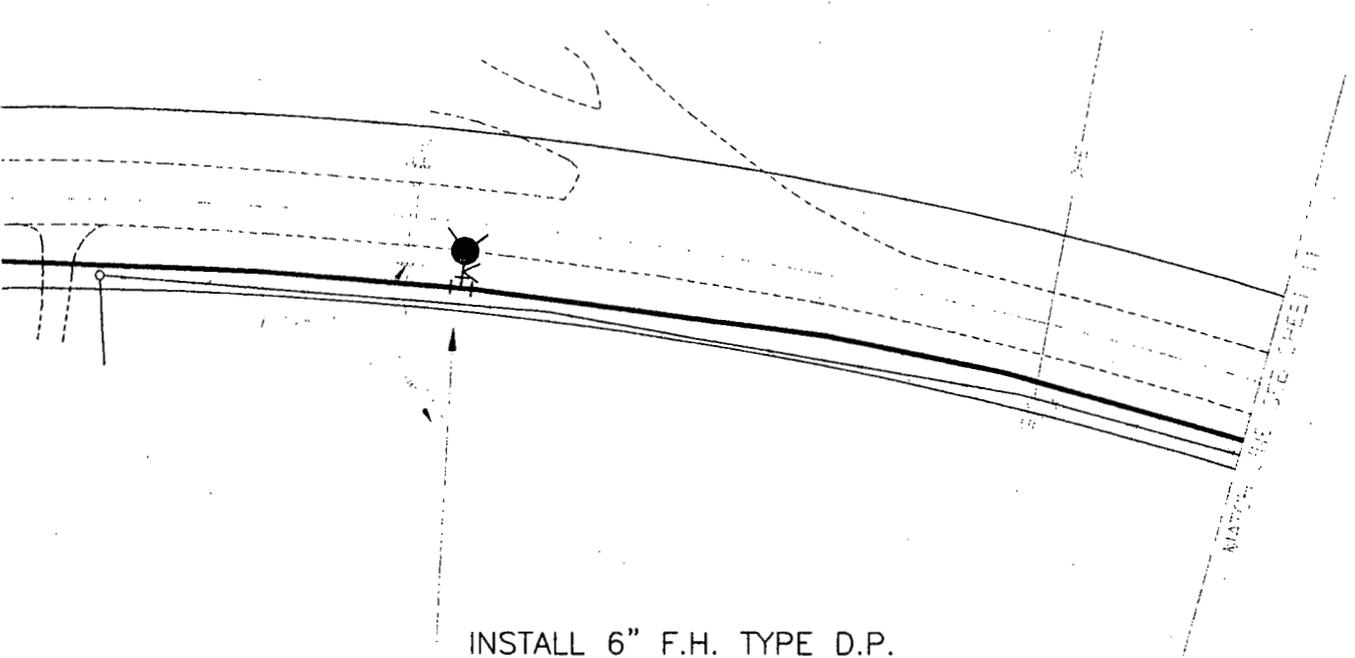


INSTALL 1644 L.F. ± OF
12" P.V.C. WATER MAIN
(THIS SHEET)





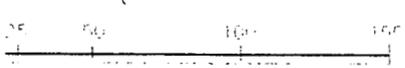




INSTALL 6" F.H. TYPE D.P.
ATT. #607480

CONTRACTOR SHALL CONTACT BELL SOUTH TO DETERMINE EXACT LOCATION OF BURIED FIBER OPTIC CABLE.

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LOUISVILLE WATER COMPANY

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JOHN L. HUBER - PRESIDENT

GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

**NICHOLS ELEMENTARY SCHOOL
MAIN EXTENSION**

DATE	PREPARED BY	CHECKED BY	APPROVED BY
	D.P.H.	G.C.H.	G.C.H.

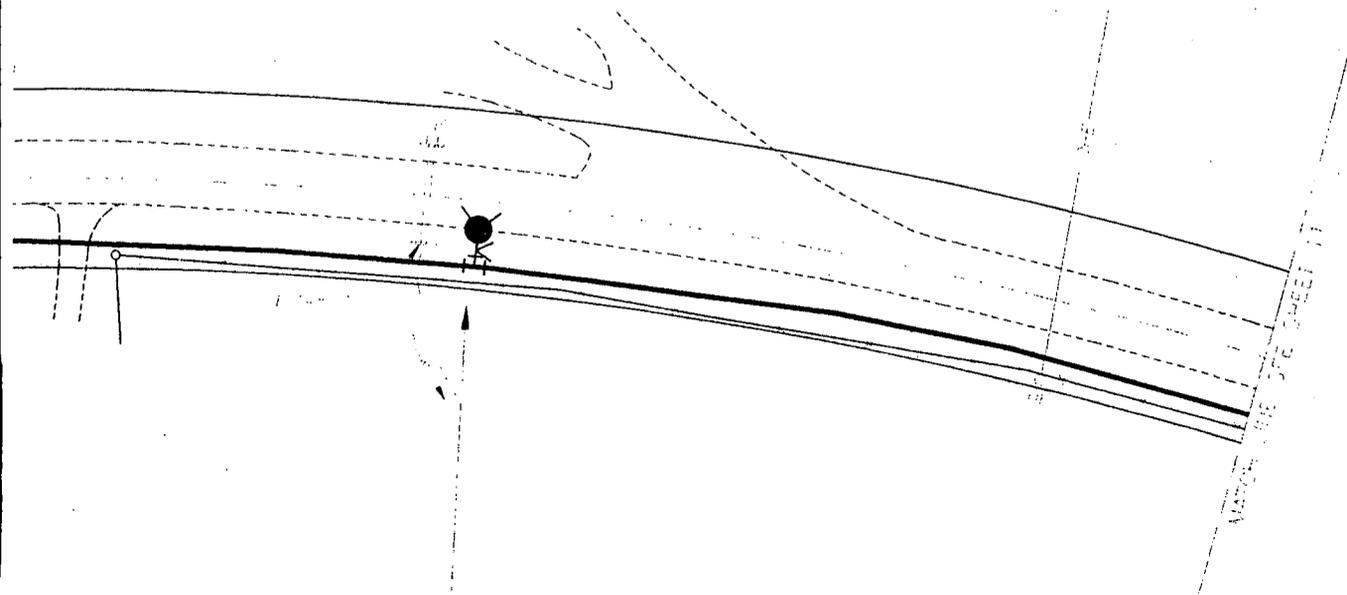
Gregory C. Heitzman
SIGNATURE
5/5/99
DATE

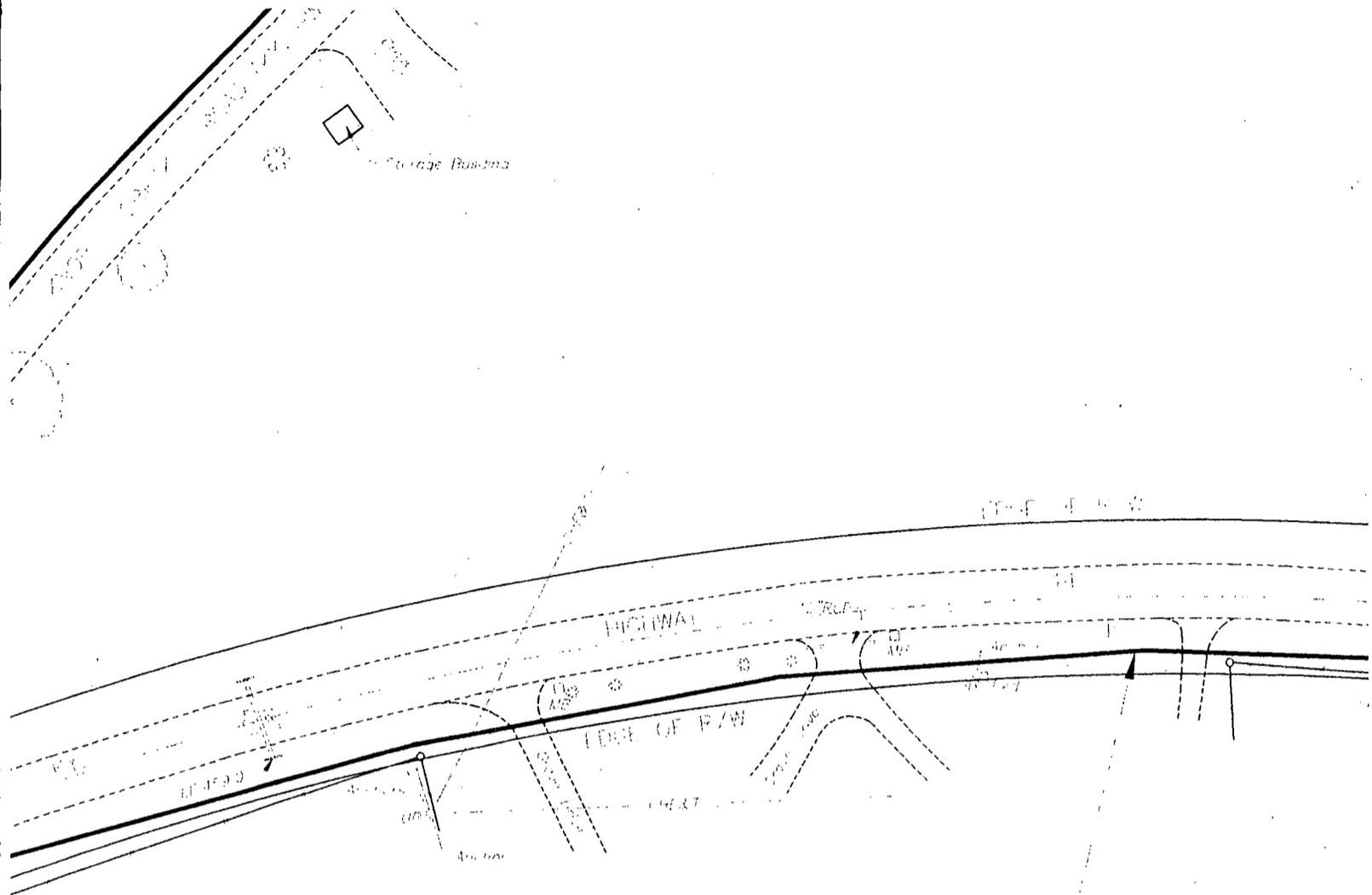
DATE APRIL 1999	SCALE 1"=50'	MAP NO.
DRAWN BY D.HOULETTE	CHECKED BY GCH	ENGR. G. HEITZMAN / G. QUINN
PROJECT NO. 98-794B	COUNTY PULLITT	SHEET 10 OF 13

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NOTE:

