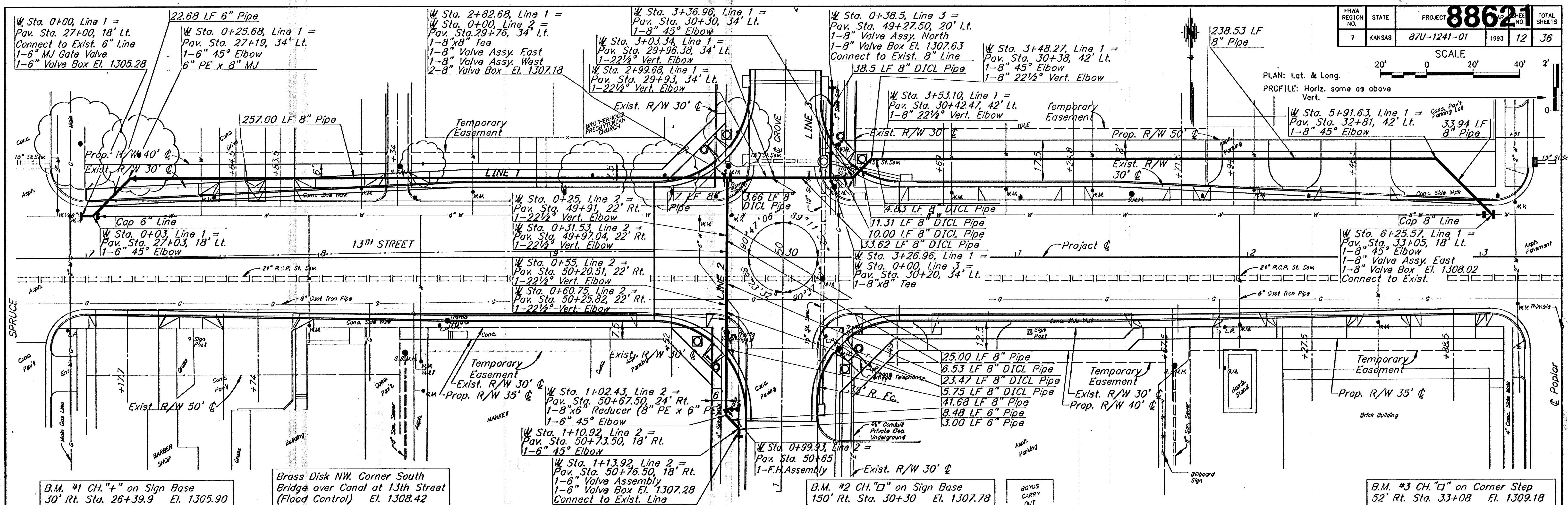
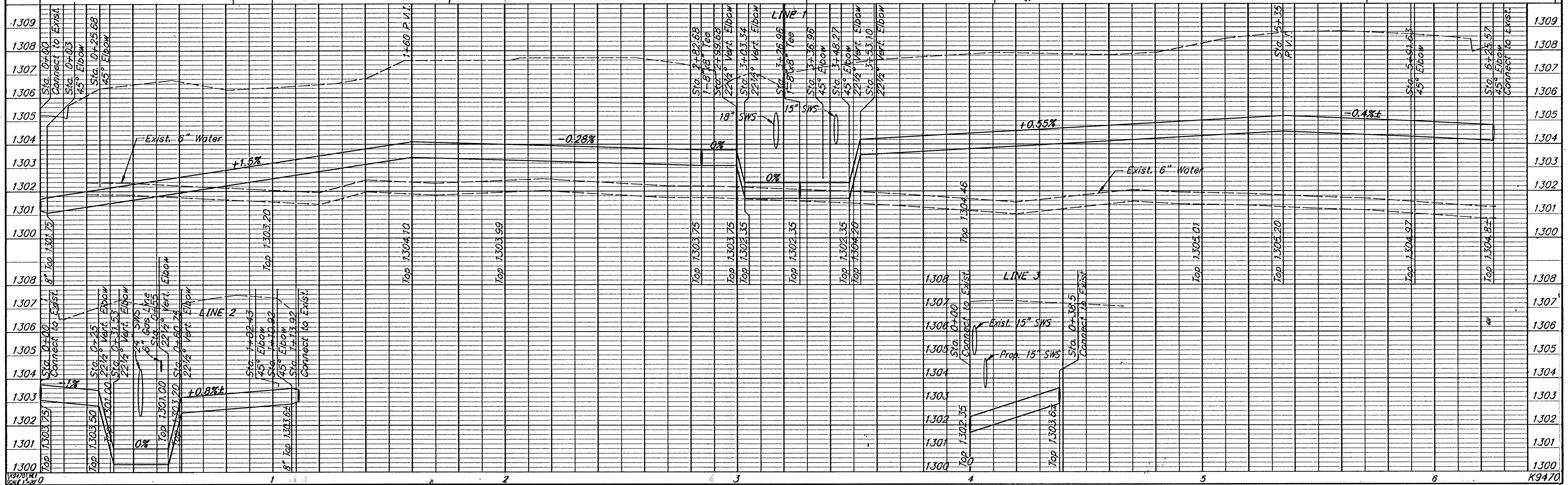


