

**LEGEND**

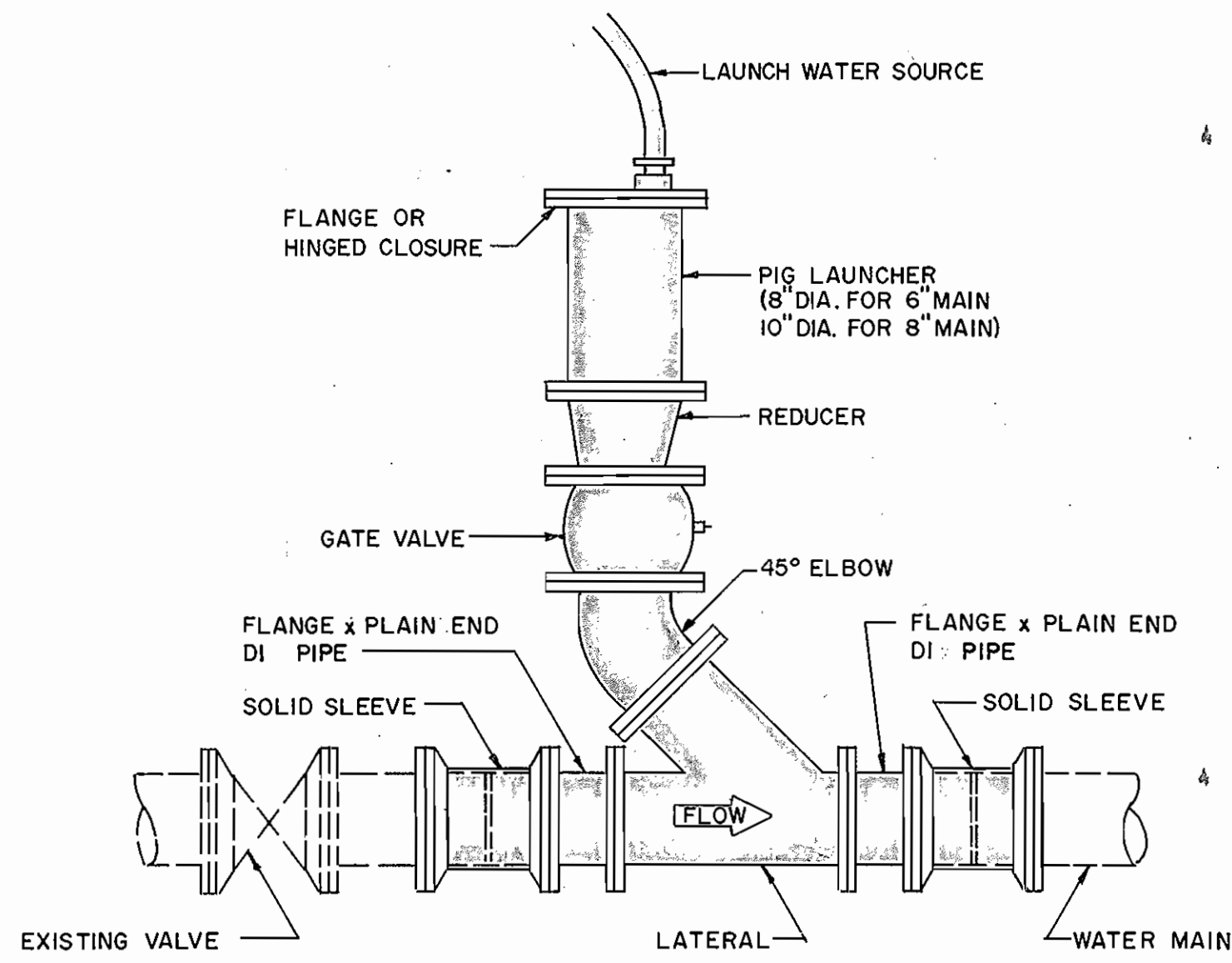
- \* LOT WITH CURRENT 3/4" WATER SERVICE (MAY, 1991)
- △ LOT WITH CURRENT 1" WATER SERVICE (MAY, 1991)
- LOT WITH CURRENT 1 1/4" WATER SERVICE (MAY, 1991)
- LOT WITH CURRENT 2" WATER SERVICE (MAY, 1991)
- EXISTING SEWER MANHOLE
- ⊠ EXISTING GAS MAIN VALVE
- ⊙ EXISTING ELECTRICAL VAULT
- ⊕ EXISTING FIRE HYDRANT & VALVE
- ⊕ NEW FIRE HYDRANT & VALVE
- ⊕ TEMPORARY SERVICE PIPE & DIAMETER
- ⊕ TEMPORARY FIRE HYDRANT FITTING
- ⊕ EXISTING SYSTEM VALVE
- S- EXISTING SANITARY SEWER
- G- EXISTING NATURAL GAS MAIN
- E- EXISTING ELECTRICAL CONDUIT

