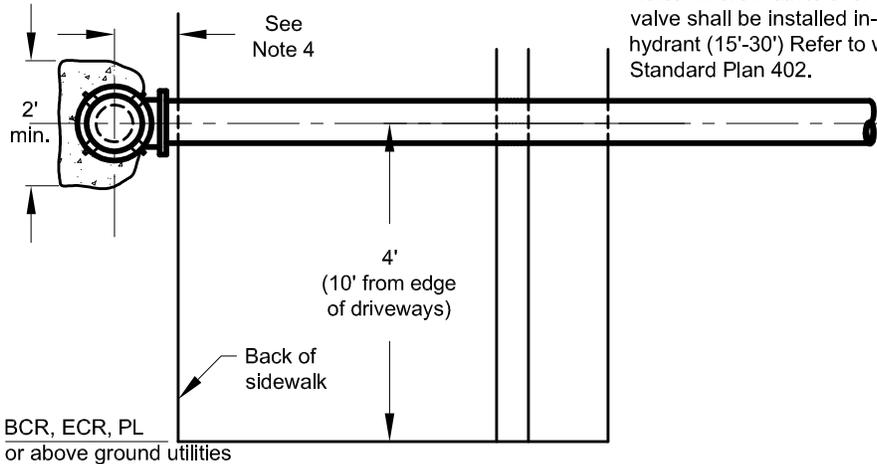




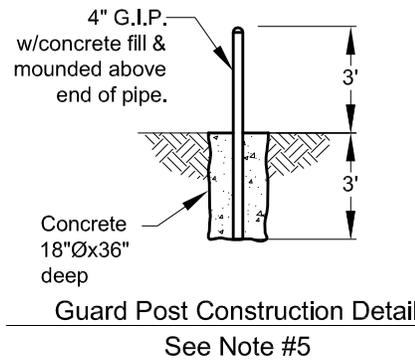
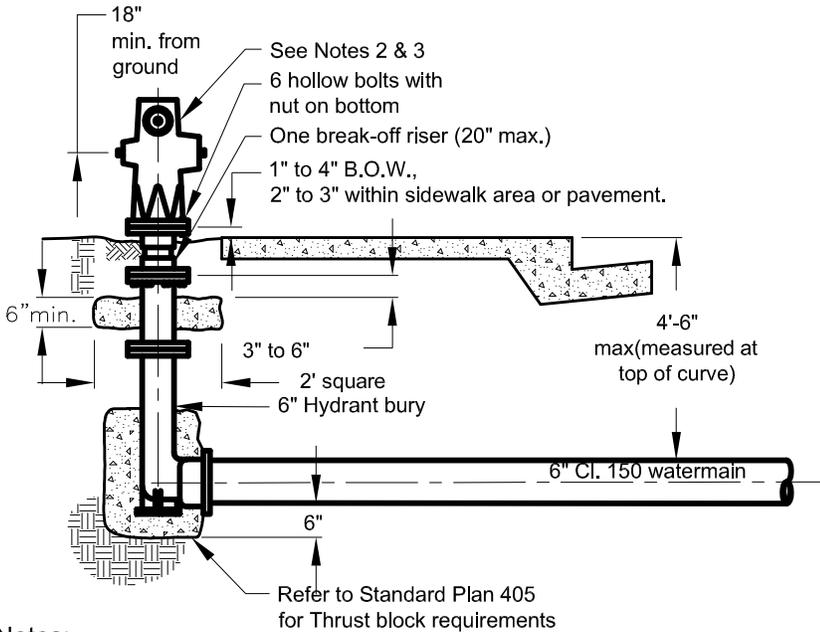
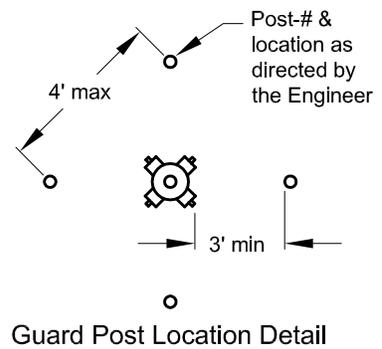
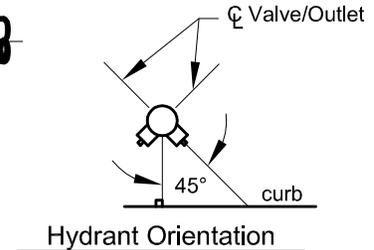
CITY OF LODI

PUBLIC WORKS DEPARTMENT

Fire Hydrant Installation



Note: Where main is over 150' from hydrant a second valve shall be installed in-line in the vicinity of the hydrant (15'-30') Refer to water valve installation Standard Plan 402.



Notes:

- All work and material shall conform to City of Lodi Construction Specifications.
- Hydrants shall be painted Federal Yellow at the factory and furnished with National Standard Hose Thread outlets and cast iron caps.
- All Hydrants 1 4-1/2" outlet & 1 2-1/2" outlet; with fusion epoxy coated interior. Clow 850; Clow 950; AVK 24/70; Jones 4040.
- Locate C/L of hydrant per the following:
1.5' behind walk where F.O.C. to B.O.W. distance is 7.0' or less.
2.5' behind F.O.C. where F.O.C. to B.O.W. distance is greater than 7.0'
5' behind F.O.C. in planters.
- Install guard posts where hydrants are installed in paved areas accessible to traffic or in planters where hydrant is less than 3' behind the curb or when directed by the City.
- For trench backfill requirement, See Standard Plan 501.
- Install blue retroreflective hydrant pavement marker per std. plan 716.

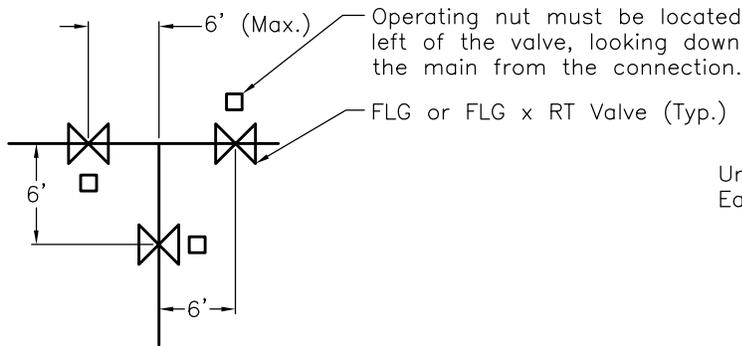
Dr.	JP	No.	Date	Revision	Appr.	Approved By:	STD PLAN
		1	9/03	ADJUSTED DIMENSION FROM PL		 Charlie Swimley City Engineer / Deputy Public Works Director RCE No. 52842	401
Ch.	LC	2	2/04	REVISED AVK MODEL NUMBER			
		3	2/05	ADDED NOTE 7			
Date	1/14	4	2/08	ADJUSTED GUARD POST DEPTH			
						1/14/14	



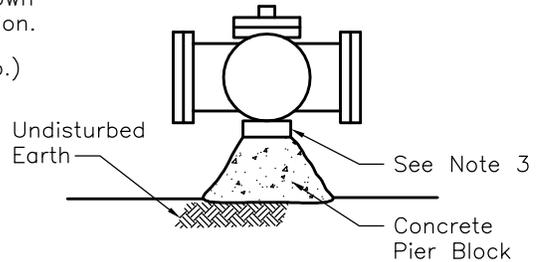
CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water Valve Installation

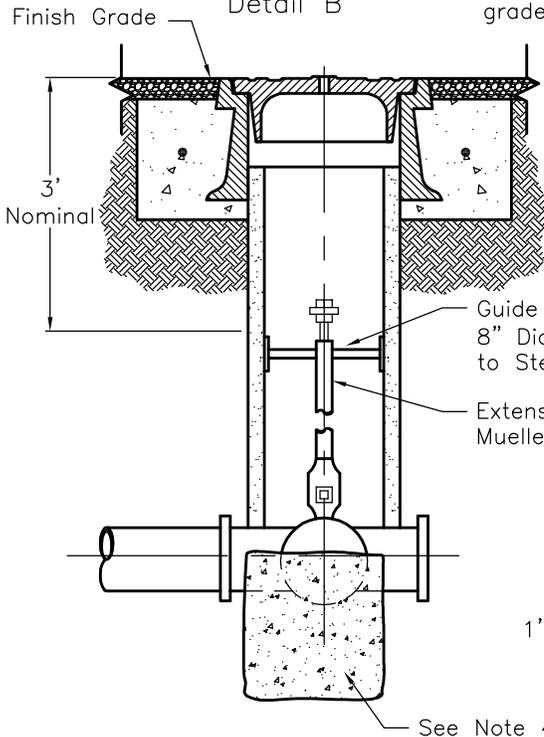


Flanged Installation
Detail B

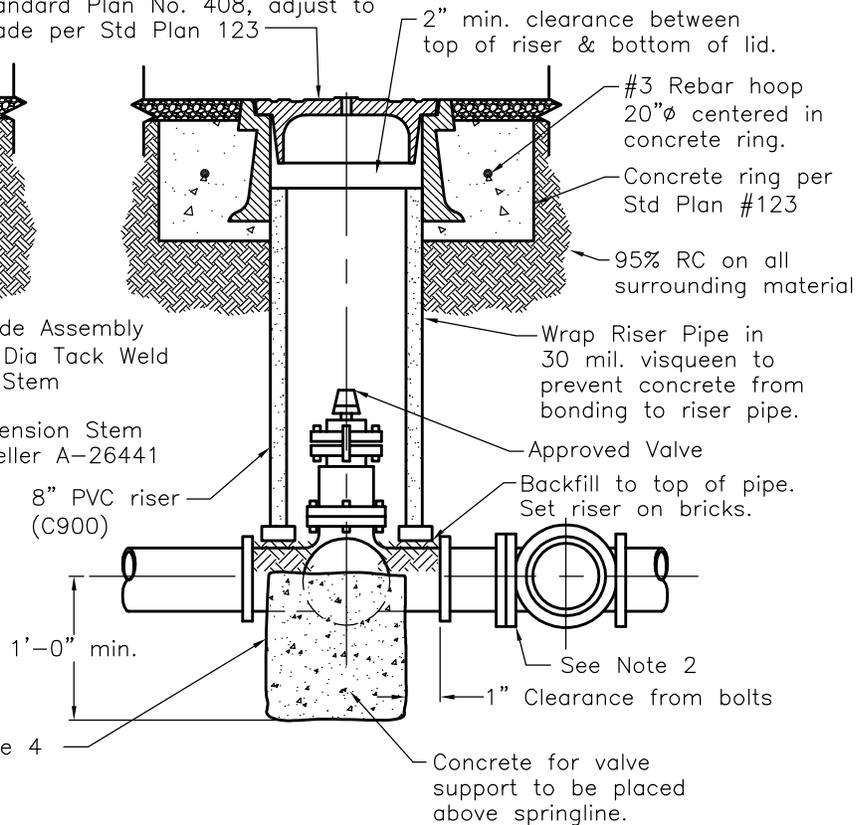


Hot Tap Valve Support
Detail C

Frame and Cover City of Lodi Standard Plan No. 408, adjust to grade per Std Plan 123



Extension Stem Detail A
See Note 1



Notes:

1. Install extension stem when distance from valve cover to operating nut is greater than 12 feet; 3' max. nominal cover per Detail A.
2. Flanged fittings shall be used where lines are to be extended at a later date or as shown on the improvement plans. Operating nuts on flanged valves must be arranged per Detail B.
3. Concrete blocks may be used for valve and riser support; thrust blocks per Standard Plan 405. For Hot Tap Valve support refer to Detail C.
4. Place Visqueen around valves before placement of concrete supports.
5. For trench backfill, see Standard Plan 501.

Sheet 1 of 2

Dr.	KT	No.	Date	Revision	Appr.	Approved By:	Date
Ch.	WS					<i>F. Wally Sandelin</i>	5/28/08
Date	7/08					F. Wally Sandelin City Engineer R.C.E. 39895	Date

STD PLAN

402



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water Valve Installation Materials List

All Water Valves & Materials shall be Class 150B with 2" square operating nuts, open left (clockwise to close) and shall conform to AWWA Standard C-504 for Rubber Seated Butterfly Valves and City of Lodi Construction Specs 6-7602.

