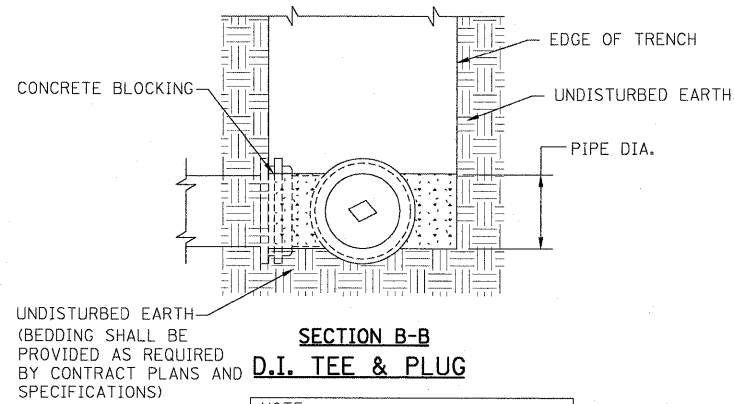
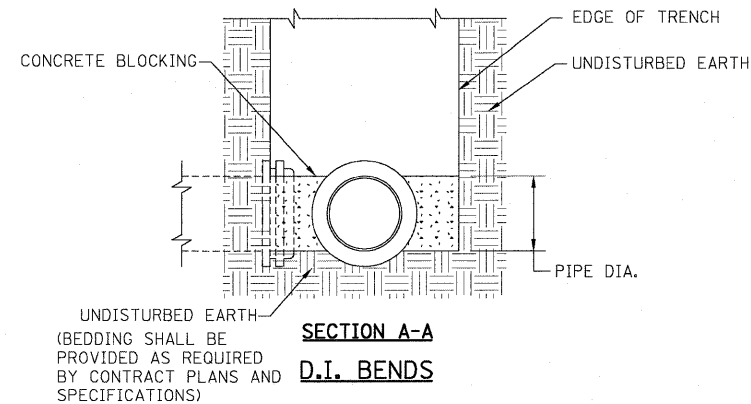
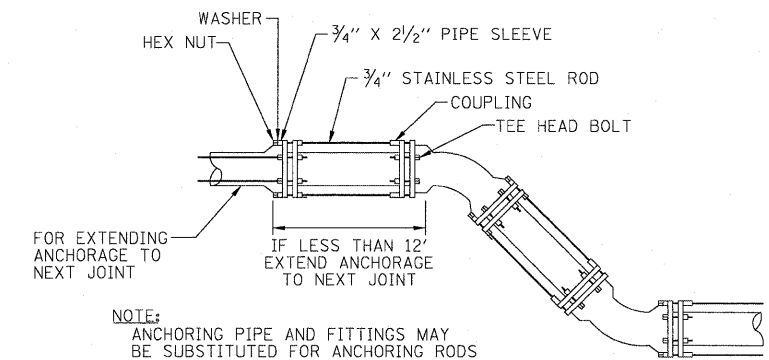


**TYPICAL WATER SERVICE 1"**



NOTE: RETAINER GLANDS SHALL BE USED ON ALL FITTINGS. NO ADDITIONAL COMPENSATION ALLOWED.

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NOTE: ANCHORING PIPE AND FITTINGS MAY BE SUBSTITUTED FOR ANCHORING RODS

**ANCHORAGE OF FITTINGS LYING IN VERTICAL PLANE**

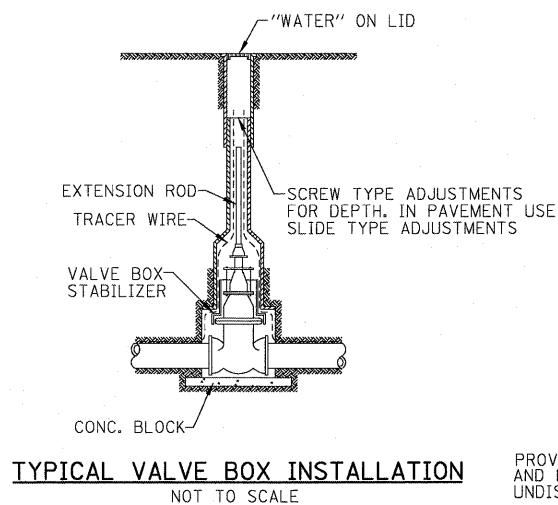
PIPE SIZE	NO. 3/4" RODS REQUIRED
12" & UNDER	2

