

NOTES FOR WATER INSTALLATION

1. ALL WATER INSTALLATION SHALL BE IN ACCORDANCE WITH AWWA AND CITY OF VANDALIA SPECIFICATIONS AND WILL BE SUBJECT TO CITY OF VANDALIA INSPECTION AND ACCEPTANCE TEST.
2. ALL WATER MAINS SHALL BE DUCTILE CAST IRON PIPE AND SHALL BE DESIGNED IN ACCORDANCE WITH ANSI SPECIFICATIONS A21.50 AND MANUFACTURED ACCORDING TO ANSI A21.51. METAL THICKNESS MINIMUM SHALL BE CLASS 51. * PIPE WILL BE CEMENT LINED AND BITUMINOUS SEAL COATED.
3. PIPE JOINTS FOR DUCTILE CAST IRON PIPE SHALL HAVE EITHER MECHANICAL JOINTS OR PUSH-ON JOINTS SIMILAR OR EQUAL TO CLOW BELL TITE WITH ANSI SPECIFICATION A21.11 RUBBER GASKET JOINTS.

4. FITTING JOINTS SHALL BE OF THE MECHANICAL JOINT TYPE ONLY AS PER ANSI SPECIFICATION A21.11, AND MANUFACTURED ACCORDING TO ANSI A21.10. FITTINGS SHALL BE TAR COATED INSIDE AND OUT.
5. ALL GATE VALVES SHALL CONFORM TO AWWA C509 - AWWA C515 RESILIENT WEDGE SEATING, AND FITTED WITH A 2" SQUARE OPERATING NUT. VALVE SHALL OPEN LEFT (COUNTER-CLOCKWISE DIRECTION).
6. ALL BENDS, TEES, AND HYDRANTS SHALL BE THOROUGHLY RESTRAINED WITH RESTRAINED PIPE AND OR ANCHOR COUPLING TO PREVENT MOVEMENT OF FITTINGS.

7. ANCHORING TEES AND COUPLINGS SHALL BE USED FOR FIRE HYDRANTS INSTEAD OF CONCRETE.
8. ALL WATER MAINS ARE TO HAVE A MINIMUM OF 4.5 FT. OF COVER FROM FINISHED GRADE.
9. ALL TRENCHES ARE TO HAVE ALL GRAVEL BACKFILL UNDER AND WITHIN 1.0 FT. OF ALL PAVING, DRIVEWAYS, ALLEYS AND SIDEWALKS.
10. AN OUTSIDE REMOTE READER IS REQUIRED FOR ALL NEW CONSTRUCTION UNLESS OTHERWISE APPROVED BY ENGINEER.
11. AFTER THE PIPE HAS BEEN LAID AND BACK-FILLED BETWEEN JOINTS, ALL NEWLY LAID PIPE OR ANY VALVED SECTION, SHALL BE SUBJECT TO A HYDROSTATIC GAUGE PRESSURE TEST OF 150 LB. PER SQ. INCH MINIMUM FOR A 2 HOUR TEST PERIOD. AT THE END OF THE 2 HOUR TEST, THE AMOUNT OF WATER REQUIRED TO RETURN THE TEST SECTION TO THE ORIGINAL TEST PRESSURE SHALL BE MEASURED.

12. ALL NEW SECTIONS OF PIPE SHALL BE DISINFECTED AND FLUSHED SATISFACTORILY. THE REPLACEMENT WATER UPON TESTING SHALL SHOW A QUALITY COMPARABLE TO THAT IN THE REMAINDER OF THE EXISTING WATER SUPPLY SYSTEM.
13. PUBLIC HYDRANTS TO BE PAINTED THE FOLLOWING STANDARD CITY OF VANDALIA COLORS (OR EQUAL): SHERWIN-WILLIAMS KEM-LUSTRAL-LIGHT YELLOW F65Y44

ALL PRIVATE HYDRANTS TO BE PAINTED RED.