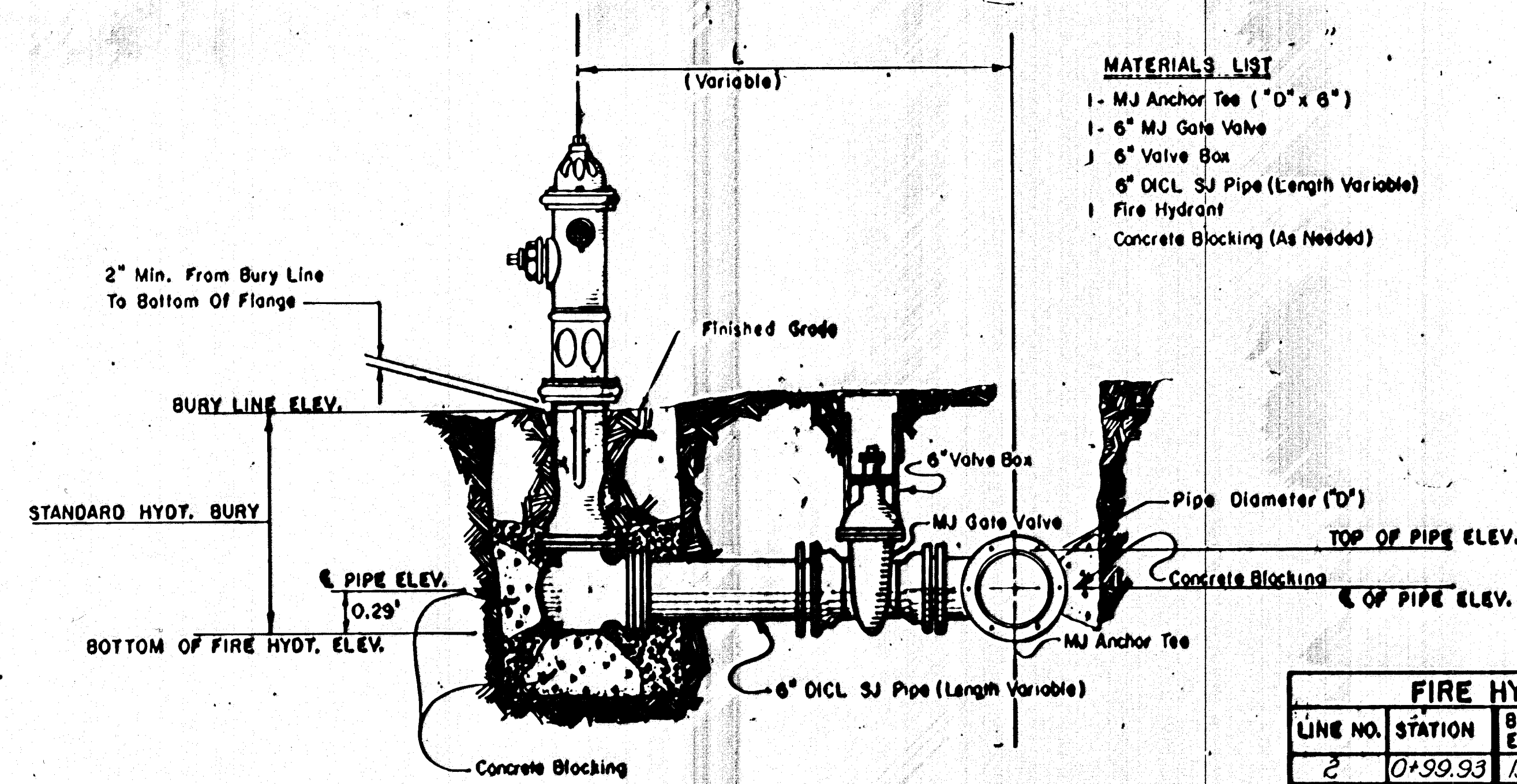


FHWA REGION NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
7	KANSAS	87U-1241-01	12	36

SCALE
20' 0 20' 40' 2'

PLAN: Lat. & Long.
PROFILE: Horiz. same as above
Vert.

