

NOTES:

1. City standard valve shall be AMERICAN FLOW CONTROL series 500 or MUELLER Resilient Wedge A-2360.
2. See STANDARD SPECIFICATIONS for ductile iron fittings and pipe class.
3. Valve stem extension shall be required when valve operating nut is 3' or greater from finish grade. See City Standard Detail WATER-2.
4. Paint inside of PVC Riser to correspond with lids on Zone-2 and Zone-3.

STANDARD VALVE BOX INSTALLATION



APPROVED BY:

Paul S. ...

CITY ENGINEER

AUG 12 2005

DATE

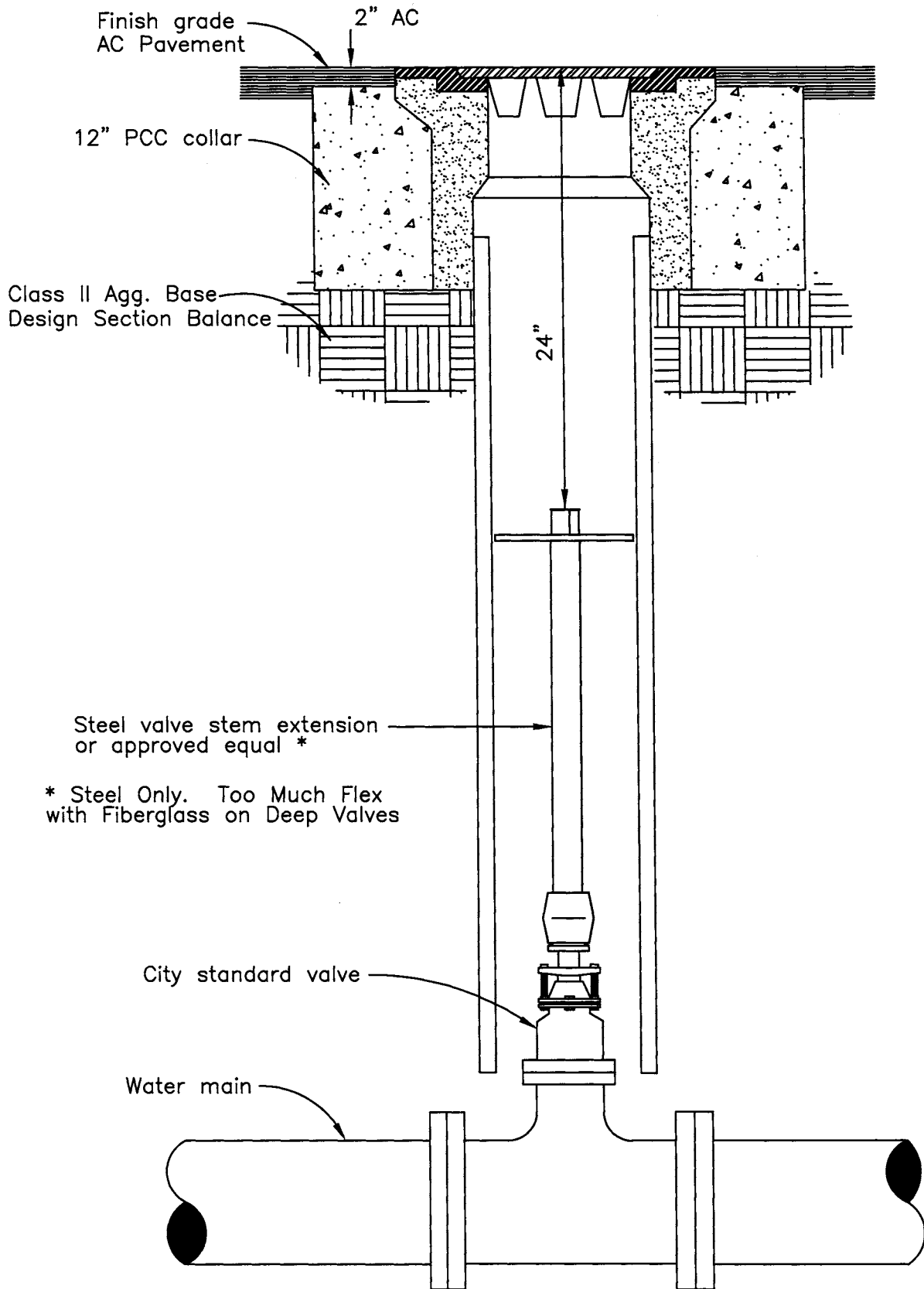
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 LAST REVISED: 10/04

SCALE:
 N.T.S.