- AWWA Approved Valves:
- Mueller RS and Butterfly
 - M+H/Clow/Kennedy RS and Butterfly
 - American Darling RS Gate valves
 - Waterous RS Gate valve
 - AVK RS Gate valves

Sheet 2 of 2

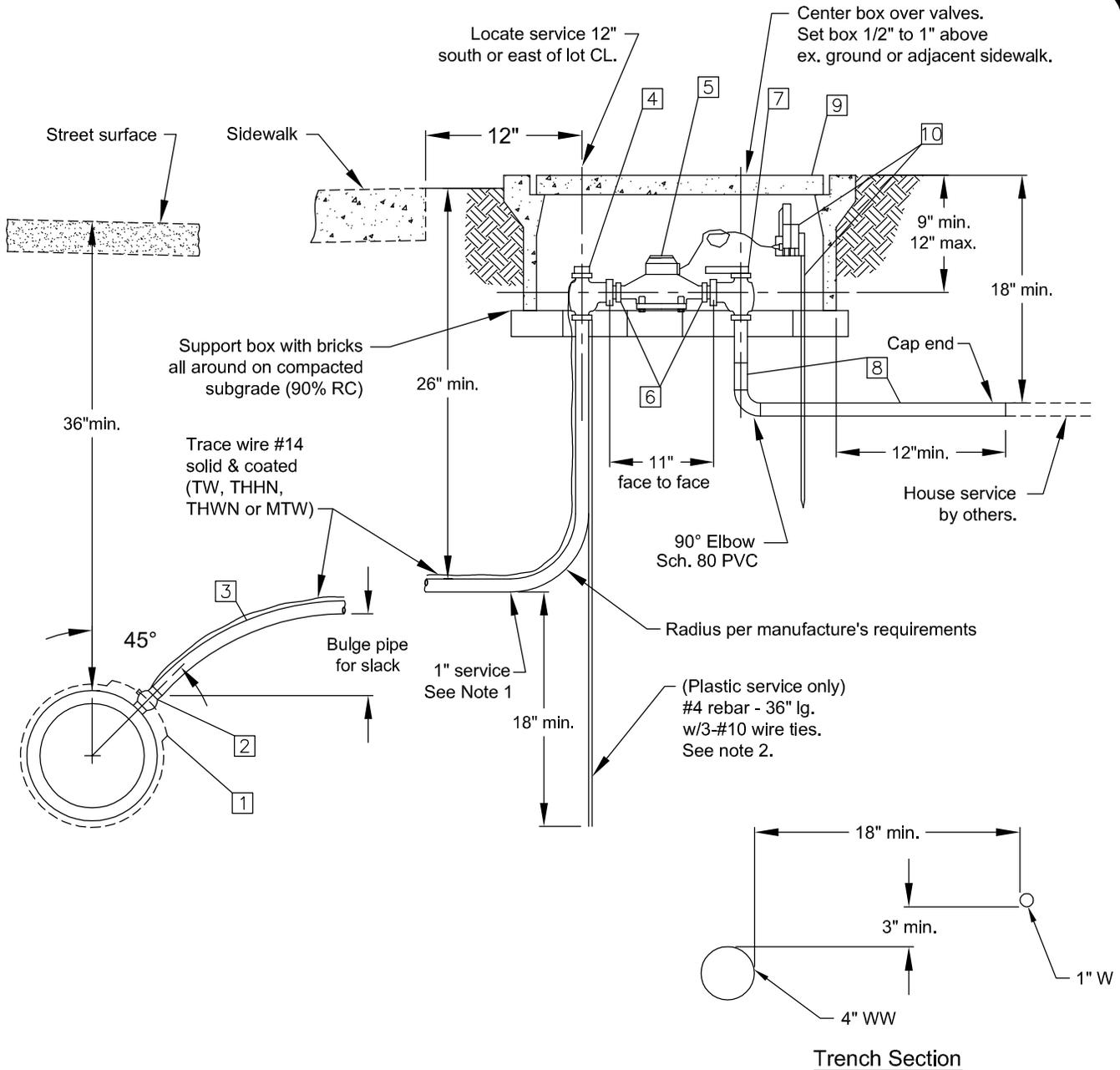
Dr.	No.	Date	Revision	Appr.	Approved By:	Date	STD PLAN
KT					<i>F. Wally Sargelin</i>	12/28/00	402
Ch.					F. Wally Sargelin		
Date					City Engineer		
		12/00			R.C.E. 39895		



CITY OF LODI

PUBLIC WORKS DEPARTMENT

1" WATER SERVICE FOR 3/4" OR 1" METER W/ RADIO READ



Notes:

1. Maintain 24" clearance between tap and any coupling, fitting or adjacent tap. Plastic services shall be looped approximately 6" vertically or laterally to provide slack in the line. If the service is installed in the same trench as the sanitary service, the water service shall be installed without splices and the trench section shown applies.
2. Backfill shall conform to Std. Plan 501.
3. All fittings shall comply with California No-Lead brass requirements.

Sheet 1 of 3

Dr.	No.	Date	Revision	Appr.	Approved By:
	3	10/05	ADDED METER & ERT		 F. Wally Sandelin City Engineer R.C.E. 39895
Ch.	4	7/09	CHANGED CUSTOMER VALVE		
Date	5	3/10	REVISED PER AB 1953 REQ'S.		
	6	4/11	REVISED ERT MOUNTING.		

STD PLAN

403

4/12/11
Date



CITY OF LODI

PUBLIC WORKS DEPARTMENT

1" WATER SERVICE FOR 3/4" OR 1" METER MATERIAL LIST

Fitting (a.)	Size	Basic Feature	Inlet Connection	Outlet Connection	Manufacturer's Nos.
Saddles 1	1"	For C1-AC & Ductile Iron Pipe Ductile Iron Double Strap Saddle <u>No Single Strap Saddles</u>		IPT	A.Y. McDonald 4826A Smith Blair 313 Romac 202 Other manufacturers with similar designs o.k.
Saddles	1"	For C900 Pipe		IPT	A.Y. McDonald 4836A Romac 101S Mueller H1349
Corp. Stop 2	1"	Plug Style	MIP	Comp	A.Y. McDonald 74704B-22 CTS Or Approved Equal
Service Pipe 3	1"	Tubing			C.T.S. PE 3408 CL 160 with Tracer Wire
Angle Stop 4	1"	Full Port Angle Ball Valve	1" PE	Meter Swivel Nut	A.Y. McDonald 74602B-22 CTS Or Approved Equal
Meter 5	3/4"	Bronze 9" Long w/ Rubber Washer	IPT	IPT	Badger Model 35 Sensus Model SR II-EB Hersey Model 442
Meter 5	1"	Bronze 10 3/4" Long w/ Rubber Washer	IPT	IPT	Badger Model 55 Sensus Model SR II-EB Hersey Model 452
Meter Adaptor 6	3/4" X 1"	Bronze Meter Adaptor	MIPT	FIPT	A.Y. McDonald 710J34 Or Approved Equal
Angle Stop 7	1"	Full Port Angle Ball Valve	1" FIPT	Meter Swivel Nut	A.Y. McDonald 74604B With Handle # 6120B Or Approved Equal
Customer Pipe 8	1"	PVC Sch. 80 Pipe			IPS PVC Sch. 80 per Uniform Plumbing Code

Sheet 2 of 3

Dr.	No.	Date	Revision	Appr.	Approved By:	 F. Wally Sangalin City Engineer R.C.E. 39895	10/14/10 Date	STD PLAN
Ch. WS	2	2/05	REVISED PAGE 1					<h1>403</h1>
	3	10/05	ADDED METER & ERT					
	4	7/09	CHANGED CUSTOMER VALVE					
	5	3/10	REVISED PER AB 1953 REQ'S.					
Date								



CITY OF LODI

PUBLIC WORKS DEPARTMENT

1" WATER SERVICE FOR 3/4" OR 1" METER MATERIALS LIST

Fitting (a)	Size	Basic Feature	Inlet Connection	Outlet Connection	Manufacturer's Nos.
Service Box (b) 9	N/A	All lids to read Water	N/A	N/A	Christy FL30 Box 12 (Backyard service easements, rod mounted) Christy FL30D lid (Backyard service easements, rod mounted) Christy N16 Box (All installs unless otherwise approved) Christy FL16D lid (Grass Areas, Flush Fit Driveways, Sidewalks rod mounted ERT installs) Christy B16-61P lid (3/16" steel checker plate, Driveways, Sidewalk, Lid mounted ERT installs)
ERT (b) 10	N/A	Encoder Receiver Transmitter	N/A	N/A	ITRON 100W pit ERT w/ 1/2"Ø Fiberglass Mounting Rod 24" long. Alternate Register Bracket mount may be used upon approval of Public Works Dept

a. Alternative fittings must be approved by the City Engineer.

b. The standard installation is a N16 box with a composite (FL16D) lid and a fiberglass mounting rod. All other methods require prior approval and are meant to allow for obstructions or other unforeseen installation conditions.

Sheet 3 of 3

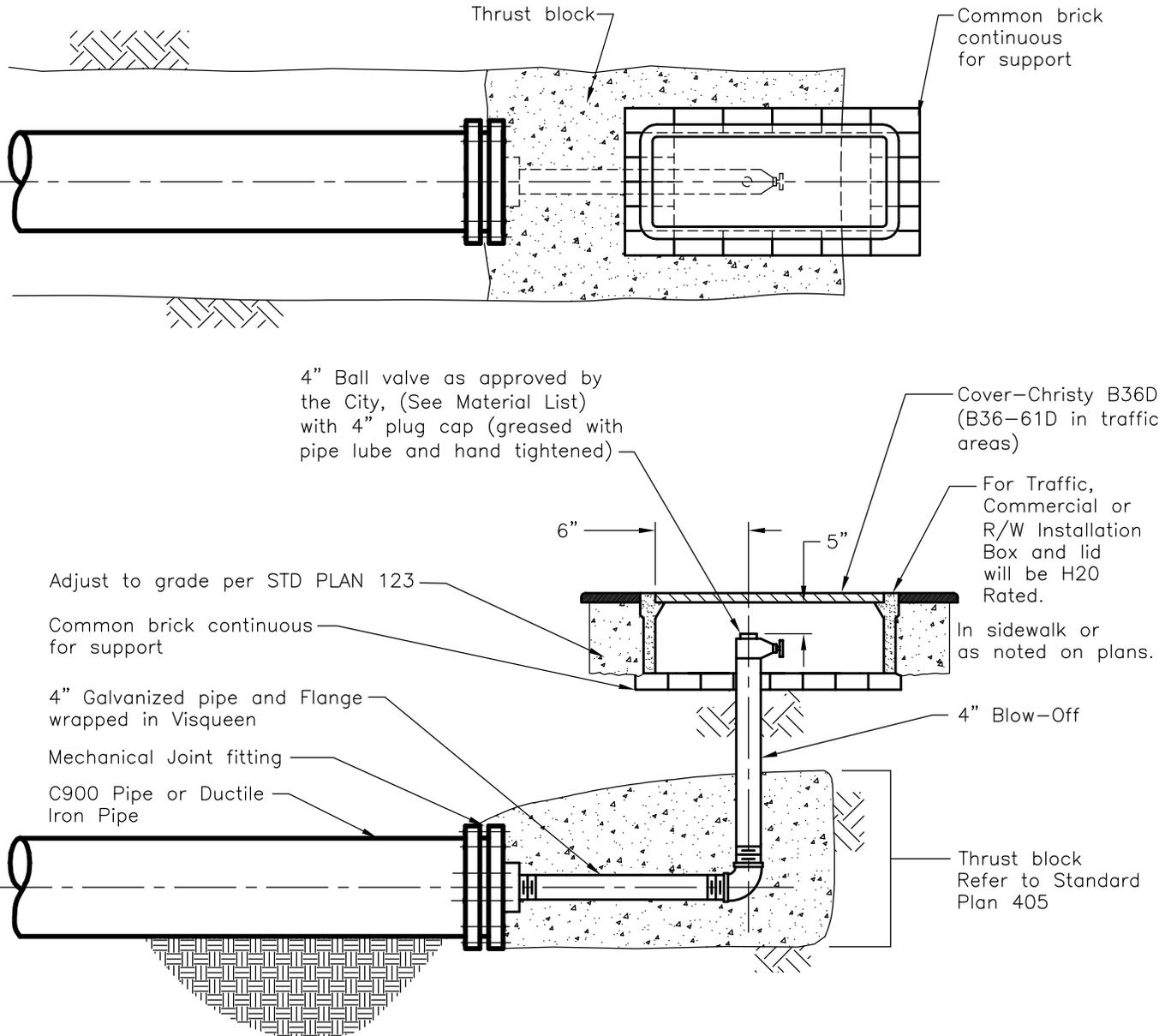
Dr.	No.	Date	Revision	Appr.	Approved By:	 F. Wally Sandelin City Engineer R.C.E. 39895	4/12/11 Date	STD PLAN 403
	3	10/05	ADDED METER & ERT					
Ch.	4	7/09	CHANGED CUSTOMER VALVE					
	5	3/10	REVISED PER AB 1953 REQ'S.					
Date	6	4/11	REVISED ERT MOUNTING.					



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water Blow-off Permanent



Notes:

- No services within 3' of blow-off.

Dr.	No.	Date	Revision	Appr.	Approved By:	STD PLAN
KT	1	9/03	REVISED APPROVED BALL VALVE		<i>F. Wally Sargelin</i>	404
WS	2	2/05	ADDED PLUG FOR BALL VALVE			
Date					F. Wally Sargelin City Engineer R.C.E. 39895	2/2/05 Date



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water Blow-off Permanent Material List

Material List for Standard Plan 404

City Approved Ball Valves

- Flow-Teck's Forged Brass Ball Valve Model S50
- Matco-Norca, Inc. Model 752 or
- Watts Model 75-0211

City Approved Boxes

- Box Bes C-36W or Christy B-36 or
- Christy B-17 x 30

Sheet 2 of 2

Dr.	No.	Date	Revision	Appr.	Approved By:	Date	STD PLAN
KT	1	9/03	REVISED APPROVED BALL VALVE		<i>F. Wally Sandelin</i>	2/2/05	404
WS	2	2/05	REVISED PAGE 1				
Date							
		12/00					

F. Wally Sandelin
City Engineer
R.C.E. 39895

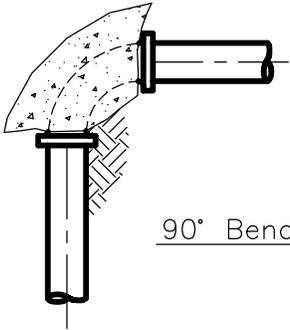


CITY OF LODI

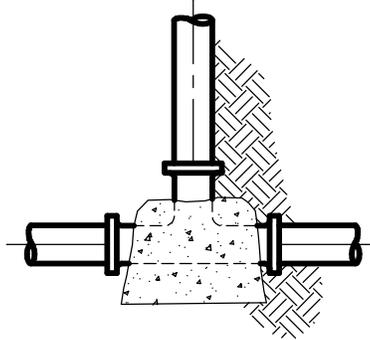
PUBLIC WORKS DEPARTMENT

Thrust Block Requirements

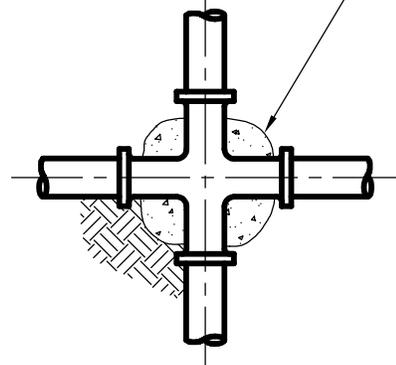
No thrusting on cross except where ends are plugged.



