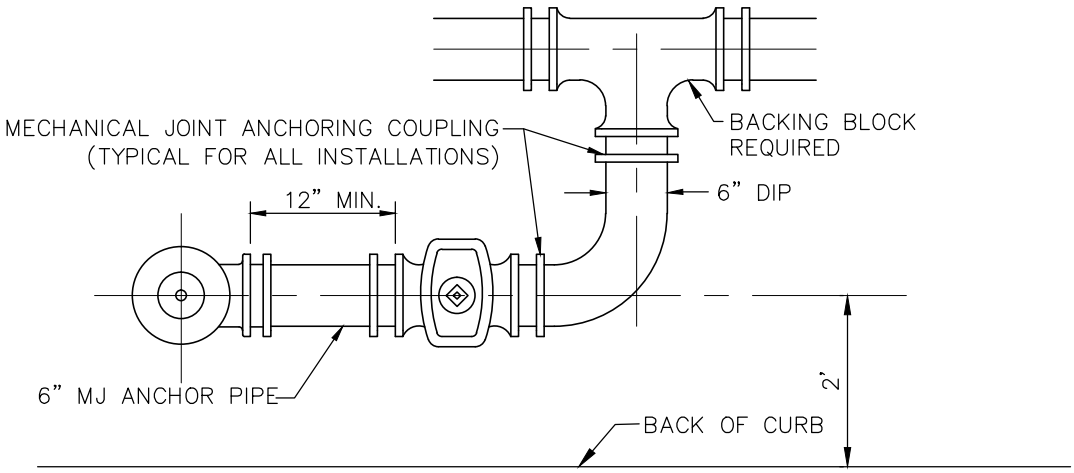
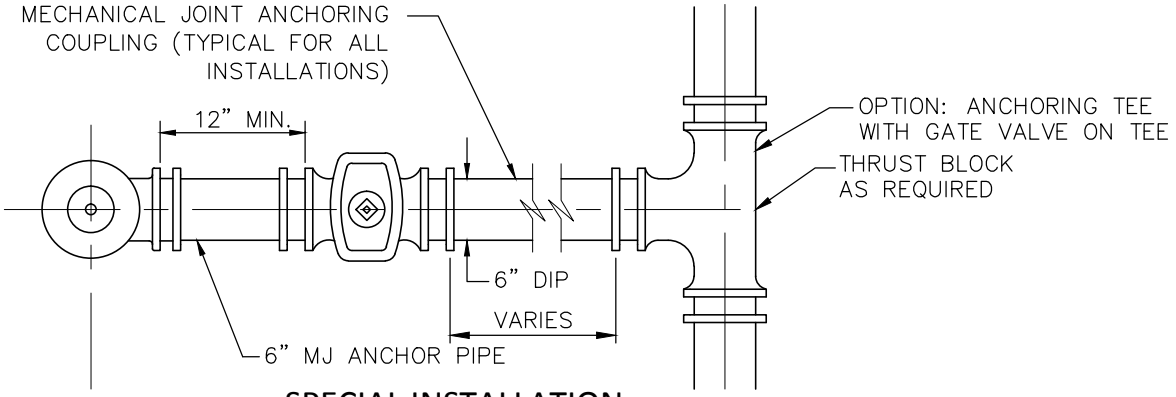
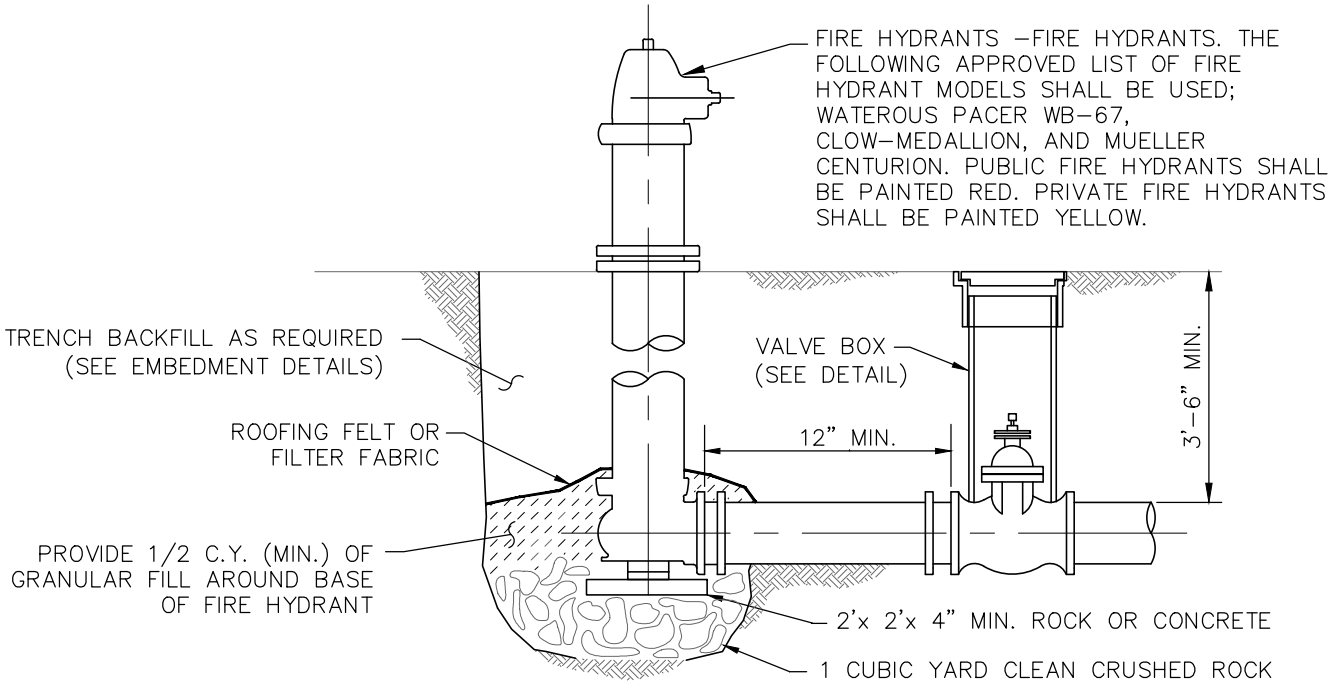


STANDARD INSTALLATION



SPECIAL INSTALLATION

(PER APPROVAL)



NOTES:
1. FIRE HYDRANT AND VALVE ASSEMBLY SHALL BE CLEAR OF SIDEWALK PLACEMENT.
2. FIRE HYDRANT SHALL BE PAINTED RED IN COLOR BY THE MANUFACTURER.

FIRE HYDRANT DETAIL

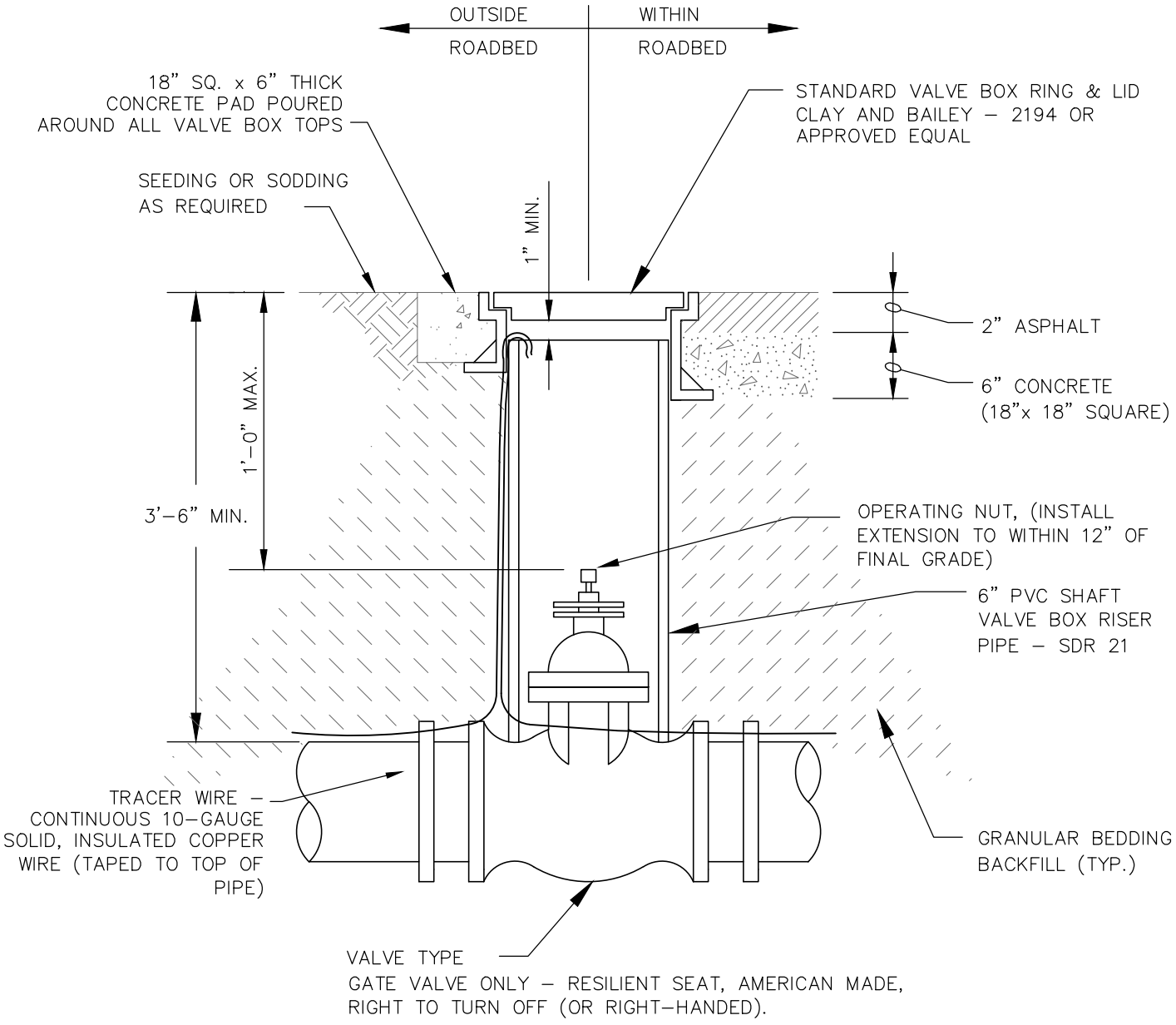
2015 Details

City of BELTON Missouri

PUBLIC WORKS

FIRE HYDRANT ASSEMBLY

		REV.		
SCALE:	NO SCALE		9-4-15	Waterous Pacer WB-67
DETAIL NO:	WAT-001			
DATE:	03-16-15			



VALVE BOX DETAIL

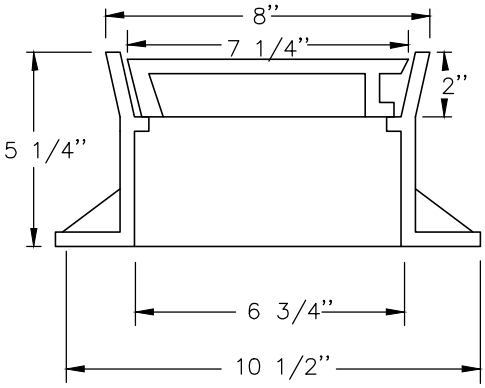
2015 Details

City of BELTON Missouri

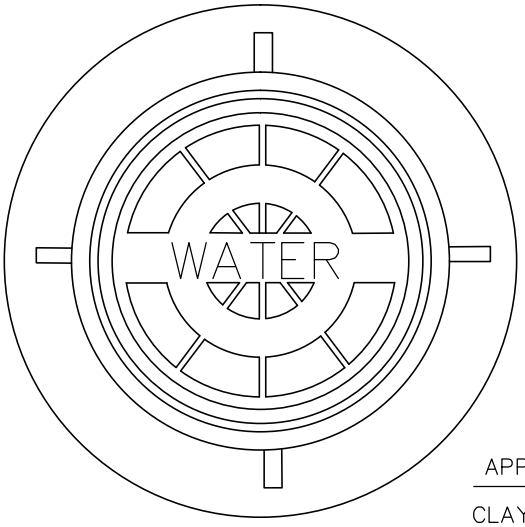
PUBLIC WORKS

VALVE BOX

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-002			
DATE:	03-16-15			

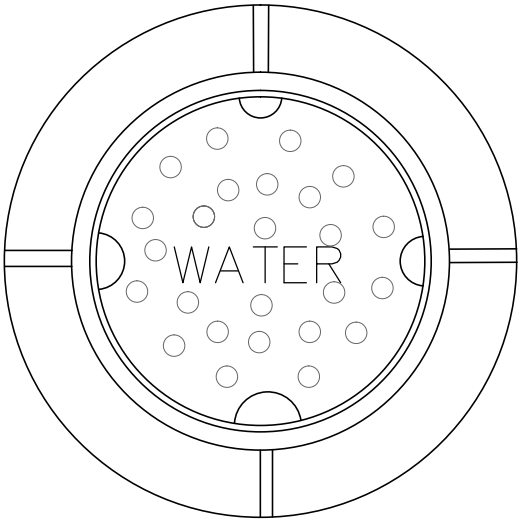


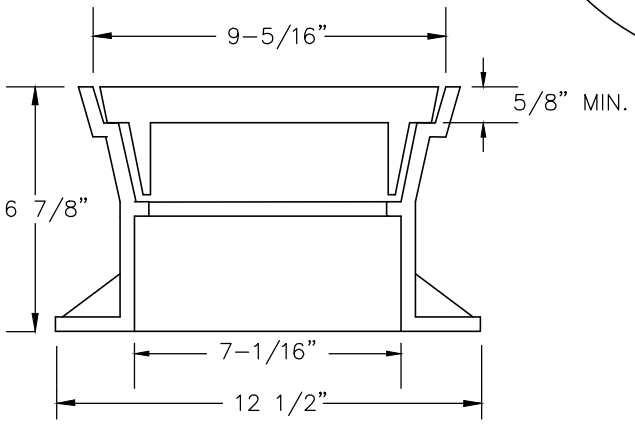
YARD MODEL



APPROVED RING AND LID

CLAY & BAILEY	2194
GCI	V 0675





PAVEMENT MODEL

APPROVED RING AND LID

CLAY & BAILEY	2196
GCI	V 0706

VALVE BOX RING & LID

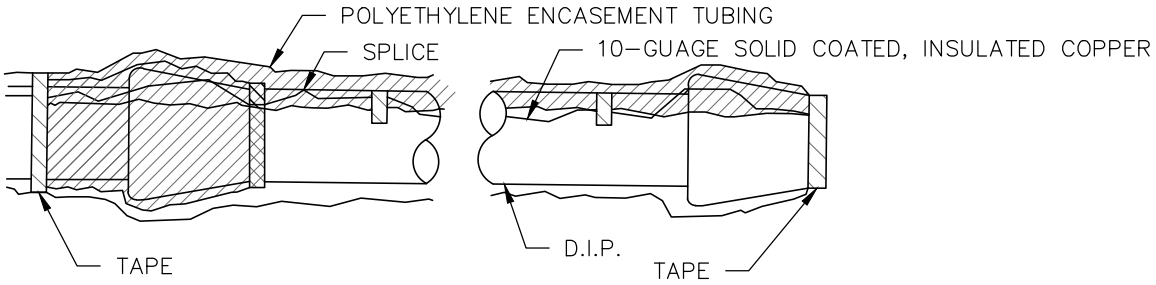
2015 Details

City of BELTON Missouri

PUBLIC WORKS

VALVE BOX RING & LID

		REV.		
SCALE:	NO SCALE			
DETAIL NO:	WAT-003			
DATE:	03-16-15			



NOTES:

1. THE WATERMAIN TRACER SHALL BE A CONTINUOUS 10–GUAGE INSULATED COPPER WIRE. SPLICES SHALL BE MADE WITH THE USE OF TAPED WIRE NUTS.
2. THE TRACER WIRE SHALL BE TAPED TO THE EXTERIOR OF THE POLYWRAP ON THE TOP OF THE MAIN.
3. THE TRACER WIRE ENDS SHALL TERMINATE AT THE TOP OF ALL VALVE BOXES.
4. CONTRACTOR SHALL TEST THE TRACER WIRE FOR CONTINUITY. CONTINUITY MUST BE ESTABLISHED FOR FINAL ACCEPTANCE.

