

NOTES:

- IF SERVICE LINE IS A DIFFERENT SIZE THAN THE METER, THEN THE REDUCTION SHALL OCCUR OUTSIDE THE METER PIT.
- WATER METER PITS, COPPER SETTERS, DOMES, AND COVERS SHALL BE INSTALLED BY THE RESPONSIBLE PARTY. THE WATER METER SHALL BE INSTALLED BY THE CITY. METER PITS MAY NOT BE INSTALLED IN ANY TYPE OF VEHICULAR OR PEDESTRIAN TRAFFIC ZONE WITHOUT THE APPROVAL OF THE DEVELOPMENT ENGINEERING MANAGER. IN THE EVENT A METER PIT IS INSTALLED WITHIN A VEHICULAR OR PEDESTRIAN TRAFFIC ZONE, A TRAFFIC RATED DOME SHALL BE INSTALLED BY THE RESPONSIBLE PARTY AT THE SOLE EXPENSE OF THE RESPONSIBLE PARTY.
- IF INSTALLATION IN A RESIDENTIAL DRIVE IS PERMITTED, THE CONCRETE JOINT PATTERN SHALL CONSIST OF JOINTS ALLOWING THE LEAST AMOUNT OF DAMAGE TO THE SURROUNDING CONCRETE AS POSSIBLE.
- METER PITS SHALL BE CONSTRUCTED OF CONCRETE OR PLASTIC. PLASTIC METER PITS SHALL BE MID-STATES PLASTIC, MODEL NO. MS202448B OF DFW PLASTICS, MODEL NO. 2048 B OR EQUAL AS APPROVED BY THE DEVELOPMENT ENGINEERING MANAGER. PLASTIC METER PITS SHALL MEET SAME DIMENSION REQUIREMENTS AS THE CONCRETE PITS. THE INTERIOR OF THE PLASTIC METER PITS SHALL ALSO BE WHITE.
- METER PITS GRADE ADJUSTMENT SHALL BE MADE UTILIZING CONCRETE RINGS. THE TRENCH FLOOR UNDER THE CONCRETE RINGS SHALL BE COMPACTED EARTH. COPPER SERVICE PIPE ENTERING AND LEAVING THE PIT BENEATH THE BOTTOM CONCRETE RING SHALL BE OF SUFFICIENT LENGTH SO AS TO MEET THE DEPTH SPECIFICATIONS WHEN THE COPPER SETTER IS INSTALLED. THE PIT SHALL NOT BEAR ON THE SERVICE PIPE. UNDER NO CIRCUMSTANCES SHALL THE SERVICE PIPE ENTER AND EXIT ON THE SAME SIDE OF THE PIT.
- WATER METER PIT INSTALLATIONS SHALL NOT BE GIVEN FINAL INSPECTION OR THE WATER METER INSTALLED UNTIL FINAL GRADING HAS BEEN COMPLETED. AFTER THE CITY HAS MADE THE FINAL INSPECTION, ANY NECESSARY GRADE ADJUSTMENTS TO THE PIT SHALL BE THE RESPONSIBILITY OF THE RESPONSIBLE PARTY.
- THE USE OF CONCRETE RISER RINGS FOR THE PURPOSE OF DOME HEIGHT ADJUSTMENT IS PERMITTED PROVIDED SPECIFICATIONS ARE MET AFTER THE INSTALLATION IS COMPLETED (FOR PLASTIC METER PITS RISERS SHOULD BE PER MANUFACTURER'S RECOMMENDATION). THE USE OF BROKEN RINGS OR WOOD SHIMS UNDER THE DOME IS SPECIFICALLY PROHIBITED.
- GALVANIZED PIPE AND FITTINGS ARE SPECIFICALLY PROHIBITED.
- WATER SERVICE LOCATIONS SHALL BE MARKED WITH A "V" ON THE CURB. SANITARY SEWER SERVICE LOCATIONS SHALL BE MARKED WITH AN "X" ON THE CURB. MARKINGS SHALL BE NEATLY STAMPED, CHISELED, OR SAWCUT, NOT PAINTED.



CITY OF THORNTON, COLORADO  
STANDARDS & SPECIFICATIONS  
STANDARD METER PIT DETAIL  
5/8" X 3/4", 3/4" AND 1"  
METERS ONLY

ISSUED:  
APRIL 1992  
REVISED:  
APRIL 2010

DRAWING NO.  
200-16

SIZE	LAYING LENGTH
1-1/2"	13-1/2"
2" COMPOUND	15-1/2"
2" TURBINE	10-3/4"

WATER SERVICE SADDLES SHALL BE CAST BRONZE CASTING WITH DOUBLE SILICONE BRONZE STRAPS, SERIES 183-0 AS MANUFACTURED BY R. H. BAKER AND COMPANY; TYPE 323 BY SMITH-BLAIR INC., OR AN APPROVED EQUIVALENT.