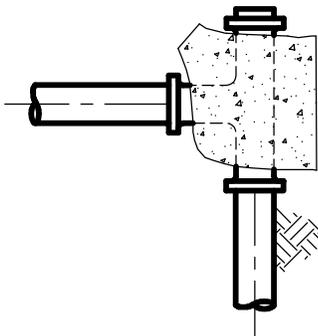
90° Bend



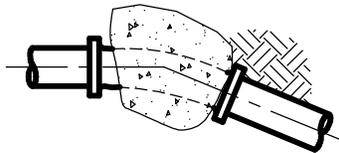
Tee



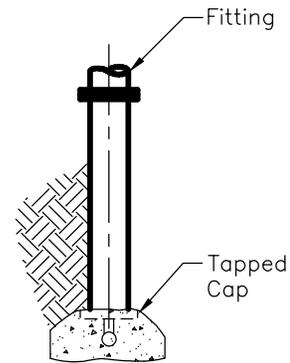
Cross



Plugged Tee

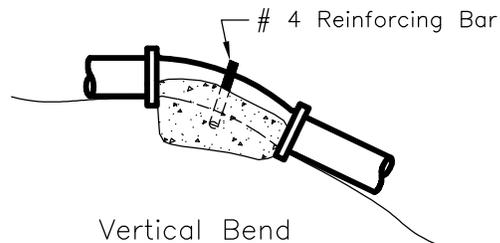


45° or 22½°
Horizontal Bend



Blow off

Minimum Thrust Block Bearing Areas In Square Feet				
Pipe Sizes	90°	45°	22½°	Tees & Blow Off
6"	3	2	2	2
8"	4	3	2	3
10"	6	4	3	4
12"	8	5	3	6
14"	12	7	4	8



Vertical Bend

Notes:

- Concrete shall be 2000 PSI minimum at 28 days.
- Thrust blocks shall be placed against undisturbed earth.
- All fittings shall be supported in concrete.
- For fire hydrant thrusting see Std. Plan 401.
- Don't cover flange bolts with concrete.
- Mechanically restrained joints as required by the City. See Material List Page 2.
- Wrap all fittings and flanges with Visqueen.

Sheet 1 of 2

Dr. KT	No. 1	Date 9/03	Revision ADDED NOTE #7	Appr.	Approved By: <i>F. Wally Sargelin</i>	Date 9/25/02	STD PLAN
Ch. WS					F. Wally Sargelin City Engineer R.C.E. 39895		405
Date 12/00							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Thrust Block Requirements Material List

Material List for Standard Plan 405

City Approved Mechanical Restrained Joints

Pipe Material	Joint
Ductile Iron	Mega-Lug 1100
C900PVC	Mega-Lug 2000
IPS PVC	Mega-Lug 2000
PVC Bell and Spicket	Mega-Lug 1600

Sheet 2 of 2

Dr. KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. WS	1	9/03	ADDED NOTE #7		<i>F. Wally Sargelin</i>	405
Date					F. Wally Sargelin City Engineer R.C.E. 39895	9/25/02 Date
12/00						

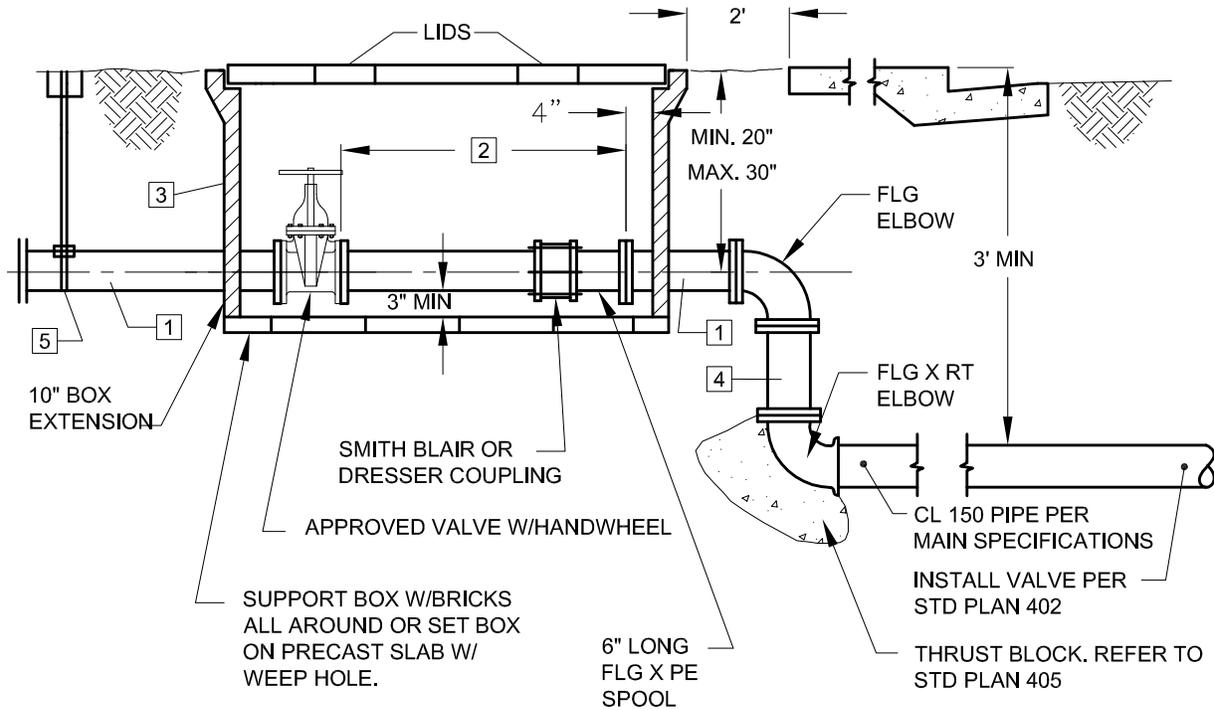


CITY OF LODI

PUBLIC WORKS DEPARTMENT

DOMESTIC WATER SERVICE

(3", 4", 6" & 8")



NOTES:

1. METER (IF REQUIRED) WILL BE FURNISHED AND INSTALLED BY CITY.
2. BYPASS MAY BE INSTALLED WITH THE SPECIFIC APPROVAL OF THE PUBLIC WORKS DIRECTOR.
3. PLUG ALL OPENINGS IN BOX.
4. BACKFILL SHALL CONFORM TO STD PLAN 501.
5. ALL FITTINGS MUST COMPLY WITH THE LATEST STATE OF CALIFORNIA NO LEAD REQUIREMENTS.

SHEET 1 OF 2

Dr. KT	No. 1	Date 2/05	Revision REVISED SPOOL LENGTH'S	Appr.	Approved By:	STD PLAN 406
Ch. WS						
Date 12/00					Charlie Swmlsey City Engineer / Deputy Public Works Director RCE No. 52842	



CITY OF LODI

PUBLIC WORKS DEPARTMENT

DOMESTIC WATER SERVICE (3", 4", 6" & 8") MATERIALS LIST

- 1 FLG SPOOL, 24" LONG (2 EA) (C.I., D.I., OR STEEL)
- 2 FLG X PLAIN END SPOOL. LEAVE 1" GAP AT COUPLING
 - 3" - 29" LONG
 - 4" - 38" LONG ENDS OF SPOOLS
 - 6" - 43" LONG (C.I. OR STEEL)

CHRISTY OR BES BOX	LID (TRAFFIC)		BOX EXTENSION
	CHRISTY	BES	
3"+4" B-48 OR C48W	B48-62D	62D85	10" BOX EXTENSION B48 X 10
6" B-52 OR C52W	B52-62D	62D90	10" BOX EXTENSION B52 X 10

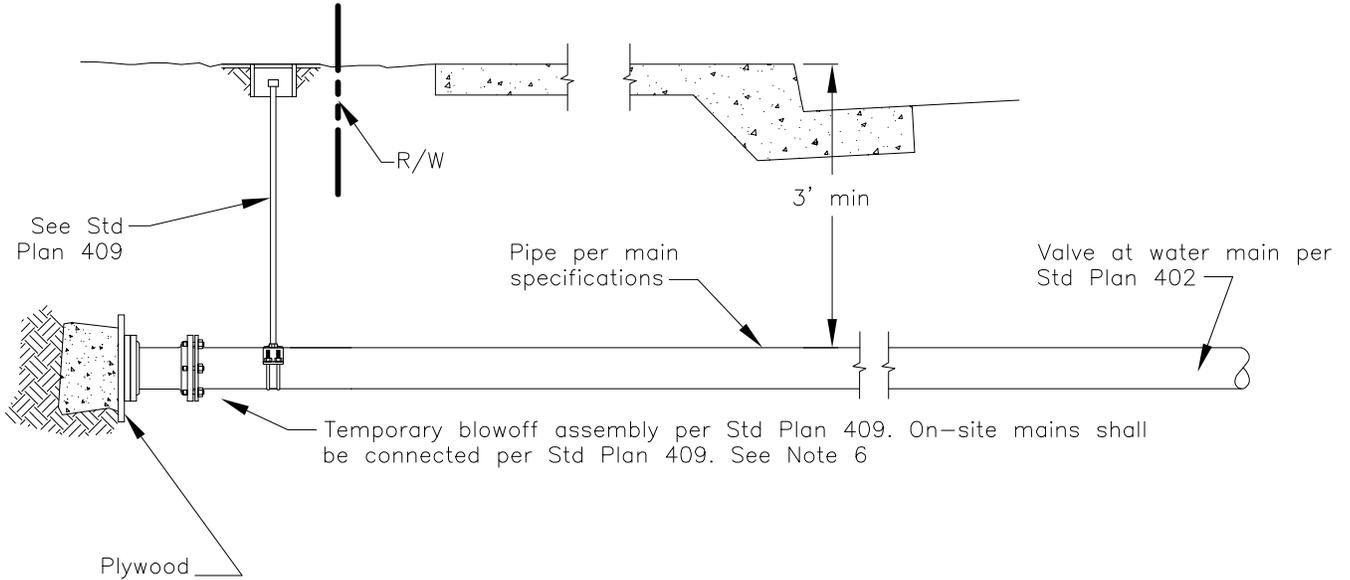
- 4 FLG SPOOL, LENGTHS AS NEEDED (OPTIONAL) (C.I., D.I., OR STEEL)
- 5 TEMPORARY BLOWOFF PER STD PLAN 409. 2" FOR 4"-6" SERVICE,
4" FOR 8" AND LARGER SERVICE.

ALL FITTINGS SHALL BE CAST OR DUCTILE IRON OR STEEL (AS NOTED) AND SHALL CONFORM TO APPLICABLE AWWA STANDARDS. (SCH. 40, 150 LB. FLG)

TRAFFIC LIDS SHALL BE USED IN ALL LOCATION.

SHEET 2 OF 2

Dr. KT	No.	Date	Revision	Appr.	Approved By: Charlie Swmlsey City Engineer / Deputy Public Works Director RCE No. 52842	Date	STD PLAN 406
Ch. WS	1	2/05	REVISED SPOOL LENGTH'S				
Date 10/08	2	10/08	REVISED SPOOL LENGTH'S				



4" & Larger Service

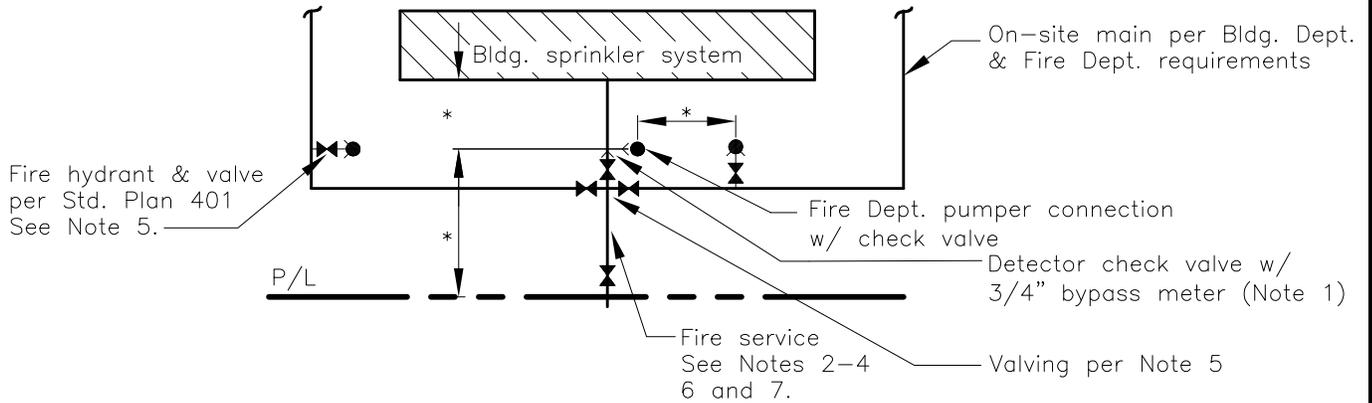
Notes:

1. If not alarmed a detector check valve w/bypass meter shall be installed at fire-sprinkler system connection only. Installation details shall conform to Fire Dept. and Bldg. Dept. requirements. (See Detail A)
2. On-site fire mains shall be completely isolated from domestic lines.
3. On-site fire mains looped to the City system must be specifically approved by the Public Works Director and must be equipped with double check valve assemblies at each connection. In such cases the services shall be installed per Std. Plan 406 with the Double Check Valve assemblies installed in an appropriately sized box at the property line.
4. Suitable backflow prevention devices will be required for fire systems having auxiliary sources of supply, elevated tanks or chemical additives, or other special conditions.
5. Sufficient valves shall be provided to separate sprinkler, hydrant and domestic systems. Additional main line valves may be required depending on the complexity of the on-site system.
6. Pressure and bacteriological tests per City of Lodi Construction Specifications are required for on-site systems unless waived by the Public Works Director.
7. Systems with booster pumps shall be equipped with a pressure sustaining valve to the approval of the Public Works Director.

