

**Shoulder Work on Undivided Highways**

SPEED	SIGN SPACING (ft.)		TAPER LENGTH (ft.)		OPTIONAL BUFFER LENGTH (ft.)	CHANNELIZER SPACING (ft.)	
	Undivided (S)	Divided (S)	Shoulder (T1)	Lane (T2)		Buffer	Work Areas
0-35	200	-	70	-	120	35	50
40-45	350	-	150	-	220	40	100
50-55	500	-	185	-	335	50	100
60-70	1000	-	235	-	550	60	100

1 Shoulder taper length based on 10 ft. (standard shoulder width) offset. 2 Lane taper length based on 12 ft. (standard lane width) offset.

**Lane Closure on Two-Lane Highways Using Flaggers**

SPEED	SIGN SPACING (ft.)		TAPER LENGTH (ft.)		OPTIONAL BUFFER LENGTH (ft.)	CHANNELIZER SPACING (ft.)	
	Undivided (S)	Divided (S)	Shoulder (T1)	Lane (T2)		Buffer	Work Areas
0-35	200	-	70	-	120	35	50
40-45	350	-	150	-	220	40	100
50-55	500	-	185	-	335	50	100
60-70	1000	-	235	-	550	60	100

1 Shoulder taper length based on 10 ft. (standard shoulder width) offset. 2 Lane taper length based on 12 ft. (standard lane width) offset.

**TYPE ROADWAY**

TYPE ROADWAY	SIGN HEIGHT	MAXIMUM WORK ZONE LENGTH (ft.)
URBAN	7 Post	1 Mi.
RURAL UNDIVIDED	5 Post	3 Mi.

**Notes:**

In addition to shoulder work, this typical application is applicable to work beyond shoulder where vehicles and equipment are parked on the shoulder.

A protective vehicle shall be used while work is in progress. The protective vehicle should be equipped with a TMA and positioned at least 150 ft. in advance of the work space.

If encroachment onto driving surface occurs and there is not 10 ft. of driving surface available for the lane of traffic, that traffic lane shall be closed. Refer to appropriate lane closure typical applications.