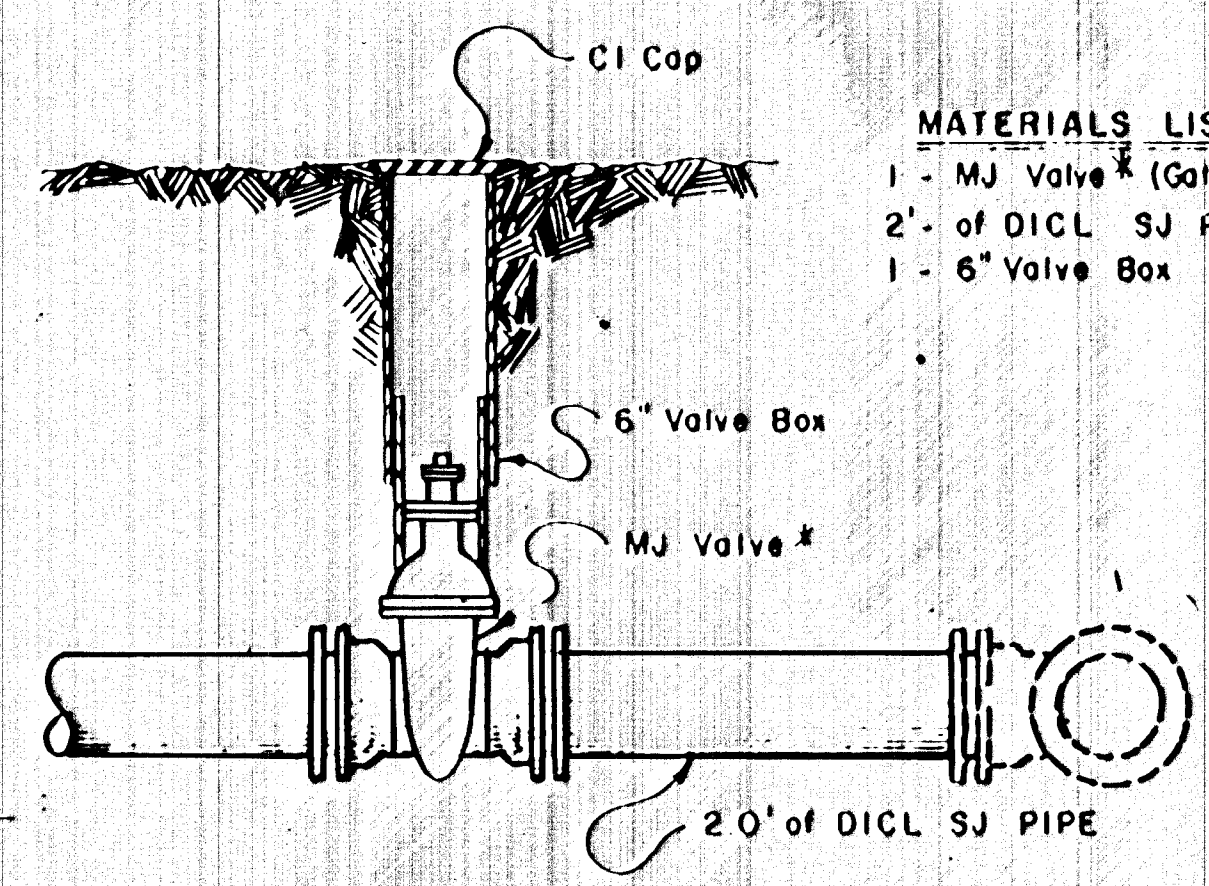




FIRE HYDRANT ASSEMBLY

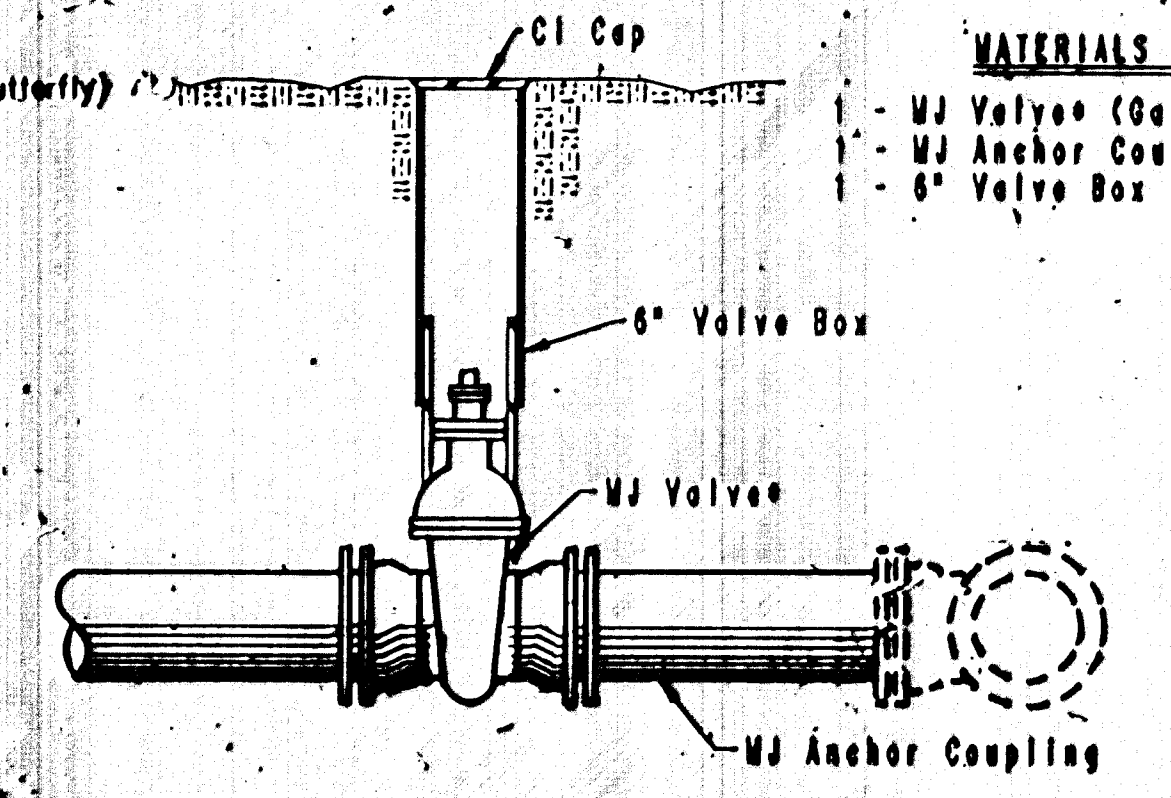
- MATERIALS LIST**
- 1- MJ Anchor Tee (10" x 6")
 - 1- 6" MJ Gate Valve
 - 1- 6" Valve Box
 - 6" DI CL SJ Pipe (Length Variable)
 - 1 Fire Hydrant
 - Concrete Blocking (As Needed)

FIRE HYDRANTS REQUIRED				
LINE NO.	STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED
2	0+99.93 (Line 2)	1307.07	1303.24	4.50