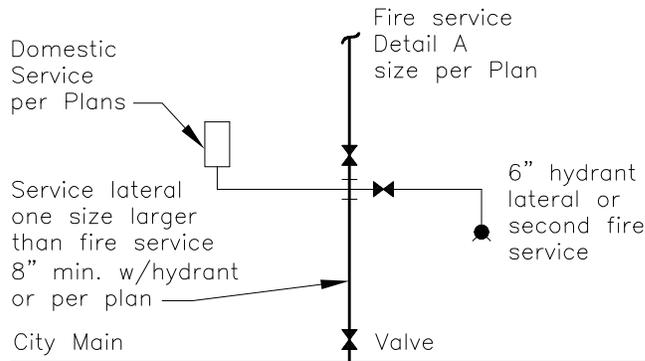
Dr. KT	No.	Date	Revision	Appr.	Approved By: F. Wally Sandelin City Engineer R.C.E. 39895	2/12/04 Date	STD PLAN 407
Ch. WS	1	9/03	REVISED F.D.C. LOCATION				
Date	2	2/04	REVISED TEMP. BLOW OFF VALVE				
12/00							



* Locations of hydrants, Fire Dept. connections & detector checks to be determined by the Fire Marshal.



Detail A
Fire Service



Detail B
Combined Fire/Domestic Service

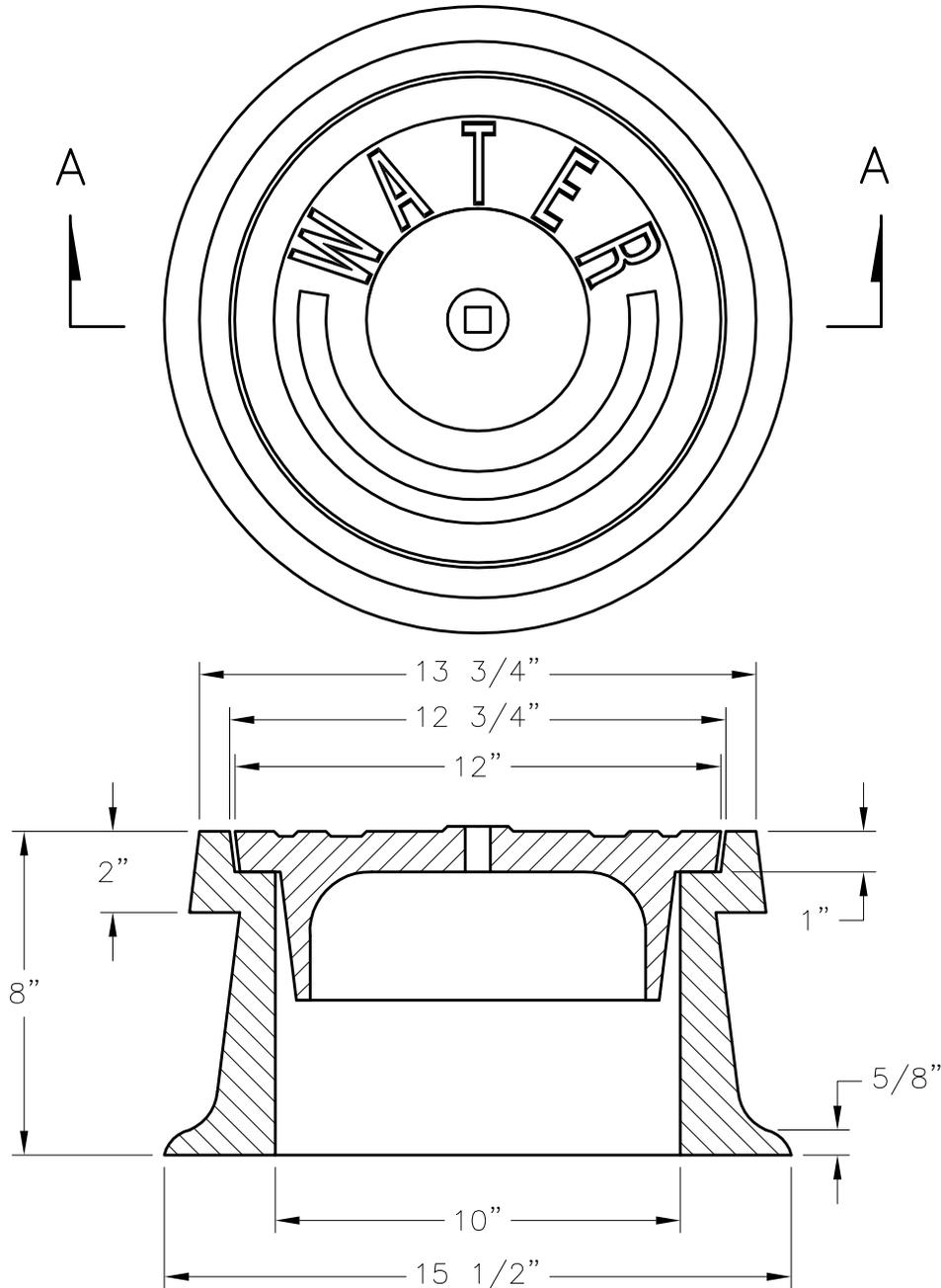
Dr. KT	No. 1	Date 9/03	Revision REVISED F.D.C. LOCATION	Appr.	Approved By: <i>F. Wally Sangelin</i>	9/25/02 Date	STD PLAN 407
Ch. WS					F. Wally Sangelin City Engineer R.C.E. 39895		
Date 12/00							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water Valve Frame & Cover



Section A-A

Notes:

1. Frame - Wt 85 Lbs.
2. Cover - Wt 40 Lbs.
3. Material - Cast Iron
4. Castings shall be dipped in black, bituminous paint.
5. Frame and cover must be H-20 wheel loading rated.

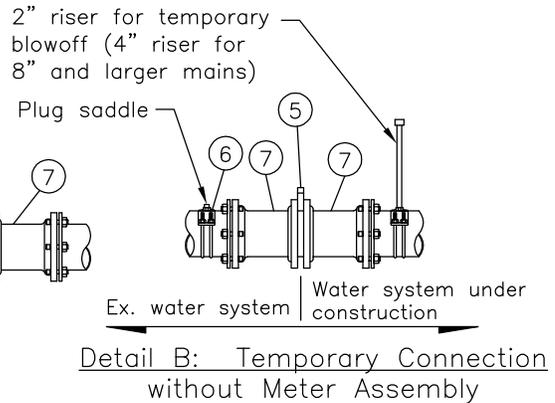
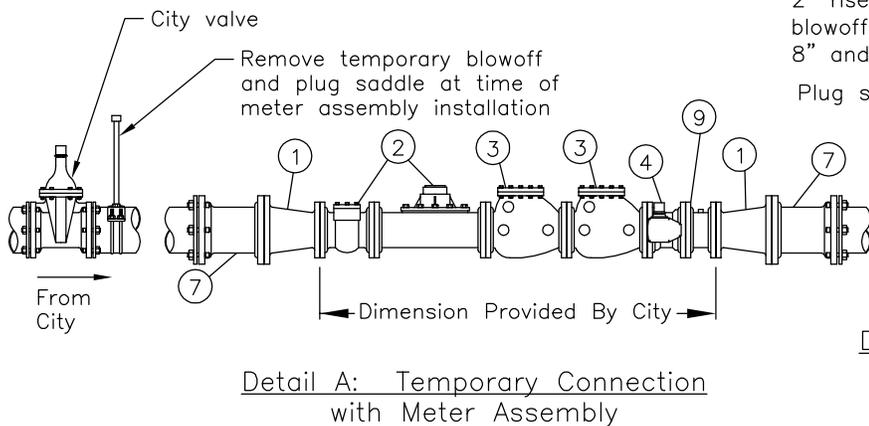
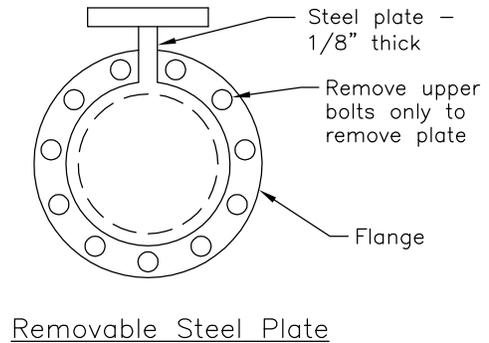
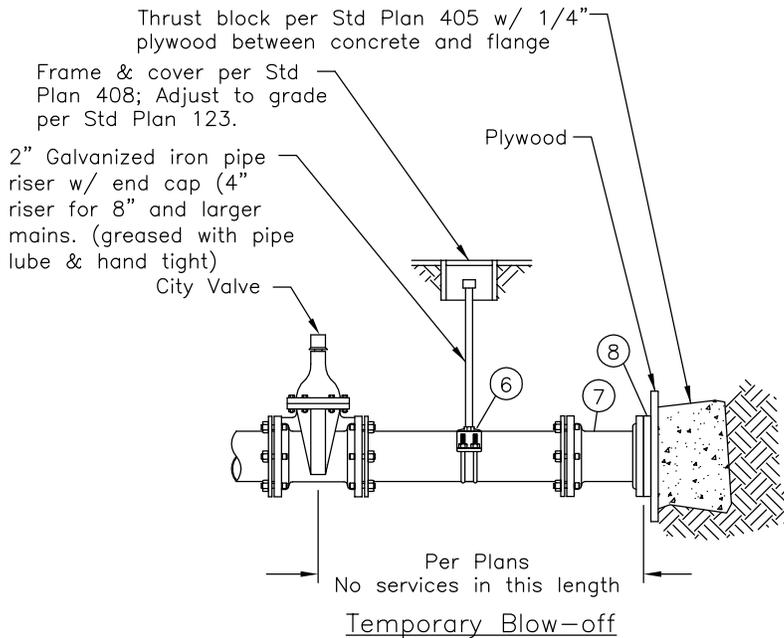
Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	STD PLAN 408
Ch. WS					<i>F. Wally Sandelin</i> City Engineer R.C.E. 39895	
Date 7/08					5/28/08 Date	



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Temporary Water Blow-off and Connection Details



Notes:

1. The Contractor shall not operate any City valves. 24 hours notice is required for operation by City.
2. All connections to the existing system shall be made per Details A or B. Upon acceptance of the new system, the Contractor shall remove the riser, plug the saddles and remove the steel plate. Contractor shall also remove the meter assembly and install a flanged spool. Meter assembly shall be returned to the City.
3. Contractor shall supply and install reducers on meter assembly where main is larger than 6".
4. City shall furnish meter assembly upon receipt of deposit. Meter assembly to be installed by Contractor.