WATERMAIN TRACER WIRE DETAIL

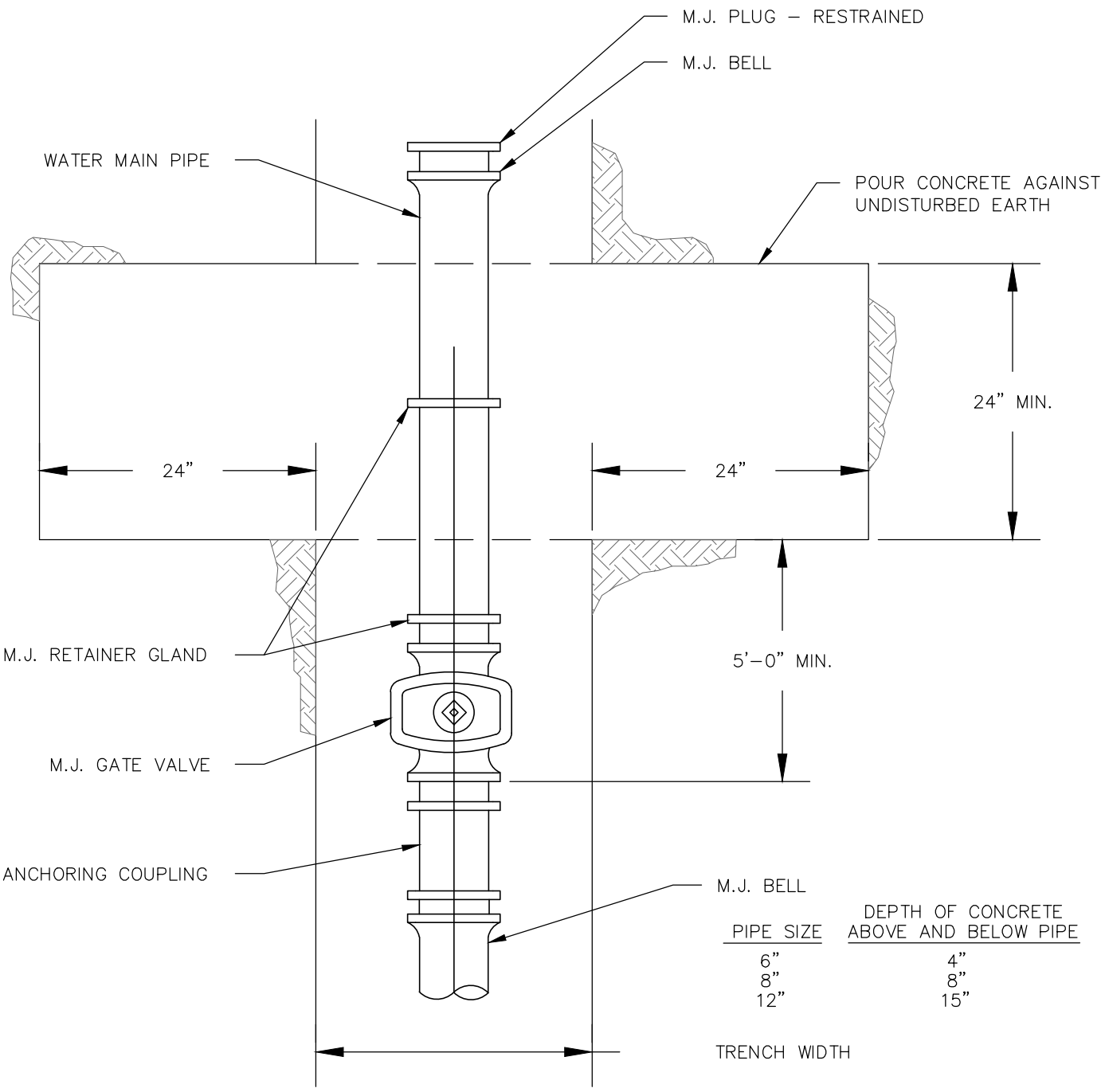
2015 Details

City of BELTON Missouri

PUBLIC WORKS

WATER MAIN TRACER WIRE

SCALE:	NO SCALE	REV.	
DETAIL NO:	WAT-004		
DATE:	03-16-15		



PIPE SIZE	DEPTH OF CONCRETE ABOVE AND BELOW PIPE
6"	4"
8"	8"
12"	15"

STRADDLE BLOCK DETAIL

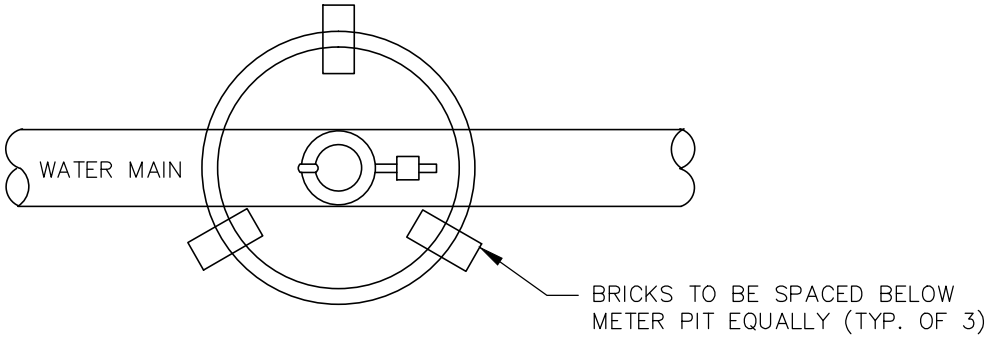
2015 Details

City of BELTON Missouri

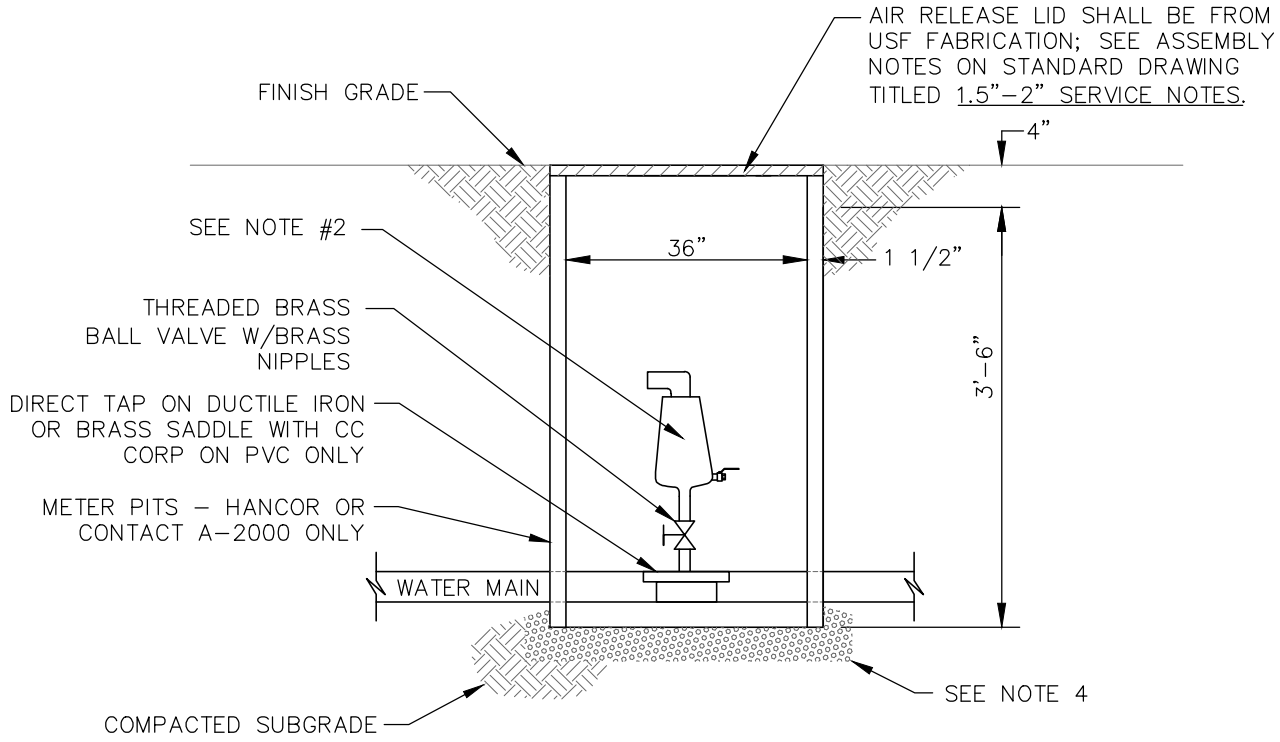
PUBLIC WORKS

STRADDLE BLOCK

		REV.		
SCALE:	NO SCALE			
DETAIL NO:	WAT-005			
DATE:	03-16-15			



PLAN



SECTION

AIR RELIEF/COMBINATION VAULT UNDER UNPAVED AREAS

NOTES:

1. METER WELL TO BE SET PLUMB AND LEVEL.
2. COMBINATION AIR & VACUUM VALVE ASSEMBLY – A.R.I. D–040 FOR 2" AND BELOW TAP SIZE, A.R.I. D–060 3" AND LARGER TAP SIZE, OR NSF RATED APPROVED EQUAL.
3. NOT FOR DRIVEWAY INSTALLATION.
4. METER WELL TO BE SET ON 4" OF CLEAN GRAVEL BEDDING.

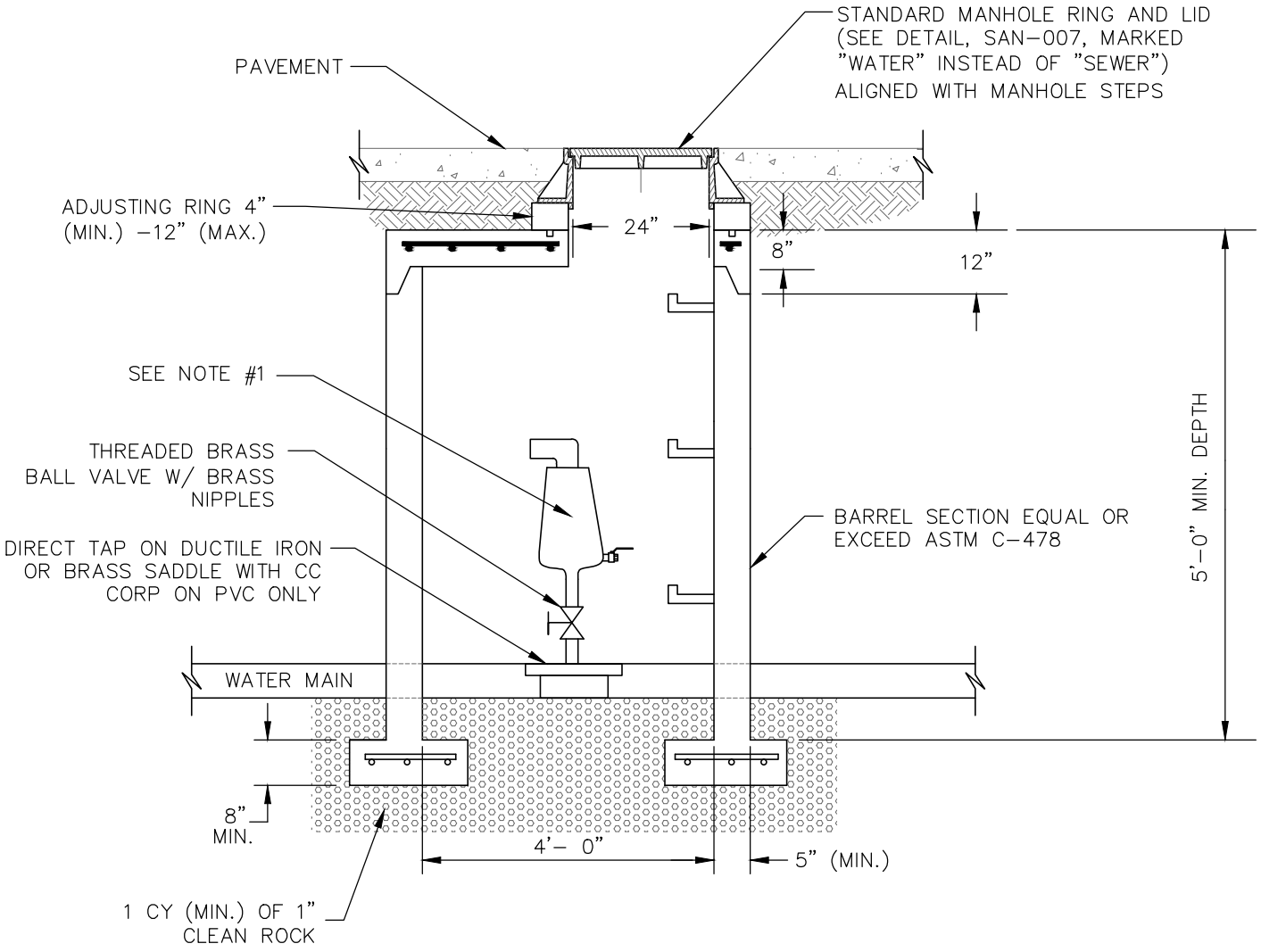
2015 Details

City of BELTON Missouri

PUBLIC WORKS

AIR RELIEF-COMBINATION VAULT - UNPAVED

		REV.		
SCALE:	NO SCALE			
DETAIL NO:	WAT-006			
DATE:	03-16-15			



AIR RELIEF/COMBINATION VAULT UNDER PAVEMENT

NOTES:

1. COMBINATION AIR & VACUUM VALVE ASSEMBLY – A.R.I. D–040 FOR 2" AND BELOW TAP SIZE, A.R.I. D–060 3" AND LARGER TAP SIZE, OR NSF RATED APPROVED EQUAL.
2. VAULT SHALL BE STANDARD PRECAST SHALLOW TYPE MANHOLE, SEE SAN–004.
3. TAP SIZE DETERMINED BY THE MANUFACTURER BASED ON THE APPLICATION.