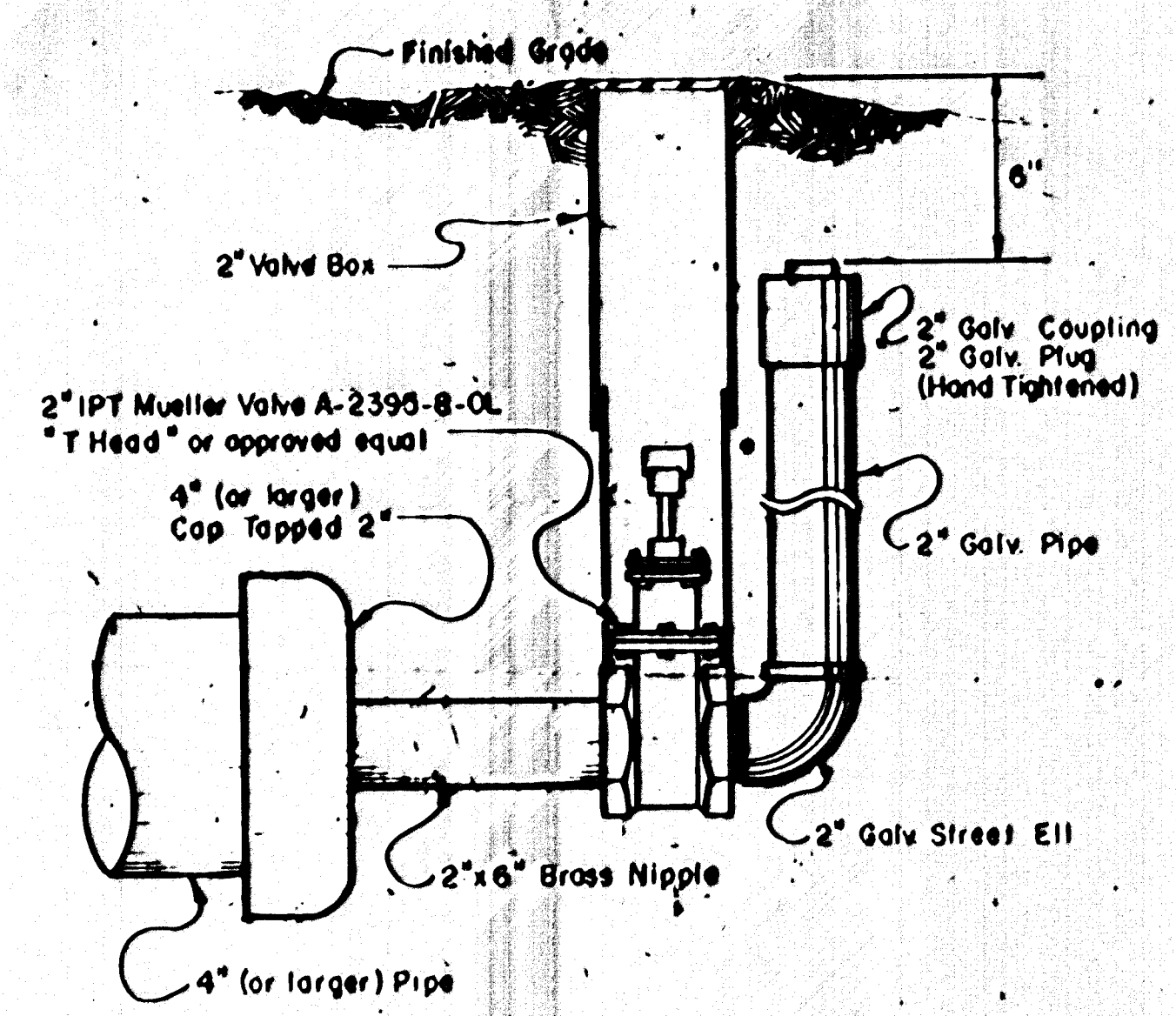
VALVE ASSEMBLY
* See plans for the type of valve to be used

- MATERIALS LIST**
- 1- MJ Valve (Gate or Butterfly)
 - 2'- of DI CL SJ Pipe
 - 1- 6" Valve Box



ANCHORED VALVE ASSEMBLY