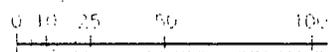
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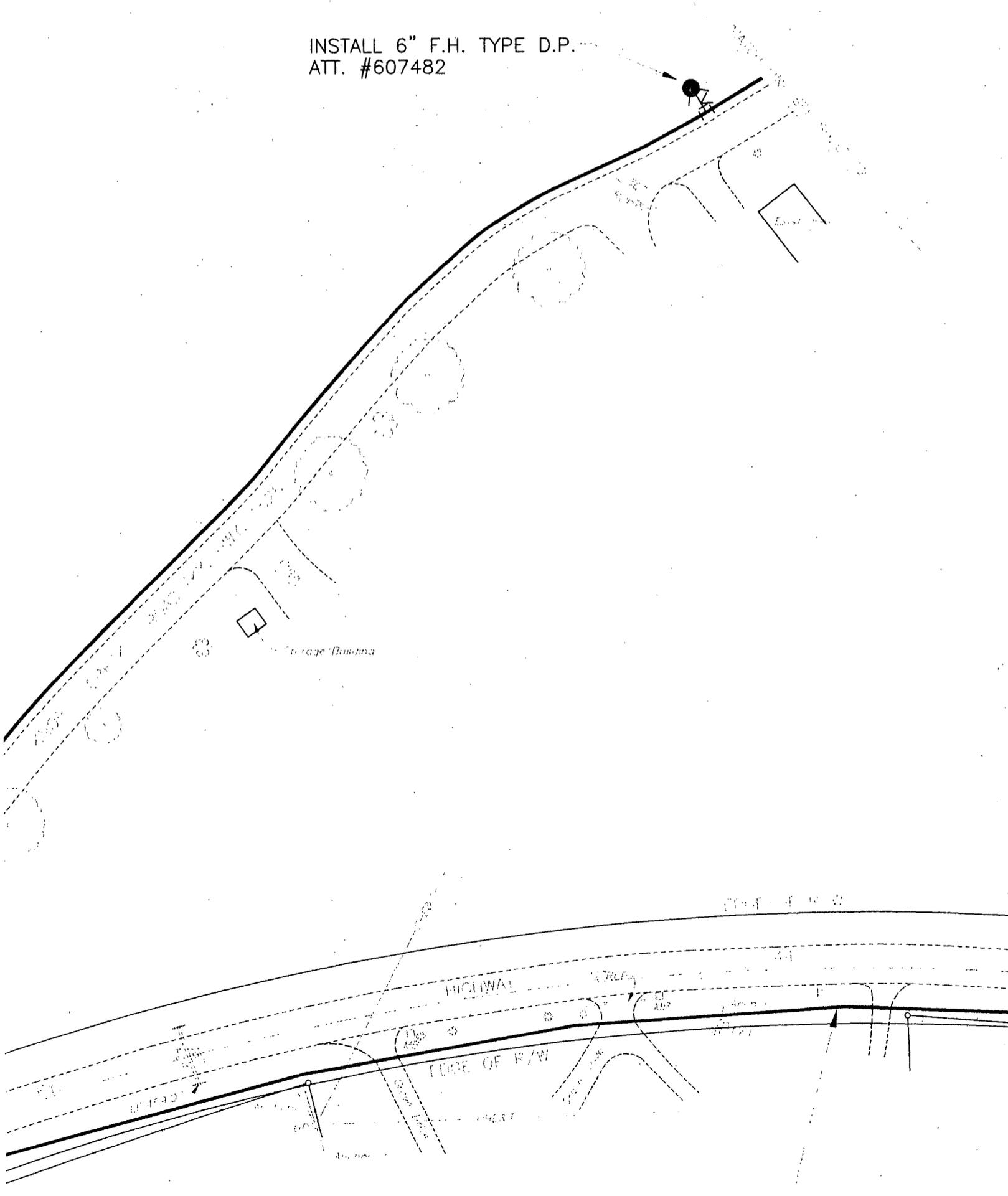
INSTALL 1200 L.F. ± OF
8" P.V.C. WATER MAIN
(THIS SHEET)

45°
ENDS.
3" MIN.
RANCE
M LINE



REVISION	DATE	DESCRIPTION
1	5/4/99	MADE REVISIONS PER GCH

INSTALL 6" F.H. TYPE D.P.
ATT. #607482



INSTALL 977 L.F. ± OF
12" P.V.C. WATER MAIN
(THIS SHEET)

STALL 12" GATE VALVE

INSTALL 45° BEND

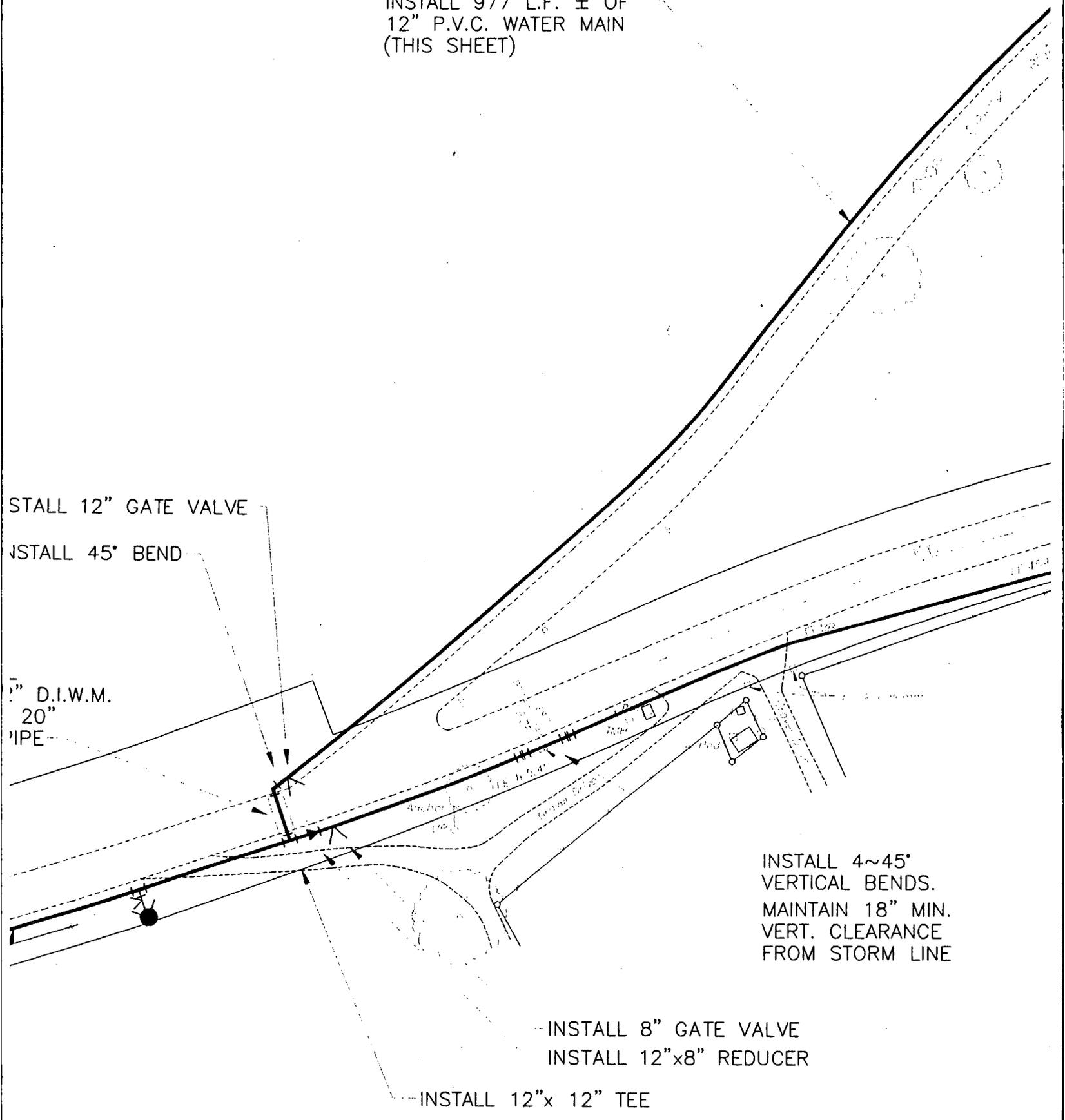
12" D.I.W.M.
20"
PIPE

INSTALL 4~45°
VERTICAL BENDS.
MAINTAIN 18" MIN.
VERT. CLEARANCE
FROM STORM LINE

INSTALL 8" GATE VALVE
INSTALL 12"x8" REDUCER

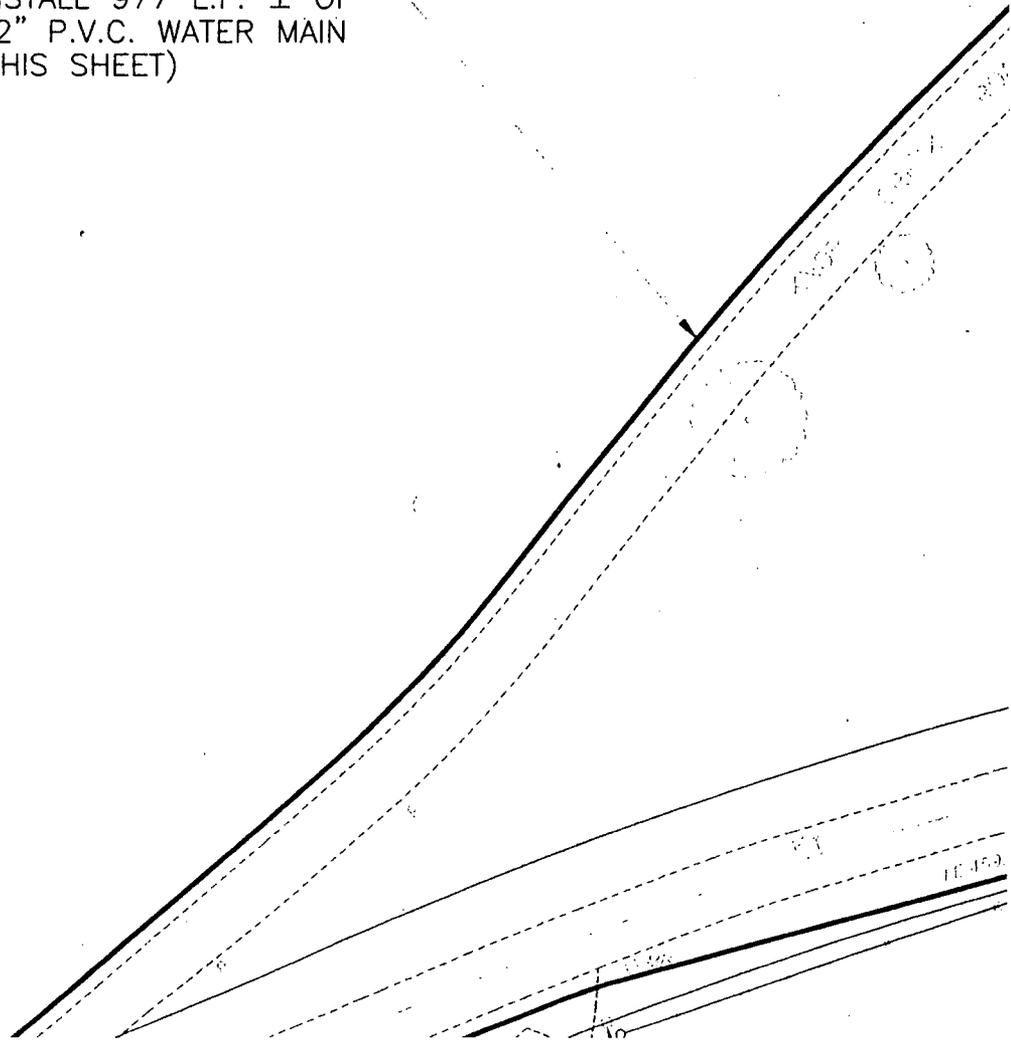
INSTALL 12"x 12" TEE

INSTALL 6" F.H. TYPE D.P.
ATT. #607479



INSTALL 977 L.F. ± OF
12" P.V.C. WATER MAIN
(THIS SHEET)