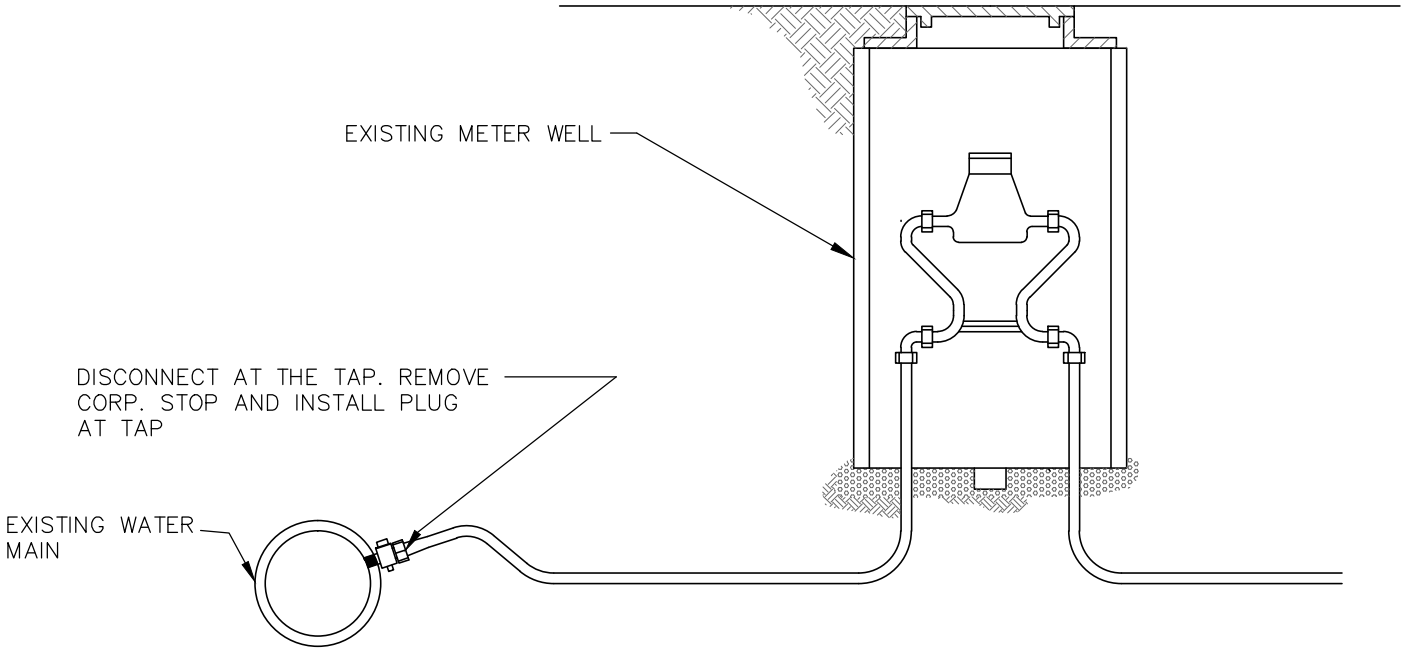
2015 Details

City of BELTON Missouri

PUBLIC WORKS

AIR RELIEF-COMBINATION VAULT - PAVED

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-007			
DATE:	03-16-15			



NOTES:
1. WATER SERVICES DIVISION MUST BE CONTACTED TO PULL METER PRIOR TO DEMOLITION.
2. WHEN SERVICE METER IS TO BE RE–USED, THE SERVICE LINE SHALL BE CUT AND CAPPED ON THE CUSTOMER SIDE 5' FROM THE METER WELL.

DISCONNECTION DETAIL

2015 Details

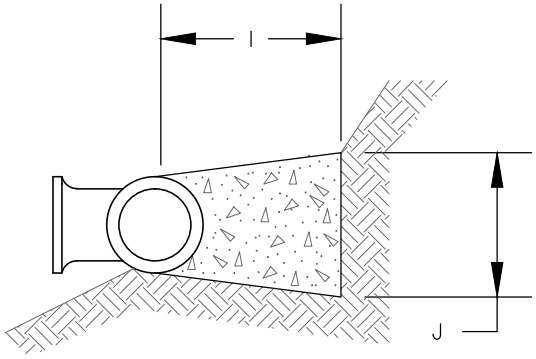
City of BELTON Missouri

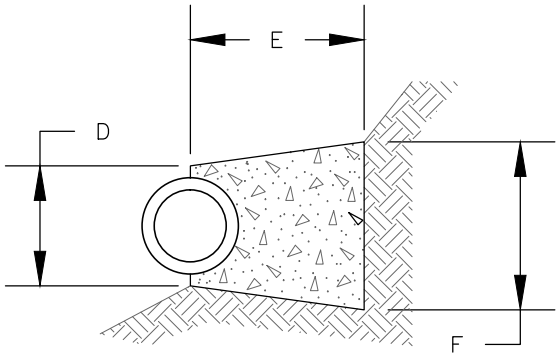
PUBLIC WORKS

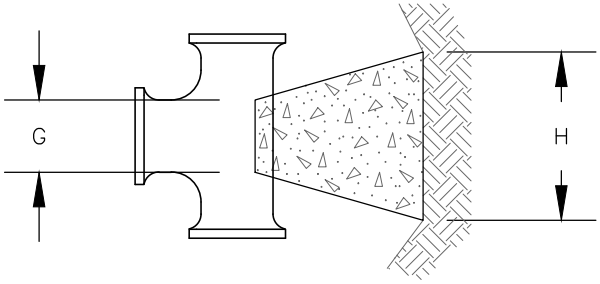
SERVICE METER WELL DISCONNECTION

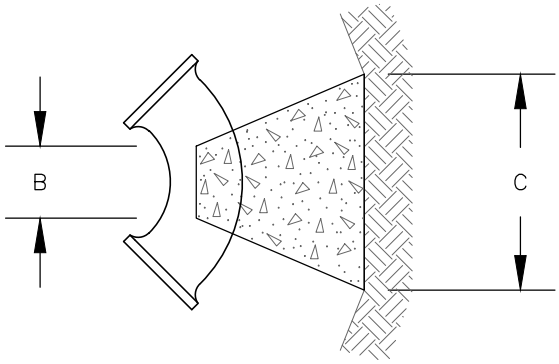
		REV.		
SCALE:	NO SCALE			
DETAIL NO:	WAT-008			
DATE:	03-16-15			

BENDS LESS THAN 45°	B	C	D	E	F		BENDS 45° THRU 90°	B	C	D	E	F
6"	8"	18"	12"	24"	12"		6"	8"	30"	12"	24"	30"
8"	8"	24"	12"	24"	18"		8"	8"	36"	12"	24"	36"
10"	8"	24"	12"	24"	18"		10"	8"	42"	12"	24"	42"
12"	8"	36"	18"	24"	24"		12"	12"	54"	18"	30"	48"
16"	12"	36"	18"	24"	30"		16"	18"	60"	18"	30"	48"
24"	18	42	30	30	36		24"	24"	72"	30"	36"	54"
TEES	G	H	I	J			TEES	G	H	I	J	
6"x 6"x 6"	12"	24"	24"	18"			16"x 16"x 6"	12"	24"	24"	18"	
8"x 8"x 6"	12"	24"	24"	18"			16"x 16"x 8"	12"	24"	24"	24"	
8"x 8"x 8"	12"	24"	24"	24"			16"x 16"x 12"	12"	36"	24"	36"	
10"x 10"x 6"	12"	24"	24"	18"			16"x 16"x 16"	18"	48"	30"	48"	
10"x 10"x 8"	12"	24"	24"	24"			24"x 24"x 8"	12"	24"	24"	24"	
10"x 10"x 10"	12"	24"	24"	30"			24"x 24"x 10"	12"	30"	24"	30"	
12"x 12"x 6"	12"	24"	24"	18"			24"x 24"x 12"	18"	36"	24"	36"	
12"x 12"x 8"	12"	24"	24"	24"			24"x 24"x 16"	18"	48"	30"	48"	
12"x 12"x 12"	12"	36"	24"	36"			24"x 24"x 24"	24"	60"	36"	60"	









THRUST BLOCK DETAIL

NOTE: ALL MECHANICAL FITTINGS SHALL BE ANCHORED TO PIPE.

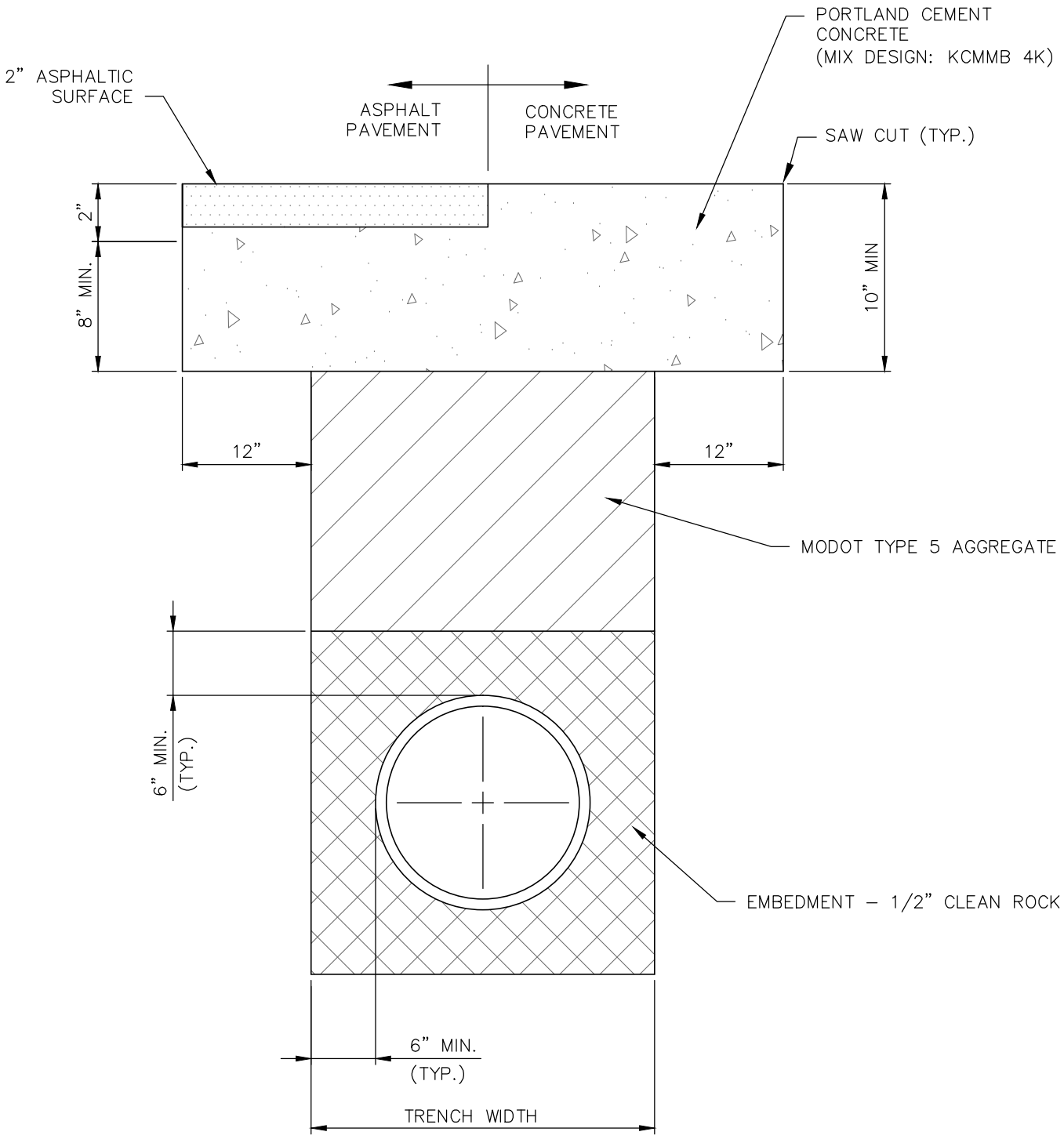
2015 Details

City of BELTON Missouri

PUBLIC WORKS

THRUST BLOCKS

SCALE:	NO SCALE	REV.	
DETAIL NO:	WAT-009		
DATE:	03-16-15		



PIPE EMBEDMENT - BACKFILL UNDER PAVED AREAS

NOTES:

1. IF THE TRENCH WIDTH IS LESS THAN OR EQUAL TO 24–INCHES, IT SHALL BE BACKFILLED WITH FLOWABLE FILL. FLOWABLE FILL MIX DESIGN TO BE APPROVED BY THE CITY PRIOR TO PLACEMENT.

