

WATER CONSTRUCTION NOTES

1. ALL PIPELINES LESS THAN 12" DIA. SHALL BE INSTALLED WITH A MINIMUM OF 36" COVER TO FINISH GRADE OVER THE PIPE AND ALL PIPELINES 12" DIA. OR GREATER, SHALL HAVE A MINIMUM OF 48" COVER, UNLESS OTHERWISE SPECIFIED.
2. UNLESS OTHERWISE SHOWN ON THE PLANS OR SPECIFIED, PROPOSED WATER LINES SHALL BE: CLASS 350 DUCTILE IRON PIPE.
3. ALL WATER TIE-INS OR POINTS OF CONNECTION TO AN EXISTING SYSTEM SHALL HAVE A "TEST-PLATE" FOR A PHYSICAL SEPARATION BETWEEN APPROVED AND NON-APPROVED WATER SYSTEMS AT ALL TIMES. PLATE(S) SHALL NOT BE REMOVED UNTIL THE WATER SYSTEM HAS PASSED BACTERIOLOGICAL TESTING AND INSTRUCTION HAS BEEN GIVEN BY THE MSWD INSPECTOR.
4. HYDROSTATIC PRESSURE TESTING SHALL BE IN ACCORDANCE WITH AWWA C600-05 SPECIFICATIONS. NO VISIBLE LEAKAGE SHALL BE PERMITTED AND TEST DURATION IS A MINIMUM OF 4 HOURS. THE DISTRICT INSPECTOR SHALL BE NOTIFIED 48 HOURS PRIOR TO THE TEST DATE AND SHALL BE ON SITE DURING THE PRESSURE TEST. THE CONTRACTOR/SUBCONTRACTOR SHALL CONDUCT ALL PRESSURE AND LEAK TESTING USING CONTRACTOR PROVIDED PRESSURE GAUGES AND EQUIPMENT. TIME SPENT BY DISTRICT INSPECTOR INSPECTING ANY REQUIRED RETESTS (MSWD RATE INCLUDES OVERHEAD) SHALL BE AT THE CONTRACTOR'S EXPENSE.
5. ALL WATER LINES AND APPURTENANCES SHALL BE SUPER CHLORINATED/DISINFECTED AT AN INITIAL DOSAGE OF 100-PPM (PARTS PER MILLION) MINIMUM BY MEANS OF LIQUID SODIUM HYPOCHLORITE (APPROVED FOR POTABLE WATER USE) OR BY CHLORINE GAS. INITIAL DISINFECTION SHALL BE HELD FOR A MINIMUM PERIOD OF 24 HOURS AND A MAXIMUM 48 HOURS CONTACT TIME. AFTER INITIAL CONTACT TIME PERIOD, A MINIMUM OF 50 PPM (PARTS PER MILLION) CHLORINE RESIDUAL MUST BE MAINTAINED THROUGH OUT THE ENTIRE WATERLINE AND APPURTENANCES IN ORDER TO FLUSH SYSTEM. IF 50 PPM IS NOT MAINTAINED THE ENTIRE WATER LINE AND APPURTENANCES MUST BE RE-DISINFECTED TO 100 PPM MINIMUM AND SHALL BE HELD FOR AN ADDITIONAL 24 HOURS BEFORE FLUSHING THE SYSTEM.
6. THE SPECIFIED DISINFECTION OF THE PIPELINES MAY NOT BE PERFORMED CONCURRENT WITH THE HYDROSTATIC TESTING.
7. THE PIPELINE SHALL BE FILLED AT A RATE SUCH THAT THE AVERAGE VELOCITY OF FLOW IS NOT GREATER THAN TWO FEET PER SECOND. THE FOLLOWING TABLE GIVES FILLING RATES TO PROVIDE 2 FEET PER SECOND VELOCITY FOR VARIOUS PIPE DIAMETERS.

NOMINAL PIPE SIZE (INCHES)		FILLING RATES TO ACHIEVE VELOCITY OF 2 FPS (GPM)
4		80
6		180
8		320
10		490
12		700
16		1250
18		1580
20		1960
24		2820
30		4400

8. FLUSHING OF WATER LINES SHOULD BE CONDUCTED UNTIL THE CHLORINE RESIDUALS ARE LESS THAN 1 (ONE) PPM. BACTERIOLOGICAL SAMPLE TESTING WILL BE PERFORMED AFTER 24 HOUR PERIOD.
9. THE PIPELINE ALIGNMENT SHOWN ON THE PLANS IS APPROXIMATE AND MAY BE ADJUSTED IF NECESSARY, DUE TO UTILITY CONFLICT (BUT ONLY AS DIRECTED BY THE DISTRICT).
10. REFER TO MSWD STANDARD DRAWINGS FOR PLACEMENT OF ALL FIRE HYDRANTS WITH RESPECT TO RIGHTS-OF-WAY, SIDEWALKS AND CURB LINES. FIRE HYDRANTS SHALL BE CONSTRUCTED AT THE STATIONS INDICATED ON THE PLANS, UNLESS OTHERWISE DIRECTED BY THE DISTRICT INSPECTOR. ALL INSTALLATIONS SHALL CONFORM TO MSWD STANDARD DRAWINGS. (APPLICABLE TO ALL WATERLINE APPURTENANCES: AIR VALVES, BLOW-OFFS, SERVICES, ETC.).
11. ALL EXISTING ABOVE GROUND APPURTENANCES CONNECTED TO EXISTING WATERLINES WHICH ARE TO BE ABANDONED AS INDICATED ON THE PLANS, SHALL BE REMOVED AND DELIVERED TO THE DISTRICT YARD UPON COMPLETION OF THE NEW FACILITIES. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE CONTRACTOR'S BID AND THE DISTRICT SHALL MAKE NO ADDITIONAL COMPENSATION UNLESS OTHERWISE SPECIFIED.
12. ALL EXISTING WATERLINES AND APPURTENANCES THAT ARE TO BE ABANDONED SHALL REMAIN IN SERVICE UNTIL SUCH TIME THAT NEW WATERLINES AND APPURTENANCES ARE TESTED, DISINFECTED AND APPROVED FOR DOMESTIC USE BY MSWD.
13. STATIONS SHOWN ARE HORIZONTAL DISTANCE ALONG THE CENTERLINE OF PIPE.
14. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF THE EXISTING PIPELINE(S) AND NOTIFY THE ENGINEER IMMEDIATELY OF ANY VARIATION OR DISCREPANCIES FROM PLAN DESIGN.
15. ALL HOT-TAPS OR TIE-INS MUST BE WITNESSED BY MSWD INSPECTOR.
16. ALL HIGH POINTS IN THE PIPE LINE SHALL HAVE AN AIR/VAC INSTALLED PER MSWD STANDARD DRAWINGS.