STALL 12" GATE VALVE
INSTALL 45° BEND

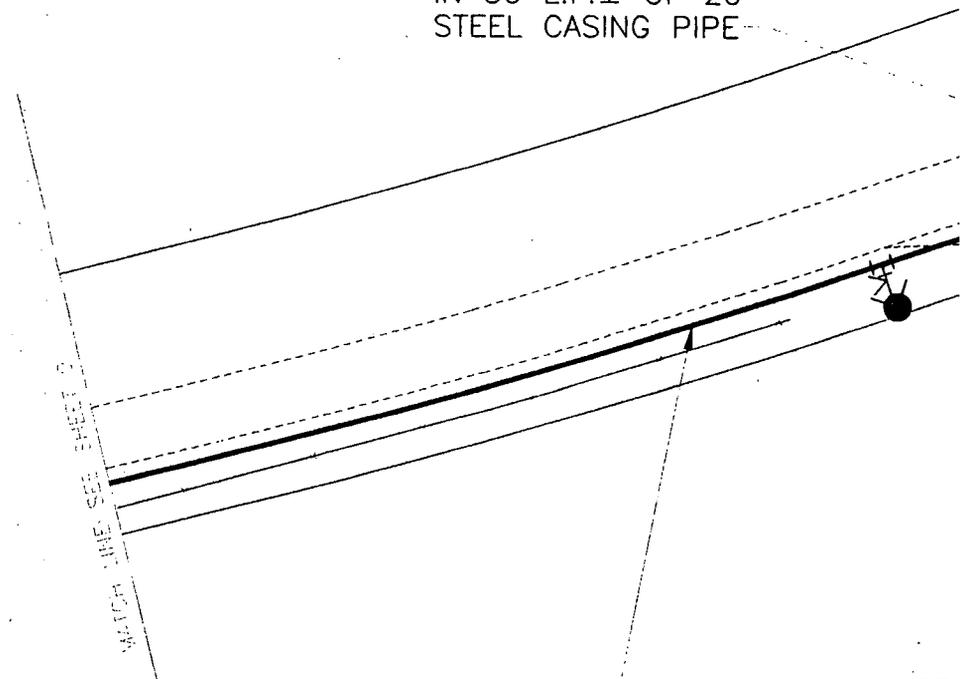




INSTALL 12" GATE

INSTALL 45° BEND

BORE & INSTALL
40 L.F. ± OF 12" D.I.W.M.
IN 30 L.F. ± OF 20"
STEEL CASING PIPE



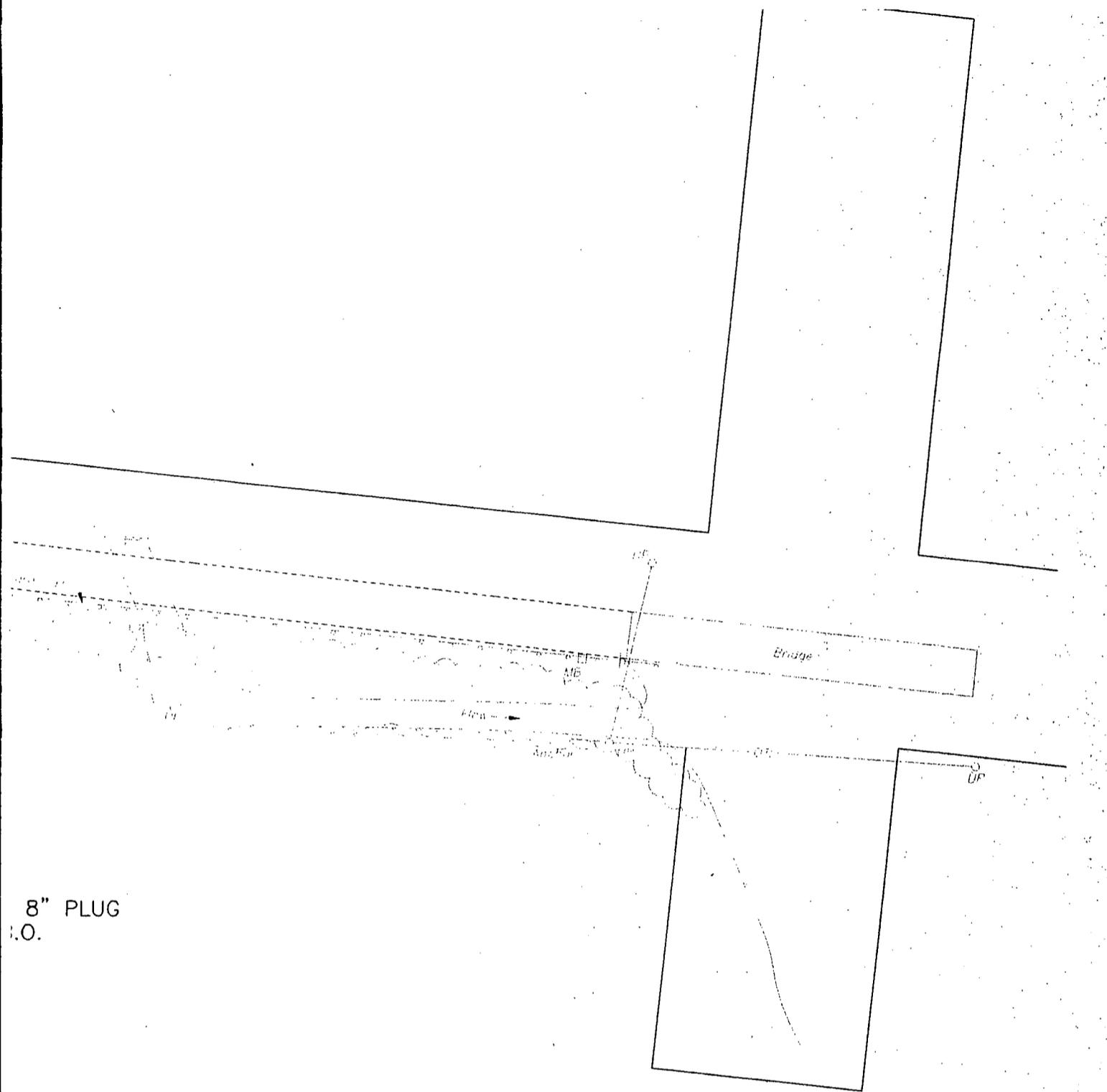
INSTALL 372 L.F. ± OF
12" P.V.C. WATER MAIN
(THIS SHEET)

INSTA
ATT.



INSTALL 12" GATE
INSTALL 45° BEND

BORE & INSTALL



8" PLUG
I.O.

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GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

**NICHOLS ELEMENTARY SCHOOL
 MAIN EXTENSION**

DESIGNED BY	PREPARED BY	CHECKED BY	APPROVED BY
DRH	DRH	GCH	GCH

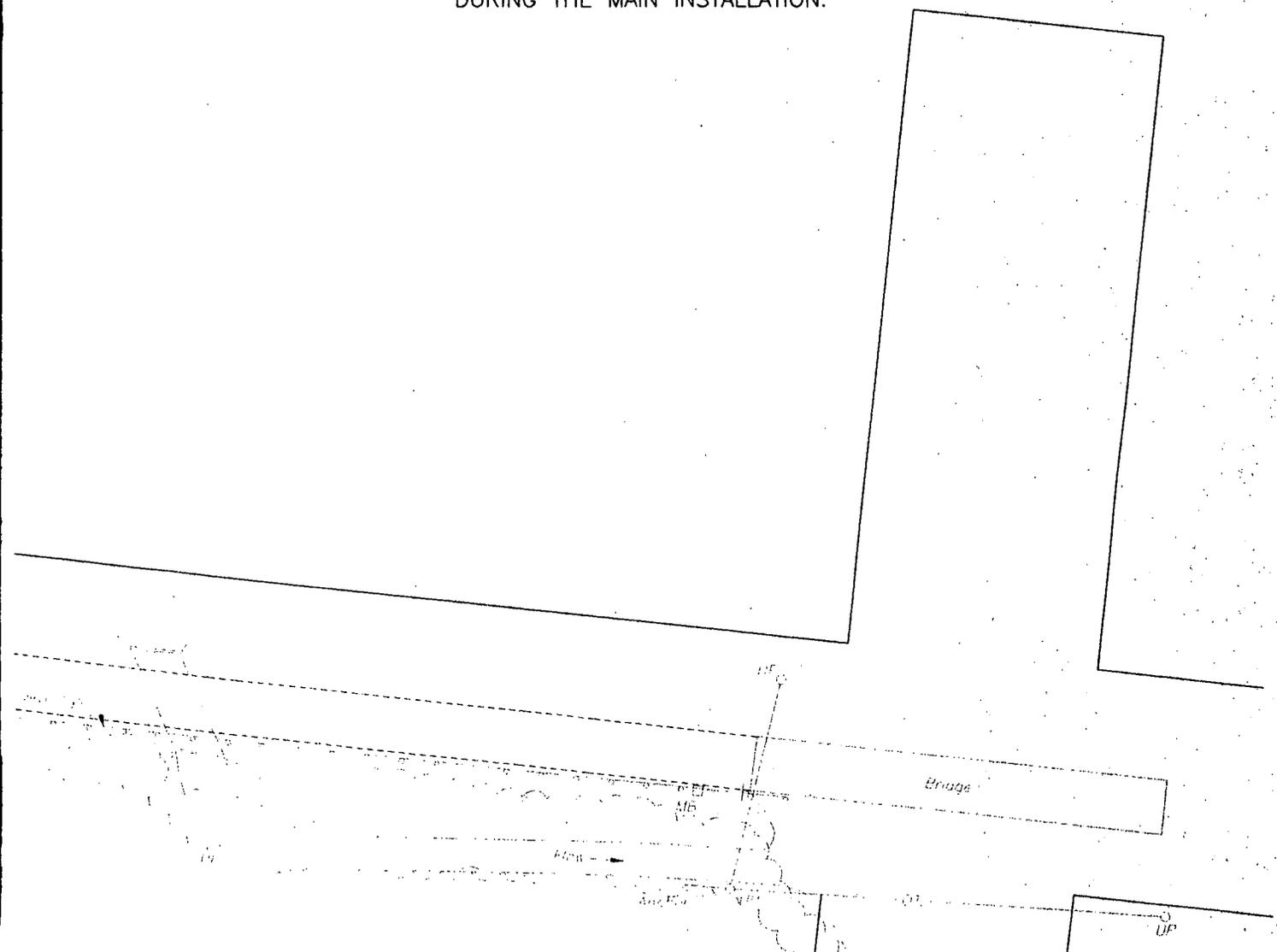
Gregory C. Heitzman
 SIGNATURE
 5/5/99
 DATE