* See plans for the type of valve to be used

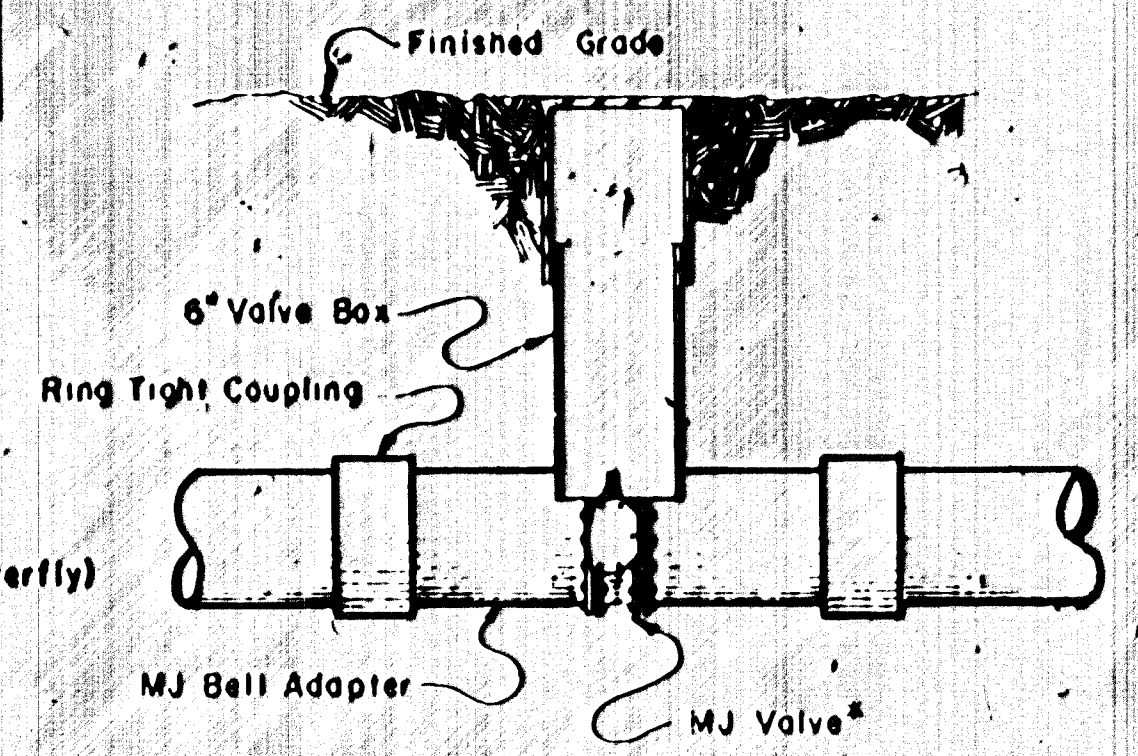
- MATERIALS LIST**
- 1- MJ Valve (Gate or Butterfly)
 - 1- MJ Anchor Coupling (12" or smaller)
 - 1- 6" Valve Box



