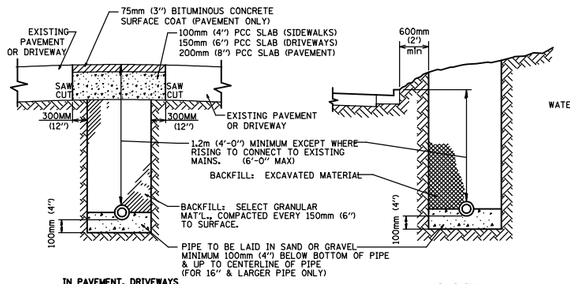
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
704	(1)N & TS-1	McLEAN	497	309
STA. N/A		TO STA. N/A		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 70514

PERMITTED TAP SIZES

TAP SIZE	MINIMUM SIZE OF WATERMAIN TO BE TAPPED
19mm (3/4 ")	100mm (4" DIA.)
25mm (1")	200mm (8")
* 30mm (1 1/4") & OVER	A SPECIAL PERMIT IS NEEDED FROM THE WATER RESOURCES MANAGER

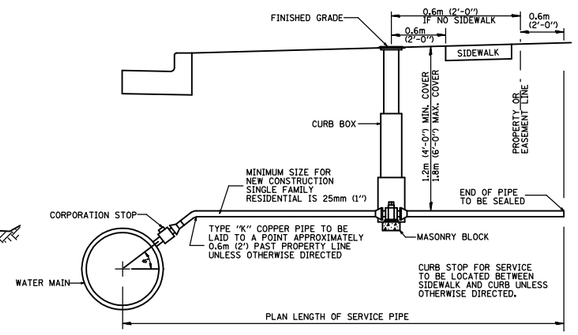
* 50mm (2") AND OVER MUST BE MADE BY SIDE TAP SLEEVES AND VALVES OR BY A REGULAR TEE. ALL SIDE TAPS 50mm (2") DIA. AND OVER SHALL BE MADE BY CITY FORCES @ THE SCHEDULED PRICES ESTABLISHED BY THE WATER DEPARTMENT.



IN PAVEMENT, DRIVEWAYS AND SIDEWALKS

IN PARKWAY

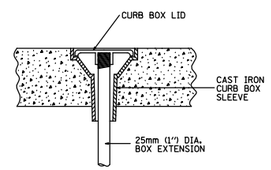
PIPE COVER DETAILS



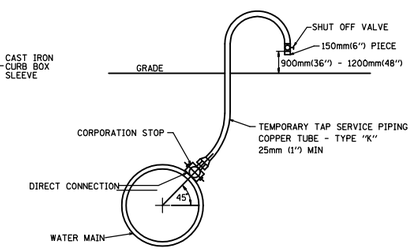
TYPICAL WATER SERVICE

SERVICE SIZE	* CORP. STOP	* CURB STOP	* CURB BOX
19mm (3/4 ") & 25mm (1")	MUELLER H-15000	MUELLER H-15200 or A.Y. McDONALD 4T13	MUELLER H-10314 or A.Y. MCDONALD 5601
30mm (1 1/4")	MUELLER H-15000	MUELLER H-15204 or A.Y. McDONALD 6100	A.Y. MCDONALD 5603
38mm (1-1/2") & 50mm (2")	BALL VALVE: FORD, MUELLER OR A.Y. MCDONALD	BALL VALVE: FORD, MUELLER OR A.Y. MCDONALD	A.Y. MCDONALD 5603

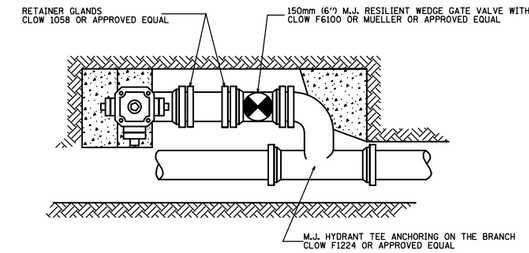
* OR APPROVED EQUAL



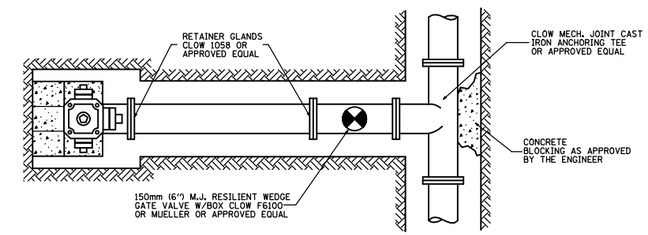
TYPICAL CURB BOX INSTALLATION IN SIDEWALK OR DRIVEWAY



SAMPLING & CHLORINATION SERVICE PIPING TAP



PARALLEL MOUNT HYDRANT INSTALLATION



TYPICAL HYDRANT INSTALLATION PLAN

PIPE MATERIALS

WATER MAINS SHALL BE POLY WRAPPED DUCTILE IRON PIPE SPECIAL CLASS 52 WITH SINGLE GASKET JOINTS.