Dr. SN	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i> F. Wally Sandelin City Engineer R.C.E. 39895	2/2/05 Date	STD PLAN 409
Ch. WS	1	9/03	REDRAWN				
Date	2	2/05	REVISED METER SPOOL ASSEMBLY DIMENSION				
02/02							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Temporary Water Blow-off and Connection Details Materials List

Fittings Legend:

- ① Flanged Reducer (Furnished by the Contractor)
- ② Meter with Strainer
- ③ Check Valve
- ④ Butterfly Valve
- ⑤ Removable Steel Plate.
- ⑥ Double Strap Malleable Iron Saddle
- ⑦ Adapter MJ/FLG, Full face flange only.
(Furnished by the Contractor)
- ⑧ Blind Flange
- ⑨ 6" Flg x Flg spool w/ 2" tapped fitting

Sheet 2 of 2

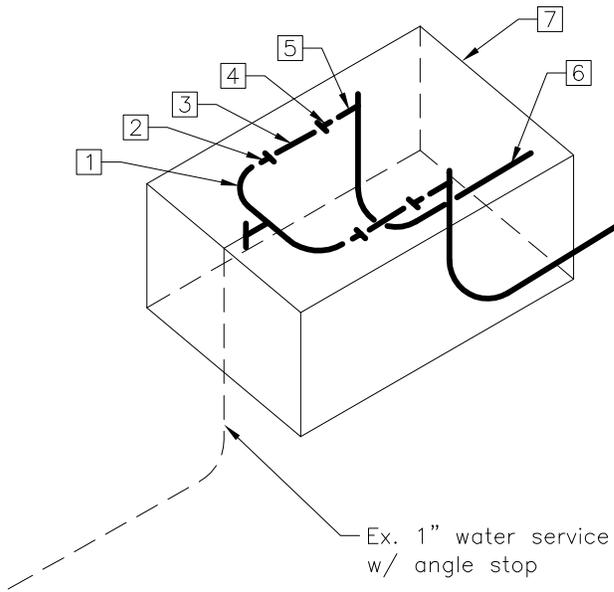
Dr.	No.	Date	Revision	Appr.	Approved By:	Date	STD PLAN
KT	1	9/03	REDRAWN		<i>F. Wally Sandelin</i>	2/2/05	409
WS	2	2/05	REVISED PAGE 1				
Date		12/00					

F. Wally Sandelin
City Engineer
R.C.E. 39895

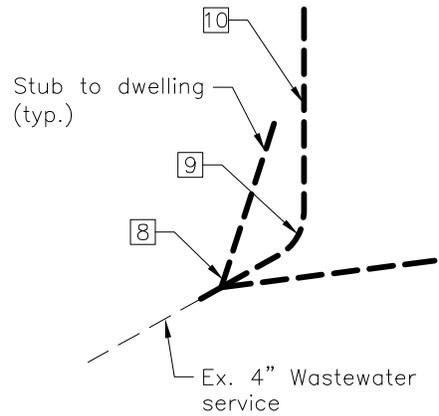


CITY OF LODI
PUBLIC WORKS DEPARTMENT

Water &
Wastewater Service
Modification



Water Service



Wastewater Service

Notes:

1. This standard plan to be used for modification of existing Water an Wastewater services to lots being split for construction of zero lot line dwellings or where two services are sharing a tap.
2. See Std Plan 403 for water service details.
3. Wastewater materials to be ESVCP ASTM C-700, PVC ASTM D3034 SDR 35 or ABS ASTM D-2751
4. Locate service box and clean-out as close as possible to Property Line.

Sheet 1 of 2

Dr.	KT	No.	Date	Revision	Appr.	Approved By:	Date
Ch.	WS					<i>F. Wally Sangelin</i>	12/28/00
Date	12/00					F. Wally Sangelin City Engineer R.C.E. 39895	Date

STD PLAN
410



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water & Wastewater Service Modification Materials List

Legend:

- 1 Mueller H-15364 U-Branch Connection 1" inlet 8" center to center. 3/4" outlet
- 2 Mueller H-14215 Meter Coupling catalog size 5/8"x3/4"x3/4".
- 3 9" lg. spacer per Std Plan 403
- 4 Mueller H-10890 Coupling.
- 5 3/4" Customer Valve-Stockham B-216, Mueller 8130, Nibco T-311-Y.
- 6 3/4" Sch. 40 PVC Stub.
- 7 Christy B-36 box per Std Plan 412
- 8 4" Double Wye or 2-4" Wyes in-line.
- 9 4"-90° Elbow (long bend)
- 10 Cleanout per Std Plan 201

Sheet 2 of 2

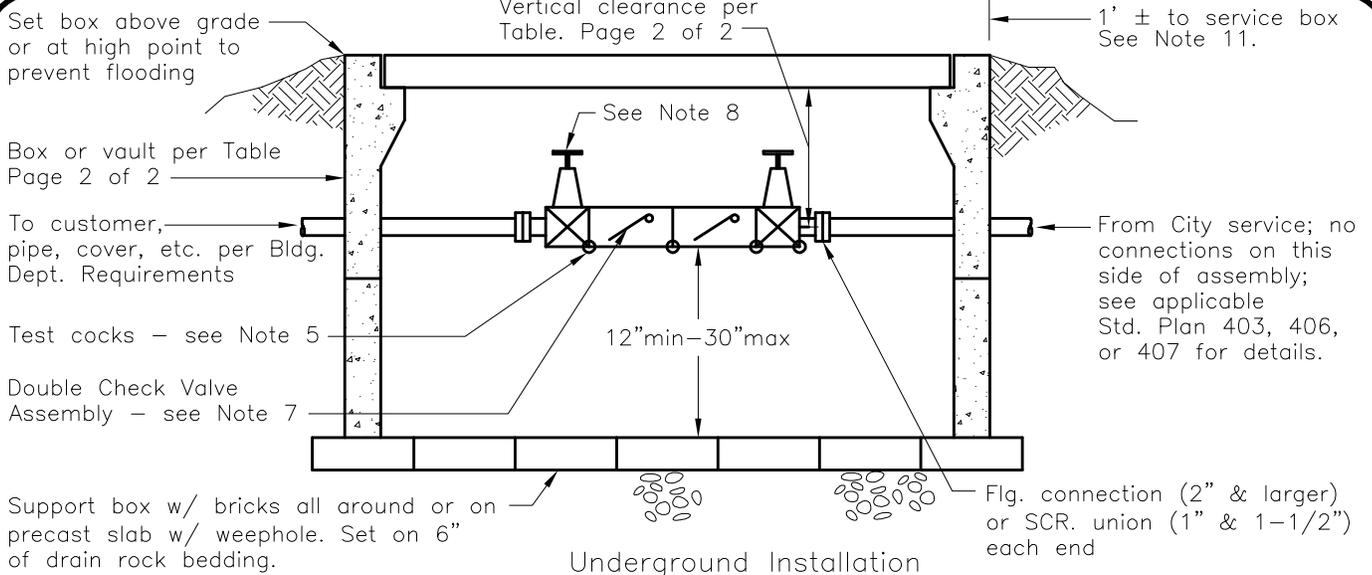
Dr. KT	No.	Date	Revision	Appr.	Approved By:		STD PLAN
Ch. WS					<i>F. Wally Sangelin</i>	12/28/00	410
Date					F. Wally Sangelin City Engineer R.C.E. 39895	Date	
12/00							



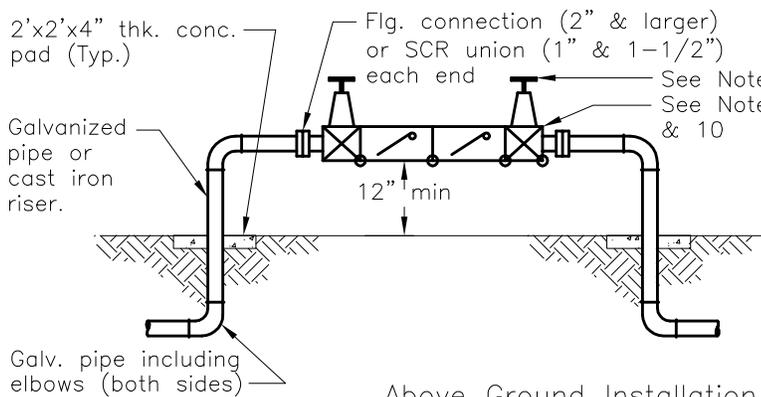
CITY OF LODI

PUBLIC WORKS DEPARTMENT

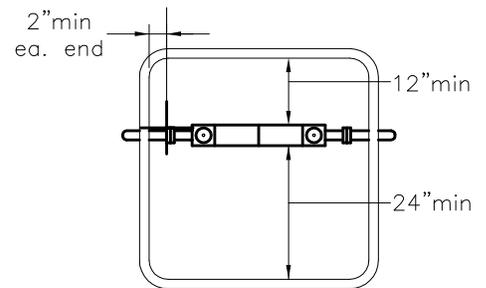
Double Check Valve Assembly



Underground Installation



Above Ground Installation



Plan

Notes:

1. It is the customer's responsibility to have the assembly tested prior to acceptance and annually by a State Certified Backflow Prevention Tester and report the results to the Public Works Department.
2. Plug all openings in box.
3. Traffic lids shall be used where applicable.
4. Vertical clearance may be increased for OS&Y valves.
5. Offset box over assembly to provide testing clearance per plan.
6. Assembly installed above ground may be enclosed with clearances similar to underground installation.
7. Use FEBCO 850 or approved equal per State Standards.
8. Valve handles may be chained & padlocked for security.
9. This plan for domestic service only. Design for fire service applications to have approval of Public Works Director and Fire Marshal.
10. Install guard posts where device is installed in paved areas accessible to traffic or in planters less than 3' behind the curb or when directed by City.
11. Locate immediately downstream of water service box.

Sheet 1 of 2

Dr. KT	No. 1	Date 2/04	Revision REVISED MODEL NUMBER ON NOTE #7	Appr.	Approved By: <i>F. Wally Sandelin</i>	Date 2/12/04	STD PLAN
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895		411
Date 12/00							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Double Check Valve Assembly Materials List

Size	Vertical Clearance min / max	Box or Vault / Lid (See Note 3) (min)
1"	8" 18"	Christy B40 or Bes C40W Box/ Christy B40-61D or Bes 61D75
1-1/2"	10" 20"	Christy B48 or Bes C48W Box/ Christy B48-62D or Bes 62D85
2"	10" 20"	Christy B48 or Bes C48W Box/ Christy B48-62D or Bes 62D85
3"	16" 30"	4'x4' / Split, hinged lid
4"	20" 36"	4'x4' / similar to Forni-
6"	24" 40"	7'x5' / HAL-Lucero
8"	30" 48"	7'x5' / Assembly

} Christy B52 or Bes C52W box/
Christy or Bes 62D90

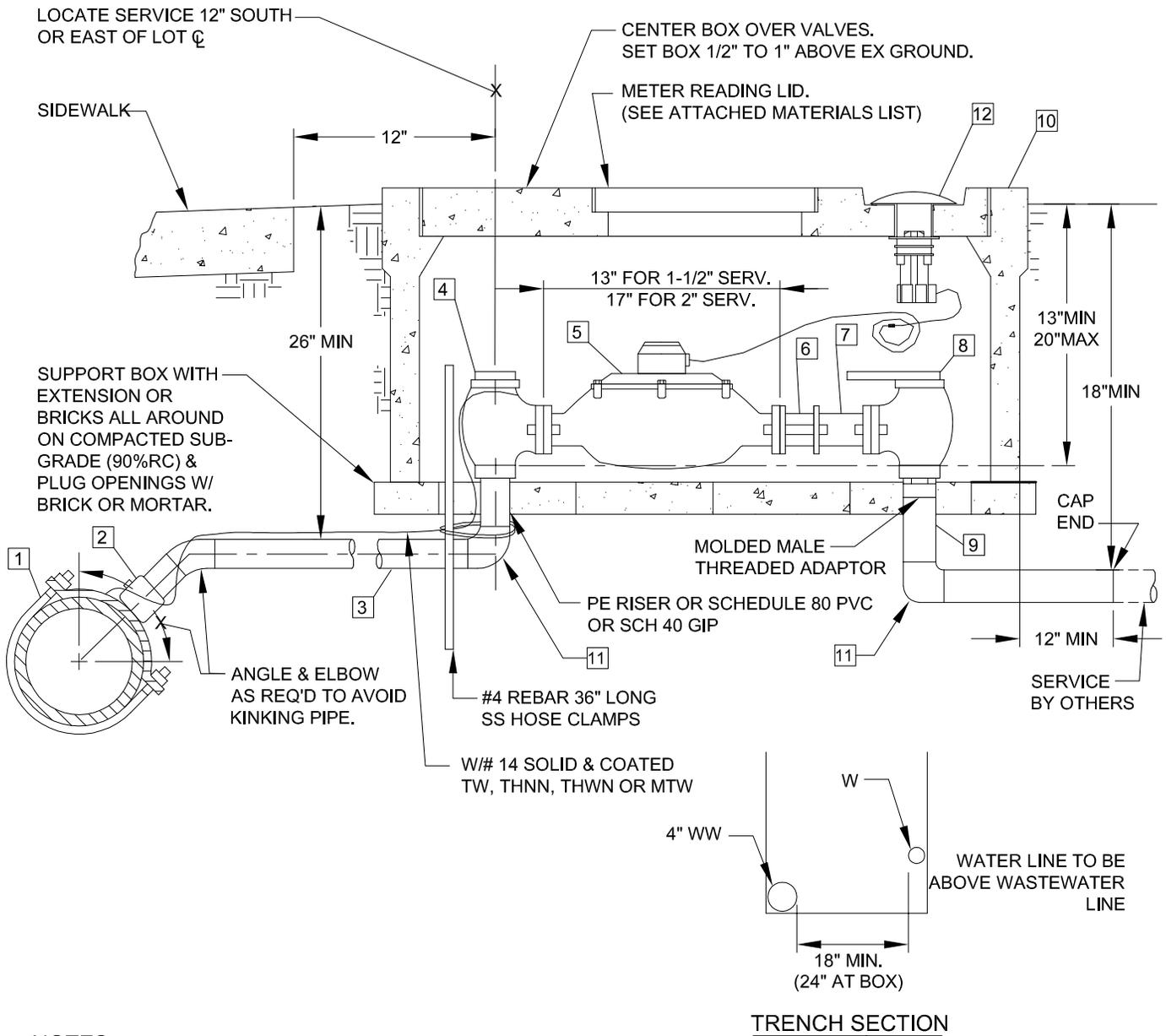
Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	12/28/00	STD PLAN 411
Ch. WS					F. Wally Sandelin City Engineer R.C.E. 39895	Date	
Date 12/00							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

2" WATER SERVICE FOR 1-1/2" OR 2" METER W/ RADIO READ



NOTES:

1. MAINTAIN 24" CLEARANCE BETWEEN TAP AND ANY COUPLING, FITTING OR ADJACENT TAP. PLASTIC SERVICES SHALL BE INSTALLED WITH SLACK IN THE LINE. IF THE SERVICE IS INSTALLED IN THE SAME TRENCH AS SANITARY SERVICE, THE WATER SERVICE SHALL BE INSTALLED WITHOUT SPLICES AND THE TRENCH SECTION SHOWN APPLIES:
2. S.S. LINERS REQUIRED ON PE PIPE FITTINGS.
3. BACKFILL SHALL CONFORM TO STD PLAN 501.
4. ALL FITTINGS MUST COMPLY WITH THE LATEST STATE OF CALIFORNIA NO LEAD REQUIREMENTS.

