

**NOTES:**

- LIMITS SHOWN ARE MAXIMUM ALLOWED AND MINIMUM REQUIRED FOR EXCAVATION AND BACKFILL.
- UPPER LIMIT FOR TRENCH EXCAVATION IS TOP OF EXISTING SURFACE AT TIME OF TRENCH EXCAVATION.
- UPPER LIMIT FOR ROCK EXCAVATION IS TOP SURFACE OF ROCK.
- UPPER LIMIT FOR SELECT GRANULAR BACKFILL (WATER) IS BOTTOM OF TEMPORARY PAVEMENT, IF USED, OTHERWISE TOP OF SURFACE.
- TEMPORARY OR PERMANENT BLOCKS OR ANY OTHER TYPE OF PIPE SUPPORT IS NOT TO BE USED DURING PIPE INSTALLATION.
- MINIMUM DEPTH OF COVER FOR WATER PIPE FROM TOP OF PROPOSED GRADE IS 4.50 FEET FOR DOMESTIC WATER PIPE, AND 5 FEET FOR HOLLY WATER PIPE, UNLESS OTHERWISE NOTED ON PLANS OR AS DIRECTED BY PROJECT MANAGER.

**CITY OF ROCHESTER**  
**WATER TRENCH PAVEMENT RECONSTRUCTION**  
 ISSUED 1-13-06 NON-STANDARD  
 REVISED 11-22-10 DWG.NO.S900-1

**NOTES:**

- ONE STANDARD FULL LENGTH OF WATER MAIN PIPE IS TO BE CENTERED ON SEWER PIPE SO THAT BOTH JOINTS OF WATER MAIN PIPE WILL BE AS FAR FROM SEWER PIPE AS POSSIBLE.
- THRUST BLOCKS AND PIPE/JOINT RESTRAINTS ARE TO BE PROVIDED AT ALL BENDS, SEE DETAILS S900-5, S900-7, S900-8 AND S900-10.
- WHERE WATER MAIN PIPE PASSES UNDER SEWER PIPE THERE IS TO BE MINIMUM 18 INCHES OF VERTICAL SEPARATION BETWEEN WATER MAIN PIPE AND SEWER PIPE.
- WHERE VERTICAL SEPARATION IS LESS THAN 18 INCHES, WATER MAIN PIPE JOINTS LOCATED WITHIN 18 FEET OF BOTH SIDES OF SEWER PIPE MUST BE ENCASED WITHIN CONTROLLED DENSITY FILL MATERIAL, OR SEWER PIPE CONSTRUCTED WITH WATER MAIN STANDARD PIPE AND TESTED TO 150 PSI.
- WHERE WATER MAIN PIPE PASSES UNDER SEWER PIPE THERE IS TO BE MINIMUM OF 6 INCHES OF CLASS K CONCRETE OR CRUSHED STONE BEDDING MATERIAL FOR SEWER PIPE.

**CITY OF ROCHESTER**  
**WATER MAIN CROSSING BELOW SEWER PIPE**  
 ISSUED 1-13-06 NON-STANDARD  
 REVISED 11-22-10 DWG.NO.S900-3

PIPE SIZE	BEND				TEE PLUG	REDUCER	
	90°	45°	22-1/2°	11-1/4°		SIZE	AREA
4" - 6"	4	2.5	1.5	1	3	6" x 4"	2
8"	7	4	2	1	5	8" x 6"	2.5
12"	14.5	8	4	2	10.5	12" x 8"	5.5

**NOTES:**

- SPECIAL DESIGN IS REQUIRED FOR FITTINGS ON DOMESTIC WATER MAIN PIPE LARGER THAN 12 INCHES.
- THRUST BLOCK IS TO BE POURED AGAINST UNDISTURBED EARTH. WIDTH OF THRUST BLOCK SHOULD BE APPROXIMATELY TWICE HEIGHT.
- THRUST BLOCK IS TO BE INSTALLED AT ALL BENDS, PLUGS, TEES, AND TAPPING SLEEVE AND VALVE CONNECTIONS.
- FACTORY CAST OFFSETS ARE TO BE TREATED AS (2) 45 DEGREE BENDS.
- FOR REDUCERS, THRUST BLOCK IS TO BE KEYPED INTO WALLS AND BOTTOM OF TRENCH.
- MECHANICAL RESTRAINT IS REQUIRED IN ADDITION TO THRUST BLOCK, SEE DETAIL S900-7.
- WOOD BLOCKING IS NOT PERMITTED.