SECTION:

WATER

DRAWING NO.: **WA-1**



Steel valve stem extension
or approved equal *

* Steel Only. Too Much Flex
with Fiberglass on Deep Valves

VALVE STEM EXTENSION

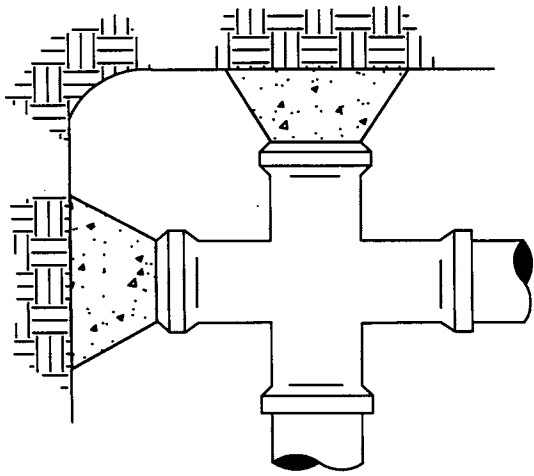
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CHECKED BY:	N.T.S.
LAST REVISED: 10/04	

SECTION: **WATER**

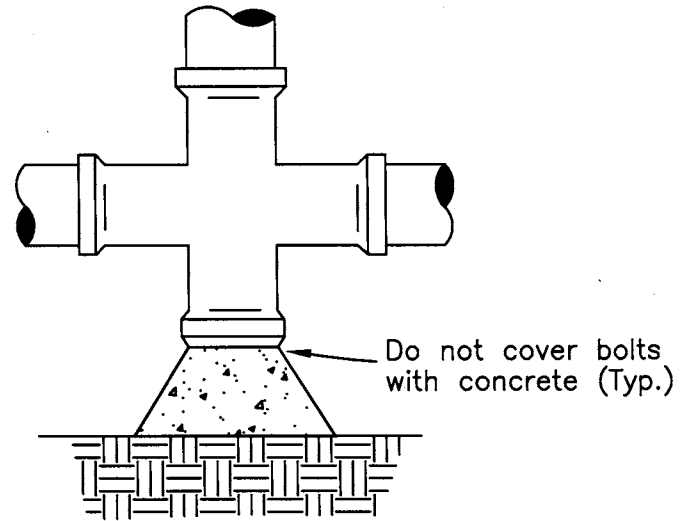


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 AUG 12 2005
 DATE

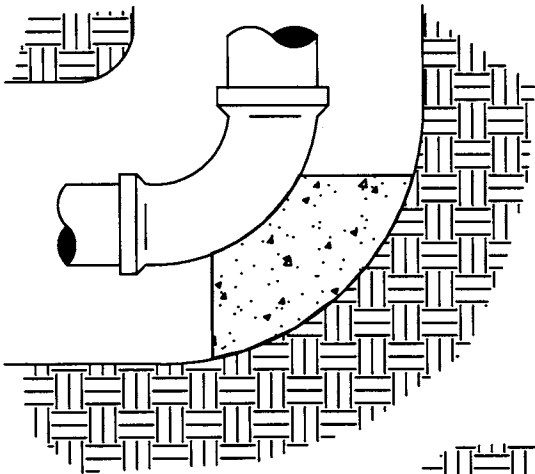
DRAWING NO.: **WA-2**



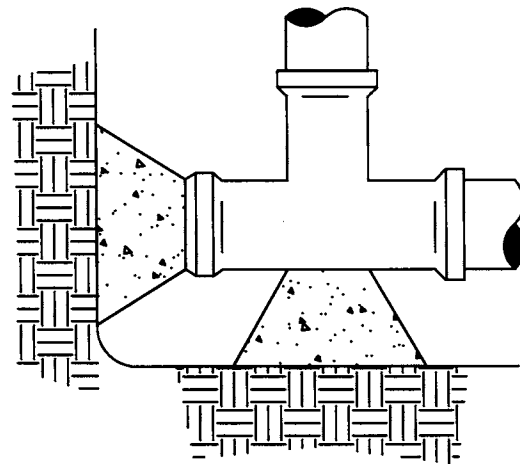
CROSS WITH TWO PLUGS



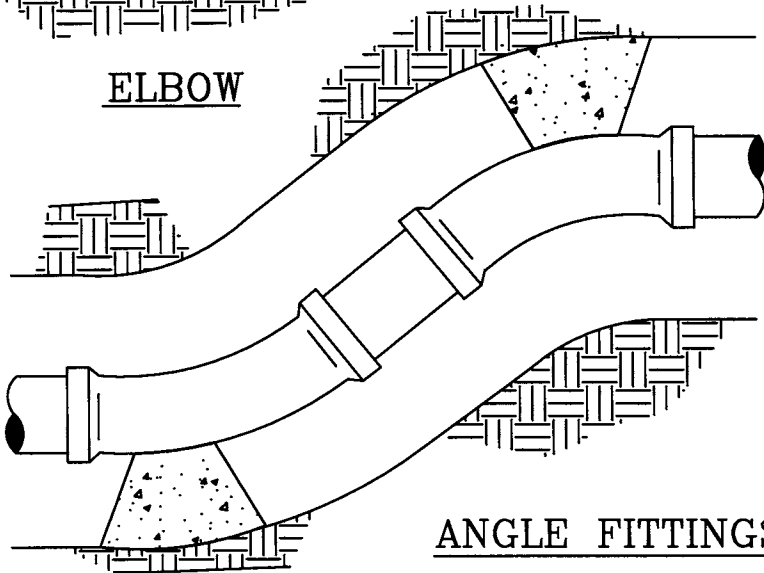
CROSS WITH ONE PLUG



ELBOW



TEE WITH PLUG



ANGLE FITTINGS

NOTES

1. Thrust block areas based on 225 PSI and 2,000 PSI soil pressure with 2 1/2 feet of cover minimum.
2. Thrust block bearing faces shall be placed against undisturbed soil, approved compacted backfill, or Class 100-E-100 slurry.
3. Thrust blocks shall be Class ii per Caltrans, July 1995 Standard Specifications.
4. To facilitate future removal of thrust blocks and line extension, use an 8 mil poly-wrap plastic to protect nuts and bolts.

THRUST BLOCKS

DRAWN BY: LDL
 CHECKED BY:
 LAST REVISED: 10/04

SCALE:
 N.T.S.