14. ONE FIRE HYDRANT SHALL BE INSTALLED AT EACH STREET INTERSECTION WITH INTER-MEDIATE SPACINGS BETWEEN HYDRANTS OF NO MORE THAN 500 FEET IN RESIDENTIAL AREAS, 300 FEET IN COMMERCIAL OR INDUSTRIAL AREAS.
15. VALVES SHALL BE INSTALLED ON EACH LEG OF TEES, CROSSES, ETC. WITH INTERMEDIATE SPACINGS BETWEEN VALVES OF NO MORE THAN 1000 FEET.
16. THE MINIMUM ALLOWABLE SIZE OF WATER MAINS SHALL BE 8 INCHES IN DIAMETER, * EXCEPT THAT THE SYSTEM SHALL BE DESIGNED TO MEET THE FOLLOWING MINIMUM CRITERIA WHICH MAY NECESSITATE THE USE OF LARGER MAINS:

A) RESIDENTIAL AREAS-MINIMUM FIRE FLOW OF 1000 GPM AT A RESIDUAL PRESSURE OF 20 PSI. MINIMUM STATIC PRESSURE IN ALL MAINS OF 40 PSI.

B) COMMERCIAL & INDUSTRIAL AREAS-AS REQUIRED BY THE INSURANCE SERVICES OFFICE OF OHIO. THIS DESIGN SHALL BE BASED UPON THE HAZEN-WILLIAMS EQUATION WITH C=120.

* UNLESS PRIOR WRITTEN APPROVAL IS RECEIVED FROM THE ENGINEER AND FIRE CHIEF

VALVE SPECIFICATIONS

- VALVES ARE TO OPEN COUNTER-CLOCKWISE
- TO HAVE MECHANICAL JOINT ENDS
- TO HAVE BRONZE BUSHINGS
- VALVES TO BE EDDY F-5225 MUELLER A-2380-20 OR EQUAL
- ALL VALVES TO BE GATE VALVES UNLESS OTHERWISE SPECIFICALLY APPROVED IN WRITING BY THE CITY ENGINEER.

RESTRAINED JOINT LENGTHS FOR WATER MAIN

	6"	8"	10"	12"	16"	24"
11.25°	3'	4'	5'	6'	8'	12'
22.5°	7'	9'	11'	12'	16'	24'
45°	14'	18'	22'	25'	33'	45'
90° TEE PLUG	33'	44'	53'	66'	98'	145'