SHEET 1 OF 4

Dr.	No.	Date	Revision	Appr.
	1	9/03	ADDED END CAP	
Ch. WS	2	2/04	REVISED PAGE 4	
Date	3	2/05	REVERSED TRENCH SECTION	
	4	6/10	REVISED PER AB 1953 REQ'S.	

Approved By: _____ Date: _____
 Charlie Swinley
 City Engineer / Deputy Public Works Director
 RCE No. 52842

STD PLAN
412



CITY OF LODI

PUBLIC WORKS DEPARTMENT

2" WATER SERVICE FOR 1-1/2" OR 2" METER MATERIAL LIST

FITTING (A)	SIZE	BASIC FEATURE	INLET CONNECTION	OUTLET CONNECTION	MANUFACTURER'S NOS.
SADDLES 1	2"	FOR C1-AC & DUCTILE IRON PIPE DUCTILE IRON DOUBLE STRAP SADDLE <u>NO SINGLE STRAP SADDLES</u>		IPT	ROCKWELL 313 APAC 102 OTHER MANUFACTURERS WITH SIMILAR DESIGNS O.K.
SADDLES	2"	FOR C900 PIPE		IPT	ROMAC 101S MUELLER H1349 WITH 1P THREAD
CORP. STOP 2	2"	BALL VALVE	2" IPT	2" CTS COMP	A.Y. MCDONALD 4704B-22 OR APPROVED EQUAL
CORP. STOP	2"	BALL VALVE	2" IPT	2" IPT	A.Y. MCDONALD 3122B OR APPROVED EQUAL

SHEET 2 OF 4

Dr.	No.	Date	Revision	Appr.	Approved By: Charlie Swimsley City Engineer / Deputy Public Works Director RCE No. 52842	Date	STD PLAN 412
Ch. WS	1	9/03	ADDED END CAP				
	2	2/04	REVISED PAGE 4				
	3	2/05	REVISED PAGE 1				
Date	4	6/10	REVISED PER AB 1953 REQ'S.				



CITY OF LODI

PUBLIC WORKS DEPARTMENT

2" WATER SERVICE FOR 1-1/2" OR 2" METER MATERIAL LIST

FITTING (A)	SIZE	BASIC FEATURE	INLET CONNECTION	OUTLET CONNECTION	MANUFACTURER'S NOS.
SERVICE PIPE 3	2"				C.T.S. PE 3408 200 PSI SDR9 ASTM D-2737 SCH 80 PVC WITH TRACE WIRE, OR SCH 40 GIP
ANGLE STOP 4	2"	BALL VALVE WITH LOCKWING	2" CTS COMP.	2" 2 HOLE METER FLANGE	A.Y. MCDONALD 4602B-22 OR APPROVED EQUAL.
	2"	BALL VALVE WITH LOCKWING	2" FNPT	2" 2 HOLE METER FLANGE	A.Y. MCDONALD 4604B OR APPROVED EQUAL.
METER 5	1-1/2" OR 2"	BRONZE 13" LONG FOR 1-1/2" SERVICE 17" LONG FOR 2" SERVICE W/ RUBBER WASHER	2 HOLE FLG	2 HOLE FLG	J129 BADGER 120 OR 170 SENSUS SR-BA HERSEY 562 OR 572
COUPLING 6	1-1/2" OR 2"	FLANGED METER COUPLING ADAPTER MALLEABLE IRON	2 HOLE FLG WITHOUT RING	COMPRESSION COUPLING TO SCH. 80 NIPPLE	ROCKWELL 926 METER COUPLING
SPOOL & FLANGE 7	1-1/2" OR 2"	PVC SCH. 80 & BRONZE FLG.	2 HOLE FLG	PLAIN END	9 1/2" LONG FOR 1 1/2" METER 5 1/2" LONG FOR 2" METER
CUSTOMER VALVE 8	2"	BALL VALVE WITH LOCKWING ALL VALVES MUST HAVE BRASS HANDLE	2" FNPT	2" 2 HOLE METER FLANGE	A.Y. MCDONALD 4604B OR APPROVED EQUAL. HANDLE A.Y. MCDONALD 6120BS OR APPROVED EQUAL.
CUSTOMER STUB 9	2"	PVC SCH. 80	PLAIN END	PLAIN END	IPS PVC SCHEDULE 80 PER UNIFORM PLUMBING CODE. (SAME SIZE AS SERVICE PIPE)

SHEET 3 OF 4

Dr.	No.	Date	Revision	Appr.	Approved By: Charlie Swmlsey City Engineer / Deputy Public Works Director RCE No. 52842	Date	STD PLAN 412
Ch. WS	1	9/03	ADDED END CAP				
	2	2/04	REVISED PAGE 4				
	3	2/05	REVISED PAGE 1				
	4	6/10	REVISED PER AB 1953 REQ'S.				



CITY OF LODI

PUBLIC WORKS DEPARTMENT

2" WATER SERVICE FOR 1-1/2" OR 2" METER MATERIAL LIST

FITTING (A)	SIZE	BASIC FEATURE	INLET CONNECTION	OUTLET CONNECTION	MANUFACTURER'S NOS.
SERVICE BOX 10	2"	ALL LIDS TO READ WATER & HAVE HOLES IN LIDS FOR ERT			CHRISTY B36 CHRISTY 36-R-P001BO (FLUSH FIT FOOT TRAFFIC, GRASS AREAS, LID MOUNTED ERTS ONLY) CHRISTY FL36D (FOOT TRAFFIC, GRASS AREAS, FLUSH FIT) CHRISTY B36-61P 1/4" STEEL CHECKER PLATE (DRIVEWAYS, SIDEWALKS, LID MOUNTED ERTS ONLY) CHRISTY B1730 FULL VEHICULAR TRAFFIC BOX CHRISTY B40 BOX CHRISTY B40-61D LID 1/4" STEEL PLATE (LID MOUNTED ERT'S ONLY) CHRISTY B24X36 FULL VEHICULAR TRAFFIC BOX
90° PJ ELBOW			2" PJ CTS	2" PJ CTS	2" FORD L44-77 2" MUELLER H-15526 WITH INSERT
90° ELBOW 11			2"	2"	PVC
ERT 12	N/A	ENCODER RECEIVER TRANSMITTER	N/A	N/A	ITRON 100W PIT ERT W/ THROUGH THE LID MOUNTING KIT OR 1/2" Ø FIBERGLASS MOUNTING ROD 24" LONG MAY BE USED UPON APPROVAL OF PUBLIC WORKS DEPT.

A. ALTERNATE FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.

SHEET 4 OF 4

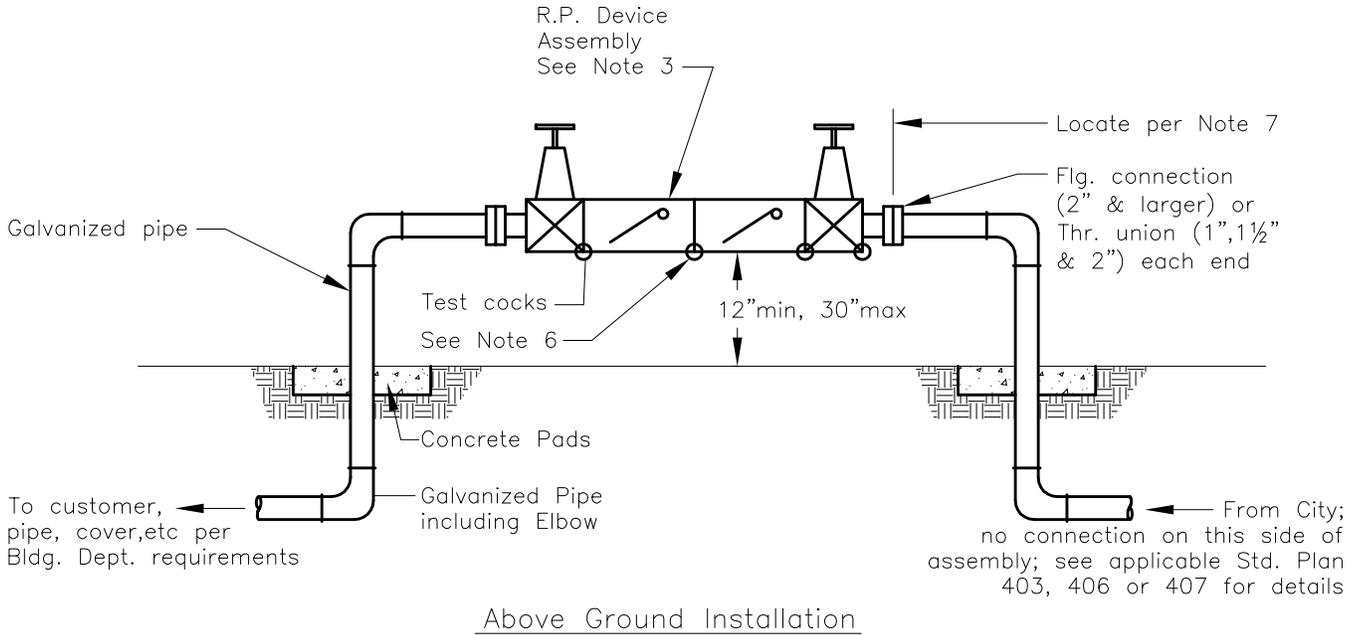
Dr.	KT	No.	Date	Revision	Appr.	Approved By: _____ Date _____ <small>Charlie Swmlsey City Engineer / Deputy Public Works Director RCE No. 52842</small>	STD PLAN <h1>412</h1>
Ch.	WS	1	9/03	ADDED END CAP			
Date	12/00	2	2/04	ADDED PVC 90 ELBOW			
		3	2/05	REVISED PAGE 1			
		4	6/10	REVISED PER AB 1953 REQ'S.			



CITY OF LODI

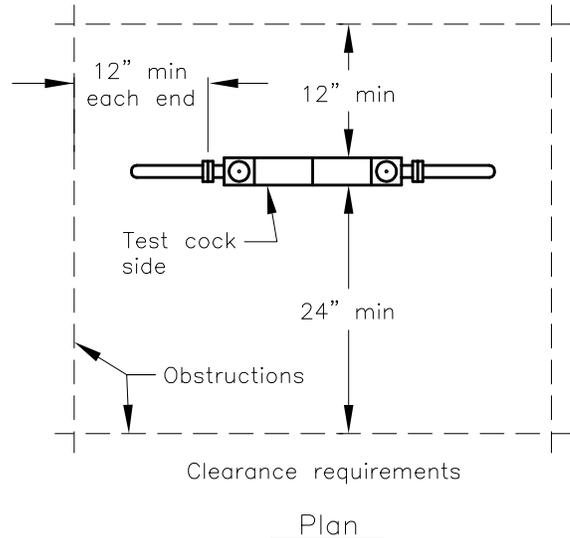
PUBLIC WORKS DEPARTMENT

Reduced Pressure Backflow Device Assembly



Notes:

1. It is the customers responsibility to have the assembly tested prior to acceptance and annually by a State Certified Backflow Prevention Tester and report the results to the Public Works Department.
2. Install guard posts where device is installed in paved areas accessible to traffic or in planters less than 3' behind the curb or when directed by City.
3. FEBCO 825Y or approved equal, must be on list of approved Backflow Prevention Assemblies Dept. of Health Services.
4. Valve handles may be chained & padlocked for security.
5. This plan for domestic service only. Design for fire service applications to have approval of Public Works Director and Fire Marshal.
6. Provide drainage (with air gap) for pressure relief discharge.
7. Locate assembly immediately down stream of service box.