2" BLOWOFF ASSEMBLY

- MATERIALS LIST**
- 2" Valve Box
 - CIMJ Cap
 - 2"x6" Brass Nipple
 - 2" IPT Mueller Valve A-2395-8-OL
 - "T Head" or approved equal
 - 2" Galv. Street Ell
 - 2" Galv. Pipe (as required)
 - 2" Galv. Coupling
 - 2" Galv. Plug (Hand Tightened)

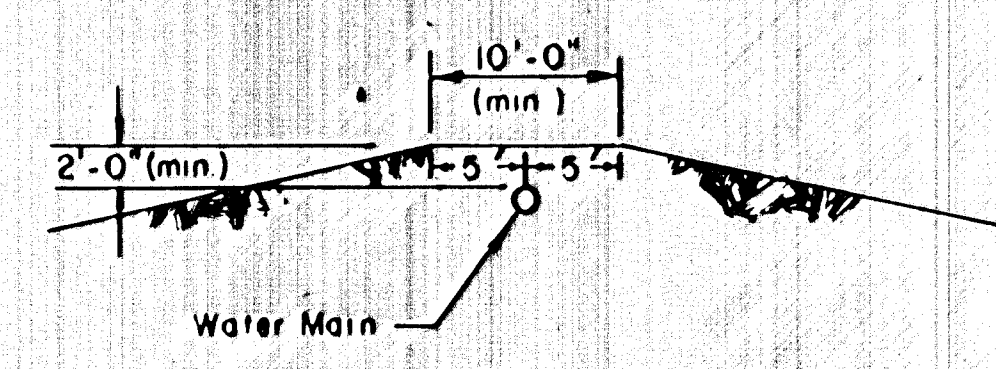
- MATERIALS LIST**
- 1- MJ Valve (Gate or Butterfly)
 - 1- 6" Valve Box
 - 2- Ring Tight Couplings
 - 2- MJ Bell Adaptors



LINE VALVE ASSEMBLY
* See plans for the type of valve to be used

WATER LINE SERVICES FROM WICHITA WATER DEPARTMENT RECORDS						
ADDRESS	SIZE	TYPE	LOCATION	SERVICE TIE-OVER	2" SERV. TIE-OVER	LONG SHORT
1345 N. Grove	2"	Copper	10' S. of S. & 13th		X	
2421-29 E. 13th	3/4"	Copper	27' W. of W. & Grove	X		
2419 E. 13th	3/4"	Copper	1' N. of S. & 13th		X	
2412 E. 13th	3/4"	Copper	54.5' W. of W. & Poplar	X		
2408 E. 13th	3/4"	Copper	1' N. of S. & 13th		X	
2331 E. 13th	3/4"	Lead	115' W. of W. & Poplar			X
2329 E. 13th	3/4"	Copper	2' S. of N. & 13th	X		
2327 E. 13th	3/4"	Copper	103' E. of E. & Grove			
2320 E. 13th	3/4"	Copper	2' S. of N. & 13th	X		
2318 E. 13th	3/4"	Copper	87' E. of E. & Grove			
2300 E. 13th	3/4"	Copper	12' S. of N. & 13th			
2304 E. 13th	3/4"	Copper	45' W. of W. & Grove			
			2' S. of N. & 13th	X		
			129' W. of W. & Grove			
			1' N. of S. & 13th	X		
			178' E. of E. & Spruce			
			2' S. of N. & 13th			
			106' W. of W. & Grove	X		
			11' S. of N. & 13th			
			105' W. of W. & Grove	X		
			3' S. of N. & 13th			
			50' E. of E. & Spruce	X		
			2' S. of N. & 13th			
			120' E. of E. & Spruce	X		
TOTAL				10	1	0

The Wichita Water Department will determine which services will be tied-over or replaced at time of construction.
Call 268-4900.