CORPORATION STOPS SHALL BE AWWA TAPER THREAD TO COPPER CONNECTION OF PACK JOINT AND SHALL BE A FORD TYPE F600 OR AN APPROVED EQUAL. TAPS SHALL BE MADE BY THE RESPONSIBLE PARTY.

A CURB STOP OR VALVE CONFORMING TO THE FOLLOWING STANDARDS SHALL BE INSTALLED ON EVERY COMMERCIAL SERVICE LARGER THAN ONE (1) INCH BETWEEN THE WATER MAIN AND THE METER WHICH IS AT A POINT AT OR NEAR THE PROPERTY LINE.

CURB STOPS SHALL BE COMPRESSION TO COMPRESSION CONNECTIONS AND SHALL BE FORD BALL VALVES, B44-666M (ONE AND ONE-HALF (1-1/2) INCHES) OR B44-777M (TWO (2) INCHES) OR APPROVED EQUAL.

CURB STOP SERVICE BOXES SHALL BE A CAST IRON BOX, MINNEAPOLIS PATTERN, EXTENSION TYPE. THE CURB STOP BOX SHALL BE CENTERED OVER THE CURB STOP VALVE AND IN A VERTICAL POSITION. THE TOP LID OF THE CURB STOP BOX SHALL BE INSTALLED A MAXIMUM OF ONE (1) INCH ABOVE THE FINAL GRADE.

PIPE SHALL BE TYPE K CLASS, RIGID COPPER PIPE. THE METER VAULT PIPING SHALL BE OF THE SAME INSIDE DIAMETER AS THE METER ORIFICE. ANY SERVICE PIPE MATERIAL CHANGES SHOULD OCCUR OUTSIDE THE METER VAULT ON THE OUTLET SIDE.

JOINTS SHALL BE OF A SWEAT COPPER DESIGN. SOLDER USED IN CONNECTION OF THE JOINTS SHALL BE OF A LEAD CONTENT OF 0.20 OR LESS.

GATE VALVES SHALL BE AWWA APPROVED GATE VALVES OF BRASS CONSTRUCTION. THE VALVES SHALL BE COUNTERCLOCKWISE OPEN. REFER TO SUBSECTION 204.1(D) OF THESE STANDARDS AND SPECIFICATIONS. VALVES LOCATED IN VAULTS SHALL HAVE HANDWHEELS IN LIEU OF A TWO (2) INCH SQUARE OPERATING NUT.

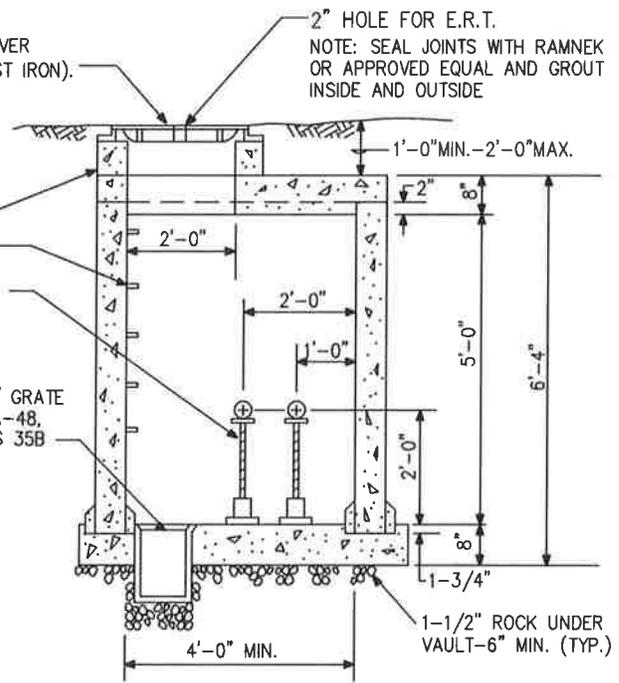
WATER SERVICE LOCATIONS SHALL BE MARKED WITH A "V" ON THE CURB, AND SEWER SERVICE SHALL BE MARKED WITH AN "X". MARKINGS SHALL BE NEATLY STAMPED, CHISELED, OR SAWCUT, AND SHALL NOT BE PAINTED.