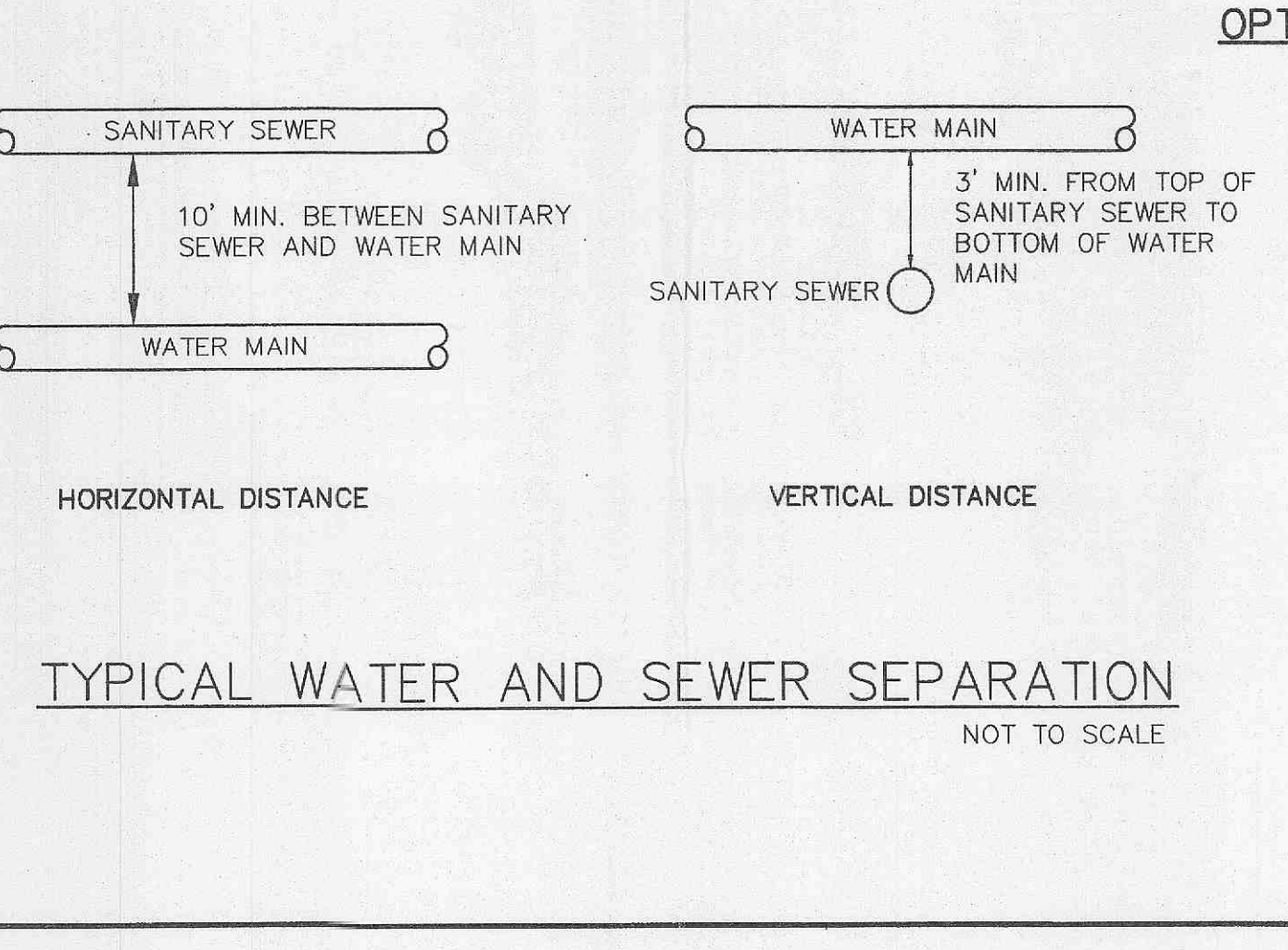
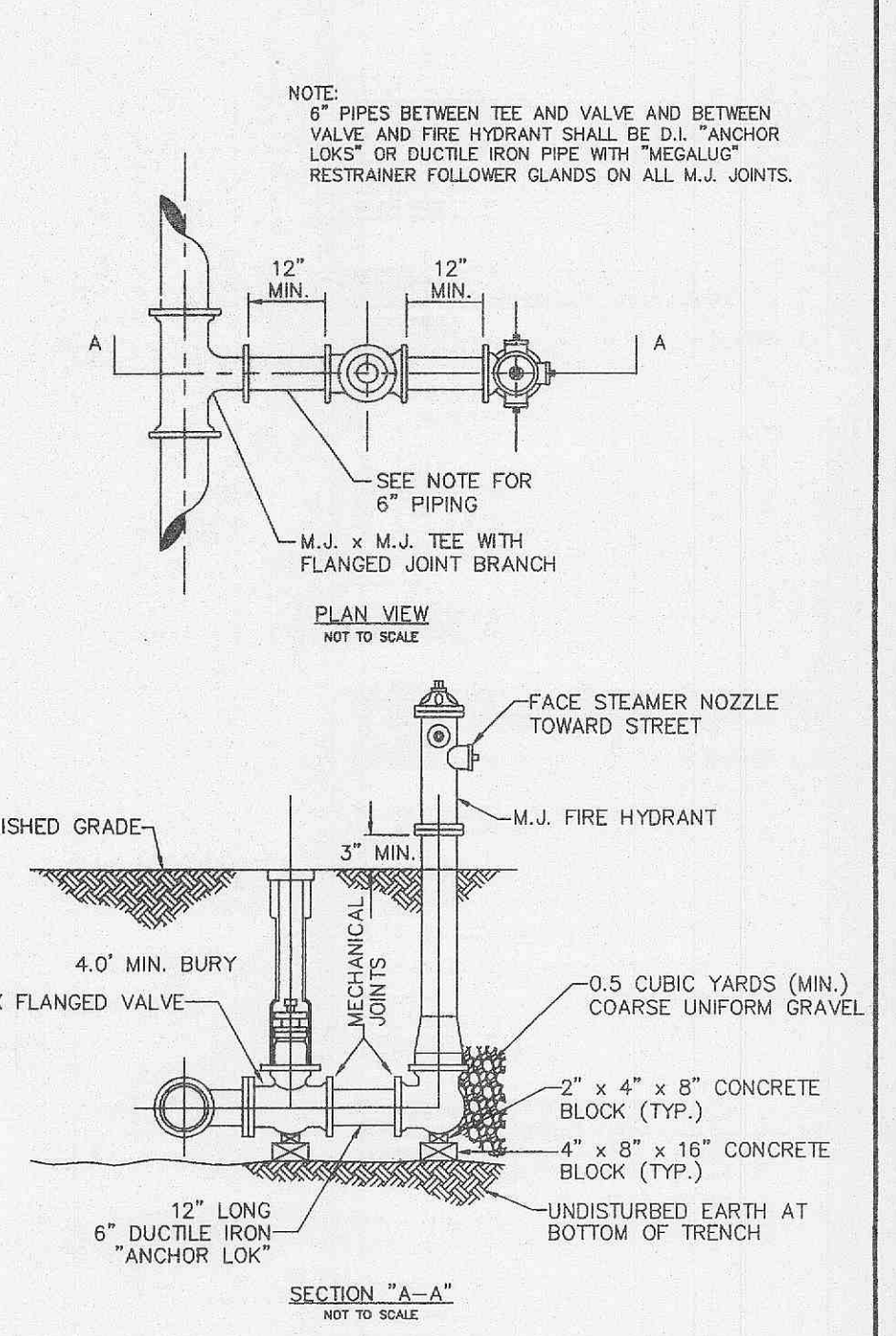
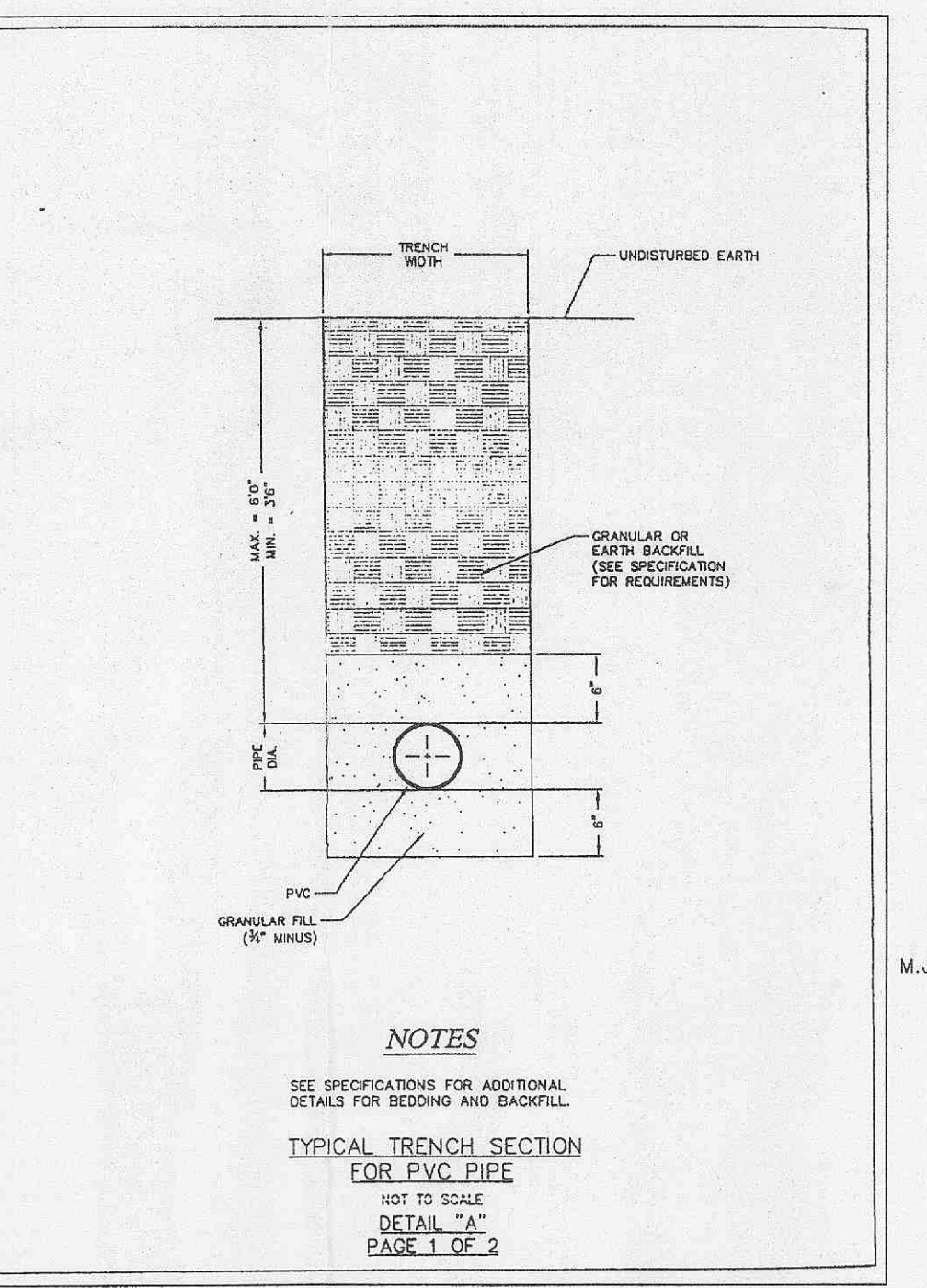
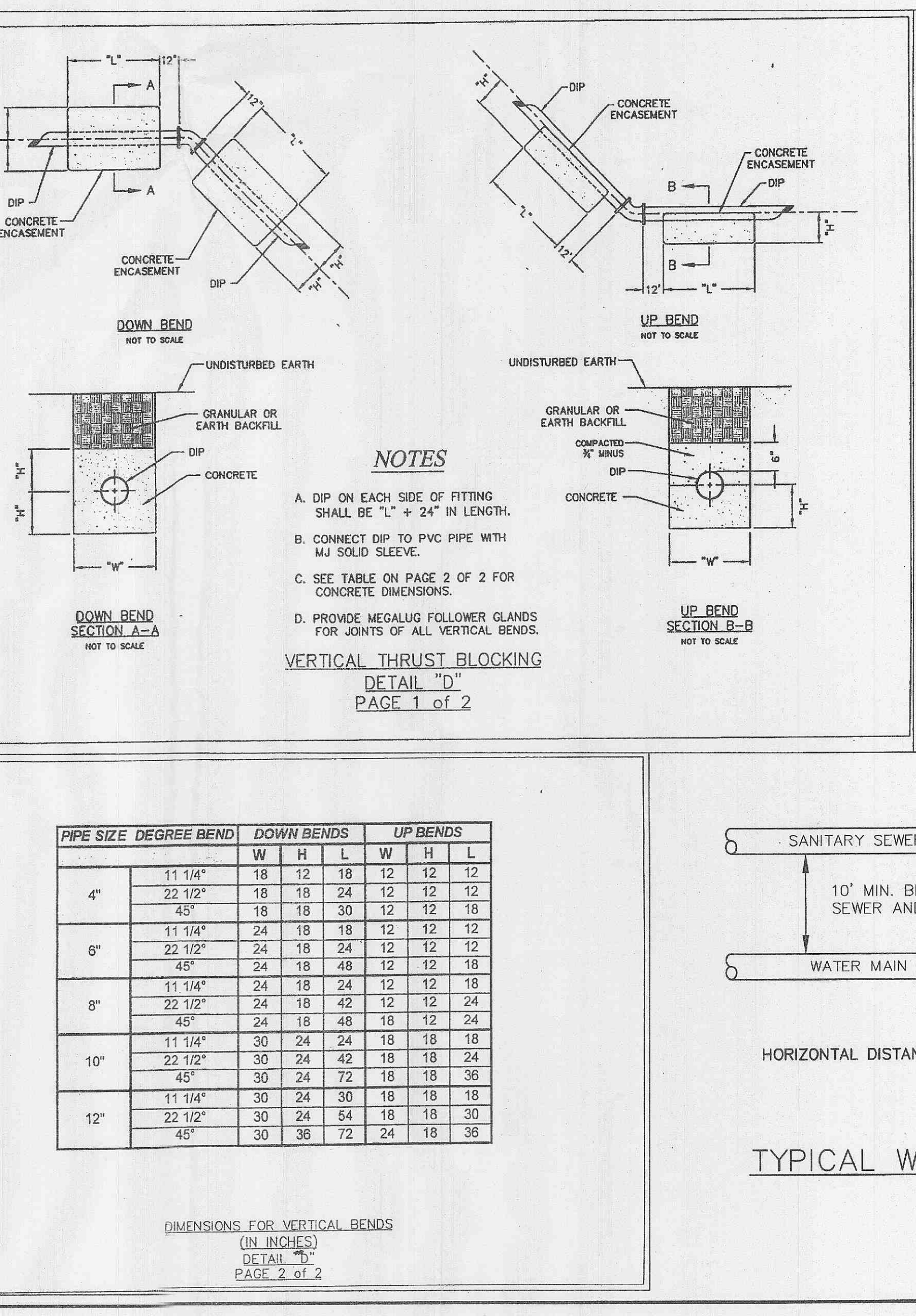
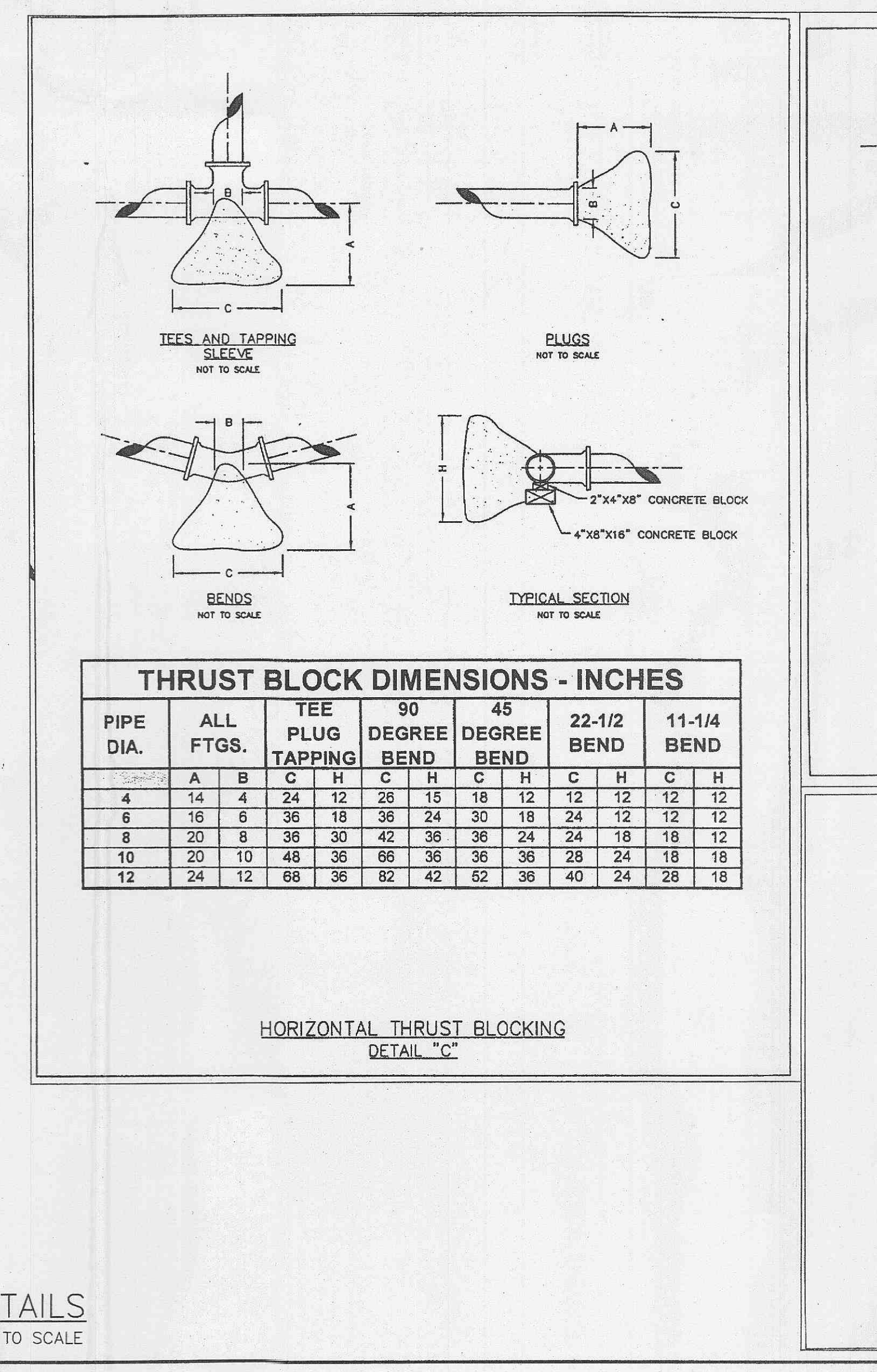
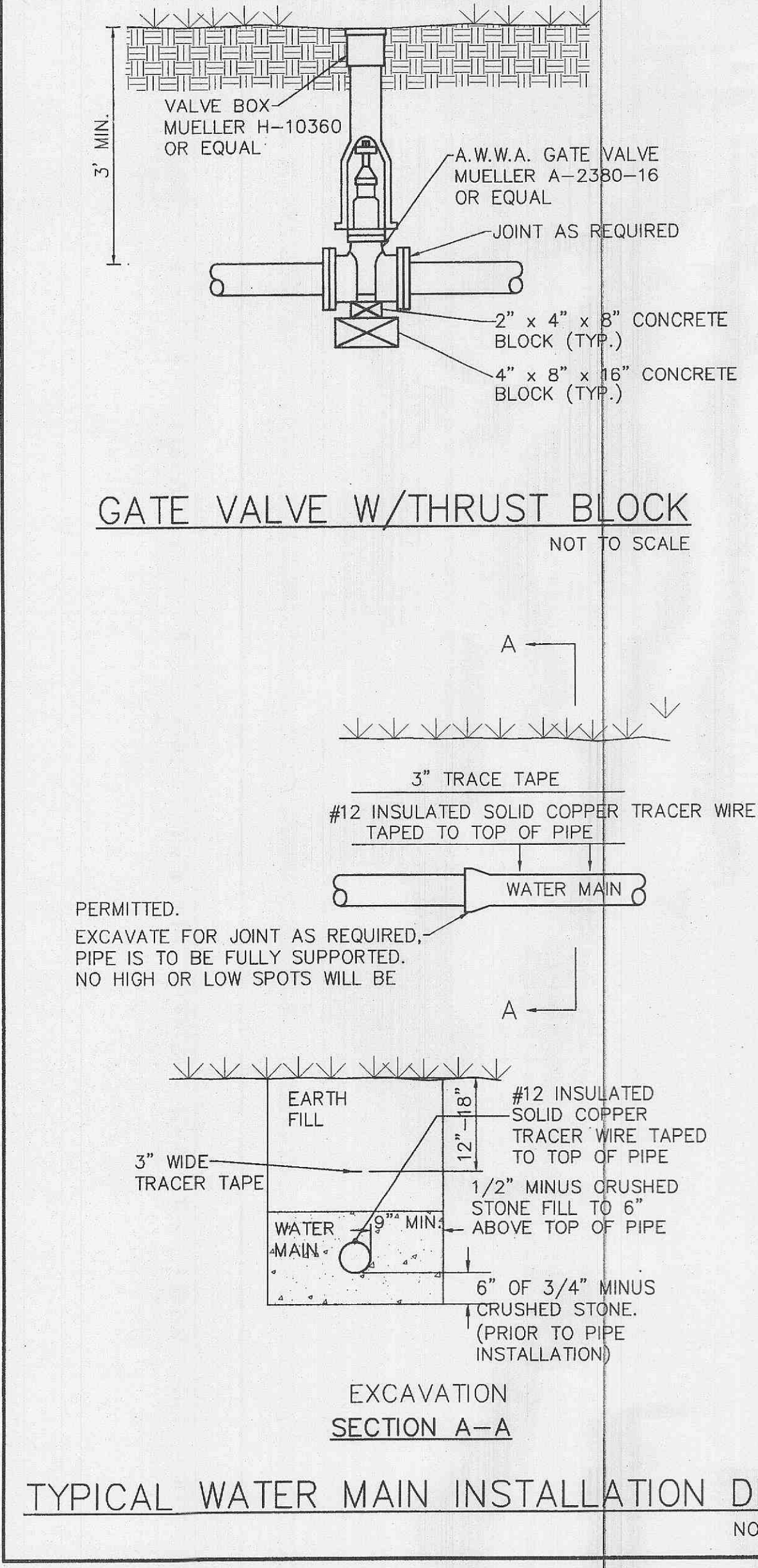