PROTECTIVE FILL DETAIL
MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROPOSED WATER LINE IS LESS THAN TWO (2) FEET. (COST SUBSIDIARY TO PIPE INSTALLATION.)

Revised 2-17-1988
STANDARD WATER ASSEMBLY DETAILS
CITY OF WICHITA, KANSAS

JANUARY, 1987

Last Plot-Date: 09/18/92

APP. SKB

CKD. KM

TR.

DR. BR/MGC

DES.

PLOT CADD

SURV.

1/3/94/201/WTRTEXT
SCALE 1"=10'

1. Maintenance Bond. Contractor will be required to furnish to the City of Wichita a Maintenance Bond for the amount of the Lump Sum of Water Line System to guarantee the materials furnished and used, and the workmanship employed in the construction of the Water Line included in the contract conforms to specifications and is of such character and quality to insure the work to be free of latent defects and that the work will be in continuous good order and in a condition satisfactory to the City Council for a period of two (2) years from the date of the final payment to the Contractor for the work included in the contract. Where this provision conflicts with the Maintenance Bond requirements contained in Standard Specifications, this provision shall govern.
2. Pipe Certification. All pipe furnished on this project shall be certified by the manufacturer, in writing. The certification shall certify that the pipe meets or exceeds the specified project material specifications for the type of pipe furnished. Such certification shall be prepared by the pipe manufacturer and signed by an authorized official of the company. The company title of the signer must also be clearly shown immediately below the signature. The Contractor shall be responsible for obtaining necessary certifications and arranging for their delivery to the Construction Engineer. Material certification must be delivered to the Construction Engineer before payments will be made to the Contractor for the materials or the installation of such materials. Pipe material certifications shall identify name of Contractor, name of material manufacturer, project title, project number, shipping destination, shipping identification markings, type of material, and quantity of material. All material furnished under certification shall be tagged, stenciled, stamped, or otherwise marked with a heat number, lot number, order number, or other appropriate identification which can be readily recognized and checked against such identification markings shown on the certification. The City reserves the right to sample and test any material even though such material may be covered by certification.
3. Items Incidental to Project. Sand encasement of water transmission pipe in place, sand for encasement of backfill, and compaction of sand encasement or backfill material, shall be considered incidental to Project and will not be paid for separately.
4. Section 22 Revisions. Section 22 on page 16 of Standard Specifications for Installation of Water Pipe shall be considered as deleted. Contractor will not be required to reimburse the City overtime costs of City employees involved in the Project.
5. Wichita Water Department. All references to Wichita Water Department, director or department, shall be construed to indicate the City Engineer, the Assistant City Engineer, or their authorized representative, as is appropriate in the language where such terms are used.
6. Shutting Down Existing Water Mains. Contractor will be required to give the Area Construction Engineer notice 24 hours in advance of shutting off existing water lines to facilitate connection of new lines. Contractor will be required to close existing valves as approved by the Engineer only when the Project Inspector is present on the Project. Such valves must be closed slowly to prevent damage from water hammer.
7. Clearing and Testing Water Mains. Contractor will be required to furnish all equipment, material, labor and other necessary incidentals to flush new lines with water, pressure test new lines, leakage test new lines, and disinfect new lines. These items of work will not be paid for directly and shall be considered as subsidiary to the contract pay items. Flushing, filling, pressure testing, leakage testing, and disinfecting new lines shall be completed only when the Project Inspector is present on the Project.