24" 400# C.I. MH FRAME AND COVER  
(LIDS AND COVERS SHALL BE CAST IRON).  
1" MAX. ABOVE FINISHED GRADE

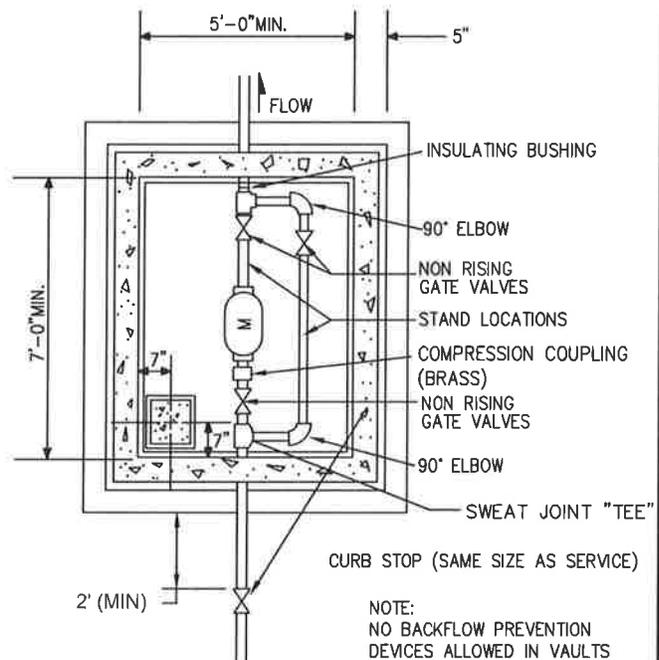
2" HOLE FOR E.R.T.  
NOTE: SEAL JOINTS WITH RAMNEK  
OR APPROVED EQUAL AND GROUT  
INSIDE AND OUTSIDE

CONCRETE RINGS TO GRADE  
STEPS 16" O.C.  
ADJUSTABLE SUPPORTS

SUMP PIT W/ GRATE  
ASTM A-48,  
CLASS 35B



VAULT PROFILE



VAULT PLAN

N.T.S.



CITY OF THORNTON, COLORADO  
STANDARDS & SPECIFICATIONS

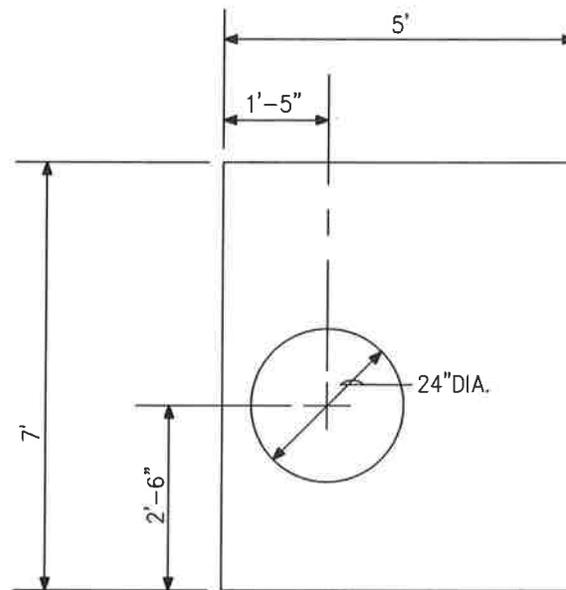
STANDARD 1-1/2" AND 2"  
METER SETTING DETAIL