**CITY OF ROCHESTER**  
**HORIZONTAL THRUST BLOCK DOMESTIC SYSTEM**  
 ISSUED 1-13-06 NON-STANDARD  
 REVISED 8-7-13 DWG.NO.S900-4

PIPE SIZE (INCHES)	BEND	TOP SECTION MINIMUM VOLUME CONCRETE	MINIMUM DIMENSIONS (IN FEET)							
			A	B	C	D	E	F	G	H
6"	11-1/4°	0.25 CY	1.0	2.5	1.0	1.5	0.5	1.0	2.5	0.5
	22-1/2°	0.50 CY	1.0	2.5	1.0	1.5	1.0	2.0	2.5	1.5
	45°	0.95 CY	1.0	2.5	1.0	3.0	1.5	2.0	2.5	1.5
	90°	1.30 CY	1.0	2.5	2.0	3.5	1.5	2.0	2.5	1.5
8"	11-1/4°	0.45 CY	1.0	2.7	1.0	1.5	1.0	1.5	2.7	1.0
	22-1/2°	0.90 CY	1.0	2.7	1.0	2.5	1.0	2.0	2.7	1.5
	45°	1.65 CY	1.0	2.7	1.5	3.5	1.5	2.0	3.0	1.5
	90°	2.35 CY	1.5	2.7	3.0	4.0	2.0	3.0	3.0	2.5
12"	11-1/4°	1.05 CY	1.0	3.0	1.5	2.5	1.5	2.0	3.0	1.5
	22-1/2°	2.00 CY	1.0	3.0	1.5	4.0	2.0	2.0	3.0	1.5
	45°	3.70 CY	1.5	3.0	3.0	5.0	2.0	3.0	3.5	2.5
	90°	5.20 CY	1.5	3.0	5.0	5.5	2.5	3.5	4.0	3.0

**NOTES:**

- SPECIAL DESIGN IS REQUIRED FOR FITTINGS ON DOMESTIC WATER MAIN PIPE LARGER THAN 12 INCHES.
- MECHANICAL RESTRAINT IS REQUIRED IN ADDITION TO THRUST BLOCK, SEE DETAIL S900-7.

**CITY OF ROCHESTER**  
**VERTICAL THRUST BLOCK DOMESTIC SYSTEM**  
 ISSUED 1-13-06 NON-STANDARD  
 REVISED 6-1-09 DWG.NO.S900-5

**NOTES:**

- LOCATION OF SAMPLING TAPS ARE SUBJECT TO PRIOR APPROVAL BY CITY AND MONROE COUNTY DEPARTMENT OF PUBLIC HEALTH.
- IF SAMPLING TAP IS LOCATED IN PAVED AREA, SAMPLING TAP IS TO BE KEPT BELOW GROUND EXCEPT WHEN IN USE.
- IF APPROVED BY CITY, SAMPLING TAP MAY BE LOCATED AT SAME LOCATION AS NEW WATER SERVICE.
- IF SAMPLING TAP IS NOT TO BE USED AS NEW WATER SERVICE, UPON NOTIFICATION OF ACCEPTABLE SAMPLE RESULTS, CORPORATION STOP IS TO BE REMOVED AND REPLACED WITH A BRASS PLUG OR CORPORATION STOP IS TO BE CLOSED, WATER SERVICE PIPE DISCONNECTED FROM CORPORATION AND BRASS CAP INSTALLED ON OUTLET OF CORPORATION STOP.
- MAXIMUM DISTANCE BETWEEN SAMPLING TAPS ON NEW WATER MAIN INSTALLATION IS 1,000 FEET.

**CITY OF ROCHESTER**  
**DISINFECTION SAMPLING TAP**  
 ISSUED 1-13-06 NON-STANDARD  
 REVISED 2-19-15 DWG.NO.S900-6

PIPE SIZE (INCHES)	MINIMUM LENGTH *	MINIMUM RESTRAINED LENGTH FOR WATER MAIN PIPE ADJACENT TO FITTINGS (IN FEET) (BASED ON INTERNAL PRESSURE OF 150 PSI) (SEE NOTE 1)						
		90°	45°	22-1/2°	11-1/4°	REDUCER	TEE	CAP PLUG
4" - 6"	L	16	7	3	2	29	16	56
	LHS	49	24	12	6	---	---	---
	LLS	16	6	3	2	---	---	---
8"	L	20	9	4	2	31	33	74
	LHS	64	31	15	8	---	---	---
	LLS	20	8	4	2	---	---	---
12"	L	28	12	6	3	56	64	105
	LHS	91	44	21	11	---	---	---
	LLS	28	11	5	3	---	---	---