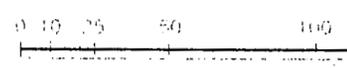
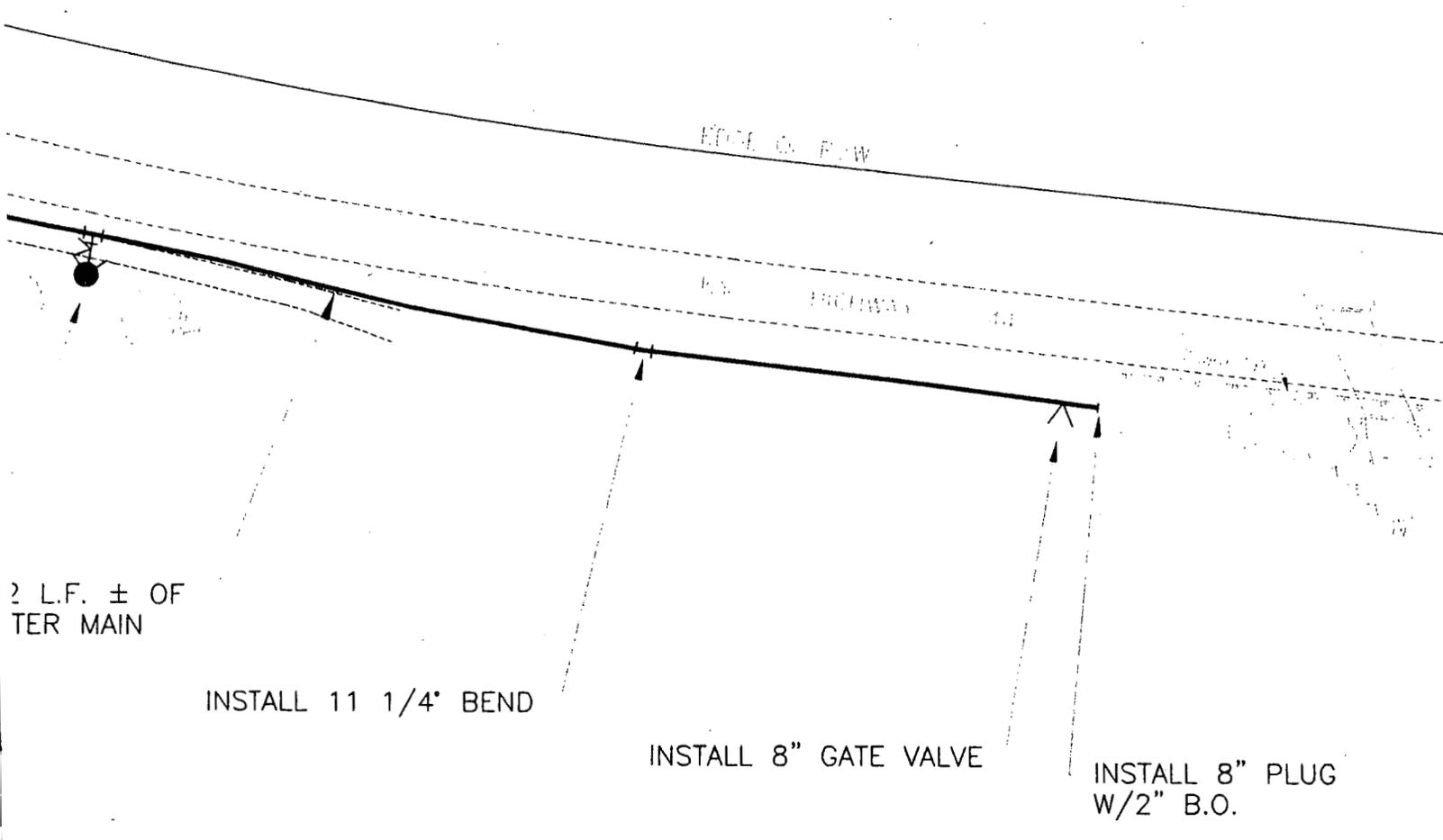
DATE	APRIL 1999	SCALE	1"=50'	MAP NO.	
DRAWN BY	D. HOULETTE	CHECKED BY	GCH	ENGR.	G. HEITZMAN S. SCHUBIN
PROJECT NO.	98-794B	COUNTY	BULLITT	SHEET	11 OF 13

THE CONTRACTOR SHALL ABIDE BY AND SHALL ARRANGE FOR AND PAY FOR ANY AND ALL PERMITS INVOLVING THE KENTUCKY DIVISION OF WATER REGULATIONS PERTAINING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS. THE CONTRACTOR SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF KRS CHAPTER 220 AND 224 OF THE STATE WATER POLLUTION CONTROL LAWS AND OTHER APPLICABLE STATUTES RELATING TO THE PREVENTION OR ABATEMENT OF WATER POLLUTION.

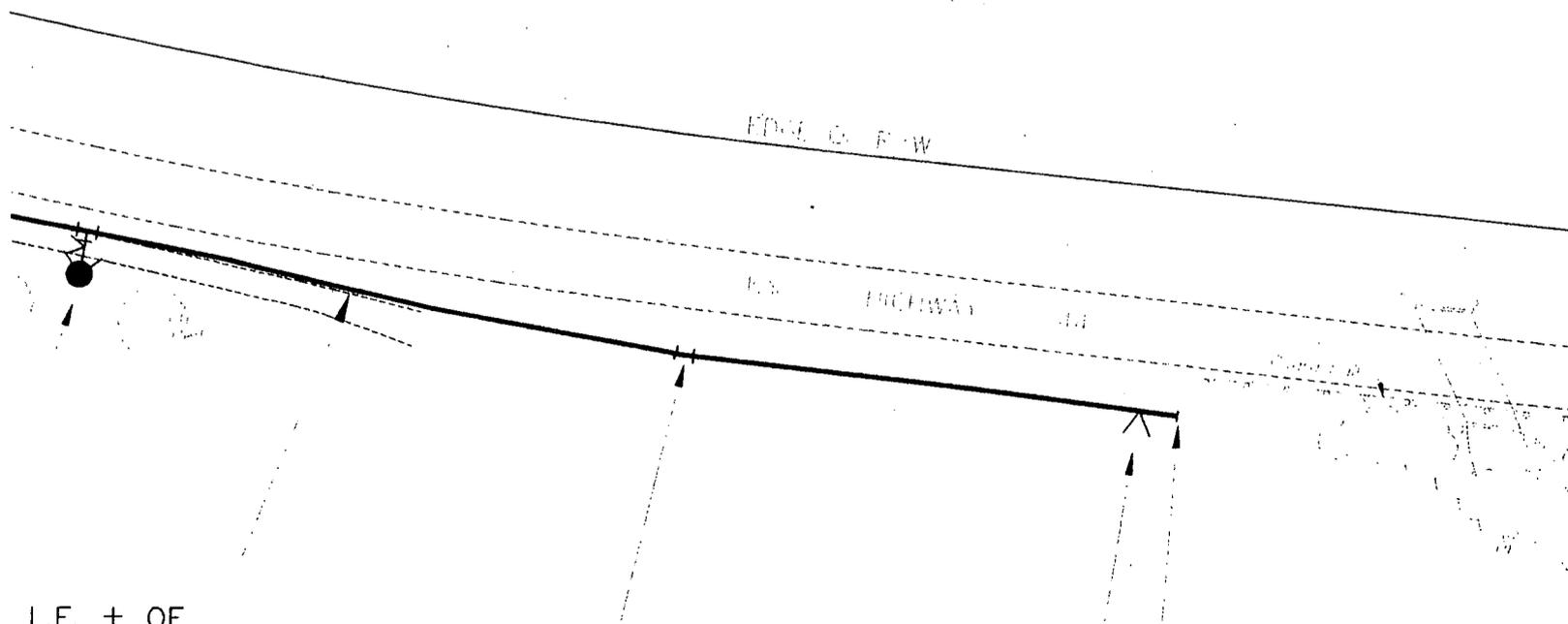
NOTE:

1. FIRE HYDRANTS SHALL BE NO MORE THAN 15' FROM E.O.P. AND SHALL BE ACCESSIBLE TO THE FIRE DEPARTMENT.
2. CONTRACTOR SHALL BORE 10' ON EITHER SIDE OF THE CENTERLINE OF EACH TREE FOR WHICH THE DRIP LINE IS TO BE WITHIN THE PROPOSED PATH OF THE PIPELINE INSTALLATION.
3. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM THE ENGINEER PRIOR TO REMOVAL OF ANY TREES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR TWO (2) GROWING SEASONS FOR EACH TREE IN WHICH THE ROOT SYSTEM IS DISTURBED DURING THE MAIN INSTALLATION.