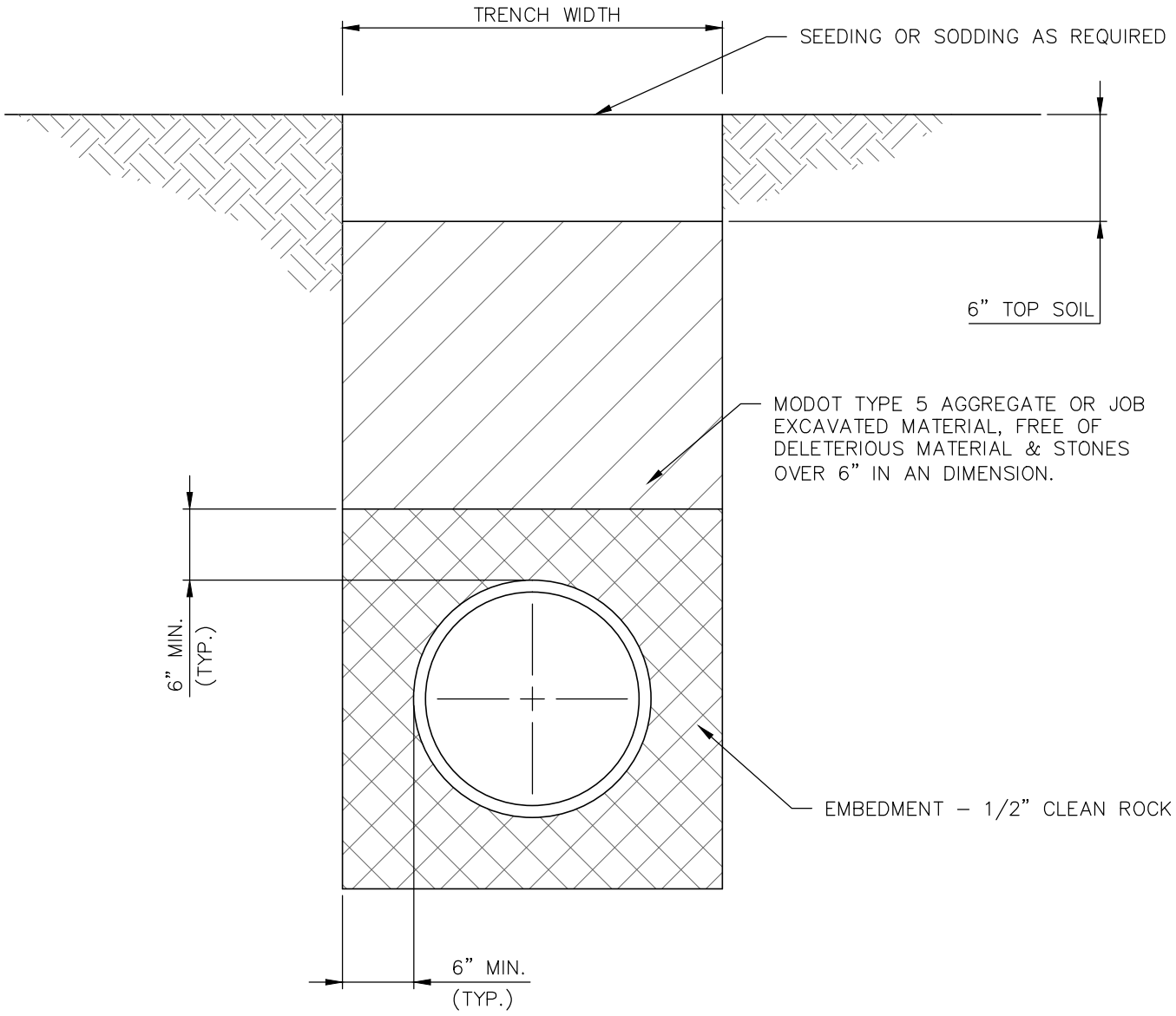
2015 Details

City of BELTON Missouri

PUBLIC WORKS

TRENCH BACKFILL & EMBEDMENT UNDER PAVEMENT

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-010			
DATE:	03-16-15			



PIPE EMBEDMENT - BACKFILL UNDER NON-PAVED AREAS

2015 Details

City of BELTON Missouri

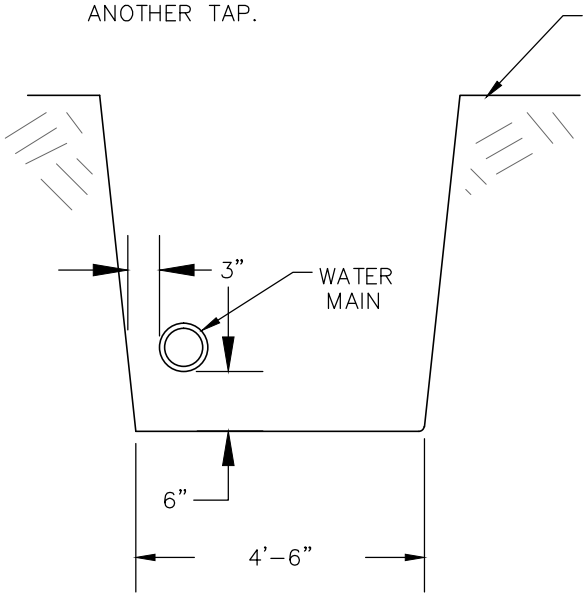
PUBLIC WORKS

TRENCH BACKFILL & EMBEDMENT UNDER NON-PAVED AREAS

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-011			
DATE:	03-16-15			

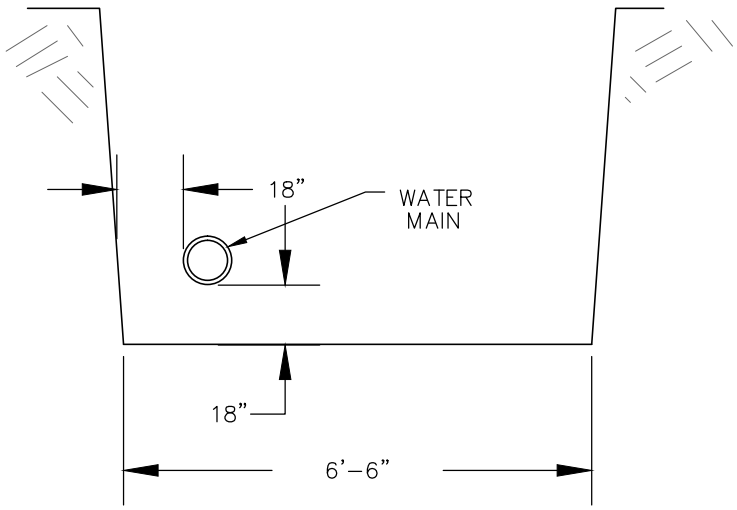
CORPORATION TAPS

NOTE:
A CORPORATION TAP SHALL NOT BE CLOSER THAN 18" TO A BELL FITTING OR ANOTHER TAP.

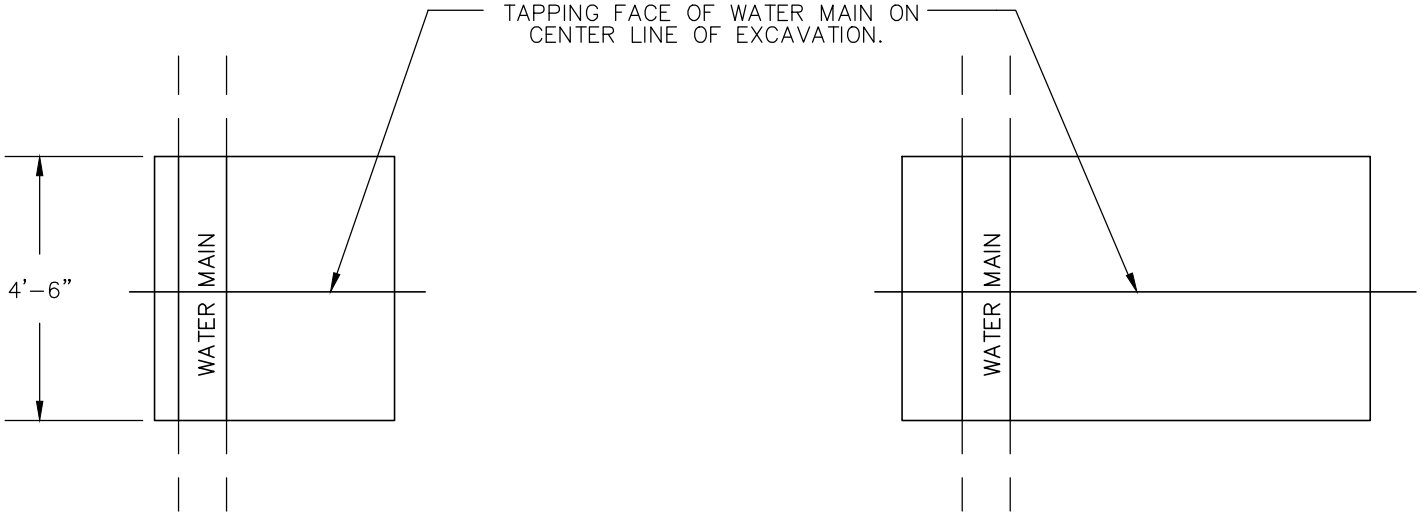


TAPPING VALVES

NOTE:
TAPS SHALL NOT BE LESS THAN 3' FROM SPIGOT END & 18" FROM BELL OF PIPE.



SECTION VIEWS



PLAN VIEWS

EXCAVATION DETAILS

NOTES:

1. EXCAVATIONS EXCEEDING 5' IN DEPTH MUST BE SHORED.

2. ALL MATERIAL FOR SERVICE MUST BE INSTALLED PRIOR TO TAP BEING MADE.

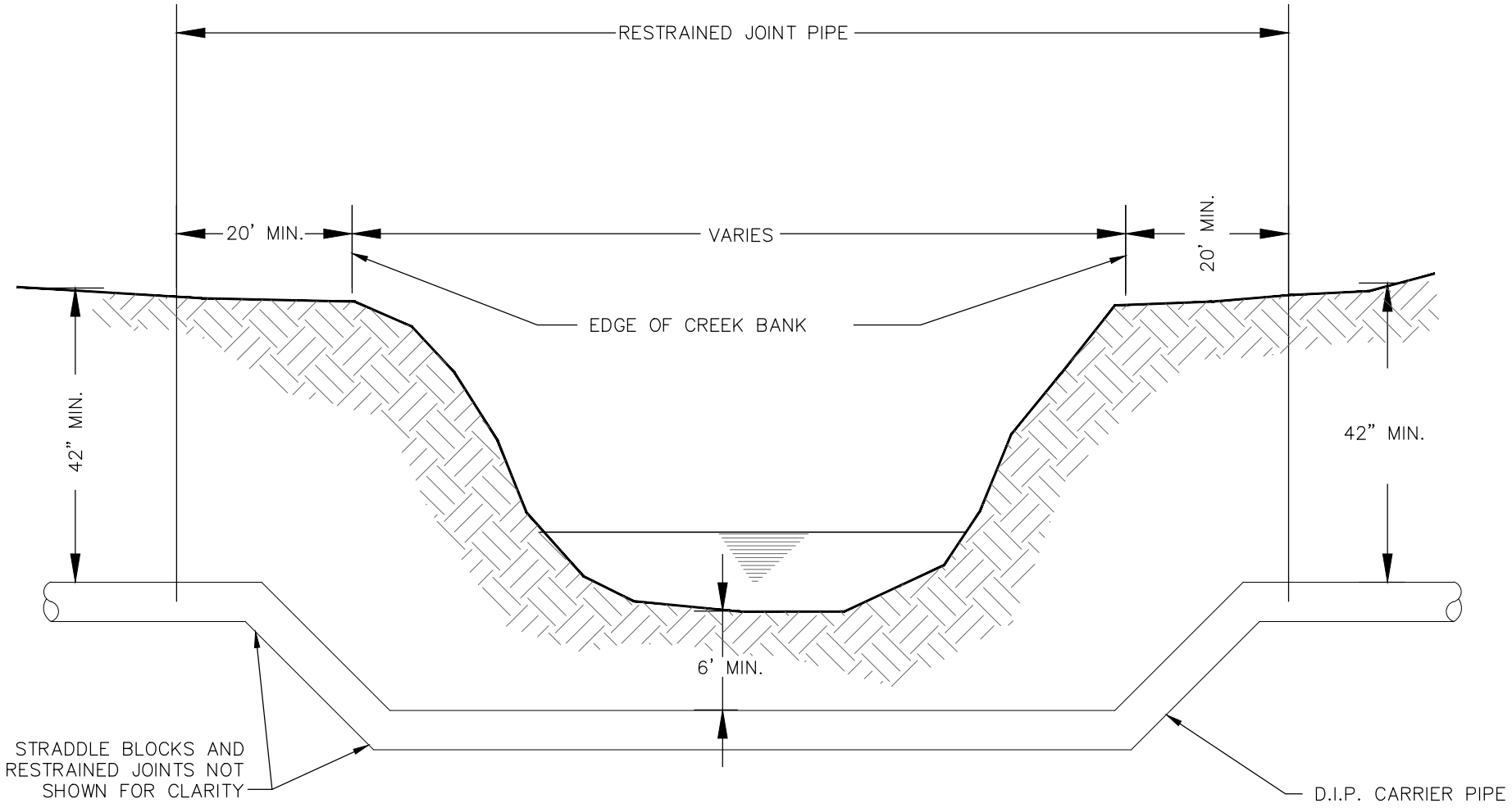
2015 Details

City of BELTON Missouri

PUBLIC WORKS

EXCAVATION DETAILS

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-012			
DATE:	03-16-15			



NOTES:

1. PIPE LAID SO AS NOT TO EXCEED PIPE MANUFACTURERS ALLOWABLE DEFLECTION.
2. CROSSINGS SHALL BE INSTALLED WHERE NOTED ON THE PLANS.
3. ALL LOWERINGS TO HAVE FOUR 45° BENDS WITH STRADDLE BLOCKS. PLACE RESTRAINED JOINTS BETWEEN STRADDLE BLOCKS.

TYPICAL WATERLINE LOWERING CROSSING DETAIL

2015 Details

City of BELTON Missouri

PUBLIC WORKS

TYPICAL WATERLINE LOWERING DETAIL

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-013			
DATE:	03-16-15			

SERVICE LINE NOTES

(3/4" & 1" SERVICE)

WATER TAP FEES:

Contact city hall at 816–331–4331 for pricing of water taps. Please request all water taps at a minimum of 48 hours in advance.
When paying for a water tap, please provide the address of the tap, the lot number and the name of the subdivision.

METER PIT LOCATION:

All meter pits shall be located in front of the house or building. The front of the meter pit shall be 13' from the curb and .5" rise per foot from the curb.
Meter pits are not permitted to be in any driving area or in any fenced area.

METER PIT SPECIFICATIONS:

- 3/4" service – 18" x 36" HANCOR or CONTACT A2000
- 1" service – 24" x 36" HANCOR or CONTACT A2000

no pit extensions are accepted.

METER PIT LID AND RING ASSEMBLIES:

- 3/4" service #2207–01–1001 Clay and Bailey only (one hole)
- 1" service #2209–01–1021 Clay and Bailey only (one hole)
- 1" service #2209–01–1022 Clay and Bailey only (two hole)

lids stamped: Water Meter – Belton

METER SETTER:

- 3/4" FORD VBH C92–24 w/ 15" 41–33A or AY McDONALD 60–224WD2D33 x 15
- 1" FORD VBH C94–24 w/ 15" 41–44A or AY McDONALD 60–424WD2D44 x 15

SERVICE PIPE:

Type "K" copper from the main to the building. The copper from the main to the setter must be a solid piece of copper, no couplings.

CUSTOMER:

The customer is responsible to maintain the service line from the outlet of the meter setter to the building served.

BUILDER OR CONTRACTOR:

The builder or contractor is responsible to install the service line, meter setter, meter pit, meter pit cover and all of the digging that is required to install the service line.

INSPECTIONS:

The city shall inspect all piping, connections, meter pit, meter setter and grade from the main to the outlet connection of the meter setter at time of the tap.
(leave uncovered until inspection)

METER SET:

The meter will be set by the city when service is to begin.