ISSUED:  
APRIL 1992

REVISED:  
APRIL 2010

DRAWING NO.  
200-17A

1. METER VAULT LIDS AND COVER SHALL BE CAST IRON.
2. PIPE SHALL BE TYPE K CLASS, RIGID COPPER PIPE. THE METER VAULT PIPING SHALL BE OF THE SAME INSIDE DIAMETER AS THE METER ORIFICE. ANY SERVICE PIPE MATERIAL CHANGES MUST OCCUR OUTSIDE THE METER VAULT ON THE OUTLET SIDE. JOINTS SHALL BE OF SWEAT COPPER DESIGN. SOLDER USED IN CONNECTION OF THE JOINTS SHALL BE OF A LEAD CONTENT OF 0.20 OR LESS. THE OUTLET SIDE OF THE COPPER SETTERS SHALL BE ISOLATED FROM TE SERVICE LINE WITH A FORD SERVICE INSULATOR OR APPROVED EQUIVALENT.
3. GATE VALVES SHALL BE AWWA APPROVED GATE VALVES OF BRASS CONSTRUCTION. THE VALVE STEMS SHALL BE OF NON-RISING DESIGN. VALVES SHALL BE COUNTERCLOCKWISE OPEN, AND SHALL HAVE HANDWHEELS IN LIEU OF A TWO (2) INCH SQUARE OPERATING NUT. VALVES SHALL BE INSTALLED BOTH UPSTREAM AND DOWNSTREAM OF THE WATER METER WITHIN THE VAULT.
4. BYPASS PIPING SHALL BE INSTALLED ON THESE SERVICES TO FACILITATE REMOVAL OF THE WATER METER WITHOUT DISCONTINUATION OF SERVICE. A GATE VALVE SHALL BE INSTALLED ON THE BYPASS LINE. THE CONNECTION TO THE METER SERVICE LINE SHALL BE MADE BY MEANS OF A SWEAT JOINT "TEE" INSIDE THE VAULT. CONNECTIONS SHALL BE UPSTREAM OF THE VALVE ON THE INLET SIDE OF THE WATER METER AND DOWNSTREAM ON THE OUTLET SIDE.
5. BRASS UNIONS OF A COMPRESSION TYPE SEALING DESIGN SHALL BE INSTALLED BETWEEN THE GATE VALVE AND THE WATER METER, EITHER UPSTREAM OR DOWNSTREAM OF THE METER TO FACILITATE REMOVAL OF THE WATER METER FROM THE SERVICE LINE.



ROOF SLAB

N.T.S.