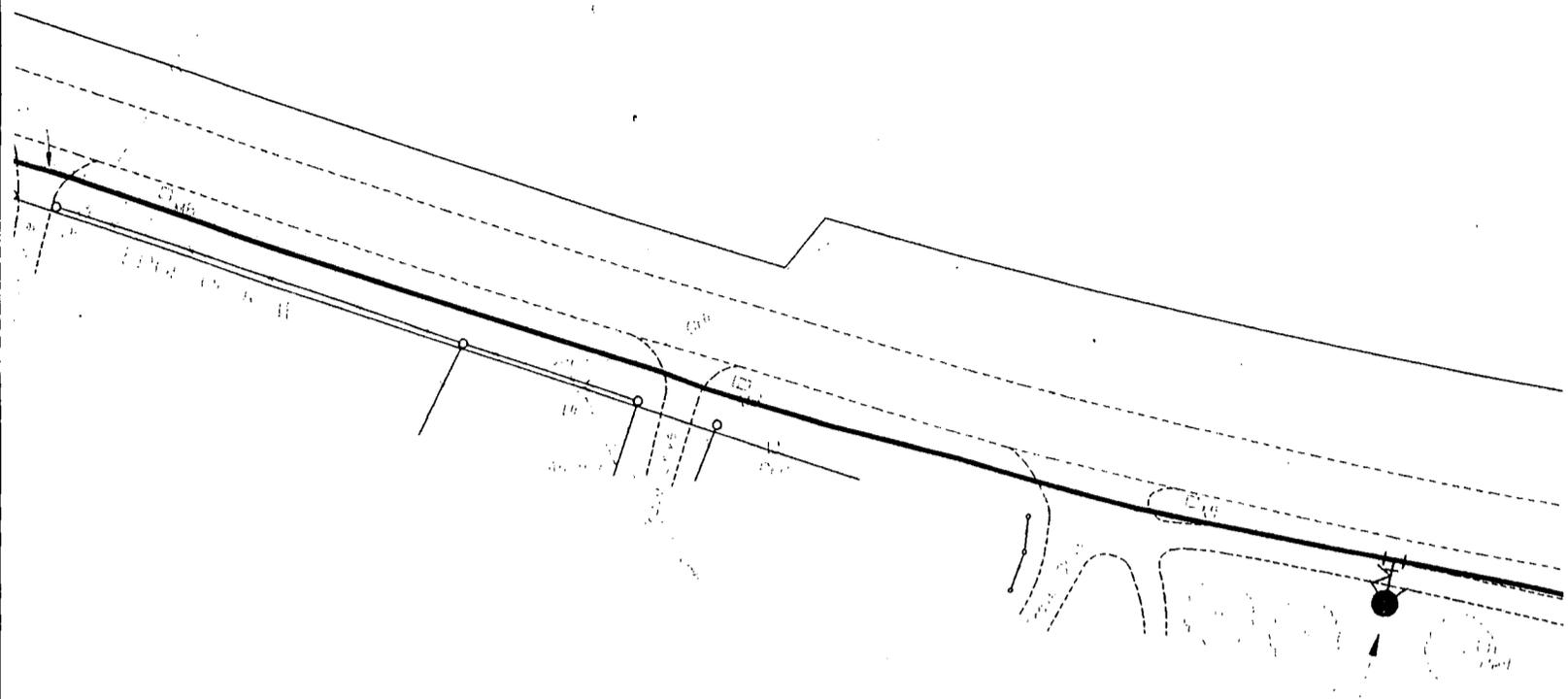




REVISION	DATE	DESCRIPTION	BY
1	5/24/20	MISC. REVISIONS PER GC#1	D



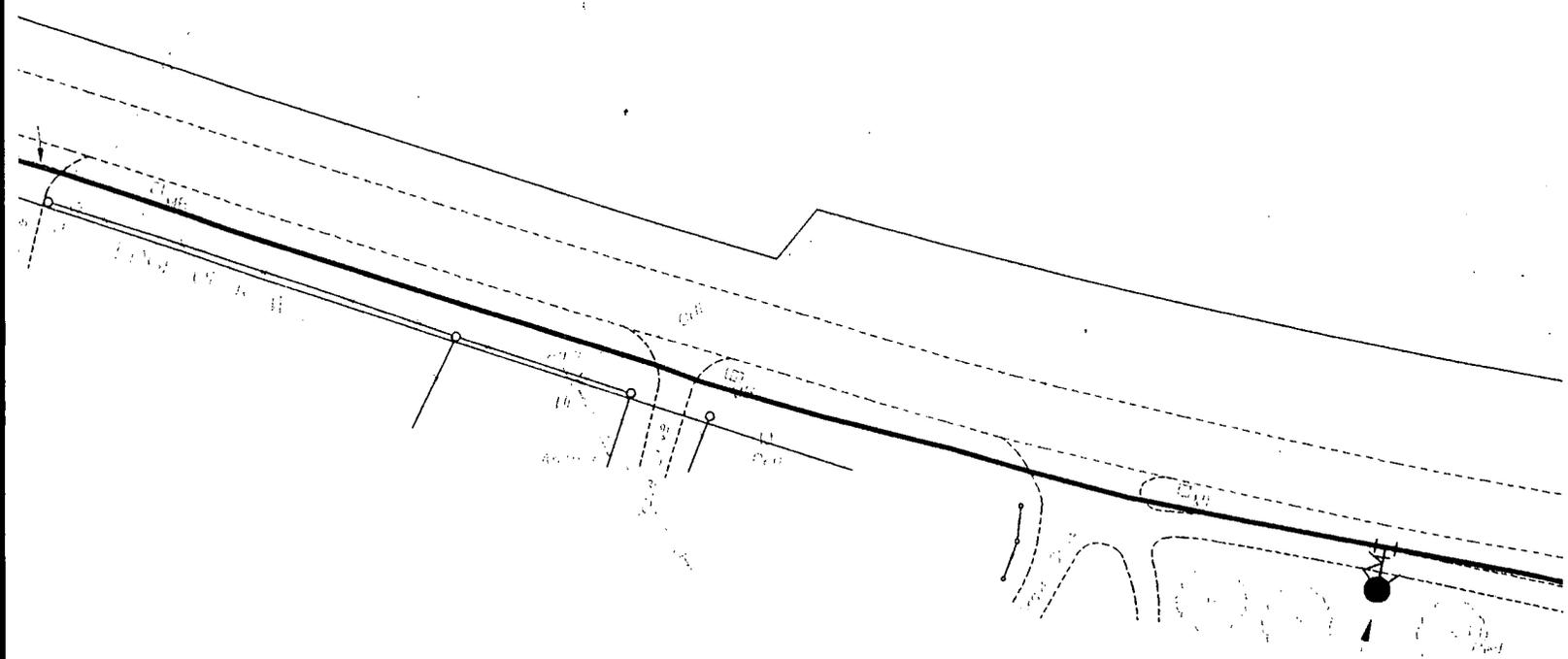
I.F. + OF



INSTALL 6" F.H. TYPE D.P.
ATT. #607481

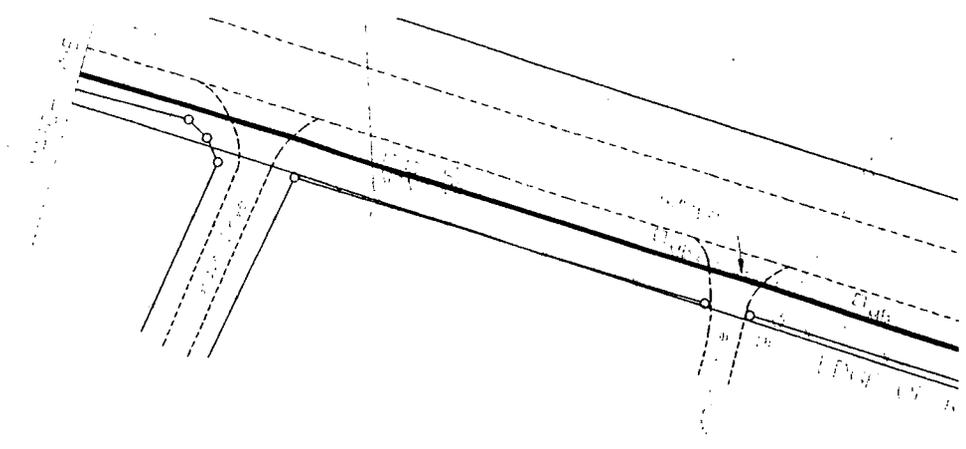
INSTALL 1112 L.F. ± OF
8" P.V.C. WATER MAIN
(THIS SHEET)

INS

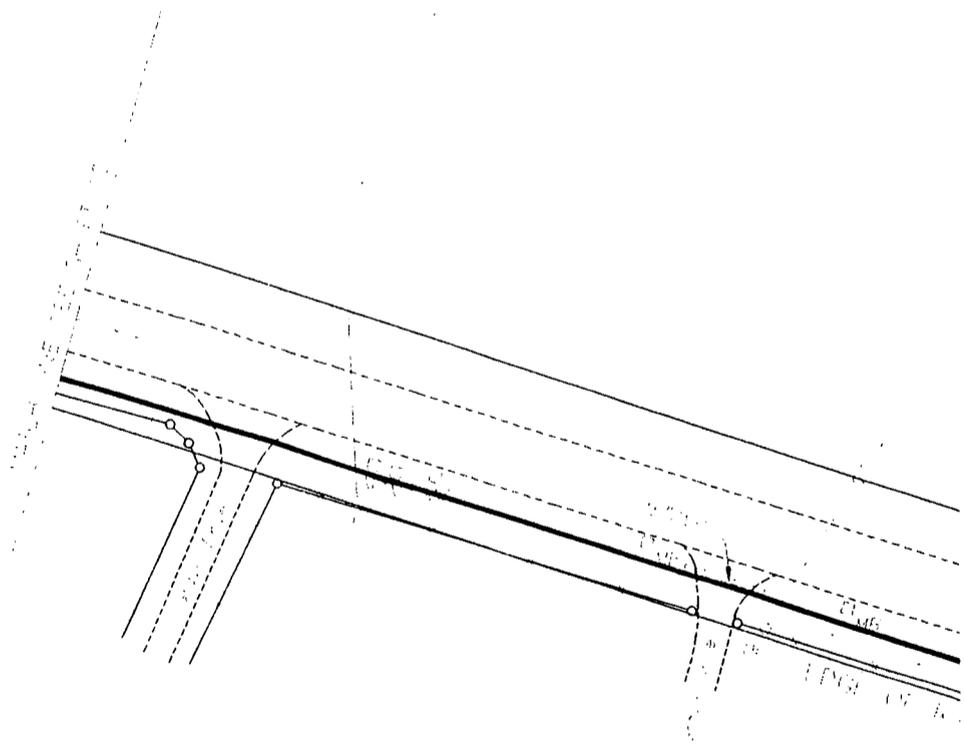


INSTALL 6" F.H. TYPE D.P.
ATT. #607481

INSTALL 1112 L.F. ± OF
6" D.V.C. WATER MAIN



A



THE CONTRACTOR SHALL ABIDE BY AND SHALL ARRANGE FOR AND PAY FOR ANY AND ALL PERMITS INVOLVING THE KENTUCKY DIVISION OF WATER REGULATIONS PERTAINING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS. THE CONTRACTOR SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF KRS CHAPTER 220 AND 224 OF THE STATE WATER POLLUTION CONTROL LAWS AND OTHER APPLICABLE STATUTES RELATING TO THE PREVENTION OR ABATEMENT OF WATER POLLUTION.

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UTILITIES LOCATIONS ARE SHOWN FROM AVAILABLE INFORMATION AND ARE APPROXIMATE. CONTRACTORS ARE URGED TO MAKE THEIR OWN DETERMINATION OF EXACT LOCATIONS.

PREPARED BY LOU. WATER CO. FOR KY. TURNPIKE WATER DIST. USE ONLY



LOUISVILLE WATER COMPANY

550 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 569-3600

JOHN L. HUBER - PRESIDENT

GREGORY C. HEITZMAN - VICE PRESIDENT/CHIEF ENGINEER

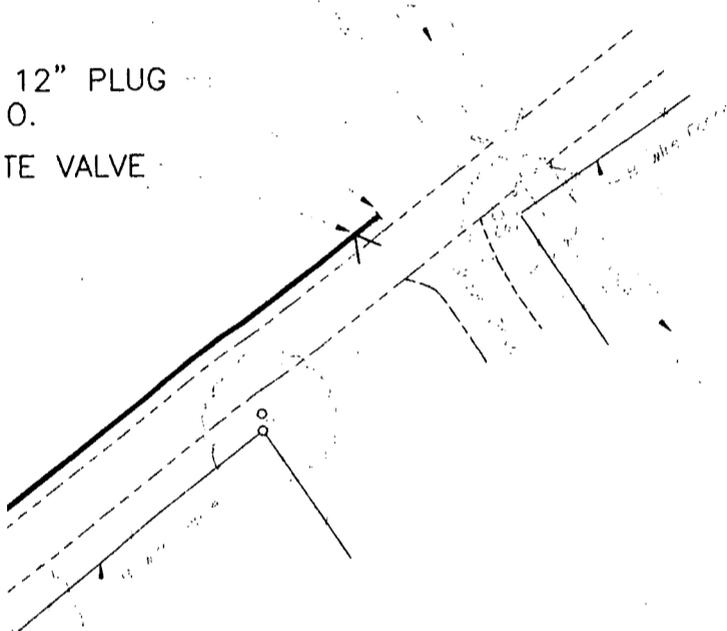
**NICHOLS ELEMENTARY SCHOOL
MAIN EXTENSION**

REVISION	PREPARED BY	CHECKED BY	APPROVED BY
0015 PLS RWH	DWH	GCH	GCH

Gregory C. Heitzman
SIGNATURE
5/5/99
DATE

DATE	APRIL 1999	SCALE	1"=50'	MAP NO.	
DRAWN BY	D. HOULETTE	CHECKED BY	GCH	ENGR.	GREGORY C. HEITZMAN
PROJECT NO.	98-794B	COUNTY	BULLITT	SHEET	12 OF 13

12" PLUG
O.
TE VALVE

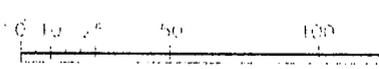
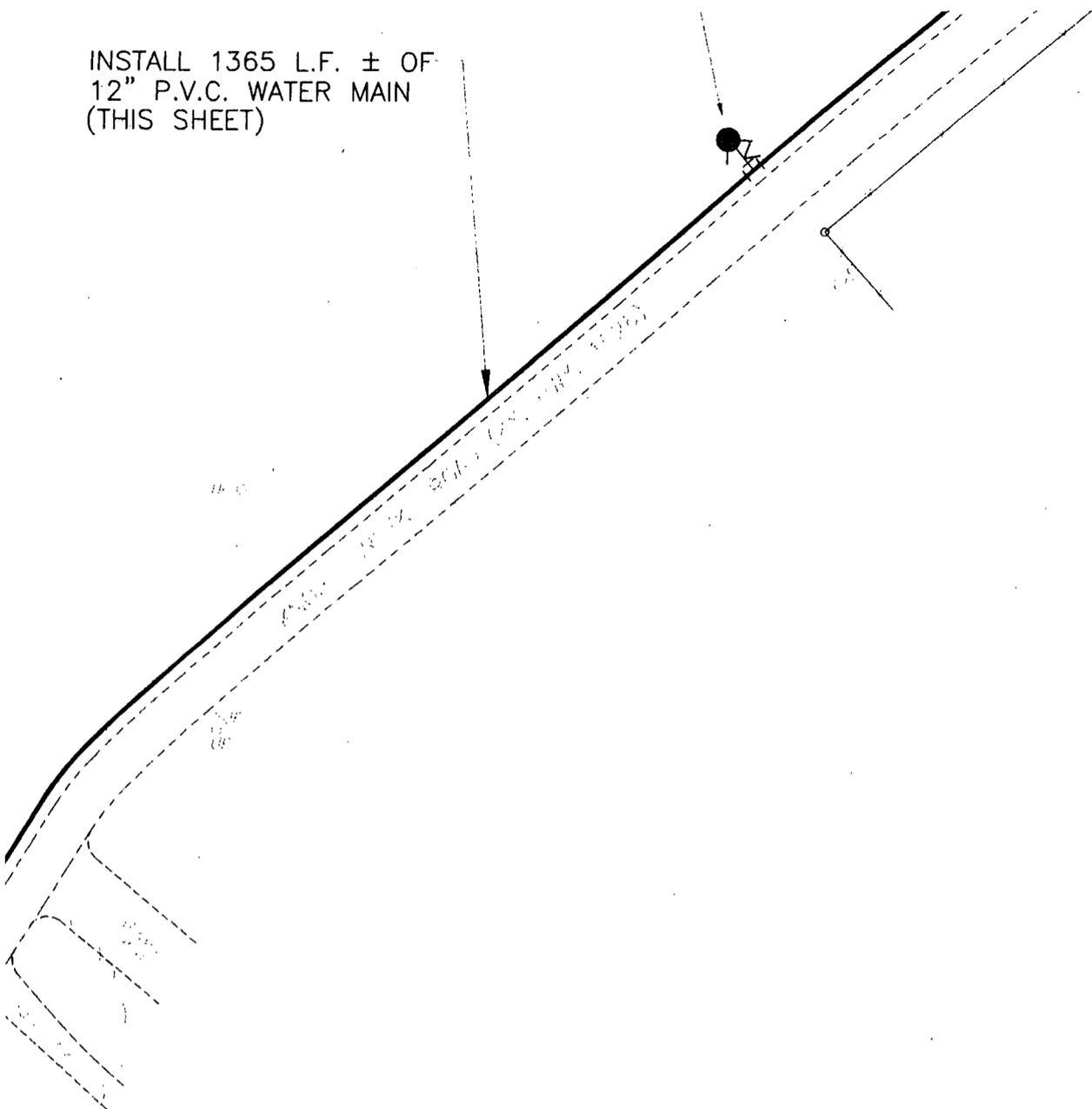