Dr.	KT	No.	Date	Revision	Appr.
Ch.	WS				
Date	12/00				

Approved By: *F. Wally Sangelin* 12/28/00
 F. Wally Sangelin
 City Engineer
 R.C.E. 39895
 Date

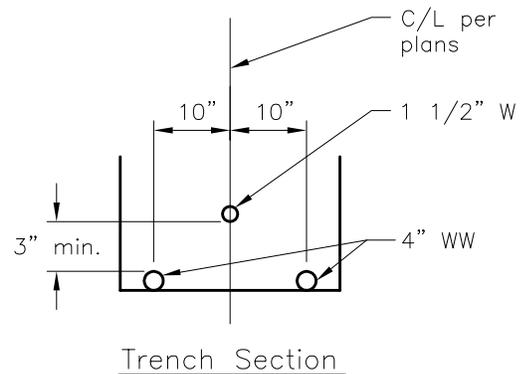
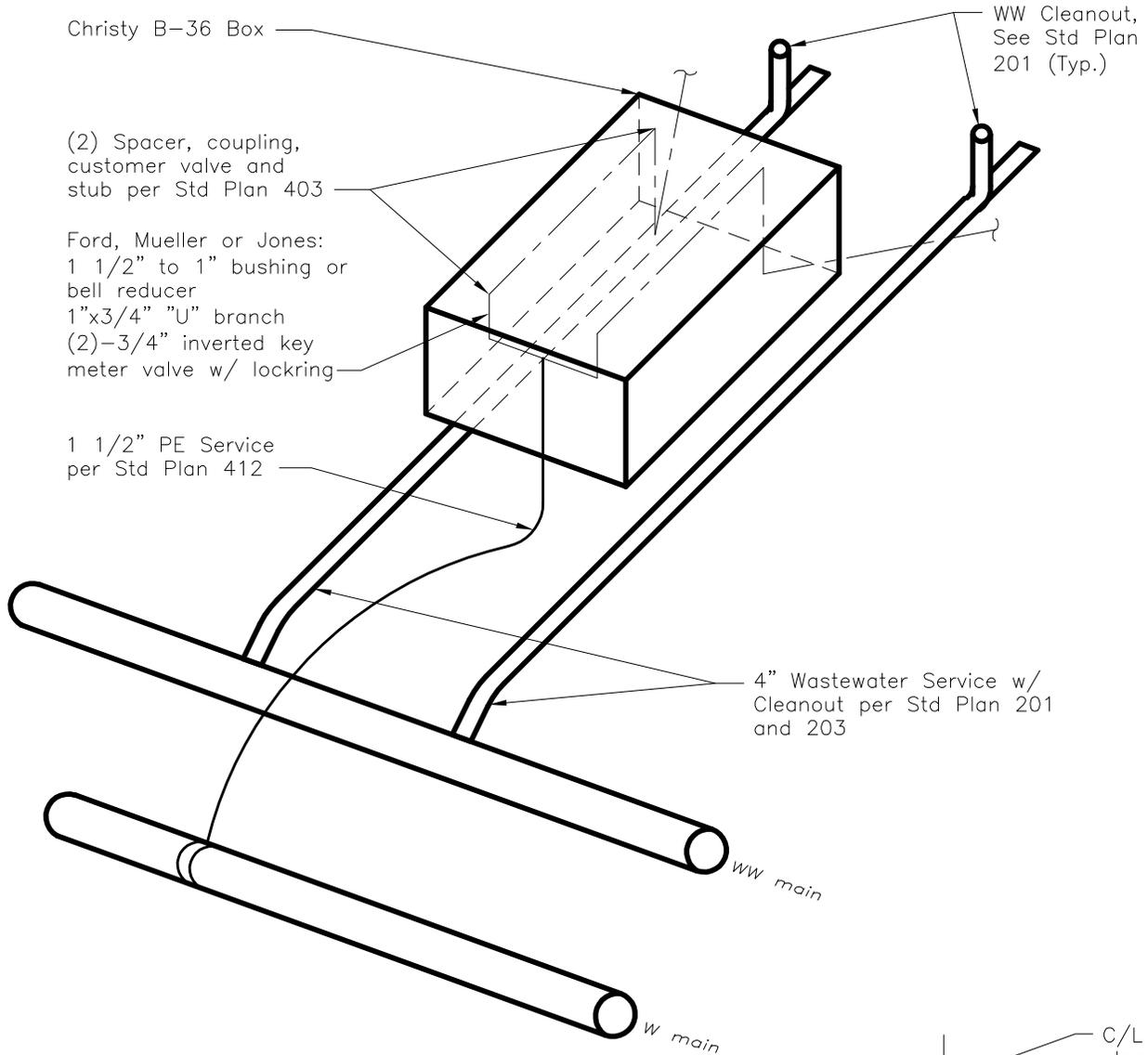
STD PLAN
413



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Dual Water & Wastewater Service



Notes:

1. This Std plan is to be used primarily in residential subdivisions on lot lines opposite the utility joint trench. A utility coordination plan showing service locations is required.
2. See Std Plans 201, 203, 403, and 412 for materials and installation details.

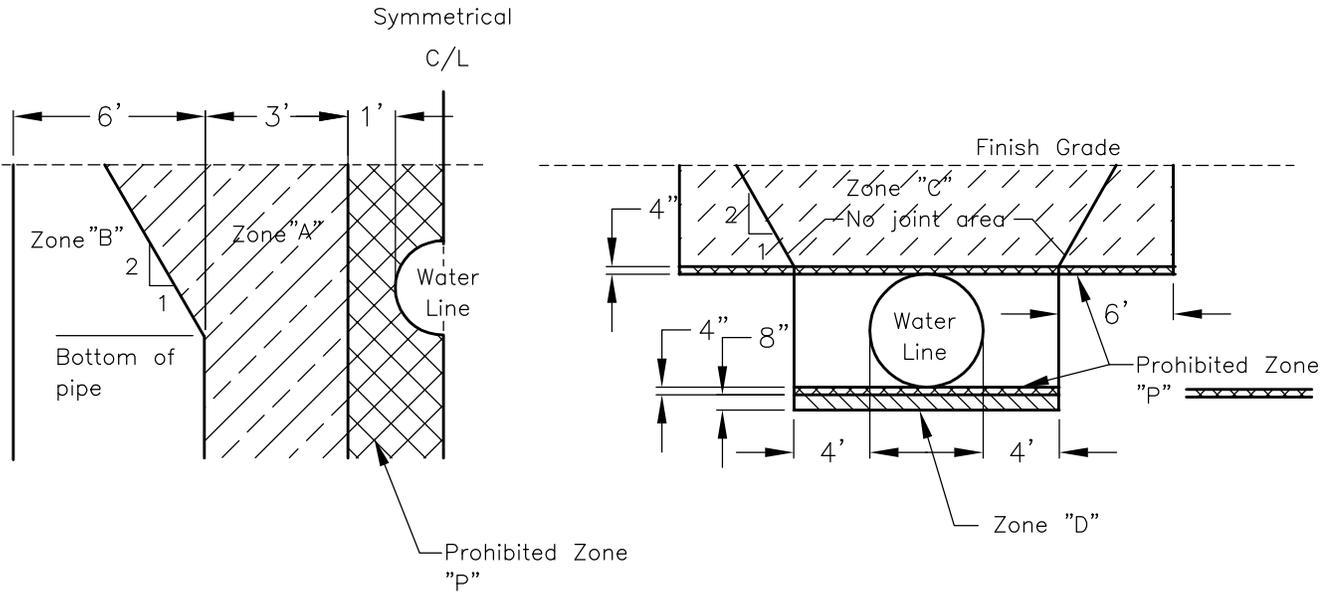
Dr. KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. WS					<i>F. Wally Sandelin</i>	414
Date 12/00					City Engineer R.C.E. 39895	12/28/00 Date



CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water Main Separation from Sanitary Hazard—New Wastewater Line Construction



CASE 1
New Wastewater Line
Parallel Construction

CASE 1
New Wastewater Line
Crossing

WASTEWATER LINE CONSTRUCTION REQUIREMENTS

ZONE

A	B	C	D	P
Requires specific approval of the City Engineer details on plans	Pipe: ESVCP, bell & spigot joint only; PVC water pipe; Ductile Iron pipe. (Storm Drain only—Conc. Pipe)	Pipe: Ductile Iron or Class 200 PVC water pipe centered over water main. Note the "No Joint" area over water main	Pipe: Same as Zone C, no joints allowed	Prohibited—No new wastewater line in this area

Notes:

1. This Standard Plan shows normal construction requirements/options for reduced separation of existing water mains from new sanitary sewers and storm drains (including mains & laterals). It does not apply to pipes over 24 inches in diameter, to force mains or to services crossing under a water main (see Note 3). See State Dept. of Health Services Standards for other situations and additional alternatives.
2. Plans shall reference this Standard for specific locations and shall note the zone and construction requirement, or provide details on the plans.
3. Sanitary sewer services crossing under water mains shall maintain 4" minimum clearance.
4. All pipe materials and installation shall be per City of Lodi Design Standards and Construction Specifications.

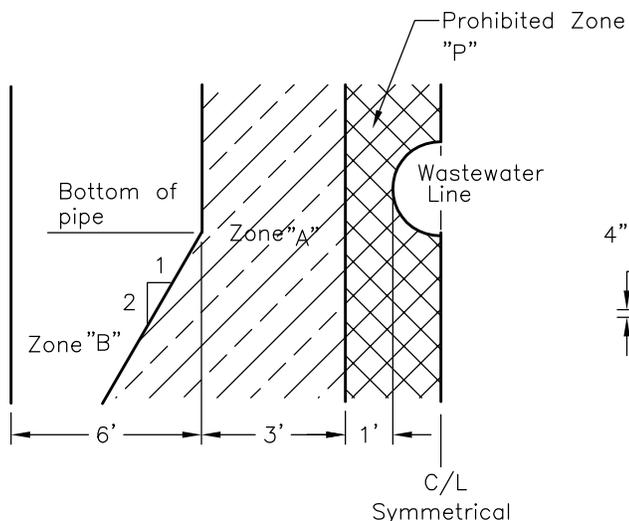
Dr. KT	No.	Date	Revision	Appr.	Approved By: <i>F. Wally Sandelin</i>	12/28/00	STD PLAN
Ch. WS					<i>F. Wally Sandelin</i>	Date	415A
Date 12/00					R.C.E. 39895		



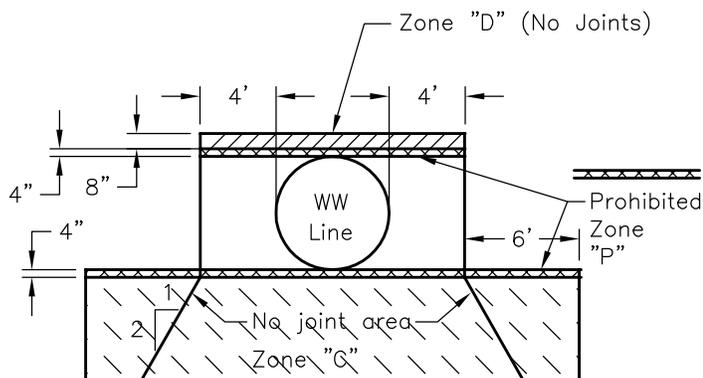
CITY OF LODI

PUBLIC WORKS DEPARTMENT

Water Main Separation from Sanitary Hazard—New Water Main Construction



CASE 2
New Water Line
Parallel Construction



CASE 2
New Water Line
Crossing

WATER MAIN CONSTRUCTION REQUIREMENTS

ZONE

A	B	C	D	P
Requires specific approval of the City Engineer with details shown on the plans.	Pipe: Ductile Iron pipe; PVC, Class 200. Normal pipe standards apply if wastewater line meets Zone B requirements per Std. Plan 415A.	Pipe: Per Zone B Note "no joint" area under Wastewater line. Normal pipe standards apply if wastewater line meets Zone B requirements per Std. Plan 415A.	Pipe: Per Zone B No joint allowed. Normal pipe standards apply if wastewater line meets Zone B requirements per Std. Plan 415A.	Prohibited — No new water mains in this area.

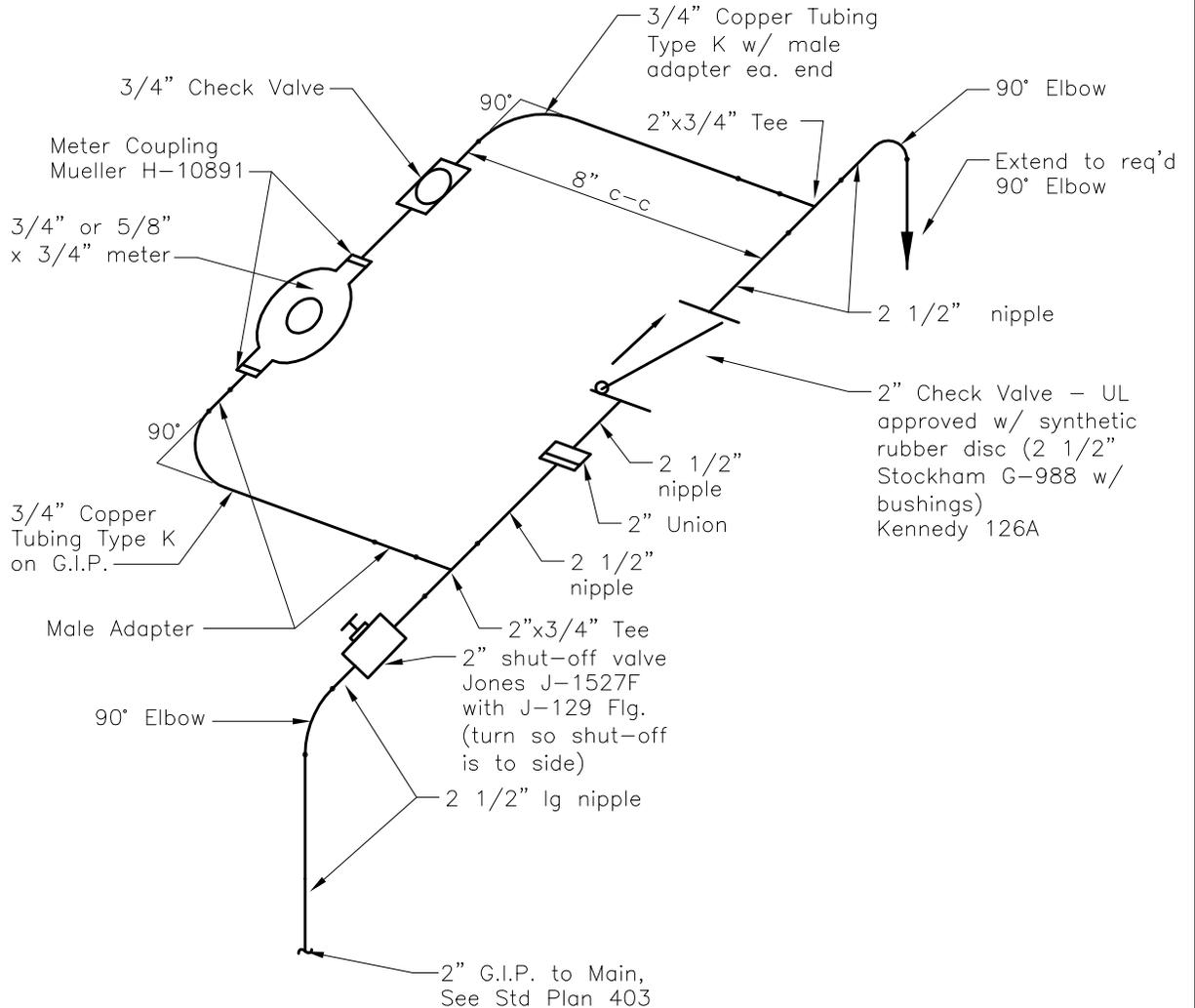
Notes:

1. This Standard Plan shows normal construction requirements/options for reduced separation of new water mains from sanitary sewers (including services, see Note 3) and storm drains (including mains & laterals). It does not apply to pipes over 24 inches in diameter or to force mains. See State Dept. of Health Services Standards for other situations and additional alternatives.
2. Plans shall reference this Standard for specific locations and shall note the zone and construction requirement, or provide details on the plans.
3. Water mains crossing over services shall maintain 4" min. clearance.
4. All pipe materials and installation shall be per City of Lodi Design Standards and Construction Specifications.