DEPOSITS:

All customers must pay a deposit for water service. Please contact city hall at 816–331–4331

2015 Details

City of BELTON Missouri

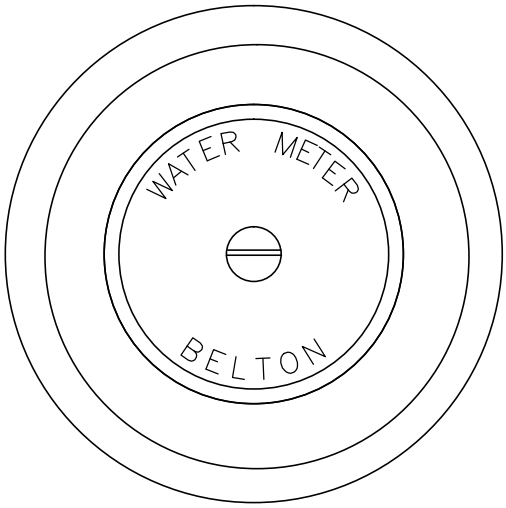
PUBLIC WORKS

3/4" & 1" SERVICE NOTES

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-014			
DATE:	03-16-15			

3/4" SERVICE

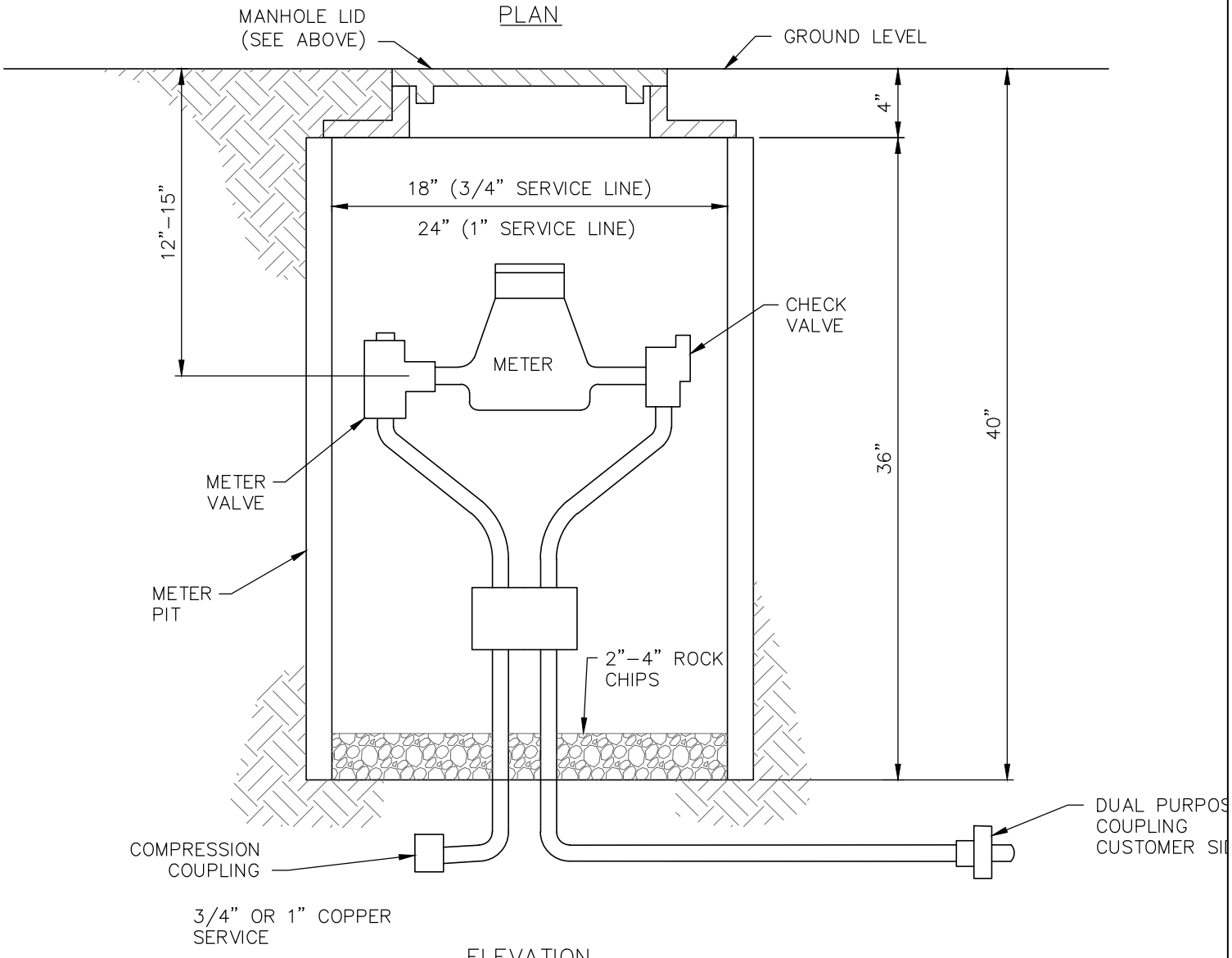
CLAY & BAILEY #2207–01–1001
ONLY WITH 2" CENTERED HOLE.
LID STAMPED:
WATER METER BELTON



PLAN

1" SERVICE

CLAY & BAILEY #2209–01–1021
ONLY WITH 1 – 2" HOLE – UPPER LEFT
OR
CLAY & BAILEY #2209–01–1022
ONLY WITH 2 – 2" HOLE –
UPPER LEFT AND RIGHT.
LID STAMPED: WATER METER BELTON



ELEVATION

NOTES:

1. 3/4" SERVICE CONNECTION (USED FOR HOME SERVICE OR IRRIGATION SYSTEM WITH BACKFLOW). METER LID COVERING BACKFLOW MUST BE A 2207. NO TRANSMITTER HOLE NEEDED.

2. 1" SERVICE CONNECTION (USED FOR HOME SERVICE OR IRRIGATION SYSTEMS WITH BACKFLOW. METER LID COVERING BACKFLOW MYST BE A 2209. NO TRANSMITTER HOLE NEEDED.

3/4" & 1" SERVICE PIT ASSEMBLY & LID

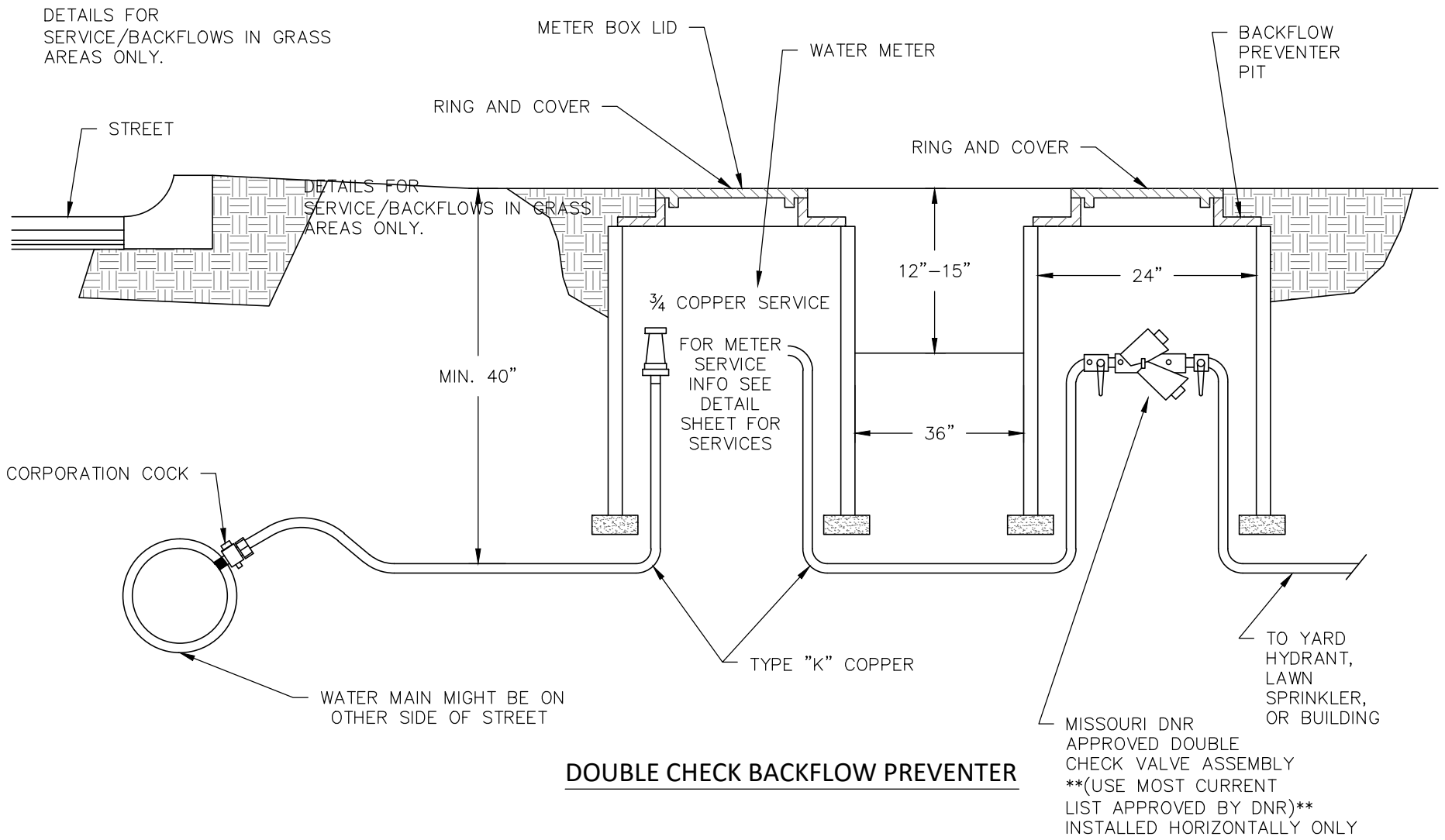
2015 Details

City of
BELTON
Missouri

PUBLIC WORKS

3/4" & 1" SERVICE PIT ASSEMBLY & LID

SCALE:	NO SCALE	REV.	
DETAIL NO:	WAT-015		
DATE:	03-16-15		



DOUBLE CHECK BACKFLOW PREVENTER

GENERAL RULES FOR WATER METERS AND BACKFLOW ASSEMBLIES:

1. PIT SPEC: ¾" –18"X36" HANDCORE OR CONTACT 42000
   1" –24"X36" HANDCORE OR CONTACT 42000
2. PIT COVER: (LID AND RING)
   ¾" –#2207–01–1001 METER PIT, #2207 FOR BACKFLOW
   1" –#2209–01–1021 METER PIT. #2209 FOR BACKFLOW

2015 Details

City of BELTON Missouri

PUBLIC WORKS

3/4" & 1" BACKFLOW PREVENTER

SCALE:	NO SCALE	REV.	8-26-16	SPELLING CORRECTION
DETAIL NO:	WAT-016			
DATE:	03-16-15			

SERVICE LINE NOTES

(1–½" AND 2" SERVICE)

WATER TAP FEES:

CONTACT CITY HALL AT 816–331–4331 FOR PRICING OF WATER TAPS. PLEASE REQUEST ALL WATER TAPS AT A MINIMUM OF 48 HOURS IN ADVANCE. WHEN PAYING FOR A WATER TAP, PLEASE PROVIDE THE ADDRESS OF THE TAP, THE LOT NUMBER AND THE NAME OF THE SUBDIVISION.

METER PIT LOCATION:

ALL METER PITS SHALL BE LOCATED IN FRONT OF THE HOUSE OR BUILDING. METER PITS ARE NOT PERMITTED TO BE IN ANY DRIVING AREA OR IN ANY FENCED AREA. THE FRONT OF THE METER PIT SHALL BE LOCATED ACCORDING TO APPROVED CONSTRUCTION/PLOT PLANS.

METER PIT SPECIFICATIONS:

36"W X 36"L HANCOR OR CONTACT 2–2000 – WHITE IN COLOR

METER PIT LID AND RING ASSEMBLIES:

- BPS 300 –36" ID X 40" OD BASIN COVER AS MANUFACTURED BY U.S.F. FABRICATION.
- ACCESS COVER WILL BE 19" X 27" WITH OPTIONAL FEATURE OF RECESSED PADLOCK BOX INCLUDED OR AN APPROVED EQUAL.

METER SETTER:

USE SAME SETTER FOR 1–1/2" AND 2" SERVICES. ADJUST TO THE PROPER METER LAY LENGTH: 1 ½"=13.75" AND 2"=17"

- FORD VBHH77X24 BX17" 11.77
- AY MCDONALD AY20B724WDFF775

SERVICE PIPE:

TYPE "K" COPPER FROM THE MAIN TO THE BUILDING. THE COPPER FROM THE MAIN TO THE SETTER MUST BE A SOLID PIECE OF COPPER, NO COUPLINGS.

CUSTOMER:

THE CUSTOMER IS RESPONSIBLE TO MAINTAIN THE SERVICE LINE FROM THE OUTLET OF THE METER SETTER TO THE BUILDING SERVED.

BUILDER OR CONTRACTOR:

THE BUILDER OR CONTRACTOR IS RESPONSIBLE TO INSTALL THE SERVICE LINE, METER SETTER, METER PIT, METER PIT COVER AND ALL OF THE DIGGING THAT IS REQUIRED TO INSTALL THE SERVICE LINE.

INSPECTIONS:

THE CITY SHALL INSPECT ALL PIPING, CONNECTIONS, METER PIT, METER SETTER AND GRADE FROM THE MAIN TO THE OUTLET CONNECTION OF THE METER SETTER AT THE TIME OF THE TAP.

METER SET:

THE METER WILL BE SET BY THE CITY WHEN SERVICE IS TO BEGIN.

DEPOSITS:

ALL CUSTOMERS MUST PAY A DEPOSIT FOR WATER SERVICE. PLEASE CONTACT CITY HALL AT 816–331–4331.

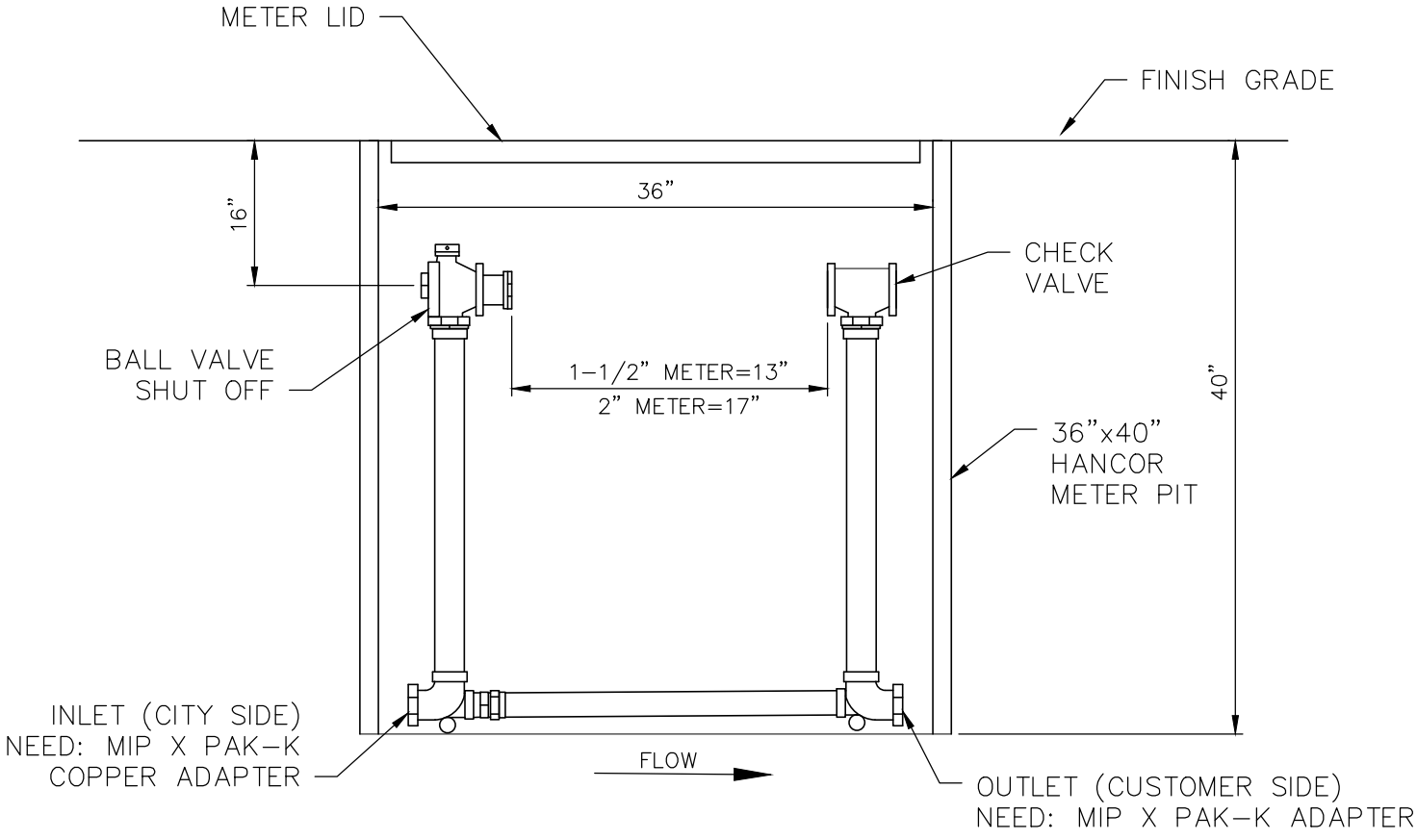
2015 Details

City of BELTON Missouri

PUBLIC WORKS

1-½" & 2" SERVICE NOTES

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-017			
DATE:	03-16-15			



NOTE:
FOR SERVICE IN GRASS ONLY.