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4. CONTRACTOR SHALL BE RESPONSIBLE TWO (2) GROWING SEASONS FOR EACH TREE IN WHICH THE ROOT SYSTEM IS DISTURBED

INSTALL 1365 L.F. ± OF
12" P.V.C. WATER MAIN
(THIS SHEET)



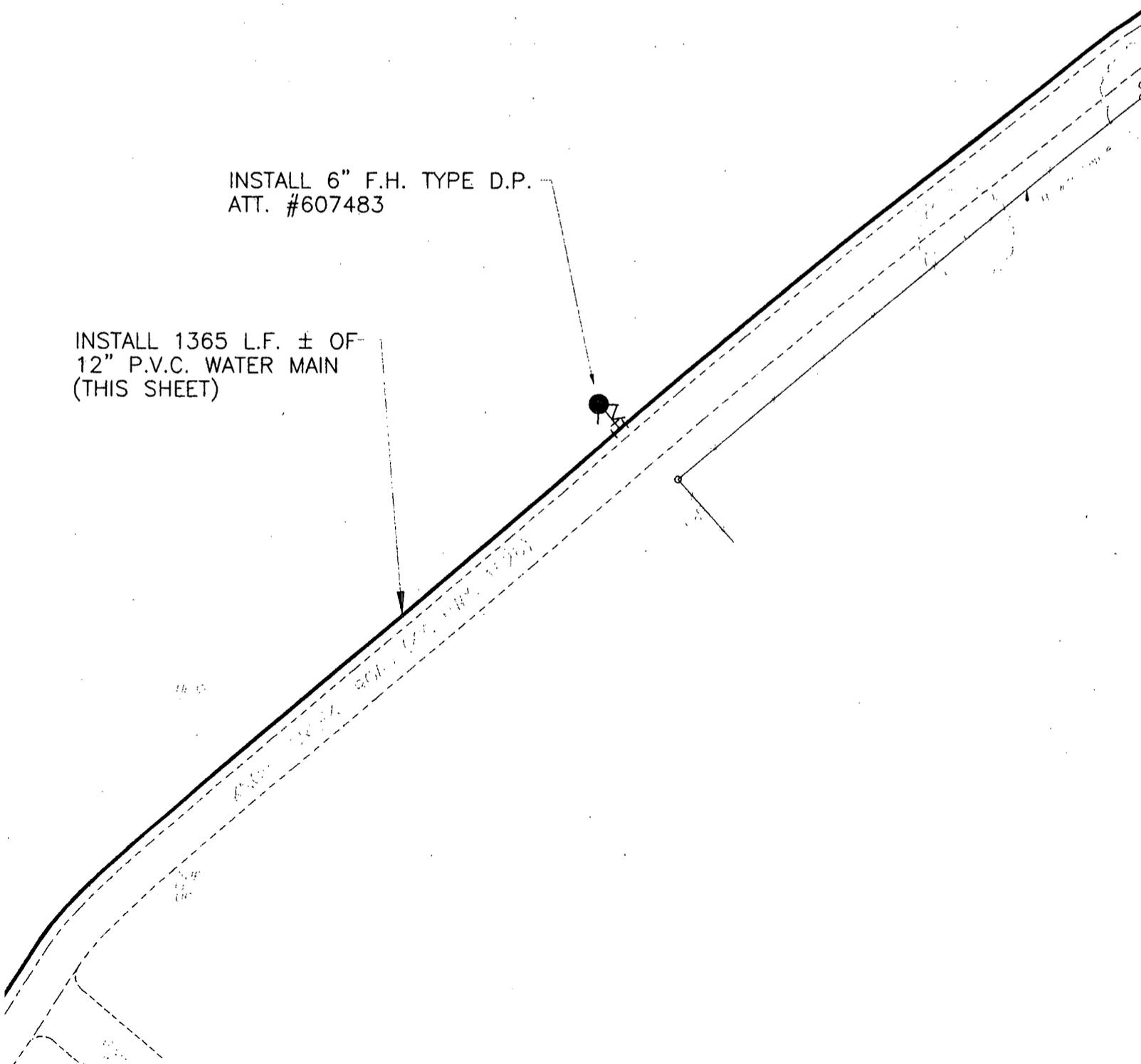
REVISION	DATE	DESCRIPTION	PREPARED BY
1	5/4/09	MISC. REVISIONS PER GCH	DRP

INSTALL 12" PLUG
W/2" B.O.

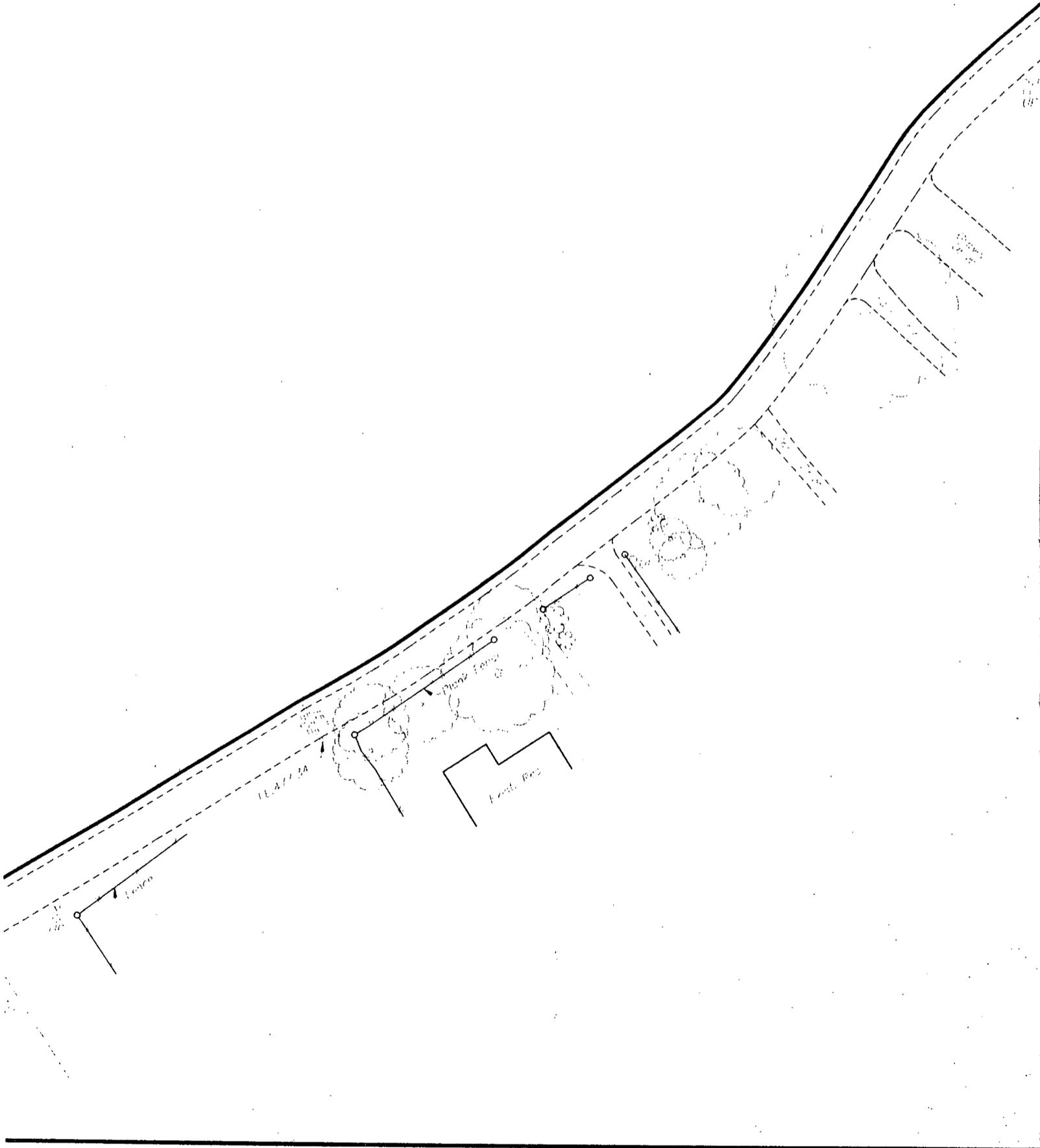
INSTALL 12" GATE VALVE

INSTALL 6" F.H. TYPE D.P.
ATT. #607483

INSTALL 1365 L.F. ± OF
12" P.V.C. WATER MAIN
(THIS SHEET)

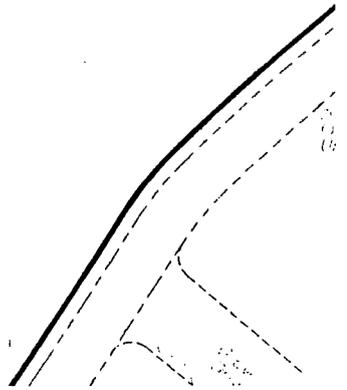


INSTALL 1.
12" P.V.C.
(THIS SHEET)

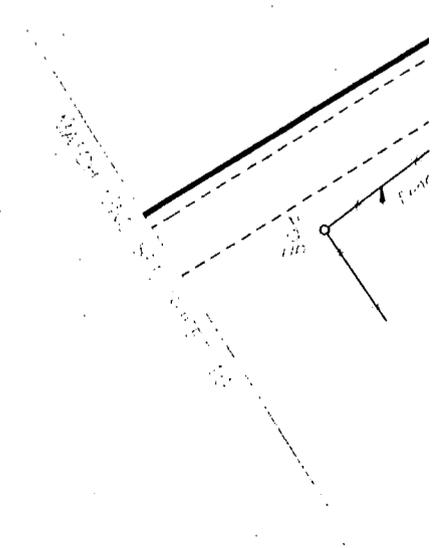




INSTALL 1
12" P.V.C
(THIS SHE



6
1



UTILITY
CONSTRUCTION
500'

APPLY FOR 1,000 AND 1,500 FEET

CAUTION

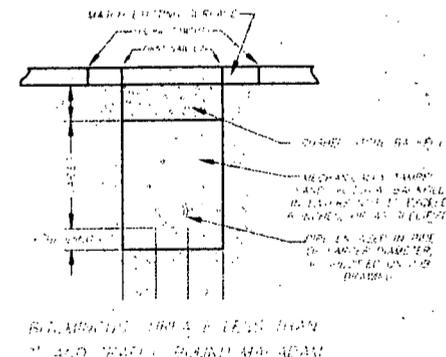
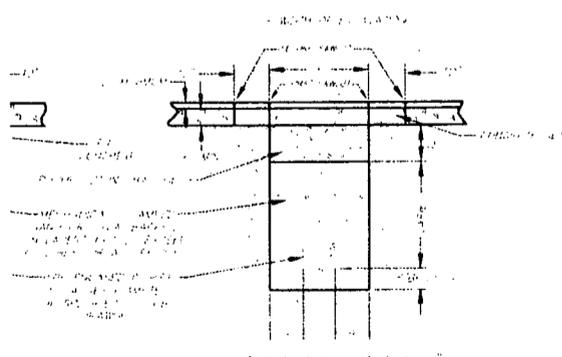
1,000 FEET, 1,000' AND 1,500'
EACH WAY FROM WORK AREA.