**NOTES**

1. FOR FURTHER DETAILS OF EXISTING WATER MAIN SEE CONTRACT NUMBERS: W-105B, W-105C, W-108B, & W-108G; FOR DETAILS OF EXISTING SANITARY SEWERS SEE CONTRACT NUMBER S-22.
2. THE CONTRACTOR SHALL NOT PASS MECHANICAL CLEANING EQUIPMENT THROUGH ANY VALVES ON THE EXISTING WATER SYSTEM.
3. EXISTING WATER MAINS WITHIN THE LIMITS OF THIS PROJECT ARE UNLINED.
4. ELEVATION OF EXISTING MAINS IS NOT KNOWN FROM EXISTING RECORDS.
5. EXISTING STATIC PRESSURES ARE 170-160 psi.
6. CONTRACTOR SHALL PROVIDE NEW FIRE HYDRANT ON MIAMI COURT PER STD. DTL. W111, LOCATION A, WITH 4'-0" BURY LENGTH. CONTRACTOR SHALL VERIFY BURY LENGTH PRIOR TO START OF CONSTRUCTION BY TEST PITTING TO DETERMINE DEPTH OF EX. 6"W.
7. CONTRACTOR SHALL PROVIDE NEW 2" WHC AT 5635 FURNACE AVE. PROVIDE NEW 2" CORPORATION STOP WITH APPROXIMATELY 10 L.F. OF 2" COPPER TYPE K PIPING PER STD. DTL. W3.21 & W3.34. CONNECT TO EXISTING W.M. VAULT.
8. CONTRACTOR SHALL PROVIDE NEW 8" W.H.C. AT 5710 FURNACE AVE. CUT EX. 8" WATER & INSTALL 8" x 8" TEE AND 8" VALVE. EXTEND 8" W.H.C. APPROXIMATELY 50 L.F. PARALLEL TO EX. 6" W.H.C. CAP END OF 8".
9. CONTRACTOR SHALL EXTEND TEMPORARY 4" WATER MAIN TO EX. F.H. APPROXIMATELY 480' EAST OF 8" x 6" TEE IN ORDER TO PROVIDE CONTINUOUS WATER SERVICE TO CUSTOMERS EAST OF INTERSECTION OF RAILROAD AVE. & FURNACE AVE.
10. CONTRACTOR SHALL COORDINATE DURATION AND TIME OF WATER SERVICE SHUT DOWN WITH HOWARD CO. DPW PRIOR TO INSTALLATION OF 10" VALVE IN LEVERING AVENUE. SHUT DOWN SHALL NOT EXCEED 2 HOURS.

**PLAN**  
SCALE: 1"=100'

<p><b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> 6/19/91 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>[Signature]</i> 6-19-91 CHIEF, BUREAU OF UTILITIES DATE</p>	<p>JOHN E. HARMS, JR. &amp; ASSOCIATES INC. CONSULTING ENGINEERS P.O. BOX 5 PASADENA, MARYLAND 21122 (301) 647-6000</p> <p><i>[Signature]</i> PROFESSIONAL ENGINEER</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>DES: S.E.S.</td><td></td></tr> <tr><td>DRN: F.A.L.</td><td></td></tr> <tr><td>CHK: W.R.G.</td><td></td></tr> <tr><td>DATE: 5/91</td><td></td></tr> <tr><td>BY: NO.</td><td></td></tr> <tr><td>REVISION</td><td></td></tr> <tr><td>DATE</td><td></td></tr> </table>	DES: S.E.S.		DRN: F.A.L.		CHK: W.R.G.		DATE: 5/91		BY: NO.		REVISION		DATE		<p>PLAN OF WATER MAINS WITH TEMPORARY BY-PASS SERVICE AND FIRE HYDRANTS</p> <p>600' SCALE MAP NO. 38 BLOCK NO.</p>	<p>ELKRIDGE WATER MAIN IMPROVEMENTS CONTRACT NO. 44-3126 CAPITAL PROJECT W-8171 ELECTION DISTRICT ELKRIDGE NUMBER 1</p>	<p>SCALE AS SHOWN</p> <p>SHEET 2 OF 3</p>
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TYPICAL LAUNCHING DEVICE FOR HYDRAULIC  
PIPELINE CLEANING (PIGGING)  
NOT TO SCALE

SEQUENCE OF INSTALLATION

1. CUT PIPELINE & INSTALL LAUNCHER W/SLEEVES.
2. PERFORM PIGGING OPERATION.
3. REMOVE LAUNCHER & INSTALL REPLACEMENT  
LINE SIZE DI PIPE SECTION W/SLEEVES.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Robert W. Benjamin*  
DIRECTOR OF PUBLIC WORKS  
DATE 6-19-91

*Elizabeth Anderson*  
CHIEF, BUREAU OF ENGINEERING  
DATE 6-19-91

JOHN E. HARMS, JR. & ASSOCIATES INC.  
CONSULTING ENGINEERS  
P.O. BOX 5  
PASADENA, MARYLAND 21122  
(301) 647-6000



DES: S.E.S.				
DRN: 'FAL'				
CHK: W.R.G.				
DATE:	BY	NO.	REVISION	DATE

PIPING DETAILS

ELKRIDGE WATER MAIN IMPROVEMENTS  
CONTRACT NO. 44-3126  
CAPITAL PROJECT W-8171  
ELECTION DISTRICT ELKRIDGE NUMBER 1

SCALE  
AS  
SHOWN

SHEET  
3 OF 3