Dr. KT	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. WS					<i>F. Wally Sandelin</i>	415B
Date 12/00					F. Wally Sandelin City Engineer R.C.E. 39895	12/28/00 Date



Establish for use of Copper Tubing Type K or G.I.P.



Notes:

1. Use Christy B-48 box with traffic lid per Std Plan 403. Center over fittings.
2. City service responsibility is from main to shut-off valve.
3. Meter to be Sensus SR. Support w/ brick.
4. Where Sprinkler system contains chemical additives or other possible contamination exists, Check Valves shown shall be replaced with Double Check Valve Assemblies per Std Plan 411.

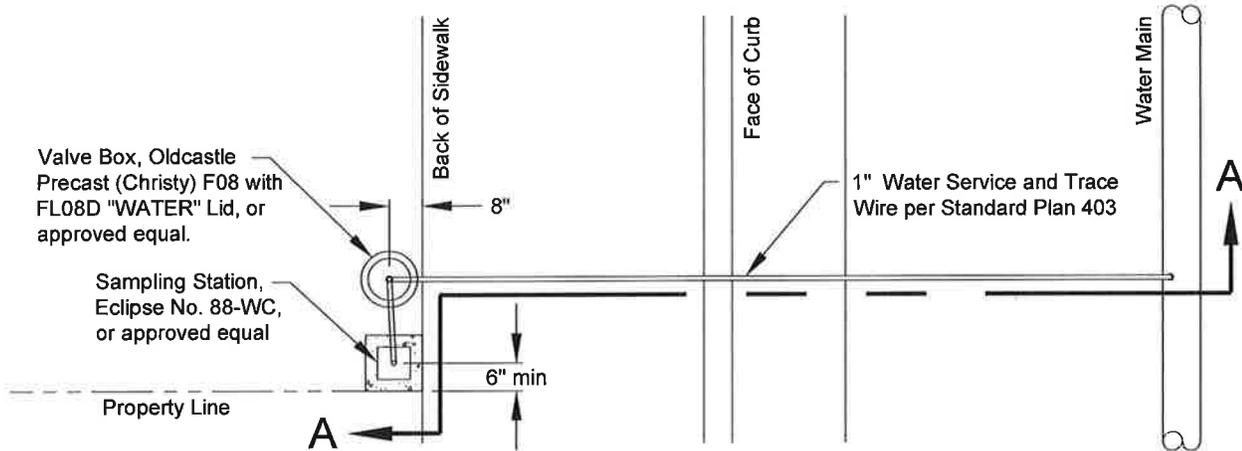
Dr. KT	No.	Date	Revision	Appr.	Approved By: F. Wally Sandelin City Engineer R.C.E. 39895	12/28/00 Date	STD PLAN
Ch. WS							
Date 12/00							



CITY OF LODI

PUBLIC WORKS DEPARTMENT

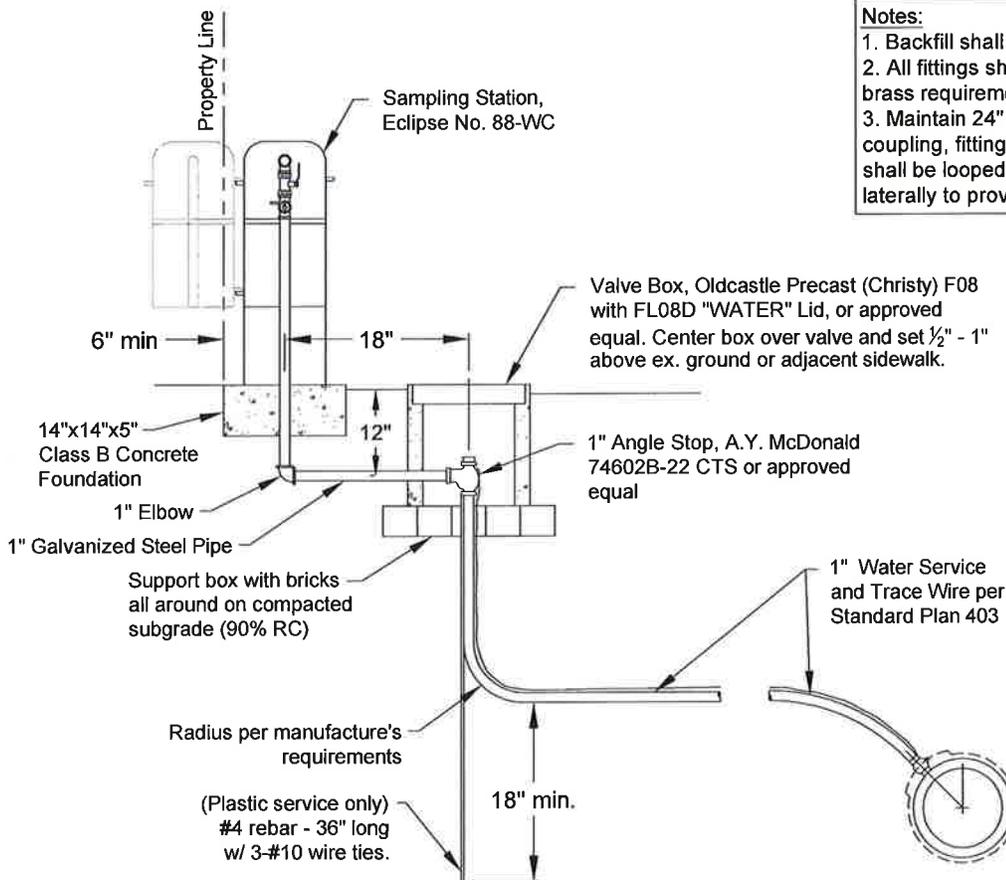
WATER SAMPLING STATION



Plan View

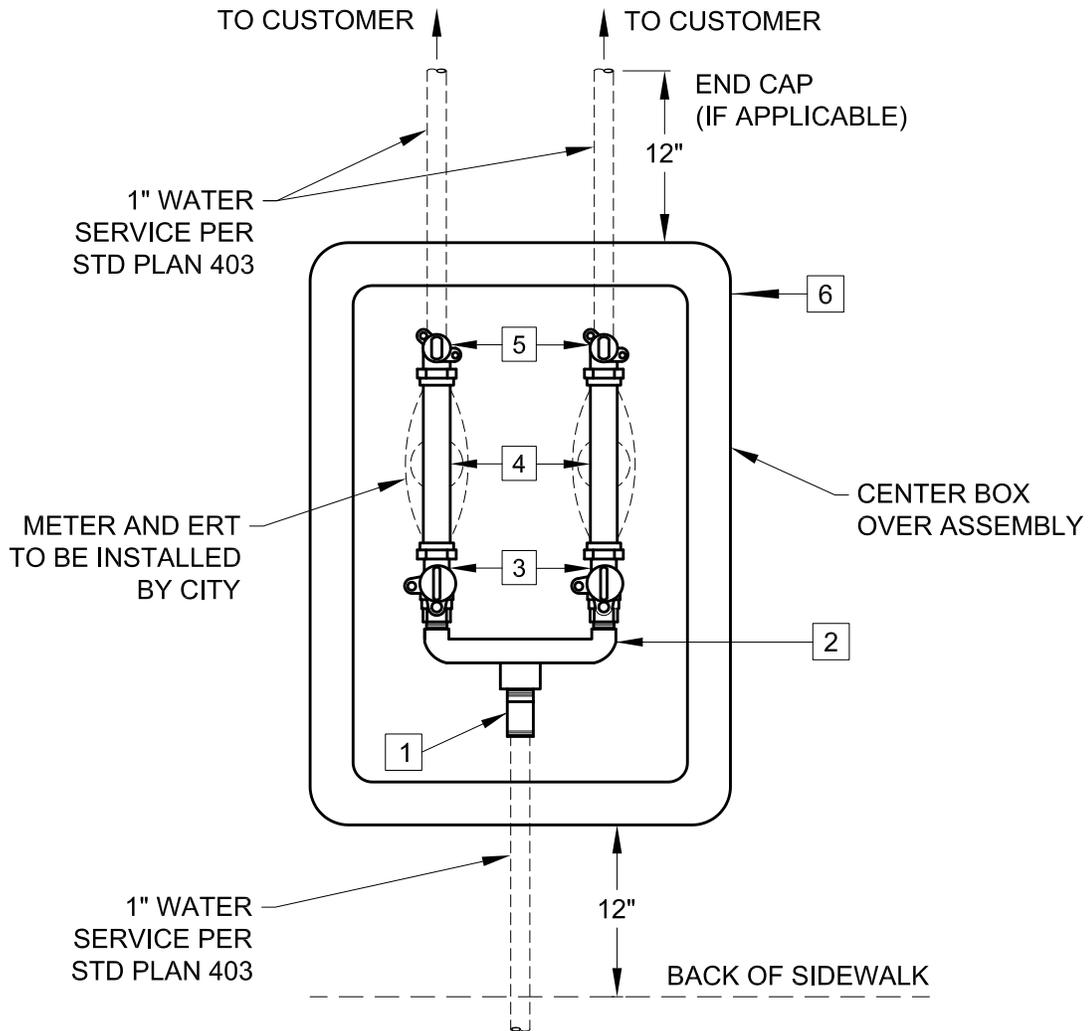
Notes:

1. Backfill shall conform to Std. Plan 501.
2. All fittings shall comply with California No-Lead brass requirements.
3. Maintain 24" clearance between tap and any coupling, fitting or adjacent tap. Plastic services shall be looped approximately 6" vertically or laterally to provide slack in the line.



Section A-A

Dr.	SN	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch.	LC					<i>Charles Swimley</i>	417
Date	9/13					Charles Swimley Deputy Public Works Director R.C.E. 52842	9.11.13 Date



NOTE:
INSTALLATION OF THE METER
BOX IN DRIVEWAY IS PROHIBITED
WITHOUT PRIOR APPROVAL
FROM CITY ENGINEER.



Dr.	No.	Date	Revision	Appr.	Approved By:
JP					<i>Charles Swinley</i>
Ch.	LC				2/24/14 Date
Date	1/27/14				Charlie Swinley City Engineer / Deputy Public Works Director RCE No. 52842



MATERIAL LIST

FITTING	SIZE	BASIC FEATURE	INLET CONNECTION	OUTLET CONNECTION	MANUFACTURER'S NOTE
1 METER COUPLING	1"	BRASS W/ NL LISTED	1" MNPT	3/4" MALE METER THREAD	McDONALD 74619 (3/4"x1"x2.18")
2 U-BRANCHES	1"	STANDARD U-BRANCH	1" MNPT	3/4" MNPT	McDONALD 709UFCW (1" x 3/4" x 6.5")
3 METER VALVE	1"	BALL VALVE WITH LOCKWING	1" PE CTS COMPRESSION	1" STRAIGHT THREAD SWIVEL NUT	McDONALD 76101MW (1" x 3/4" x 3/4")
4 METER SPOOL	1"x9"		1"	1"	1" SCH 80 PVC
5 CUSTOMER VALVE ANGLE STOP	1"	FULL PORT ANGLE BALL VALVE	METER SWIVEL NUT	1" FIPT	McDONALD 74604B WITH HANDLE #6120B
6 SERVICE BOX		LID TO READ WATER	N/A	N/A	CHRISTY B36 BOX W/ FL36D FIBRELYTE LID

Dr. JP	No.	Date	Revision	Appr.	Approved By:	STD PLAN
Ch. LC					<i>Ch. Swinley</i>	418
Date 1/23/14					2/24/14 Date	
					Charlie Swinley City Engineer / Deputy Public Works Director RCE No. 52842	