Drawing S-200.010
SANITARY, STORM AND WATER (MAIN AND SERVICE) PIPE BEDDING AND CONCRETE ENCASEMENT DETAILS
DWG. DATE: 1978 03 · REVISION NO.: 12 · REV. DATE: 2013 04 · SCALE: N.T.S.

- CONCRETE ENCASEMENT DETAIL
- CONCRETE ARCH
- CONCRETE CRADLE
- CLASS A
- CLASS B — CONCRETE AND CPP PIPE (WET TRENCH / DRY TRENCH)
- CLASS D — DUCTILE IRON AND COPPER PIPE
- CLASS P — PVC, PE AND VC PIPE (WET TRENCH / DRY TRENCH)

LEGEND
O.D. = OUTSIDE DIAMETER OF PIPE
Lf = LOAD FACTOR
As = AREA OF STEEL

Drawing S-200.050
JOINT RESTRAINING LENGTH FOR PVC PIPE (IN COMBINATION WITH GRANULAR THRUST BLOCK)
DWG. DATE: 1991 11 · REVISION NO.: 6 · REV. DATE: 2013 04 · SCALE: N.T.S.

- HORIZONTAL DEFLECTION — SECTION A–A
- SECTION B–B DOWNWARD THRUST
- VERTICAL DEFLECTION — SECTION C–C UPWARD THRUST

TABLE NO. 1 — MINIMUM DIMENSION FOR GRANULAR THRUST BLOCKS

DEFL. ANGLE	PIPE DIAMETER (mm)			
	100&150	200	300	400
11.25°	400	500	600	700
22.5°	400	500	600	700
45°	450	550	650	750
90°	600	700	850	950

TABLE NO. 2

PIPE DIA. (mm)	MINIMUM VERTICAL DEFLECTION						HORIZONTAL DEFLECTION			
	DOWNWARD THRUST		UPWARD THRUST							
	11.25°	22.5°	45°	11.25°	22.5°	45°	90°	11.25°	22.5°	45°	90°
100&150	1.5	2.8	4.9	4.9	7.5	10.1	1.5	2.8	4.9	8.1
200	2.0	3.7	6.3	6.3	9.6	13.1	2.0	3.7	6.3	10.5
300	2.8	5.2	9.0	8.8	13.4	18.3	2.8	5.2	9.0	14.9
400	3.6	6.7	11.6	11.2	17.2	23.7	3.6	6.7	11.6	19.3

Drawing S-200.060
THRUST BLOCK FOR PVC WATERMAINS FOR HYDRANT RUNOUTS, TEES AND DEAD ENDS
DWG. DATE: 1991 11 · REVISION NO.: 11 · REV. DATE: 2013 04 · SCALE: N.T.S.

- DEAD ENDS (PLAN / ELEVATION)
- RESTRAINED TEE (PLAN / SECTION A–A)
- RESTRAINED REDUCER
- PLUGGED CROSS (PLAN / ELEVATION)

PIPE DIA.	"L" MIN. RESTRAINING LENGTH (m)
100&150	15.2
200	19.6
300	27.7
400	36.3

Drawing S-201.030
CATHODIC PROTECTION / BONDING CABLE / TRACER WIRE FOR PVC AND CPP WATERMAIN SYSTEMS
DWG. DATE: 1981 04 · REVISION NO.: 7 · REV. DATE: 2013 04 · SCALE: N.T.S.

Drawing S-210.010
HYDRANT SET WITH MECHANICALLY RESTRAINED JOINTS
DWG. DATE: 1978 03 · REVISION NO.: 18 · REV. DATE: 2014 04 · SCALE: N.T.S.

Drawing S-240.041
COMBINED METER ROOM, BACKFLOW PREVENTION DEVICE ROOM LAYOUT PRIVATE HYDRANT AND SPRINKLER SYSTEM
DWG. DATE: 2008 04 · REVISION NO.: 11 · REV. DATE: 2013 04 · SCALE: N.T.S.

- PLAN VIEW: TYPICAL VERTICAL DOMESTIC INSTALLATION / HORIZONTAL FIRE LINE INSTALLATION
- PLAN VIEW: TYPICAL DOMESTIC INSTALLATION / VERTICAL FIRE LINE INSTALLATION