1-1/2" & 2" SERVICE PIT ASSEMBLY

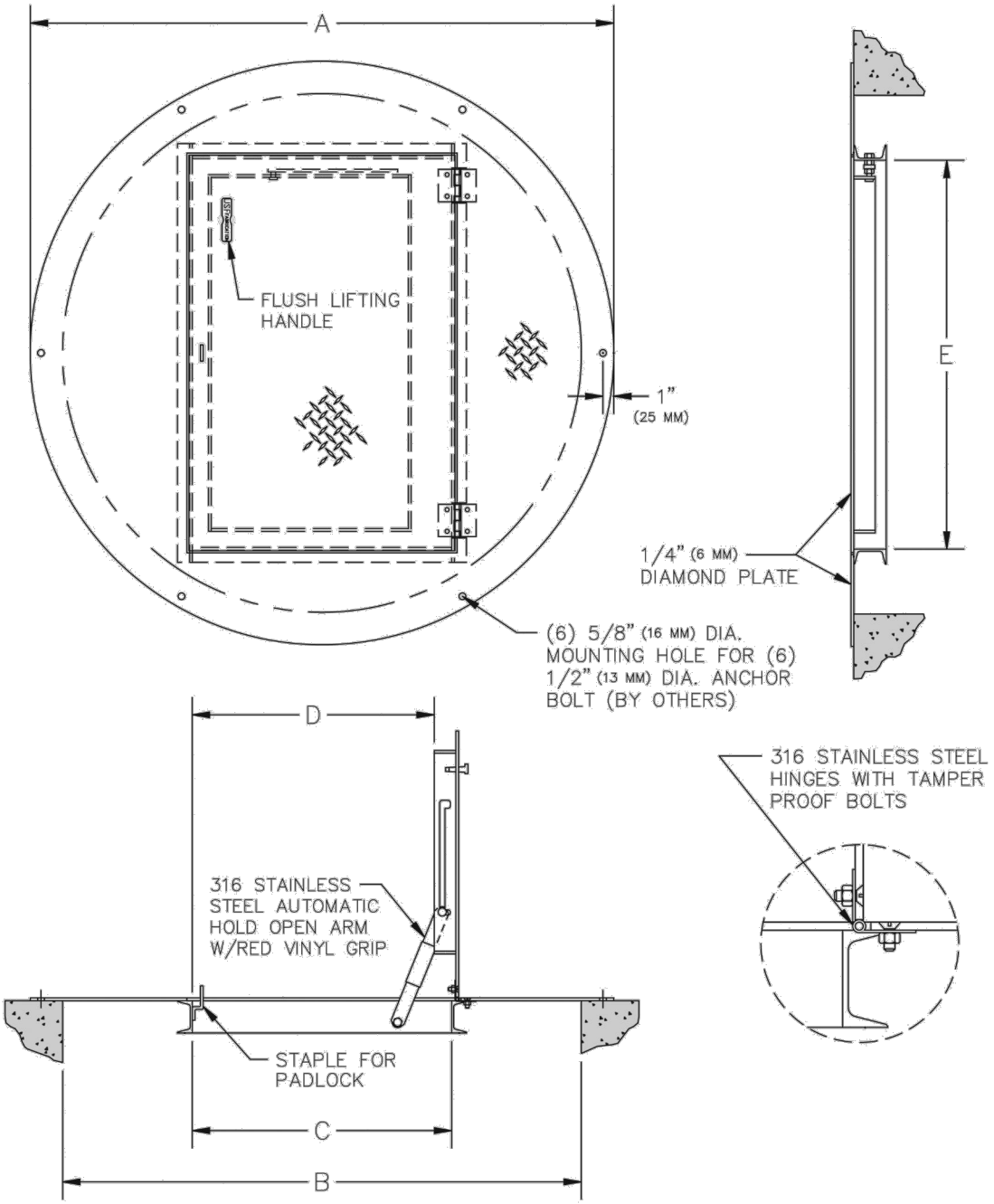
2015 Details

City of BELTON Missouri

PUBLIC WORKS

1-½" & 2" SERVICE PIT ASSEMBLY

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-018			
DATE:	03-16-15			



1-1/2" & 2" SERVICE PIT LID - UNPAVED AREAS

NOTES:

1. SERVICE PIT LID SHALL BE FROM U.S.F. FABRICATION AS INDICATED WITH 300 psf LOADING OR APPROVED EQUAL.

2. FOR DIMENSIONS A THRU E, SEE MANUFACTURER SPEIFICATIONS.

2015 Details

City of BELTON Missouri

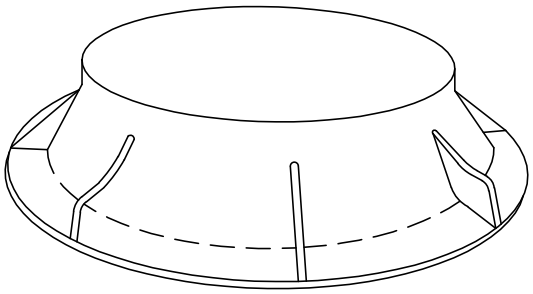
PUBLIC WORKS

1-½" & 2" SERVICE PIT LID-UNPAVED

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-019			
DATE:	03-16-15			

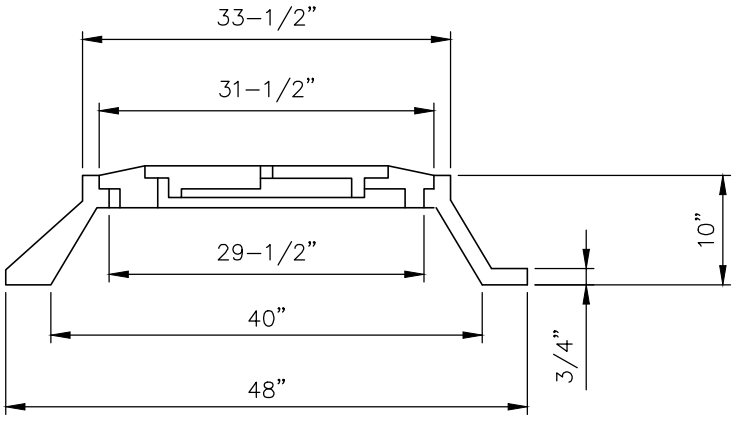
KANSAS CITY, MO. TYPE "C"

NO. 2214



WEIGHT

INNER LID	95 LBS.
OUTER LID	155 LBS.
RING	420 LBS.



NOTE:
METER LID FOR 1–1/2" AND 2" METER SERVICE PIT. FOR SERVICE IN PAVEMENT AREAS ONLY.

1-1/2" & 2" SERVICE PIT LID - PAVED AREAS

2015 Details

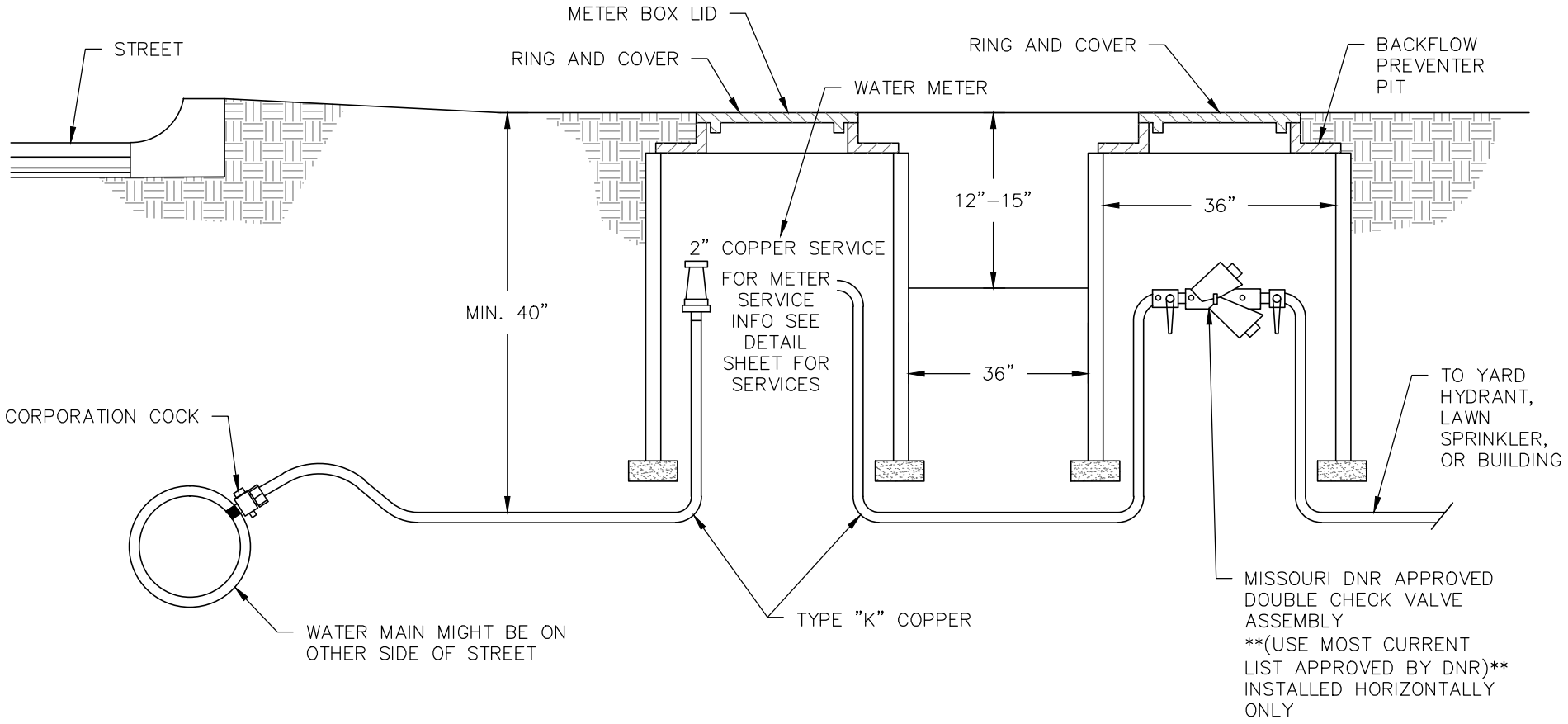
City of BELTON Missouri

PUBLIC WORKS

1-½" & 2" SERVICE PIT LID-PAVED

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-020			
DATE:	03-16-15			

DETAILS FOR
SERVICE/BACKFLOWS IN GRASS
AREAS ONLY.



DOUBLE CHECK BACKFLOW PREVENTER

GENERAL RULES FOR WATER METERS AND BACKFLOW ASSEMBLIES:

1. PIT SPEC: 1 ½" –24""X36" HANDCORE OR CONTACT 42000
   2" –24"X36" HANDCORE OR CONTACT 42000
2. PIT COVER: (LID AND RING)
   1 ½" –BPS 300 (36"ID X 40"OD) BASIN COVER FOR SERVICE, MADE BY USF FABRICATION, SERVICE PIT BACKFLOW PIT
   2" –BPS 300 (36"ID X 40"OD) BASIN COVER FOR SERVICE, MADE BY USF FABRICATION, SERVICE PIT BACKFLOW PIT

2015 Details

City of BELTON Missouri

PUBLIC WORKS

1-1/2" & 2" BACKFLOW PREVENTER

		REV.		
SCALE:	NO SCALE			
DETAIL NO:	WAT-021			
DATE:	03-16-15			

SERVICE LINE NOTES

(3", 4" & 6" SERVICE)

WATER TAP FEES:

Contact city hall at (816) 331–4331 for pricing of taps. Large service sizes must have a water tee installed, no tapping sleeve tees are allowed. After service tee installation an approved gate valve will be installed at connection point to tee (Mueller, American Flow Control, Waterous or other approved Resilient Wedge Gate Valves) . All installations must be coordinated with the Engineering and Water Services Divisions for inspections and water customer interruptions (48 hour notice to customers is required).

METER PIT LOCATION:

Meter vaults are not permitted to be in any driving area or in any fenced area. The front of the meter vault shall be located according to approved construction plans. If vaults must be in a traffic area, this must be approved by City Engineer before installation.

METER PIT SPECIFICATIONS:

Vault walls are to be poured concrete or precast concrete.

Concrete floor must slope to drain to sump hole. Vaults must be free of water. Sump hole shall be 18" diameter, filled with clean gravel & connected to field drain.

Vault roof is to be reinforced concrete with opening centered over meter, ensuring entry access to steps. Cast iron steps Clay and Bailey 2104 or approved equal is to be on 16" centers.

Distance between the backflow preventer vault and water service meter vault shall be a minimum of 5 feet and a maximum of 10 feet with no bends in between vaults.

All Stem Gate Valves installed inside a vault shall be one of the following: American Flow Control – Series 2500 Ductile Iron Resilient Wedge Gate Valves or Clow C–509 Ductile Iron Resilient Wedge Gate Valves or Mueller 2360 Series Ductile Iron Resilient Wedge Gate Valves. All gate valves are to open left and close right.

Please see Meter Vault Details for more information.

METER PIT LID

Non–Traffic shall be a minimum of Angle Frame Pedestrian Loading Double Door – APD 300 aluminum door, double door with a recessed staple for padlock or approved equal, ensuring entry access to steps. Door material is ¼ inch Aluminum with 316 stainless steel nuts/bolts, hinges and hold open arm. Loading is 300 lbs. per sq. foot. Door must be installed over the valve to valve meter installed piping side of the vault.

ADP 300, ¼" Aluminum, 60" x 60" Frame Opening, 59" x 54" Clear Opening, 66" x 66" Overall Size, 177 lbs. Weight – used for all three meter sizes.

Traffic areas must be an approved Clay and Bailey lid approved by City Engineer prior to installation.

Please see Service Vault Lid Detail for more information.

METER SETTER:

Please see Meter Vault Details for information concerning piping.

SERVICE PIPE:

All meter vault piping must be Class 52 ductile iron. All fittings must be domestic.

CUSTOMER:

The customer is responsible to maintain the service line from the outlet of the meter vault to the building served.

BUILDER OR CONTRACTOR:

The builder or contractor is responsible to install all components of the meter service vault.

INSPECTIONS:

The city shall inspect all piping, connections, meter vault, vault lid and grade from the main to the outlet connection of the meter vault.

METER SET:

The meter will be set by the city when the service is to begin.

DEPOSITS:

All customers must pay a deposit for water service. Please contact city hall at (816) 331–4331.