CEMENT LINING AND TAR (SEAL) COATING SHALL BE PROVIDED FOR ALL PIPE. ALL PIPE SHALL HAVE PUSH-ON TYPE JOINT UNLESS OTHERWISE CALLED FOR.

WHERE RESTRAINED JOINTS ARE SPECIFIED, THEY SHALL MEET ONE OF THE FOLLOWING:
A. U.S. PIPE: TR FLEX JOINT
B. AMERICAN DUCTILE IRON PIPE: LOK-RING JOINT
C. McWANE INC. (CLOW): TITON OR FASTITE JOINT
D. GRIFFIN PIPE: SNAP-LOK OR BOLT-LOK JOINT
E. 350mm (14") OR LARGER PIPE: EBBA IRON SALES MEG-A-LUG RETAINER GLANDS
F. 300mm (12") OR SMALLER PIPE STANDARD RETAINER GLANDS FROM APPROVED MANUFACTURERS.
G. OR APPROVED EQUAL.

WATER MAIN FITTINGS INCORPORATED INTO THIS WORK SHALL CONFORM TO A.N.S.I./A.W.W.A. C110/A21.10 AND A.N.S.I./A.W.W.A. C111/A21.11, 1725 Kpa (250 psi) RATED PRESSURE. ALL FITTINGS SHALL HAVE THE SAME LININGS AND COATINGS AS THE PIPE SUPPLIED. ALL FITTINGS (INCLUDING BUT NOT LIMITED TO BENDS, TEES, REDUCERS, AND PLUGS) SHALL BE RESTRAINED WITH RETAINER GLANDS OR A MANUFACTURED JOINT RESTRAINING SYSTEM APPROVED BY THE DIRECTOR OF WATER.

TAPPING VALVES SHALL BE CLOW F6114 OR APPROVED EQUAL. RETAINER GLANDS SHALL BE: McWANE (CLOW) F-1058 OR APPROVED EQUAL, AND SHALL BE INSTALLED AT THE JOINT BETWEEN THE VALVE AND THE PROPOSED WATER MAIN.

TAPPING SLEEVES SHALL BE STAINLESS STEEL WITH STAINLESS STEEL BOLTS AS FOLLOWS:

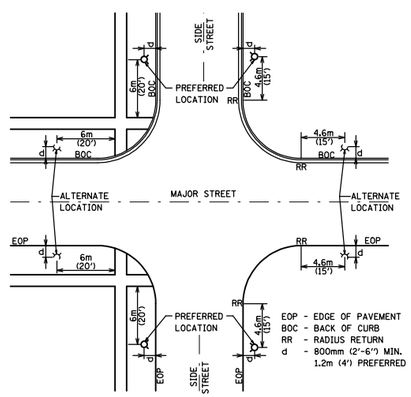
TAPS ONTO EXISTING 100mm (4"), 150mm (6"), AND 200mm (8") MAINS:
CASCADE CST-SL, FORD FAST OR APPROVED EQUAL

TAPS ONTO EXISTING 250mm (10") OR LARGER MAINS:
CASCADE CST-EX OR APPROVED EQUAL

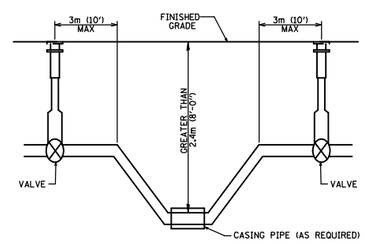
VALVE BOXES SHALL BE PROVIDED AND INSTALLED. ALL VALVE BOXES SHALL HAVE NOT LESS THAN A 130mm (5 1/4") SHAFT. THE EXTENSIONS OF THE VALVE BOX AND SHAFT NECESSARY TO REACH THE GROUND ELEVATION SHALL BE INCLUDED. VALVE BOXES SHALL BE TYLER PIPE TWO PIECE, SCREW TYPE, #6850 SERIES WITH THE WORD "WATER" CAST ON LID OR AN APPROVED EQUAL.