CITY OF THORNTON, COLORADO  
STANDARDS & SPECIFICATIONS

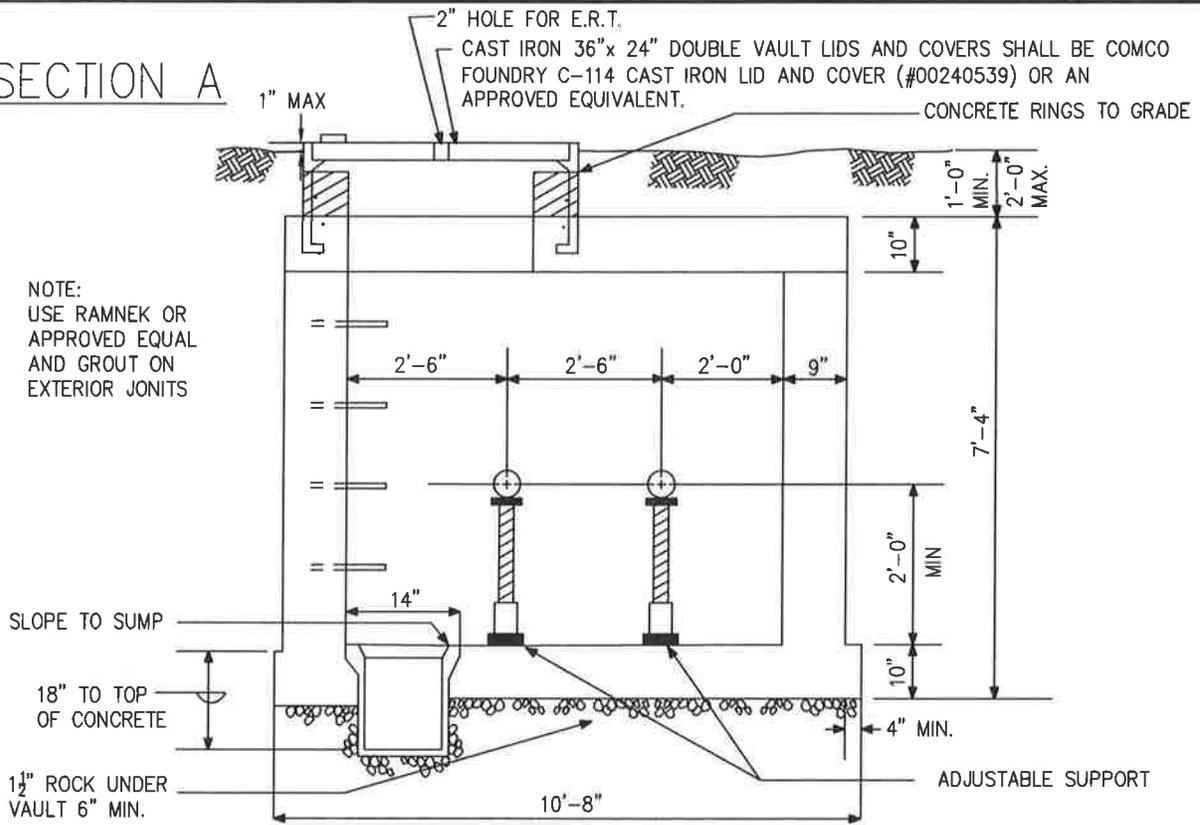
STANDARD 1-1/2" & 2" METER  
SETTING ROOF SLAB DETAIL

ISSUED:  
APRIL 1992

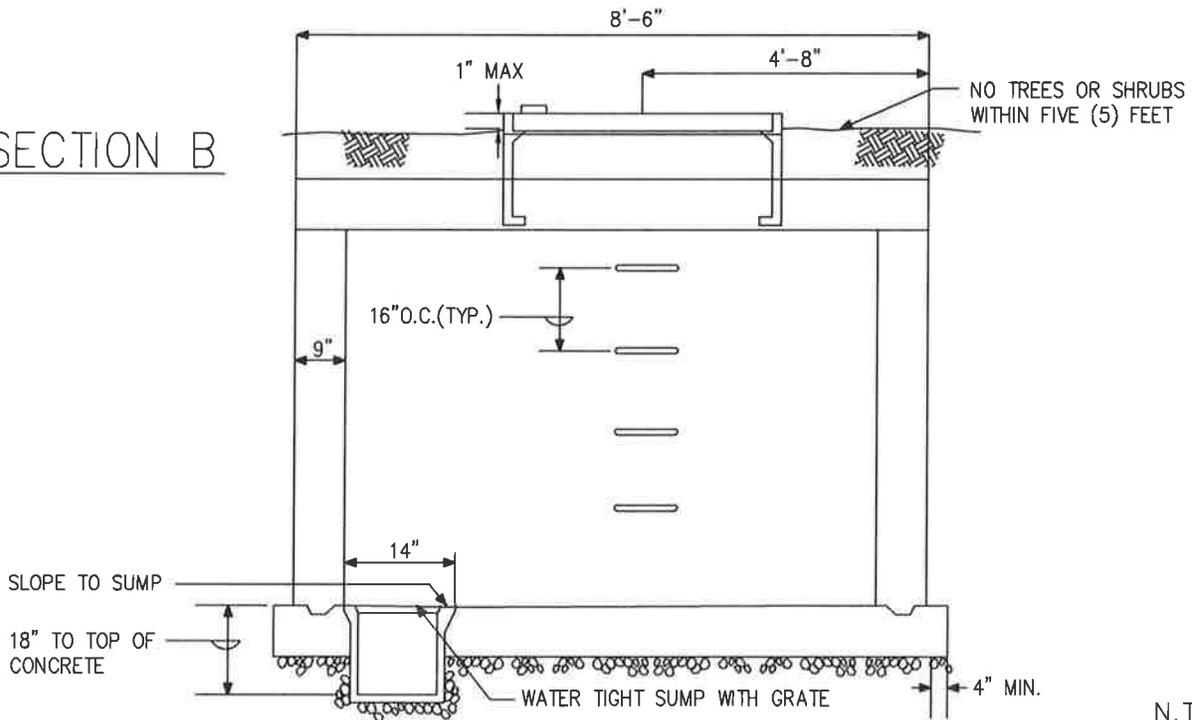
REVISED:  
APRIL 2010

DRAWING NO.  
200-17B

# SECTION A



# SECTION B



N.T.S.