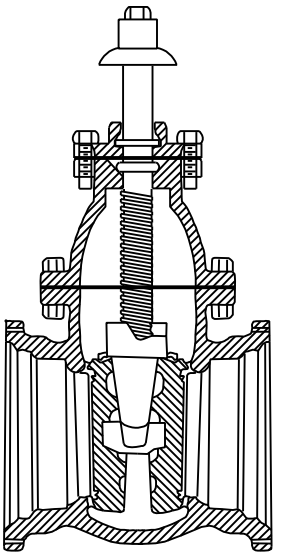
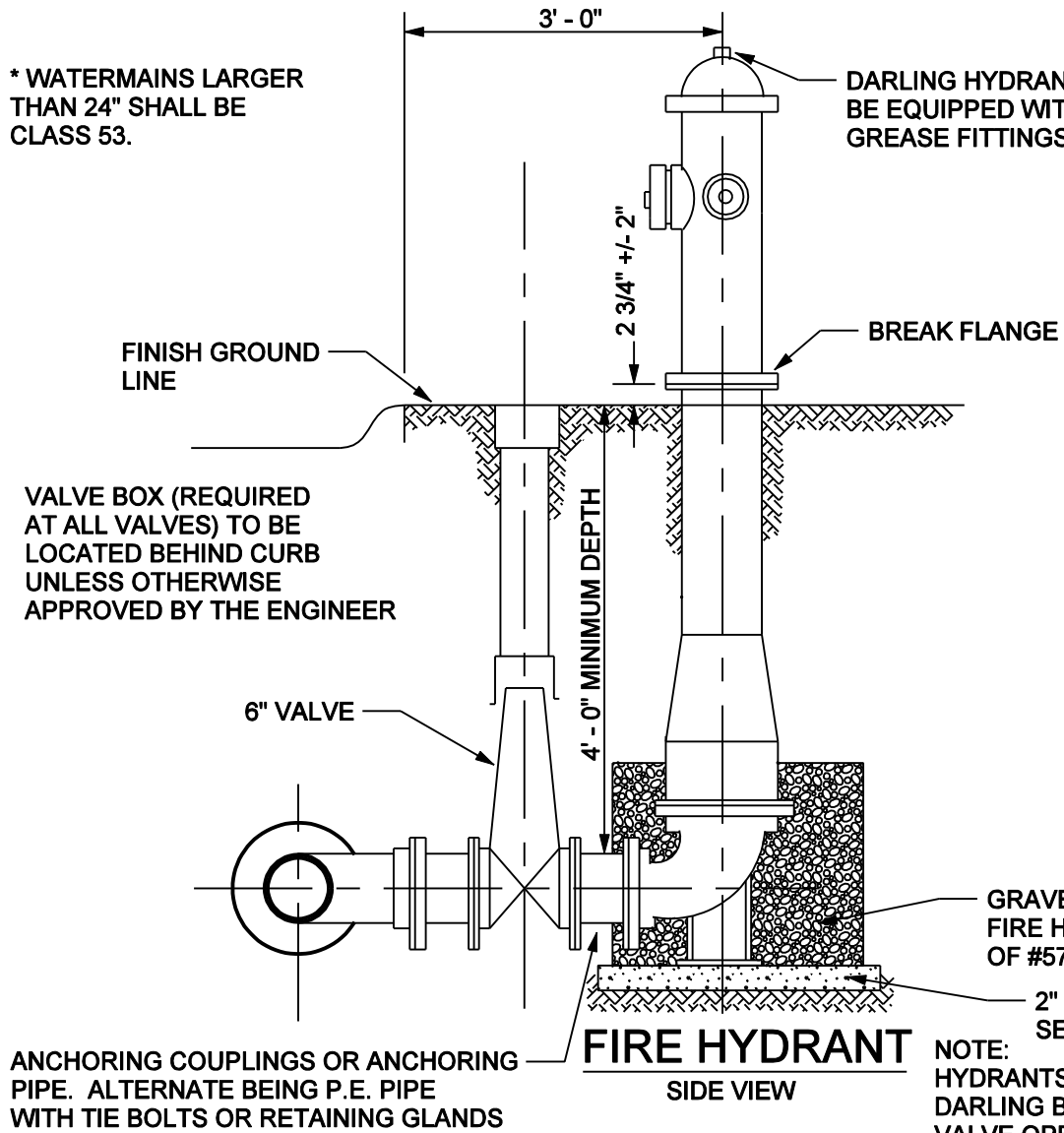
FIRE HYDRANT SPECIFICATIONS

- TWO 2 1/2" HOSE NOZZLES, NATIONAL STANDARD THREADS.
- ONE 4" PUMPER DISCHARGE WITH STORZ FITTING.
- MECHANICAL JOINT END INLET
- GATE VALVE INSTALLED BETWEEN FIRE HYDRANT AND MAIN WATER LINE
- FIRE HYDRANTS ARE TO OPEN COUNTER-CLOCKWISE.
- OPERATING NUT AND CAPS TO BE 1 1/8" PENTAGON (POINT TO OPPOSITE FLAT)

GRAVEL DRAINAGE PIT @ EACH FIRE HYDRANT - MINIMUM 20 CU. FT. OF #57 WASHED GRAVEL

2" CONCRETE PAD (MINIMUM) SET ON UNDISTURBED SOIL

NOTE: HYDRANTS TO BE MUELLER CENTURION A-423 DARLING B-62B OR EQUAL W. 5 1/4" MAIN VALVE OPENING.



GATE VALVE
CROSS SECTION