**TYPICAL CONCRETE BLOCKING DETAIL**

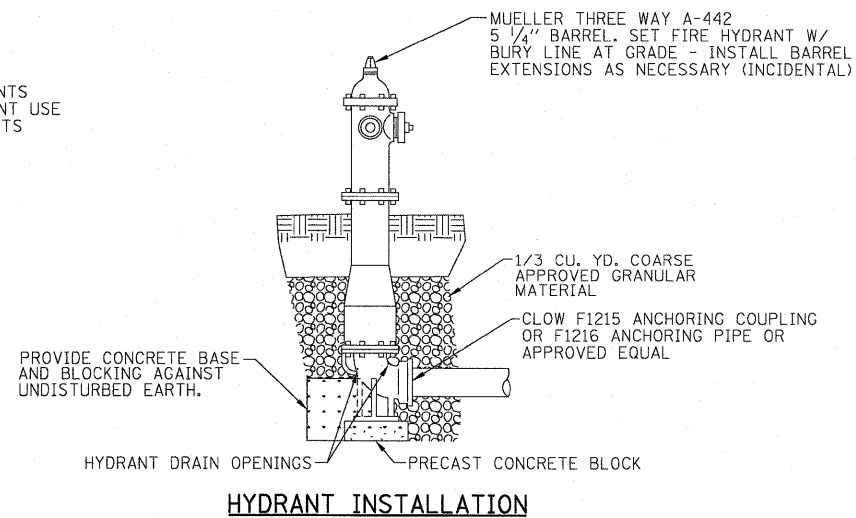
PIPE SIZE	AREA OF BEARING FACE REQUIRED - SQ. FT.		
	1/4 BEND	1/8 OR 1/16 BEND	TEES & PLUGS
4,6,8	3	3	3
10	4	3	3
12	6	3	4
16	11	4	7
18	16	6	10
20	18	8	12

FORCE MAIN AND PRESSURE RATED MINIMUM RESTRAINED JOINT FITTINGS REFERENCE LENGTH TABLE WHERE RESTRAINED LENGTHS ARE NOT INDICATED ON THE PLANS (SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

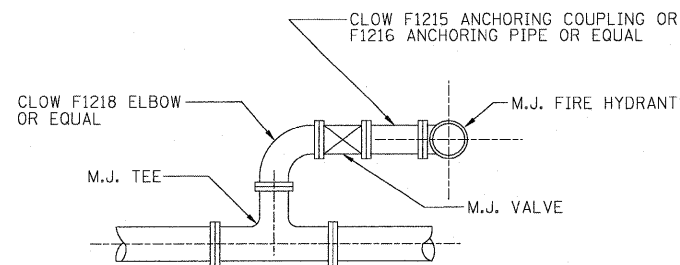
FITTING	PIPE SIZE AND RESTRAINED JOINT LENGTH (BOTH SIDES OF FITTING) IN L.F.					
	3"	4"	6"	8"	10"	12"
PIPE DIAMETER	3'	4'	6'	8'	10'	12'
11 1/4° TO 45° ELBOW	9'	11'	16'	21'	26'	31'
90° ELBOW	23'	28'	39'	51'	63'	74'
VERTICAL OFFSET 11 1/4° TO 45°	21'	26'	37'	48'	59'	70'
TEE (BRANCH) RUN 10FT. EACH WAY	19'	25'	38'	52'	65'	78'
REDUCER	-	10'	23'	24'	24'	25'
DEAD END	25'	31'	44'	58'	71'	85'



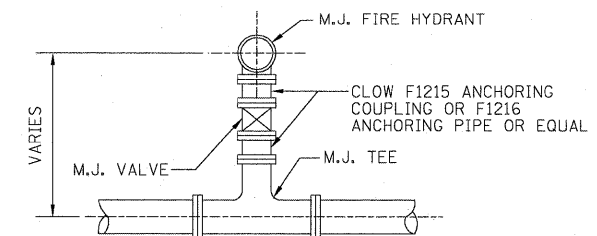
NOTE: RETAINER GLANDS TO BE USED ON ALL VALVES. NO ADDITIONAL COMPENSATION ALLOWED.



**HYDRANT INSTALLATION**



**HYDRANT CONNECTION TYPE 5**



**HYDRANT CONNECTION TYPE 3**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CITY OF HAVANA - BROADWAY STREET  
WATERMAIN DETAILS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00035-00-SS	MASON	60	33
CONTRACT NO. 93502				

SCALE: N.T.S. SHEET NO. OF SHEETS STA. 10+37 TO STA. 31+99.5