SECTION:
WATER

DRAWING NO.: **WA-3**

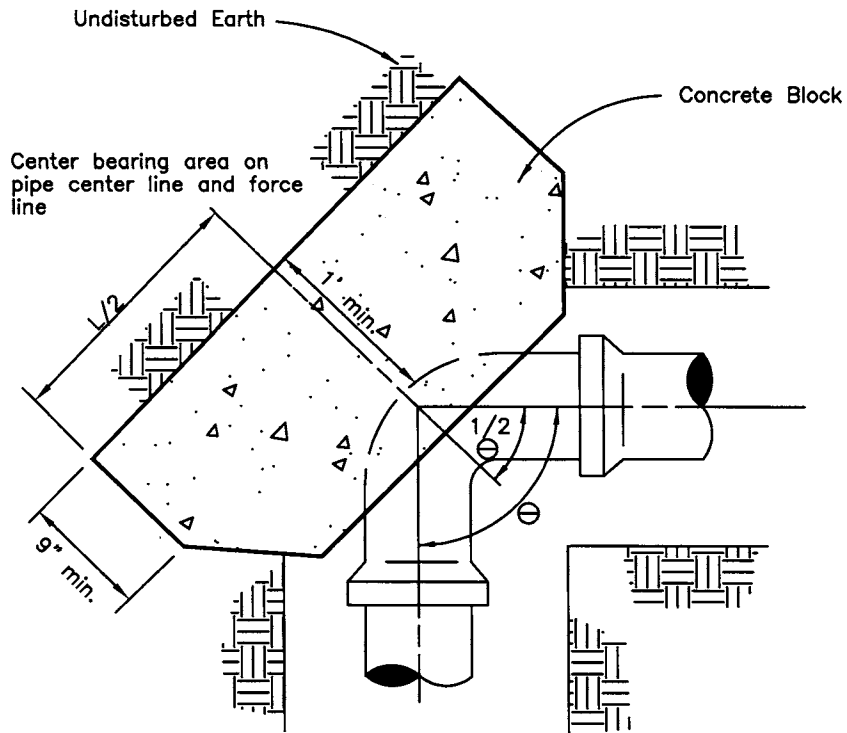


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CITY ENGINEER

AUG 12 2005

DATE



NOTES:

1. Pipes greater than 16" diameter will require calculation for thrust blocks.
2. Concrete shall be kept away from joints, flanges, bolts and nuts.

Pipe Size	REQUIRED AREA - SQ. FT.					DIMENSIONS - L X H				
	5 5/8"	11 1/4"	22 1/2"	45°	90°	5 5/8"	11 1/4"	22 1/2"	45°	90°
6"	1	1	2	3	5	1'0"x1'0"	1'0"x1'0"	1'5"x1'5"	1'9"x1'9"	2'3"x2'3"
8"	1	1	2	4	8	1'0"x1'0"	1'0"x1'0"	1'5"x1'5"	2'0"x2'0"	2'10"x2'10"
10"	1	2	4	7	12	1'0"x1'0"	1'5"x1'5"	2'0"x2'0"	2'8"x2'8"	3'5"x3'5"
12"	1	3	5	9	17	1'0"x1'0"	1'9"x1'9"	2'3"x2'3"	3'0"x3'0"	4'2"x4'2"
14"	2	3	7	13	23	1'5"x1'5"	1'9"x1'9"	2'8"x2'8"	3'6"x3'6"	4'10"x4'10"
16"	2	4	8	16	29	1'5"x1'5"	2'0"x2'0"	2'10"x2'10"	4'0"x4'0"	5'5"x5'5"

STANDARD THRUST BLOCK FOR HORIZONTAL AND VERTICAL DOWNWARD BEND

DRAWN BY: LDL
 CHECKED BY:
 LAST REVISED: 10/04
 SCALE: N.T.S.

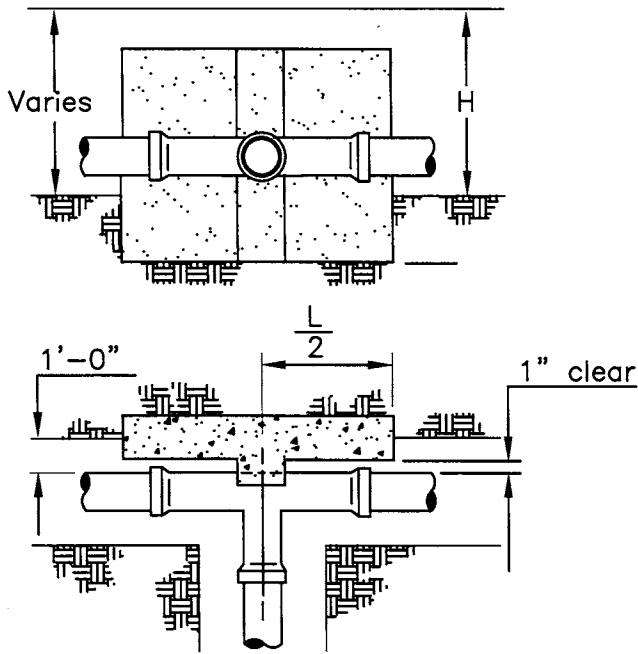


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[Signature]
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AUG 12 2005
 DATE