NOTES

1. THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", FIFTH EDITION, DATED MAY 1996 SHALL APPLY TO THIS WORK.
2. ALL WATERMAIN MATERIALS SHALL BE MANUFACTURED IN COUNTRIES SIGNATORY TO THE NORTH AMERICAN FREE TRADE AGREEMENT AND SHALL MEET OR EXCEED AWWA SPECIFICATIONS.
3. FOR APPROVED MANUFACTURERS NOT LISTED ON THIS SHEET, INQUIRE OF THE CITY OF BLOOMINGTON WATER RESOURCES MANAGER AT (309) 434-2225.
4. ALL FIRE HYDRANTS, VALVES, AND FITTINGS SHALL BE RESTRAINED.
5. A #12 THWN SINGLE STRAND ELECTRIC CABLE SUITABLE FOR DIRECT BURIAL SHALL BE INSTALLED ON ALL WATERMAIN. THE CABLE SHALL BE TAPED OR ATTACHED TO THE PIPE IN AN APPROVED MANNER DURING INSTALLATION AND PRIOR TO BACKFILLING. TWO FEET OF SLACK SHALL BE PROVIDED AT ALL VALVE BOXES AND FIRE HYDRANTS. THE SLACK SHALL BE WRAPPED AROUND THE VAVLE BOX OR FIRE HYDRNAT AT FINISHED GRADE.
6. ALL VERTICAL AND HORIZONTAL BENDS SHALL BE CONSTRUCTED WITH RESTRAINED JOINT PIPE. RESTRAINED JOINT LENGTHS SHALL BE DETERMINED IN ACCORDANCE WITH THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA) GUIDELINES.



TYPICAL HYDRANT LOCATION PLAN

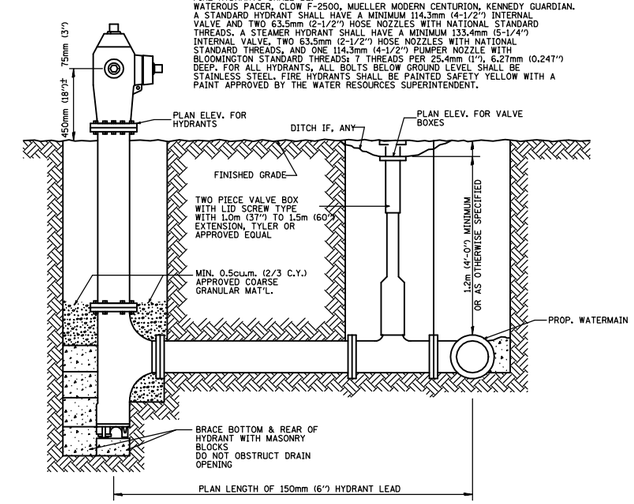


WATER MAIN CROSSING

VALVE REQUIRED ON EACH SIDE OF SEWER, CREEK OR OTHER CROSSING WHERE WATER MAIN IS MORE THAN 2.4 m (8'-0") DEEP.

NO SERVICE TAPS OR HYDRANT CONNECTIONS BETWEEN VALVES.

FIRE HYDRANTS SHALL BE:
WATEROUS PACER, CLOW F-2500, MUELLER MODERN CENTURION, KENNEDY GUARDIAN. A STANDARD HYDRANT SHALL HAVE A MINIMUM 114.3mm (4-1/2") INTERNAL VALVE AND TWO 63.5mm (2-1/2") HOSE NOZZLES WITH NATIONAL STANDARD THREADS. A STEAMER HYDRANT SHALL HAVE A MINIMUM 133.4mm (5-1/4") INTERNAL VALVE, TWO 63.5mm (2-1/2") HOSE NOZZLES WITH NATIONAL STANDARD THREADS, AND ONE 114.3mm (4-1/2") PUMPER NOZZLE WITH BLOOMINGTON STANDARD THREADS: 7 THREADS PER 25.4mm (1"), 6.27mm (0.247") DEEP. FOR ALL HYDRANTS, ALL BOLTS BELOW GROUND LEVEL SHALL BE STAINLESS STEEL. FIRE HYDRANTS SHALL BE PAINTED SAFETY YELLOW WITH A PAINT APPROVED BY THE WATER RESOURCES SUPERINTENDENT.



TYPICAL HYDRANT INSTALLATION SECTION

CITY OF BLOOMINGTON
WATER MAIN STANDARDS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SPECIAL DETAILS

DRAWN BY PMH
CHECKED BY PMH
DATE 05-27-09

SPECIAL DETAILS