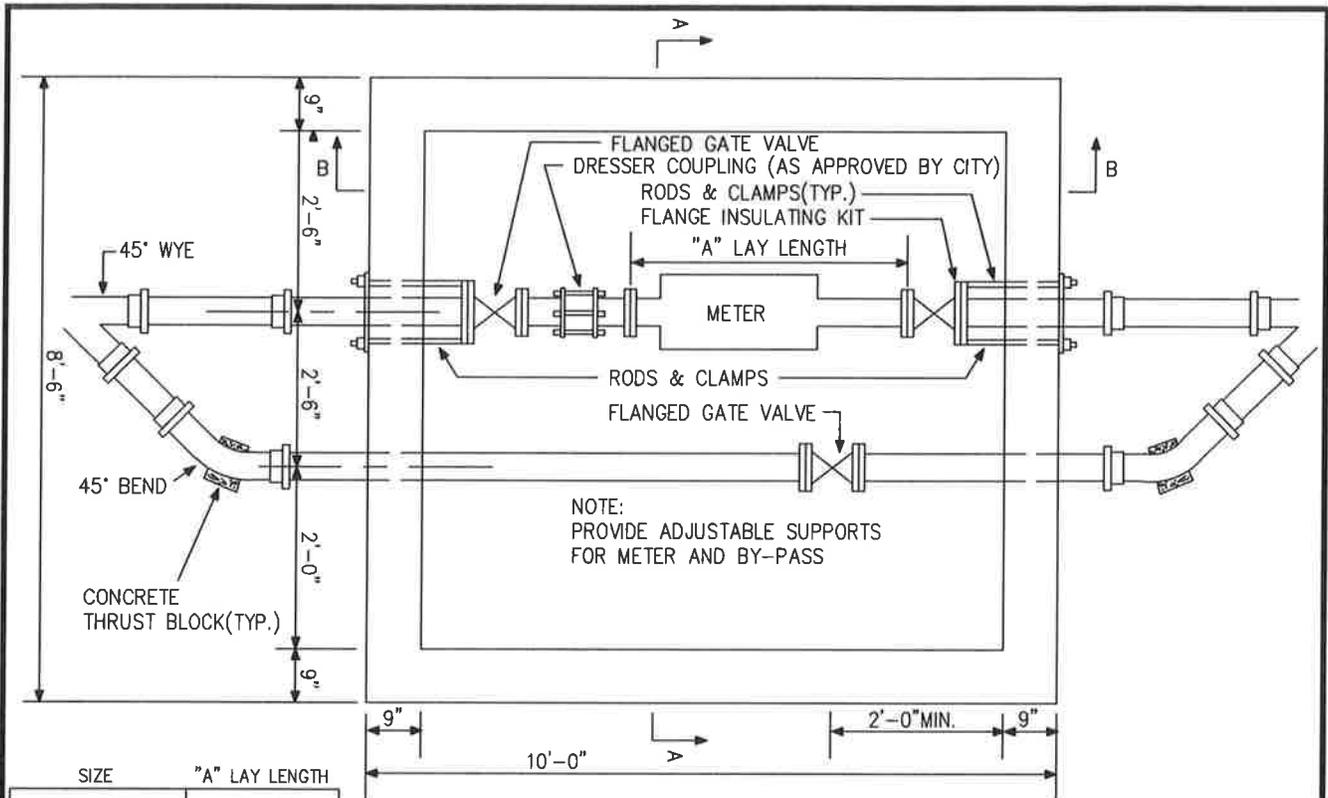
CITY OF THORNTON, COLORADO  
 STANDARDS & SPECIFICATIONS

STANDARD 3" AND 4"  
 METER SETTING DETAIL

ISSUED:  
 APRIL 1992

REVISED:  
 APRIL 2010

DRAWING NO.  
 200-18A



SIZE	"A" LAY LENGTH
3" COMPOUND	17-1/2"
3" TURBINE	12-1/4"
4" COMPOUND	20-1/4"
4" TURBINE	14-1/4"