WARNING SIGNS

1. TREES ON STATE RIGHT-OF-WAY ARE NOT TO BE DAMAGED BY THIS CONSTRUCTION. NO TREE TRIMMING OR REMOVAL IS AUTHORIZED EXCEPT BY PERMITS.

2. ALL DISTURBED PORTIONS OF THE STATE RIGHT-OF-WAY TO BE RESTORED TO ORIGINAL CONDITION BY SEEDING AND MULCHING IN ACCORDANCE WITH TITLE 17, DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS.

3. ALL SIGNS AND CONTROL OF TRAFFIC TO BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.



1. ROADWAY SURFACE SHALL BE RESTORED TO ORIGINAL CONDITION BY SEEDING AND MULCHING IN ACCORDANCE WITH TITLE 17, DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS.

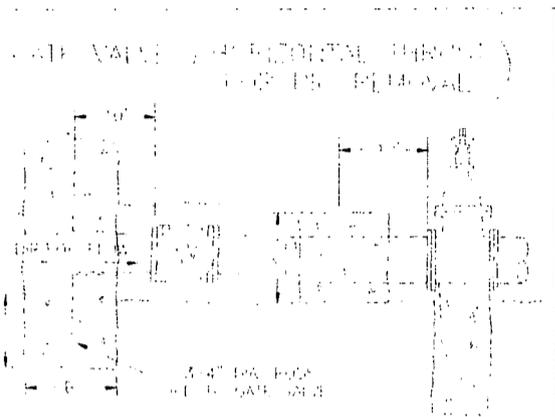
2. ROADWAY SUBGRADE SHALL BE RESTORED TO ORIGINAL CONDITION BY SEEDING AND MULCHING IN ACCORDANCE WITH TITLE 17, DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS.

BACKFILL & PAVING RESTORATION

1. BACKFILL SHALL BE CLASS-1 SAND OR EQUIVALENT OF SAND. IN THE ROAD OF 2 AND SHALL BE PLACED IN MAXIMUM 6" LAYERS OR AS SPECIFIED AND UNCOMPACTED.
2. CONTRACTOR WILL BE HELD RESPONSIBLE TO PROTECT EXISTING CURB AND SIDEWALKS AND REPAIR DAMAGE TO SIDEWALKS DURING THE 6-MONTH PERIOD AFTER THE CURB AND SIDEWALKS ARE SET. DAMAGE SHALL BE IMMEDIATELY REPAIRED IN AN APPROPRIATE MANNER AT THE EXPENSE OF THE CONTRACTOR.
3. BACKFILLING OF EXISTING CURB AND SIDEWALKS SHALL BE COMPLETED PRIOR TO SECOND PAIR OF SHOULDER AND EXCAVATION FOR THE ADDITIONAL 1" OF CONCRETE ON EACH SIDE OF THE CURB.
4. USE OF SAND OR OTHER APPROVED FILL MATERIAL SHALL BE AFFIRED AT THE RATE OF 100 CUBIC FEET PER LINEAL FOOT OVER THE EXISTING CURB. A FLOW CURING TIME FOR IT TO BE PLACED BEFORE THE FINISHED SIDEWALKS. CONCRETE IS PLACED AND CURED. ALL CURBS TO BE REPAIRED AFTER PAVING.

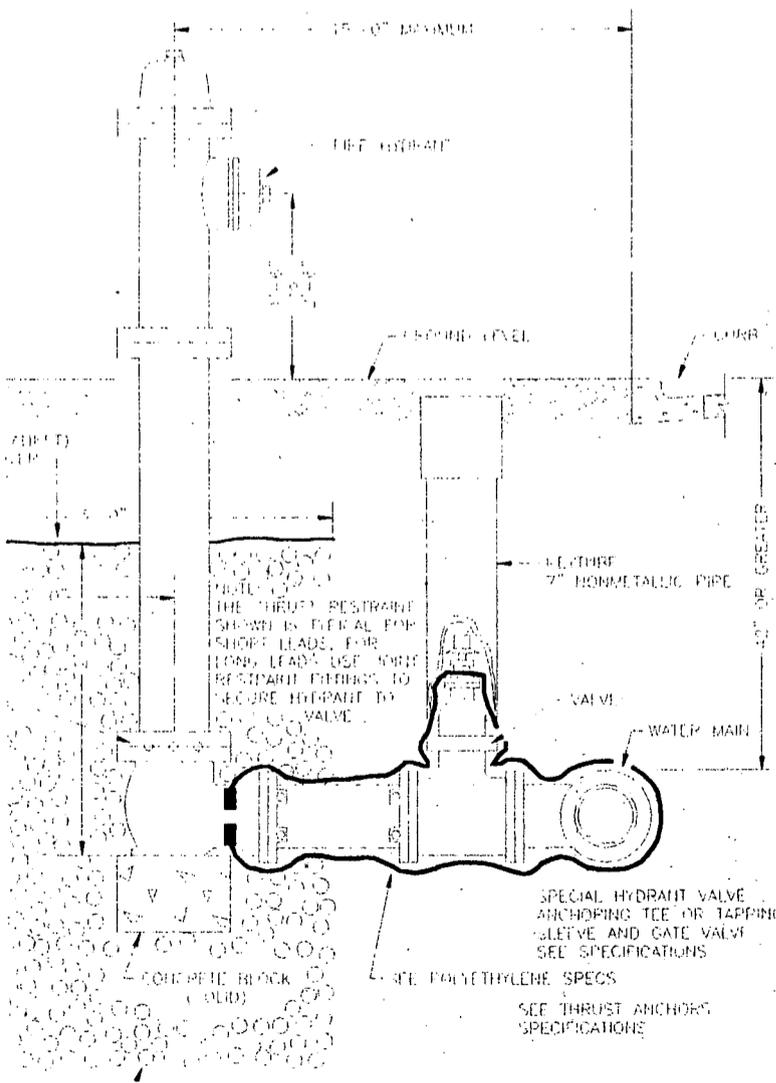


LOCATION OF TRAFFIC CONTROL DEVICES

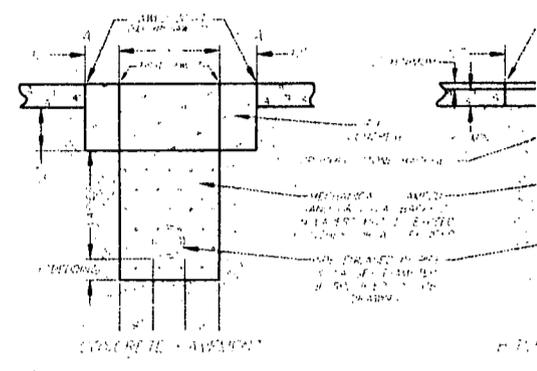


TYPE	A	B	C
1	12"	12"	12"
2	12"	12"	12"
3	12"	12"	12"

- AS SHOWN IN SPECIFICATIONS
 - FOR USE IN
 - UNPAVED AREAS OF
 - PUBLIC ROADS, ETC.
 - IN A COMMERCIAL PLANT,
 - IN PUBLIC AREAS, ETC.



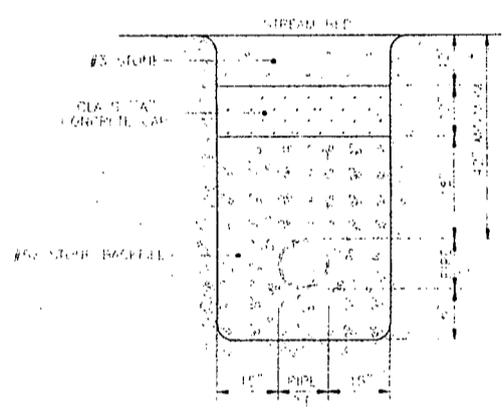
- NOTE:
1. WHERE FENCES ARE ENCOUNTERED, FIRE HYDRANTS MUST BE ON THE ROAD SIDE OF THE FENCE.
 2. INSTALL FIRE HYDRANT 8' OFF THE EDGE OF PAVING WHERE POSSIBLE.
 3. FIRE HYDRANT MUST NOT OBSTRUCT ROADSIDE DITCH.



FROM POINTS 1 TO 3, SEE PARAGRAPHS 1, 2 AND 3 OF BREAK A, PARAGRAPH 4, ABOVE. IF LESS THAN 6" REMOVE PARAGRAPH 1, 2 AND 3 OF BREAK A, AND SEE PARAGRAPH 4 OF BREAK B FOR MORE INFORMATION.