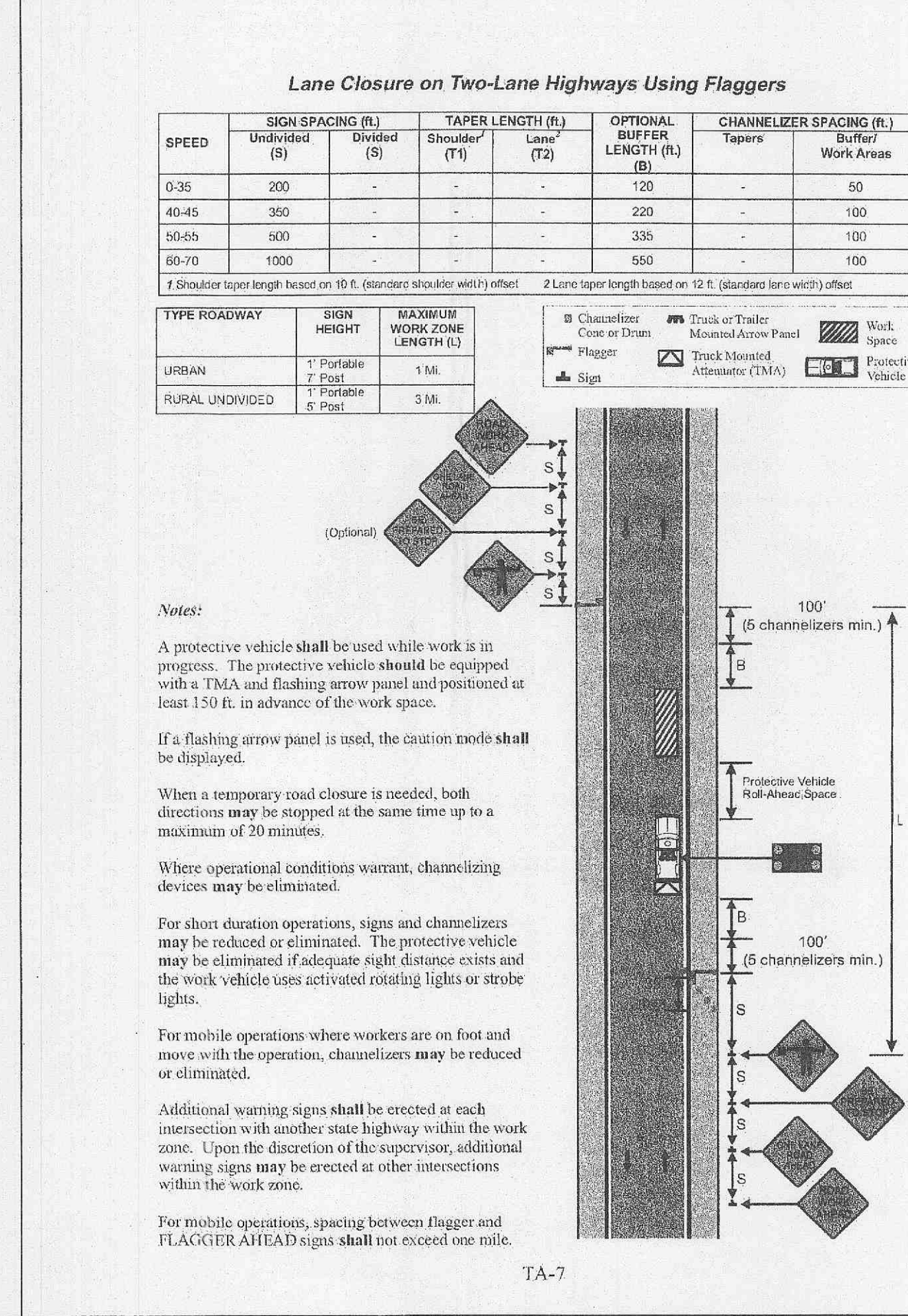
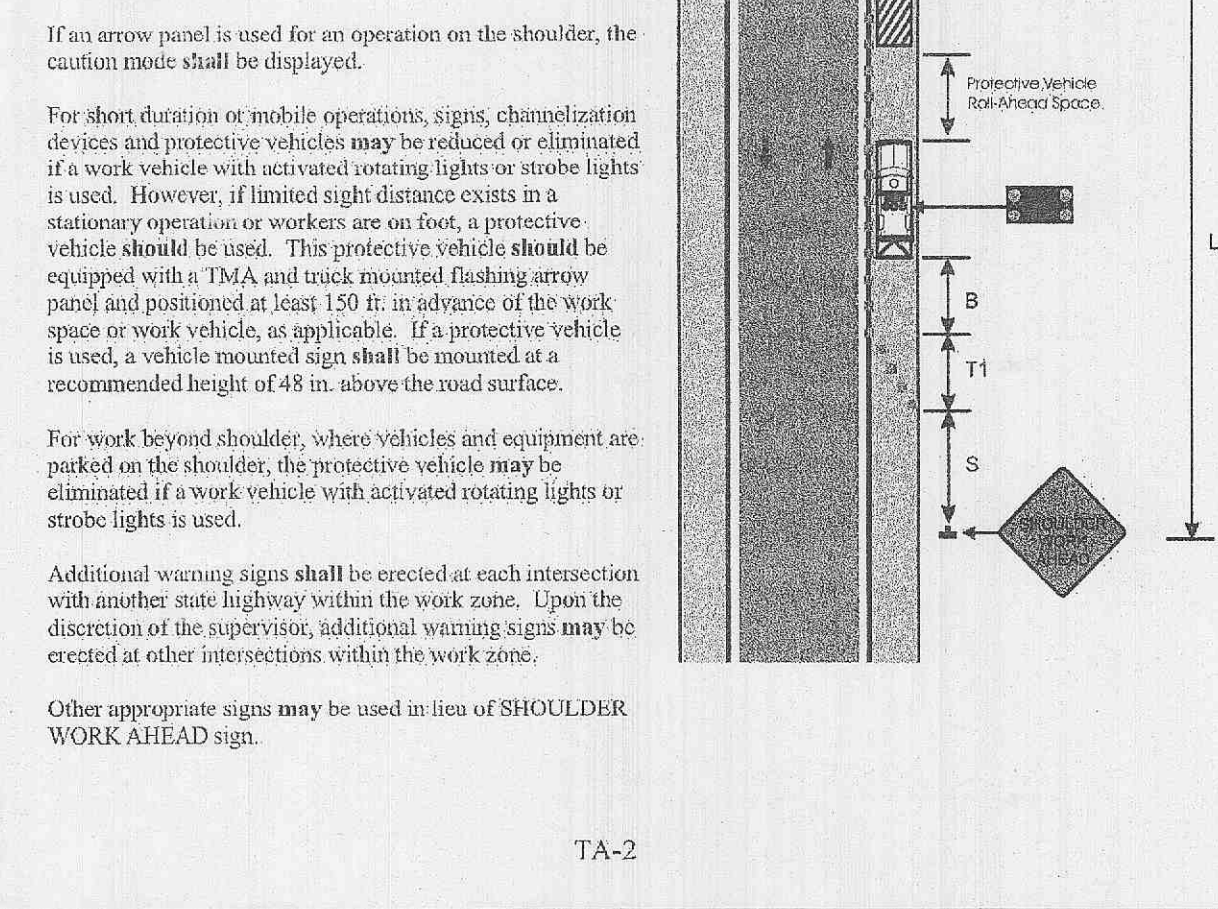
If an arrow panel is used for an operation on the shoulder, the caution mode shall be displayed.

For short duration or mobile operations, signs, channelization devices and protective vehicles may be reduced or eliminated if a work vehicle with activated rotating lights or strobe lights is used. However, if limited sight distance exists in a stationary operation or workers are on foot, a protective vehicle should be used. This protective vehicle should be equipped with a TMA and truck mounted flashing arrow panel and positioned at least 150 ft. in advance of the work space or work vehicle, as applicable. If a protective vehicle is used, a vehicle mounted sign shall be mounted at a recommended height of 48 in. above the road surface.

For work beyond shoulder, where vehicles and equipment are parked on the shoulder, the protective vehicle may be eliminated if a work vehicle with activated rotating lights or strobe lights is used.

Additional warning signs shall be erected at each intersection with another state highway within the work zone. Upon the discretion of the supervisor, additional warning signs may be erected at other intersections within the work zone.

Other appropriate signs may be used in lieu of SHOULDER WORK AHEAD sign.



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