1. WATER SERVICE SADDLES SHALL BE CAST BRONZE CASTING WITH DOUBLE SILICONE BRONZE STRAPS, SERIES 183-0 AS MANUFACTURED BY R. H. BAKER AND COMPANY; TYPE 323 BY SMITH-BLAIR INC., OR AN APPROVED EQUIVALENT.
2. CURB STOP GATE VALVES SHALL MEET AWWA SPECIFICATIONS AND BE CAPABLE OF WITHSTANDING 200 PSI WORKING PRESSURE. THEY SHALL BE OF BRONZE MOUNTED, ALL CAST IRON BODY CONSTRUCTION. THE VALVES AND OPERATING STEMS SHALL BE OF A NON-CORROSIVE CONSTRUCTION, COUNTERCLOCKWISE OPEN. GATE VALVES LARGER THAN THREE (3) INCHES IN SIZE SHALL BE WEDGE DISC TYPE. THE VALVE SHALL BE INSTALLED IN THE SERVICE PIPE A MAXIMUM OF TWO (2) FEET UPSTREAM OF THE METER VAULT WALL THROUGH WHICH THE INCOMING SERVICE PIPE ENTERS.
3. CURB STOP SERVICE BOXES SHALL BE A CAST IRON BOX, MINNEAPOLIS PATTERN, EXTENSION TYPE. THE CURB STOP BOX SHALL BE CENTERED OVER THE CURB STOP VALVE AND IN A VERTICAL POSITION. THE TOP LID OF THE CURB STOP BOX SHALL BE INSTALLED A MAXIMUM OF ONE (1) INCH ABOVE THE FINAL GRADE.
4. PIPING INSIDE THE VAULT FOR THREE (3) INCH AND FOUR (4) INCH METER SERVICES SHALL BE OF DUCTILE IRON, FLANGE JOINT DESIGN ONLY. THE METER VAULT PIPING SHALL BE OF THE SAME SIZE AS THE WATER METER ORIFICE, BOTH ENTERING AND LEAVING THE VAULT.
5. GATE VALVES INSTALLED SHALL MEET ALL AWWA SPECIFICATIONS AND BE CAPABLE OF WITHSTANDING 200 PSI WORKING PRESSURE. THE VALVES SHALL BE COUNTERCLOCKWISE OPEN AND OF A NON-RISING STEM TYPE CONSTRUCTION WITH HAND WHEELS IN LIEU OF SQUARE OPERATING NUTS. REFER TO SUBSECTION 204.1(D) OF THESE STANDARDS AND SPECIFICATIONS.
6. CONNECTION TO THE METER SERVICE FOR THE BYPASS MAY BE MADE BY MEANS OF A "WYE" CONNECTION OUTSIDE THE VAULT, IF NECESSARY, ALTHOUGH THE GATE VALVE MUST BE INSTALLED INSIDE THE METER VAULT.
7. INSTALLATION OF METER SHALL BE PERFORMED BY A LICENSED PLUMBER.
8. WATER SERVICE LOCATIONS SHALL BE MARKED WITH A "V" ON THE CURB, AND SEWER SERVICE SHALL BE MARKED WITH AN "X". MARKINGS SHALL BE NEATLY STAMPED, CHISELED, OR SAWCUT, AND SHALL NOT BE PAINTED.

N.T.S.



CITY OF THORNTON, COLORADO  
 STANDARDS & SPECIFICATIONS  
 STANDARD 3" AND 4" METER  
 SETTING DETAIL

ISSUED:  
 APRIL 1992  
 REVISED:  
 APRIL 2010  
 DRAWING NO.  
 200-18B

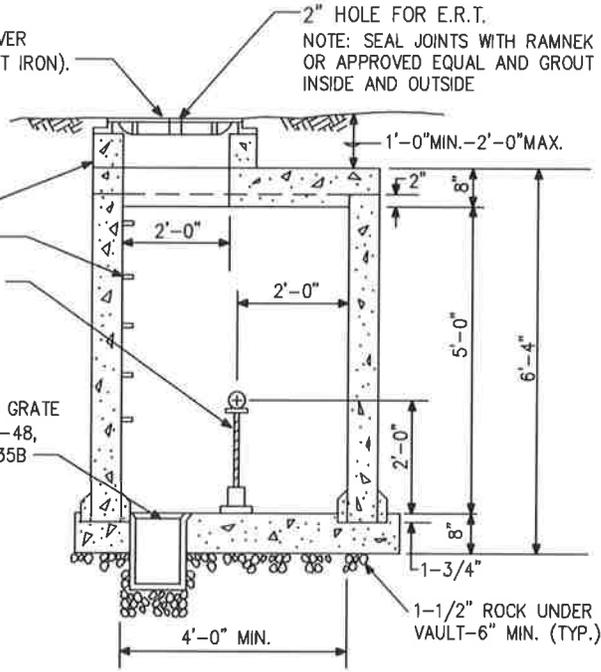
SIZE	LAYING LENGTH
1-1/2" COMPOUND	13-1/2"
2" TURBINE	10-3/4"
3" TURBINE	12-1/4"
4" TURBINE	14-1/4"

24" 400# C.I. MH FRAME AND COVER  
(LIDS AND COVERS SHALL BE CAST IRON).  
1" MAX ABOVE FINISHED GRADE

2" HOLE FOR E.R.T.  
NOTE: SEAL JOINTS WITH RAMNEK  
OR APPROVED EQUAL AND GROUT  
INSIDE AND OUTSIDE

CONCRETE RINGS TO GRADE  
STEPS 16" O.C.  
ADJUSTABLE SUPPORTS

SUMP PIT W/ GRATE  
ASTM A-48,  
CLASS 35B



VAULT PROFILE

ALL IRRIGATION WATER CONNECTION TAPS AND SERVICE LINES ARE REQUIRED TO BE A MINIMUM OF 4". TAPS SHALL USE A FORD STAINLESS STEEL TAPING SLEEVE WITH A MINIMUM 4" OUTLET, OR APPROVED EQUIVALENT. IF C900 PVC SERVICE LINE IS USED, CONNECT IT TO THE TAPPING SLEEVING USING A MEGALUG MECHANICAL JOINT RESTRAINT OR APPROVED EQUIVALENT. IF A VARIANCE IS GRANTED AND A SMALLER TAP AND SERVICE LINE IS APPROVED, THEN REFER TO WATER SERVICE INSTRUCTIONS IN DETAILS #200-14, 17A, & 18B.