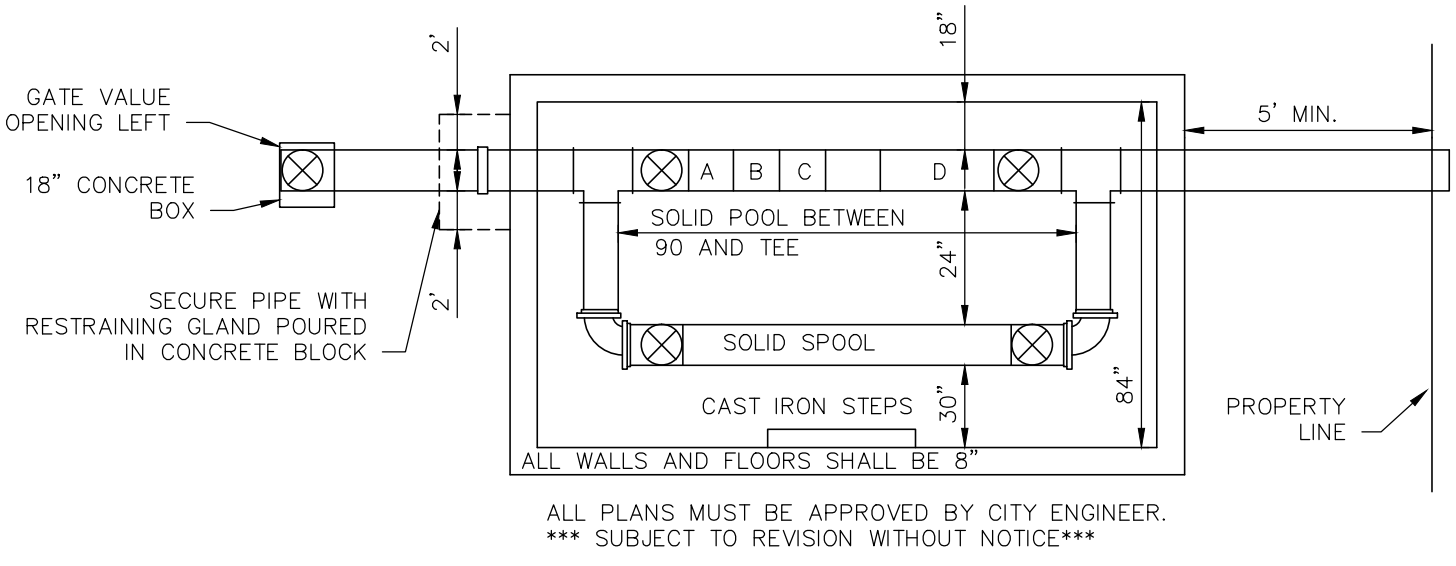
2015 Details

City of BELTON Missouri

PUBLIC WORKS

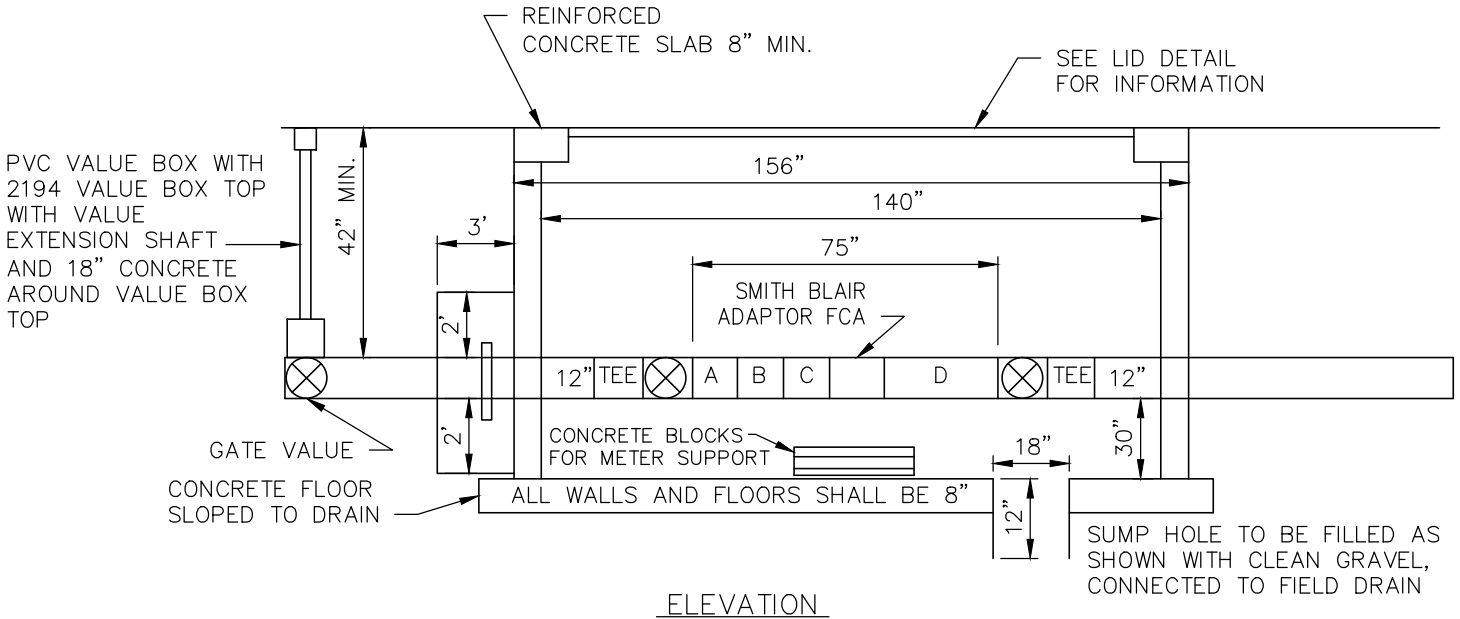
3", 4" & 6" SERVICE NOTES

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-022			
DATE:	03-16-15			



ALL PLANS MUST BE APPROVED BY CITY ENGINEER.
*** SUBJECT TO REVISION WITHOUT NOTICE***

PLAN



ELEVATION

METER SIZE	STRAINER	FLANGE SPOOL	METER SIZE TURBO/COMPOUND	FLANGE BY PLAIN END	LAY LENGTH G.V. TO G.V.	LENGTH INSIDE	LENGTH OUTSIDE	WIDTH INSIDE/OUTSIDE
3"	7"	15"	12" / 17"	24"	75"	140"	156"	84" / 100"
4"	9"	20"	14" / 20"	24"	75"	140"	156"	84" / 100"
6"	9"	30"	18" / 24"	24"	75"	140"	156"	84" / 100"

3", 4" & 6" SERVICE VAULT ASSEMBLY

NOTE:
VAULT LID SHALL BE FROM U.S.F. FABRICATION AS INDICATED WITH 300 psf LOADING OR APPROVED EQUAL.

LEGEND

A: STRAINER
B: FLANGE SPOOL
C: METER
D: FLANGE BY PLAIN END CUT TO SIZE BY CITY.

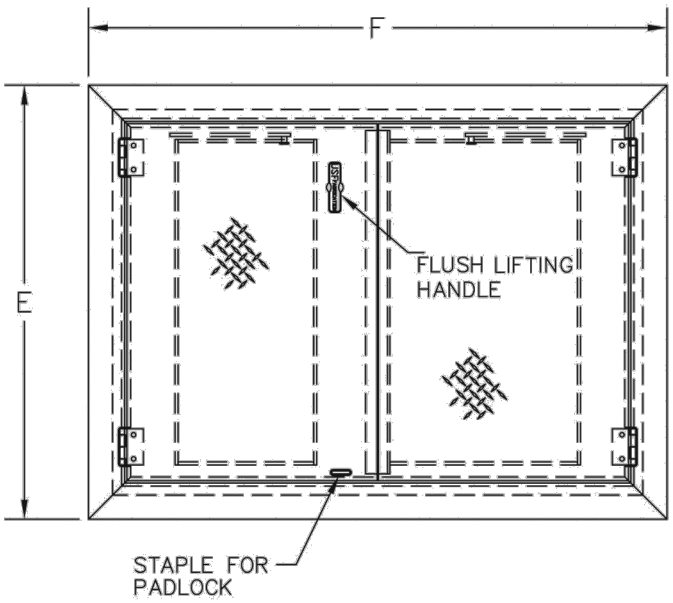
2015 Details

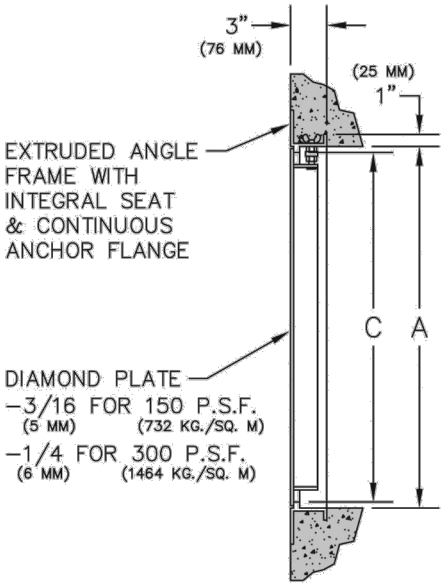
City of BELTON Missouri

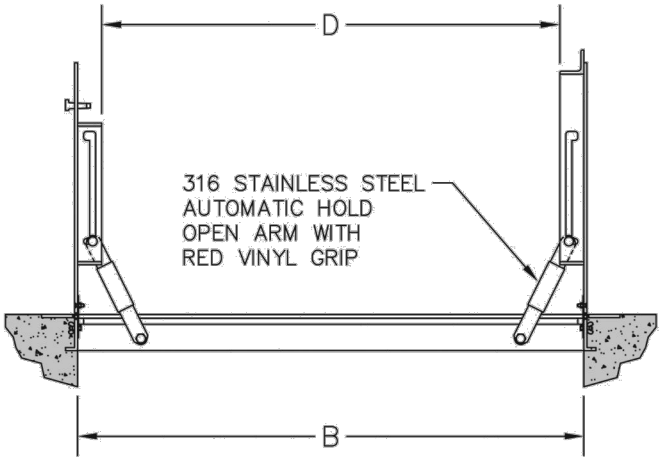
PUBLIC WORKS

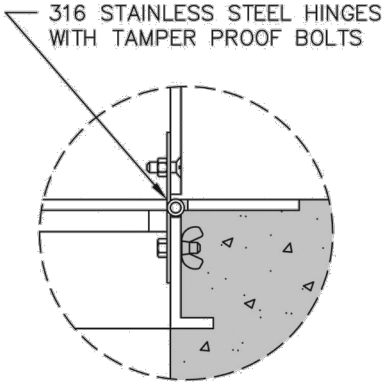
3", 4" & 6" SERVICE VAULT ASSEMBLY

SCALE:	NO SCALE	REV.	
DETAIL NO:	WAT-023		
DATE:	03-16-15		









3", 4" & 6" SERVICE VAULT LID

NOTE:

1. SERVICE PIT LID SHALL BE FROM U.S.F. FABRICATION AS INDICATED WITH 300 psf LOADING OR APPROVED EQUAL.

2. FOR DIMENSIONS A THRU F, SEE MANUFACTURER SPEIFICATIONS.

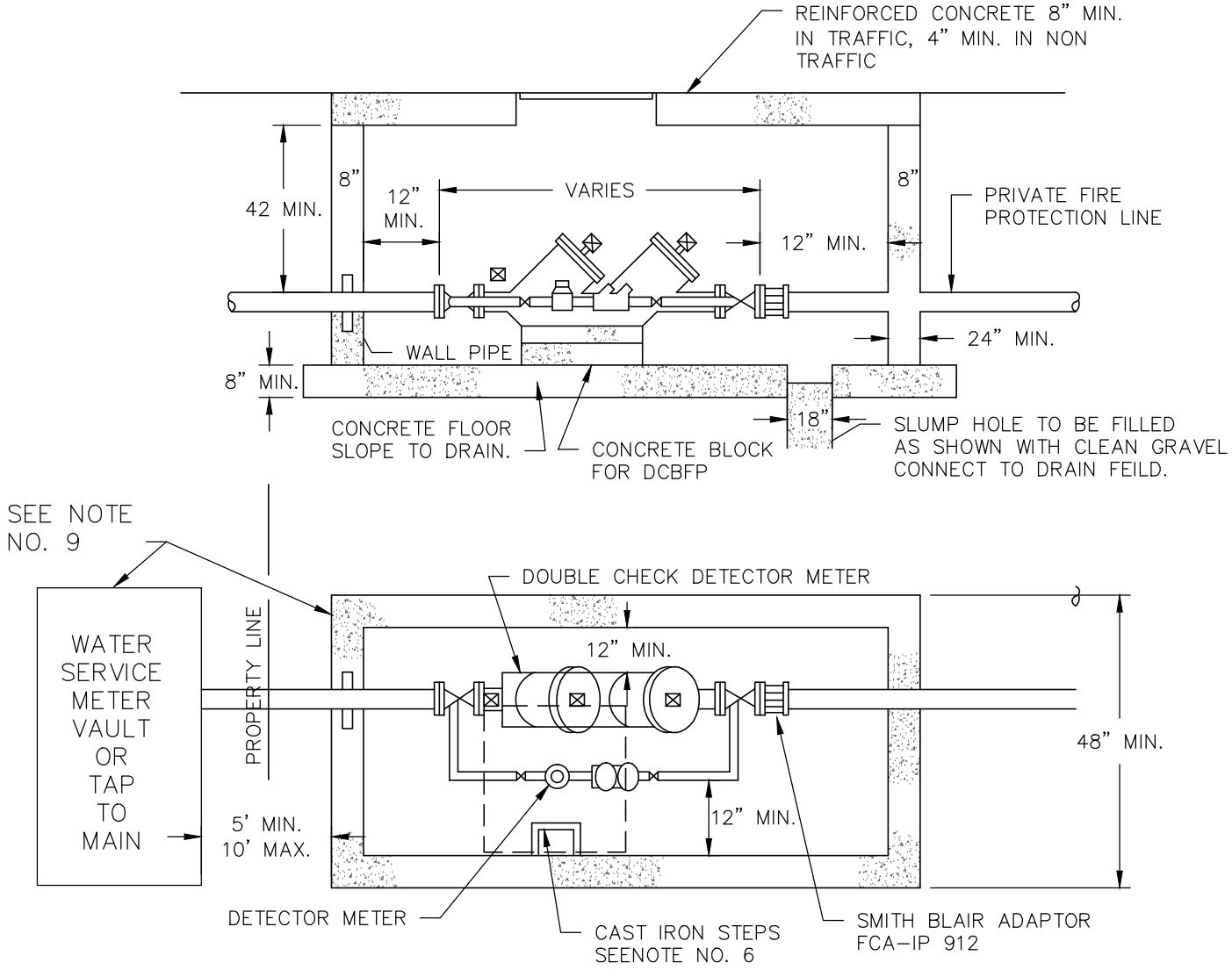
2015 Details

City of BELTON Missouri

PUBLIC WORKS

3", 4" & 6" SERVICE VAULT LID

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-024			
DATE:	03-16-15			



3", 4" & 6" BACKFLOW PREVENTER

GENERAL RULES:

1. METER VAULT WALLS TO BE POURED CONCRETE, CONCRETE BLOCK OR PRECAST CONCRETE.
2. METER VAULT ROOF TO BE REINFORCED CONCRETE WITH OPENING CENTERED OVER DETECTOR (ENSURE ENTRY ACCESS TO STEPS)
3. METER VAULT TO BE LOCATED WHEN POSSIBLE OUTSIDE TRAFFIC AREA AND WHERE SURFACE WATER WILL NOT DRAIN INTO IT. VAULT MUST BE KEPT FREE OF WATER.
4. ALL PIPE TO BE DUCTILE IRON CLASS 52.
5. ALL FITTINGS MUST BE BRASS
6. CST IRON STEPS CLAY AND BAILEY NO. 2104 OR APPROVED EQUAL ON 16" CENTERS.
7. CLAY AND BAILEY NO. 2215, RING AND LID WITH HANDLE AND OUTER LID OR APPROVED EQUAL.
8. A DEPARTMENT OF NATURAL RESOURCES APPROVED DOUBLE CHECK DETECTOR CHECK BACKFLOW PREVENTOR MUST BE USED. AS OF JANUARY 1, 1987 THE DNR REQUIRES FIRE SPRINKLER SYSTEMS USING CHEMICALS MUST HAVE A DNR APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTOR INSTALLED. THIS DEVICE CAN BE INSTALLED IN AN UNDERGROUND VAULT ONLY WITH THE WRITTEN APPROVAL OF THE DNR WITH A COPY TO THE ENGINEERING DIVISION OF THE WATER DEPARTMENT.
9. DISTANCE BETWEEN THE DOUBLE CHECK DETECTOR VAULT AND WATER SERVICE METER VAULT WILL BE A MINIMUM OF 5' AND MAXIMUM OF 10', AS WELL AS, NO BENDS IN-BETWEEN VAULTS.