**NOTES:**

- SPECIAL DESIGN IS REQUIRED FOR FITTINGS ON DOMESTIC WATER MAIN PIPE LARGER THAN 12 INCHES AND FOR REDUCERS HAVING MORE THAN ONE PIPE SIZE DIFFERENCE.
- CONCRETE THRUST BLOCK IS TO BE USED IN ADDITION TO MECHANICAL RESTRAINT DEVICES, SEE DETAILS S900-4 AND S900-5.
- ALL PLASTIC AND POLYETHYLENE WRAPPED DUCTILE IRON DOMESTIC WATER MAIN PIPE AND FITTING JOINTS WITHIN L-LHS-LLS DIMENSIONS MUST BE RESTRAINED USING APPROVED MECHANICAL RESTRAINT DEVICE.
- ASSUMPTION: SP SOILS, 4.50 FEET COVER, AND TYPE 4 LAYING CONDITION.

**CITY OF ROCHESTER**  
**WATER MAIN PIPE RESTRAINT DOMESTIC SYSTEM**  
 ISSUED 5-8-08 NON-STANDARD  
 REVISED 9-1-09 DWG.NO.S900-7

**NOTES:**

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL EXCAVATIONS ARE ADEQUATELY PROTECTED IN ACCORDANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS.
- SHORING MUST BE FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH OSHA REGULATIONS, AND ADEQUATE CLEARANCES PROVIDED, WHEREVER WATER BUREAU PERSONNEL MUST ENTER AN EXCAVATION. EXCEPTIONS TO THIS POLICY CAN ONLY BE MADE BY THE DIRECTOR OF WATER OR HIS REPRESENTATIVE.
- THE CONTRACTOR SHALL MAKE AND SHORE THE EXCAVATION, CLEAN THE AREA OF THE WATER MAIN FOR THE TAP, ATTACH THE TAPPING SLEEVE AND VALVE TO THE MAIN FOR SERVICES 4-INCH DIAMETER AND LARGER OR ATTACH THE TAPPING SADDLE (WHERE REQUIRED) TO THE MAIN FOR SERVICES 2-INCH DIAMETER AND SMALLER AND INSURE THAT THE WORK AREA IS READY FOR INSPECTION BY BUREAU PERSONNEL PRIOR TO MAKING THE TAP.

**CITY OF ROCHESTER**  
**WATER SERVICE TAP EXCAVATION**  
 ISSUED 4-29-11 NON-STANDARD  
 REVISED DWG.NO.S900-12

**NOTES:**

- FOR OPEN CUT INSTALLATION, TRACER WIRE IS TO BE #12 AWG SOLID COPPER WITH 30 MIL BLUE HMWPIE INSULATION. FOR TRENCHLESS INSTALLATION, TRACER WIRE IS TO BE #12 AWG SOLID COPPER CLAD STEEL CORE WITH 45 MIL BLUE HDPE INSULATION.
- FOR PLASTIC WATER MAIN PIPE, TRACER WIRE IS TO RUN ALONG TOP OF AND BE SECURED TO WATER MAIN PIPE WITH PLASTIC STRAPS OR TAPE PLACED AT MAXIMUM 8 FEET INTERVALS. AT WATER VALVE, TRACER WIRE IS TO RUN ALONG SIDE OF PLASTIC WATER MAIN PIPE.
- TRACER WIRE IS TO BE CONNECTED TO TERMINATION BOX INSTALLED ADJACENT TO HYDRANT. EXTEND TRACER WIRE UP INSIDE OF TERMINATION BOX LEAVING MINIMUM OF 3 FEET OF TRACER WIRE COILED UP INSIDE TOP OF TERMINATION BOX. CONNECT END OF TRACER WIRE TO TERMINAL BOARD.

**CITY OF ROCHESTER**  
**PLASTIC WATER MAIN TRACER WIRE INSTALLATION**  
 ISSUED 1-13-06 NON-STANDARD  
 REVISED 6-1-09 DWG.NO.S901-8

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 Architecture and Engineering Services  
 City of Rochester, New York

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PROJECT TITLE: STREET IMPROVEMENT PROGRAM  
 HINCHER GROUP

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
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