CORPORATION STOPS SHALL BE AWWA TAPER THREAD TO COPPER CONNECTION OF PACK JOINT AND SHALL BE A FORD TYPE F600 OR AN APPROVED EQUAL. TAPS SHALL BE MADE BY THE RESPONSIBLE PARTY.

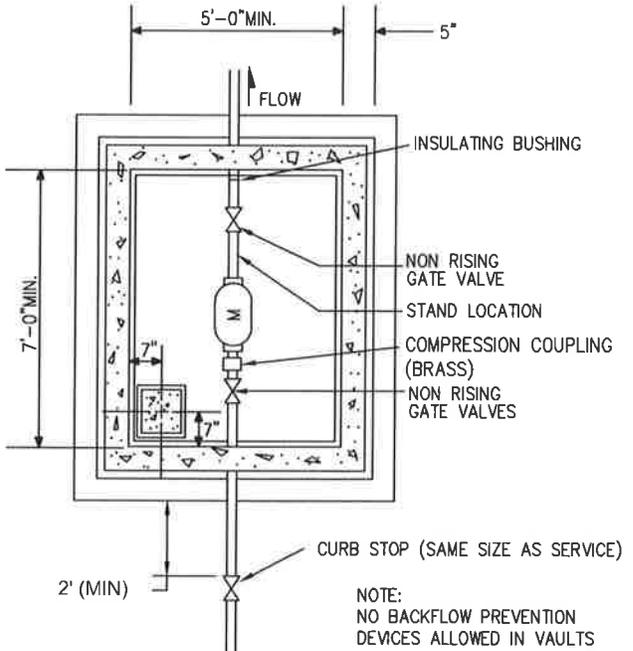
A MINIMUM 4" GATE VALVE CONFORMING TO DETAIL #200-6A/B OF THESE STANDARDS AND SPECIFICATIONS SHALL BE INSTALLED ON EVERY IRRIGATION SERVICE BETWEEN THE WATER MAIN AND THE METER, WHICH IS AT A POINT AT OR NEAR THE PROPERTY LINE. THE VALVE SHALL BE ACCESSIBLE THROUGH A TYLER 6860 3-PIECE VALVE BOX WITH STANDARD OVAL BASE AND A DROP LID.

INSIDE THE METER PIT, PIPE SHALL BE TYPE K CLASS, RIGID COPPER PIPE. THE METER VAULT PIPING SHALL BE OF THE SAME INSIDE DIAMETER AS THE METER ORIFICE. ANY SERVICE PIPE MATERIAL CHANGES SHALL OCCUR OUTSIDE THE METER VAULT.

JOINTS SHALL BE OF A SWEAT COPPER DESIGN. SOLDER USED IN CONNECTION OF THE JOINTS SHALL BE OF A LEAD CONTENT OF 0.20 OR LESS.

GATE VALVES SHALL BE AWWA APPROVED GATE VALVES OF BRASS CONSTRUCTION. THE VALVES SHALL BE COUNTERCLOCKWISE OPEN. REFER TO SUBSECTION 204.1(D) OF THESE STANDARDS AND SPECIFICATIONS. VALVES LOCATED IN VAULTS SHALL HAVE HANDWHEELS IN LIEU OF A TWO (2) INCH SQUARE OPERATING NUT.

WATER SERVICE LOCATIONS SHALL BE MARKED WITH A "V" ON THE CURB, AND SEWER SERVICE SHALL BE MARKED WITH AN "X". MARKINGS SHALL BE NEATLY STAMPED, CHISELED OR SAWCUT, AND SHALL NOT BE PAINTED.



VAULT PLAN

N.T.S.



CITY OF THORNTON, COLORADO  
STANDARDS & SPECIFICATIONS  
STANDARD IRRIGATION METER  
SETTING VAULT DETAIL FOR  
1-1/2", 2", 3" & 4" METERS

ISSUED:  
APRIL 1992  
REVISED:  
JAN 2012  
DRAWING NO.  
800-10A