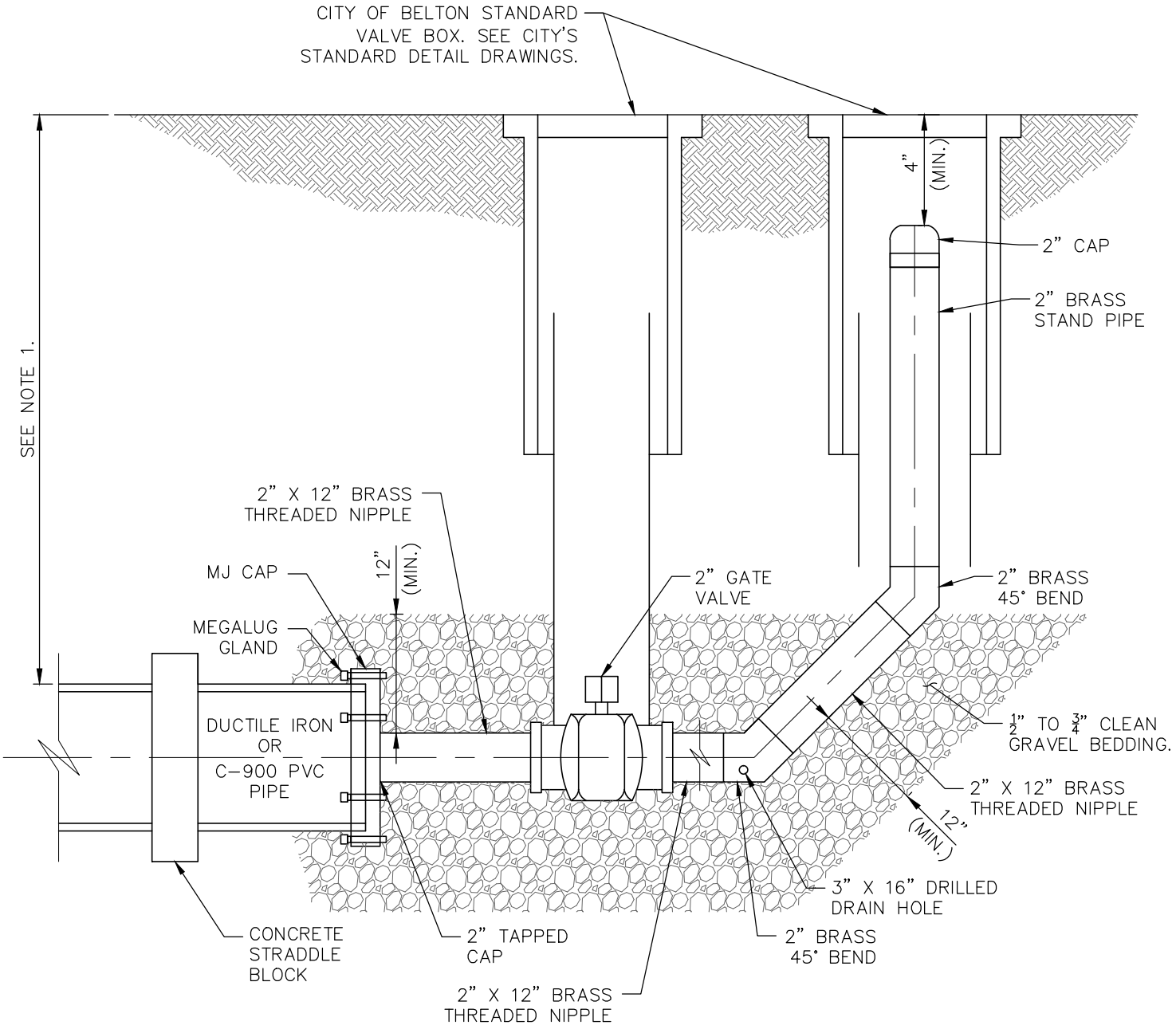
2015 Details

City of BELTON Missouri

PUBLIC WORKS

3", 4" & 6" BACKFLOW PREVENTER

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-025			
DATE:	03-16-15			



STANDARD BLOW-OFF ASSEMBLY

NOTES:

1. THE DEPTH AND TYPE OF THE PIPE SHALL BE APPROVED BY THE CITY PRIOR TO INSTALLATION.

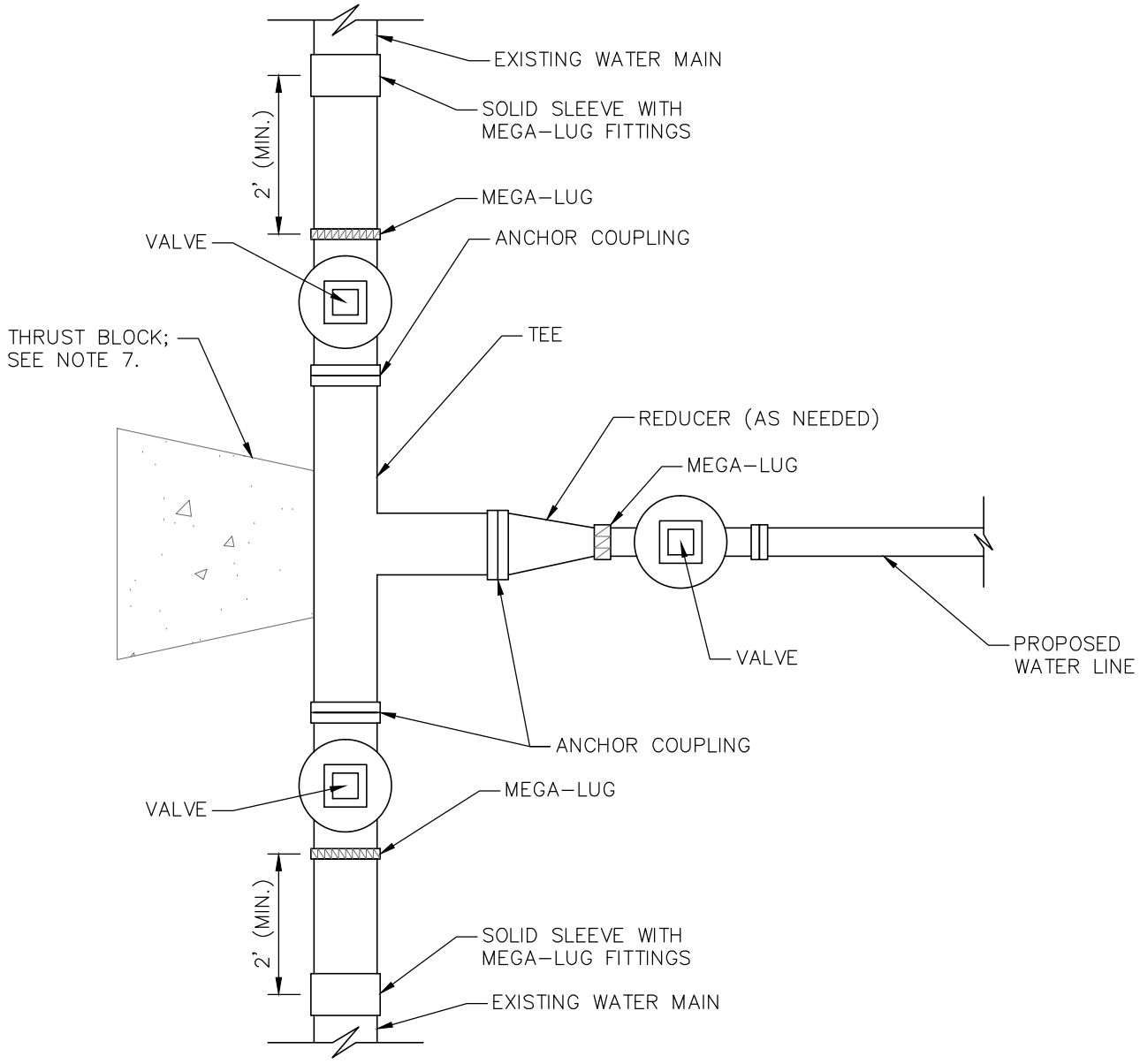
2015 Details

City of BELTON Missouri

PUBLIC WORKS

STANDARD BLOW-OFF ASSEMBLY

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-026			
DATE:	03-16-15			



VALVE CLUSTER - CONNECTION TO EXISTING WATER LINE

NOTES:

1. ALL FITTINGS SHALL BE DUCTILE IRON.
2. SEE THE CITY'S STANDARD SPECIFICATIONS FOR THE APPROVED LIST OF GATE VALVES.
3. REFER TO THE CITY'S STANDARD DETAILS FOR THE VALVE BOX INFORMATION.
4. ANCHOR COUPLINGS SHALL BE APPROVED WITH THE CITY PRIOR TO CONSTRUCTION.
5. VALVE LOCATIONS SHALL BE COORDINATED WITH THE CITY PRIOR TO CONSTRUCTION.
6. AMERICAN MADE PARTS/MATERIALS ARE PREFERRED.
7. SEE THE CITY'S STANDARD DETAIL FOR THRUST BLOCKS FOR CONSTRUCTION OF THRUST BLOCK.

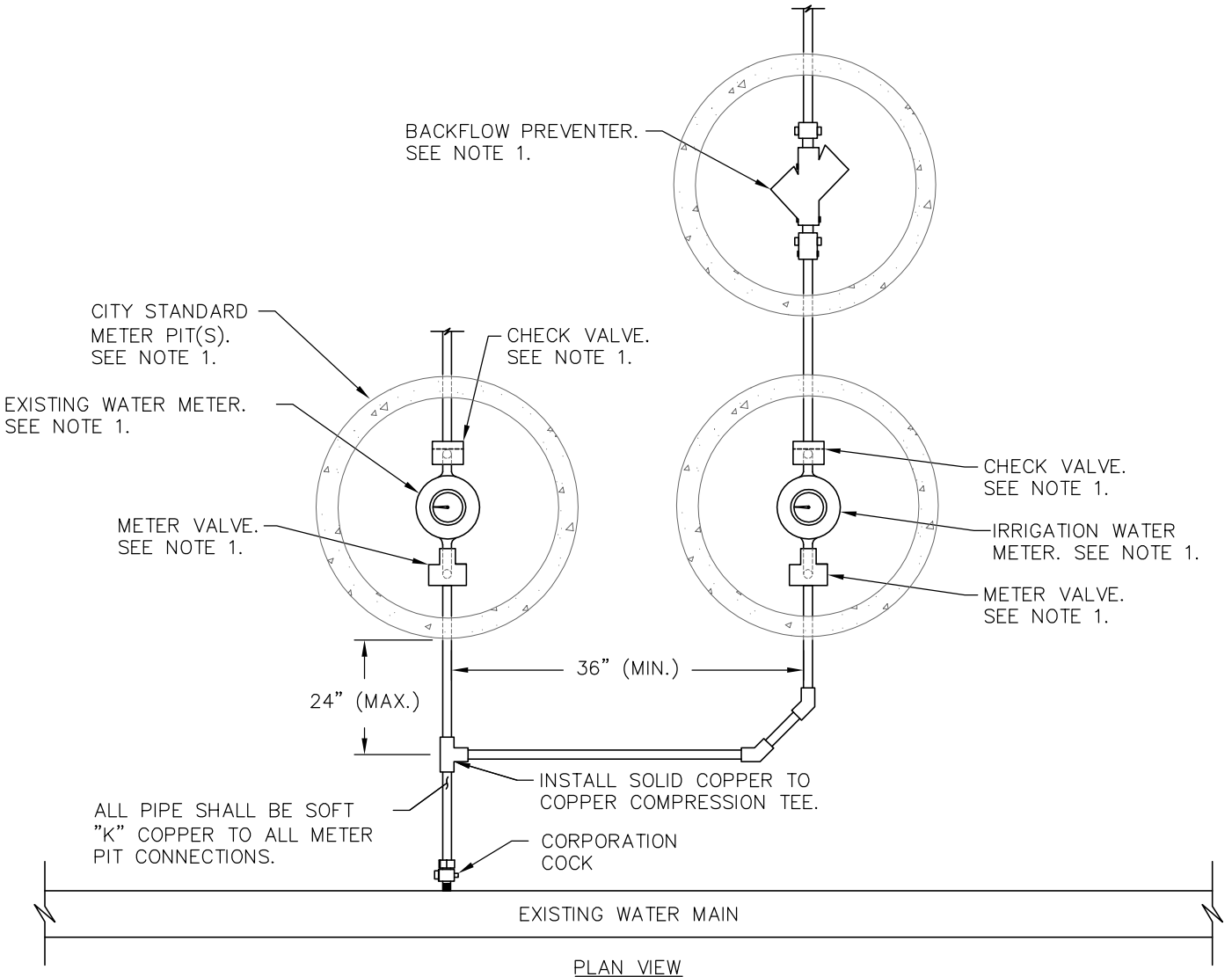
2015 Details

City of BELTON Missouri

PUBLIC WORKS

VALVE CLUSTER - CONN. TO EX. LINE

SCALE:	NO SCALE	REV.		
DETAIL NO:	WAT-027			
DATE:	03-16-15			



PLAN VIEW

ADDITIONAL IRRIGATION METER

NOTES:

1. THE INSTALLATION OF AN ADDITIONAL METER FOR IRRIGATION IS DEPENDENT ON THE EXISTING SERVICE VOLUME. IF THE EXISTING SERVICE CANNOT SUPPORT THE ADDED VOLUME, THE IRRIGATION METER WILL NOT BE PERMITTED.
2. SEE WATER SERVICES STANDARD DRAWINGS FOR MORE DETAIL REGARDING REQUIREMENTS OF INDIVIDUAL COMPONENTS OF THIS DRAWING (METERS, PITS, VALVES, COVERS, BACKFLOW PREVENTER).
3. EXISTING SERVICE CONNECTING TO WATER MAIN SHALL BE EXCAVATED BY A PLUMBER PRIOR TO SHUTTING OFF SERVICE.
4. ALL WORK SHALL BE INSPECTED/APPROVED BY THE PUBLIC WORKS DEPT. PRIOR TO BACKFILLING.
5. ALL FEES FOR PERMITS, ADDITIONAL METERS, OR OTHER MATERIALS MUST BE PAID PRIOR TO CONSTRUCTION.

2015 Details

City of BELTON Missouri

PUBLIC WORKS

ADDITIONAL IRRIGATION METER

		REV.		
SCALE:	NO SCALE		8-6-15	MODIFIED METER PIT.
DETAIL NO:	WAT-028			
DATE:	03-16-15			