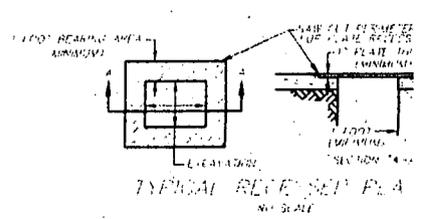
BACKFILL &

TYPICAL SECTION

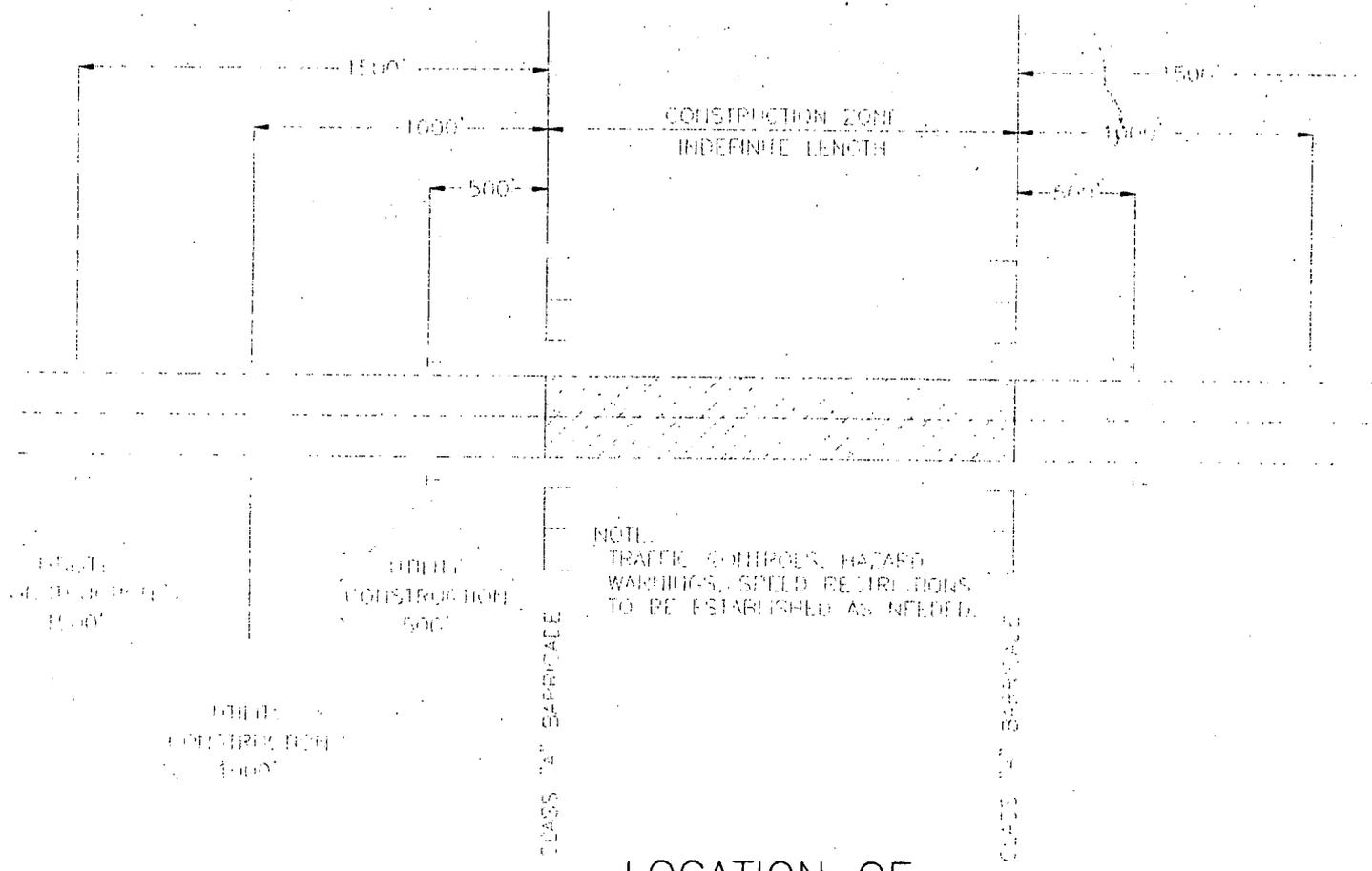


STREAM CROSS

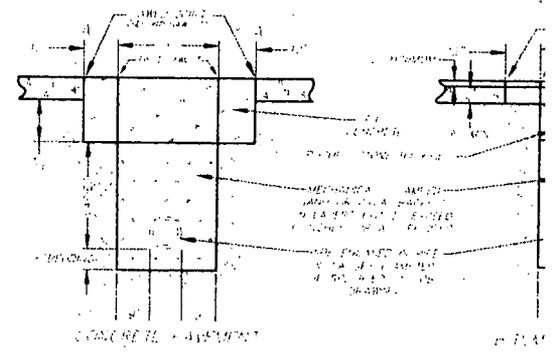
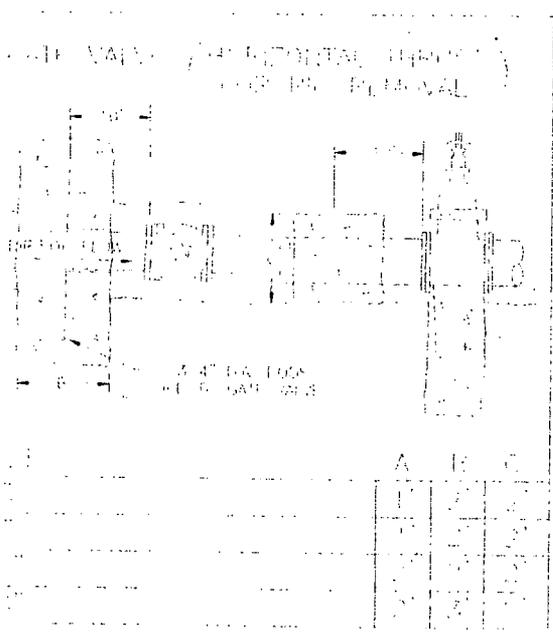
- STREAM CROSS
1. SCOPE WITH SECTION 1 TO 2 OF THE
 2. THE DETAIL APPLIES ONLY TO EACH
 3. MINIMUM CONCERNING THE PROPOSED
 4. REVEALING ALL DIMENSIONS SHOWN
 5. WITHIN APPROVAL FROM THE BOARD
 6. TO BE AND PER LINEAL FEET OF
 7. THRUST RESTRAINT SHALL BE CONSIDERED
 8. VARIATION FROM THE TOWARD RIVER



TYPICAL FIRE HYDRANT CONNECTION



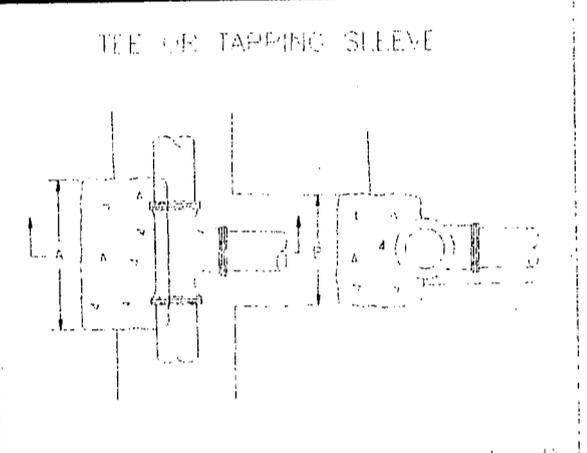
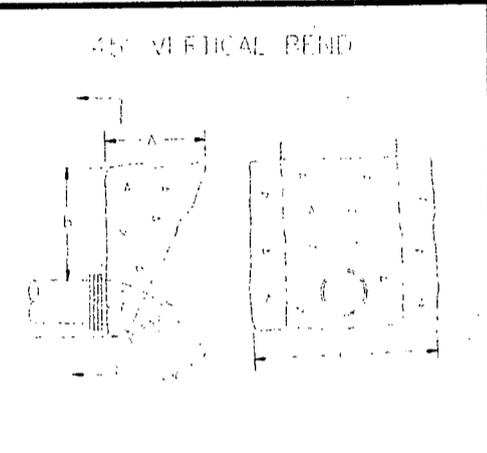
LOCATION OF
TRAFFIC CONTROL DEVICES



BACKFILL &

TYPICAL SECTION

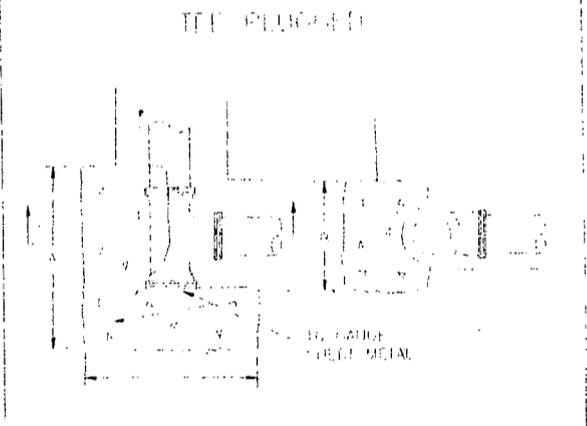
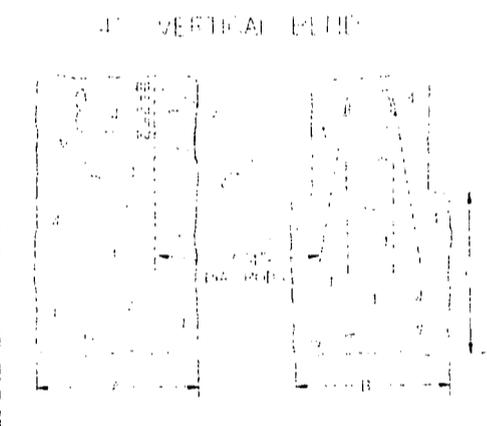
APPROXIMATE QUANTITIES
 100' x 100' x 100'
 100' x 100' x 100'



SIZE	A	B	C
6" & 8"	3"	4"	4"
10"	4"	5"	5"
12"	5"	6"	6"

SIZE	A	B	C
6" & 8"	3"	4"	4"
10"	4"	5"	5"
12"	5"	6"	6"

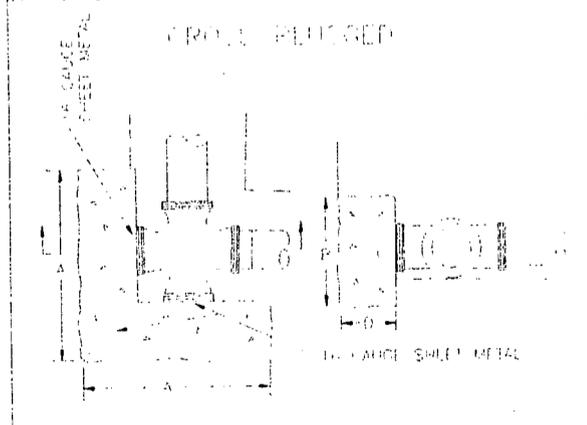
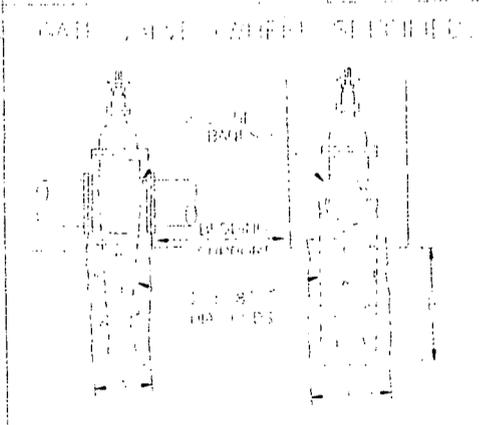
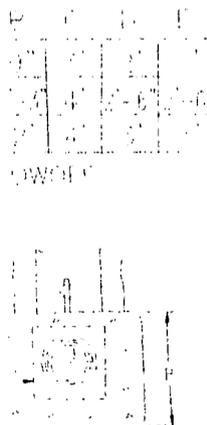
SIZE	A	B
6" & 8"	4"	5"
10"	5"	6"
12"	6"	7"



SIZE	A	B	C
6" & 8"	3"	4"	4"
10"	4"	5"	5"
12"	5"	6"	6"

SIZE	A	B	C
6" & 8"	3"	4"	4"
10"	4"	5"	5"
12"	5"	6"	6"

SIZE	A	B
6" & 8"	4"	5"
10"	5"	6"
12"	6"	7"



SIZE	A	B	C
6" & 8"	3"	4"	4"
10"	4"	5"	5"
12"	5"	6"	6"

SIZE	A	B	C
6" & 8"	3"	4"	4"
10"	4"	5"	5"
12"	5"	6"	6"

SIZE	A	B
6" & 8"	4"	5"
10"	5"	6"
12"	6"	7"

ICAL THRUST ANCHORS

- NOTE:
- (1) ALL PIPING AND GRAY IRON FITTING AND ADJUSTING SCREWS SHALL BE COATED WITH AN ANTI-RUST COMPOUND.
 - (2) CARE SHALL BE TAKEN TO AVOID DAMAGING EQUIPMENT.
 - (3) COMPLETE THRUST ANCHORS MUST BE ALLOWED TO CURE, PROTECTED AS APPROVED BY THE PROJECT MANAGER, BEFORE BACKFILLING.
 - (4) ALL CORROSION SHALL BE STOPPED FROM A COMMERCIAL SOURCE. ALL CORROSION SHALL BE STOPPED FROM A COMMERCIAL SOURCE.



45° BEND			HORIZONTAL OFFSET		
SIZE	A	B	SIZE	A	B
6" x 8" x 12"	8"	2"	6" x 8" x 12"	8"	2"
10"	10"	3"	10"	10"	3"
12"	12"	4"	12"	12"	4"
45° BEND			VERTICAL OFFSET		
SIZE	A	B	SIZE	A	B
6" x 8" x 12"	4"	2"	6" x 8" x 12"	4"	2"
10"	6"	3"	10"	6"	3"
12"	8"	4"	12"	8"	4"
45° BEND			FLANGE		
SIZE	A	B	SIZE	A	B
6" x 8" x 12"	4"	2"	6" x 8" x 12"	4"	2"
10"	6"	3"	10"	6"	3"
12"	8"	4"	12"	8"	4"
45° BEND			FLANGE W/ BLOWOFF		
SIZE	A	B	SIZE	A	B
6" x 8" x 12"	4"	2"	6" x 8" x 12"	4"	2"
10"	6"	3"	10"	6"	3"
12"	8"	4"	12"	8"	4"

TYPICAL THRU-ROOF SUPPORTS SHOWN UNDER ALL HEADINGS. CHECK WITH ENGINEER.

TYPICAL THRU-ROOF