8. Out of Service Notification. The Contractor is to immediately notify the Water Department Dispatcher (268-4908) of any water mains or fire hydrants that are out of service due to the construction of the Project. Notification to the Water Department Dispatcher must also be made immediately when those same mains and hydrants are returned to service.
9. Notice of Waterline Construction. The Contractor shall give all property owners and/or tenants of developed property directly affected by the construction of this Project a minimum of twenty-four (24) hours advance notice prior to start of construction or changes in local access routes. Such notification shall include specific detailed information on changes in local access routes to individual properties and calendar dates identifying when such changes are scheduled to occur.
10. C.I.C.L. Fittings. C.I.C.L. Fittings shall not be paid for separately but shall be considered incidental to the water pipe. The Contractor may use either AWWA Standard C.I.C.L. fittings or AWWA approved ductile-iron compact fittings. If ductile-iron compact fittings are selected, they shall meet AWWA Standard C-153, rated for a working pressure of 350 psi, of grade 70-50-05, and have a cement-mortar lining with an inside petroleum-asphaltic coating.
11. Water for Construction from Fire Hydrants. Application must be made at the Mains and Services Building, 1701 Sim Park Drive, 268-4908 for a permit to authorize usage of water from public fire hydrants. There will be no charge for the water used for flushing and settlement of backfill on this Project.
12. Disinfection Procedures for Water Mains. The sheet providing chlorine requirements contains an error. The time requirement for the 50 mg/l chlorine solution to remain in the line shall be a minimum of twenty-four (24) hours after which there should be a residual of at least 10 mg/l. All other information contained in the "Disinfection Procedures" specification is correct.
13. DETECTION, PROTECTION, AND IDENTIFICATION: For detection, protection, and identification of water mains, the Contractor shall install a detectable metallic marking in the trench over the water main at the time of back-filling. The marking tape shall be placed in the trench at a depth of one foot, but not exceeding three feet below the proposed final grade of the ground over the centerline of the water main.
- The detectable metallic underground marking tape shall meet the following specifications:
- | | |
|-----------------|---|
| Material | The tape shall be aluminum foil encased in an impervious mylar plastic coating on both sides. |
| Thickness | The tape shall be 5 mils thick. |
| Width of Tape | The tape shall be three inches (3") in width. |
| Printing | The color and printing shall be under the impervious mylar plastic coating. The printing shall be black in color. |
| Coloring | The color used on the tape shall be blue. |
| Warning Message | The following warning message shall be repeated on the tape.
"CAUTION-BURIED WATER LINE BELOW" |
- The cost of installing the underground marking tape shall be considered Subsidiary to the installation of the water main and not paid for separately.

14. Allowable Leakage. The table in section 17-7 of these Standard Specifications is in error. The following table shall be used to determine allowable leakage on water main installations.

Allowable leakage per 1000 feet of pipeline in gal./hr. (GPH).

Avg. Test Pressure PSI	Normal Pipe Diameter							
	4	6	8	12	16	20	24	36
150	0.37	0.55	0.74	1.10	1.47	1.84	2.21	3.31
125	0.34	0.50	0.67	1.01	1.34	1.68	2.01	3.02
100	0.30	0.45	0.60	0.90	1.20	1.50	1.80	2.70
75	0.26	0.39	0.52	0.78	1.04	1.30	1.56	2.34
50	0.21	0.32	0.42	0.64	0.85	1.06	1.27	1.91

15. The technical specifications of the City of Wichita's Standard Specificatin #14533 for the installation of Water Distribution System/Water Supply Line Specifications (on file and available in the City Engineers Office) are required provisions for the furnishing of all materials and doing all work to complete the above referenced work, and are hereby made a part of these provisions as if fully set forth herein. The general clauses and covenants included in such standard specifications shall not apply. Said Standard Specifications shall control except as modified by the above specifications.
16. Concrete Thrust Blocks. Concrete Thrust Blocks shall not be paid for separately, but shall be included in installation of the C.I.C.L. Fittings, and as such, shall be incidental to the water line pipe. Thrust blocking shall conform to Standard Engineering Procedure No. 103.5 included in Water Main Standard Specification No. 14533. Surface area of thrust block bearing on undisturbed earth to counteract thrust shall be equal in square feet to thrust shown in the table expressed in tons divided by 0.5 tons per square foot for clay soils and 1.0 tons for sand-gravel soils. Upward thrusts from vertical bends shall be counteracted by an equal weight of concrete.
17. Subcontractors. When more than one Contractor is performing work in any one Project area, each Contractor shall conduct his work so as not to interfere with or hinder the timely progress or completion of the work being performed by other Contractors. In this regard, Contractors working within the same Project area shall cooperate with each other to the maximum extent possible, in accordance with the spirit of the plans and specifications, and shall arrange their work, perform their work in proper sequence, and place or dispose of materials being used in order to avoid delaying each other in the performance of their respective work responsibilities.
18. Existing Line to remain in service until new line has been cleared, tested, and accepted.
19. Connections shall be made at Sta. 0+00 Line 1, Sta. 6+25.52, Line 1, and at Sta. 1+11.09 Line 2.
20. Clear and flush the new line through new Fire Hydrant.
21. After new line is cleared, services shall be tied over.
22. After the services are tied over, the connection at Sta. 0+38.50, Line 3, shall be made using swabbed pipe. Flush through new Fire Hydrant with valve on Line 2 closed. After flushing, open all valves.
23. Contractor to field verify location and depth of existing Water Line at connection points prior to construction.

FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	87U 1421-01	1993	14	36

CITY OF WICHITA	
13TH AND GROVE INTERSECTION	
GENERAL NOTES	
CITY OF WICHITA PROJ. NO.	
Booker ASSOCIATES INC. OF KANSAS Wichita Kansas	
SCALE NONE	DATE K9470