SECTION:
WATER

DRAWING NO.: **WA-4**



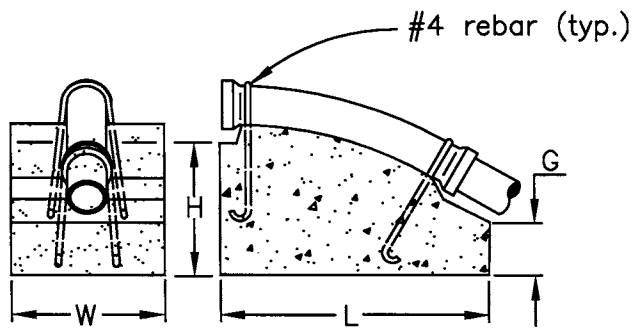
TEE BLOCKING
(See table "B")

TEE BLOCK DIMENSIONS		
Pipe size	Bearing (sq. ft.)	L x H
6"	3	1'3" x 1'9"
8"	5	2'3" x 2'3"
10"	9	3'0" x 3'0"
12"	12	3'5" x 3'5"
14"	16	4'0" x 4'0"
16"	21	4'7" x 4'7"

TABLE "B"

NOTE:

Concrete shall be kept away from all joints, flanges and nuts.



ANCHOR FOR UPWARD THRUST
(See table "A")

THRUST BLOCK DIMENSIONS - UPWARD THRUST												
Pipe Size	11 1/4 Bend				22 1/2 Bend				45 Bend			
	L	W	H	G	L	W	H	G	L	W	H	G
6"	2'0"	2'0"	1'0"	9"	2'0"	2'0"	2'0"	1'0"	3'0"	2'0"	2'0"	6"
8"	2'0"	2'0"	1'0"	9"	3'0"	2'0"	2'0"	1'0"	4'6"	2'0"	3'0"	6"
10"	3'0"	2'0"	2'0"	1'8"	4'0"	2'0"	2'0"	1'0"	6'0"	2'0"	3'8"	8"
12"	3'0"	2'0"	2'0"	1'8"	6'0"	2'0"	2'0"	1'0"	7'0"	2'6"	4'0"	6"

TABLE "A"

STANDARD THRUST BLOCK FOR HORIZONTAL AND VERTICAL UPWARD THRUST

DRAWN BY: LDL
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LAST REVISED: 10/04

SCALE:
N.T.S.

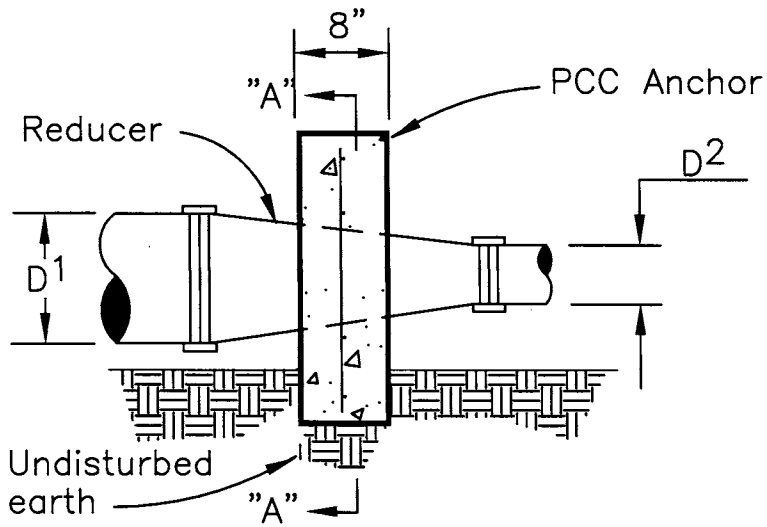
SECTION:
WATER

DRAWING NO.: **WA-5**



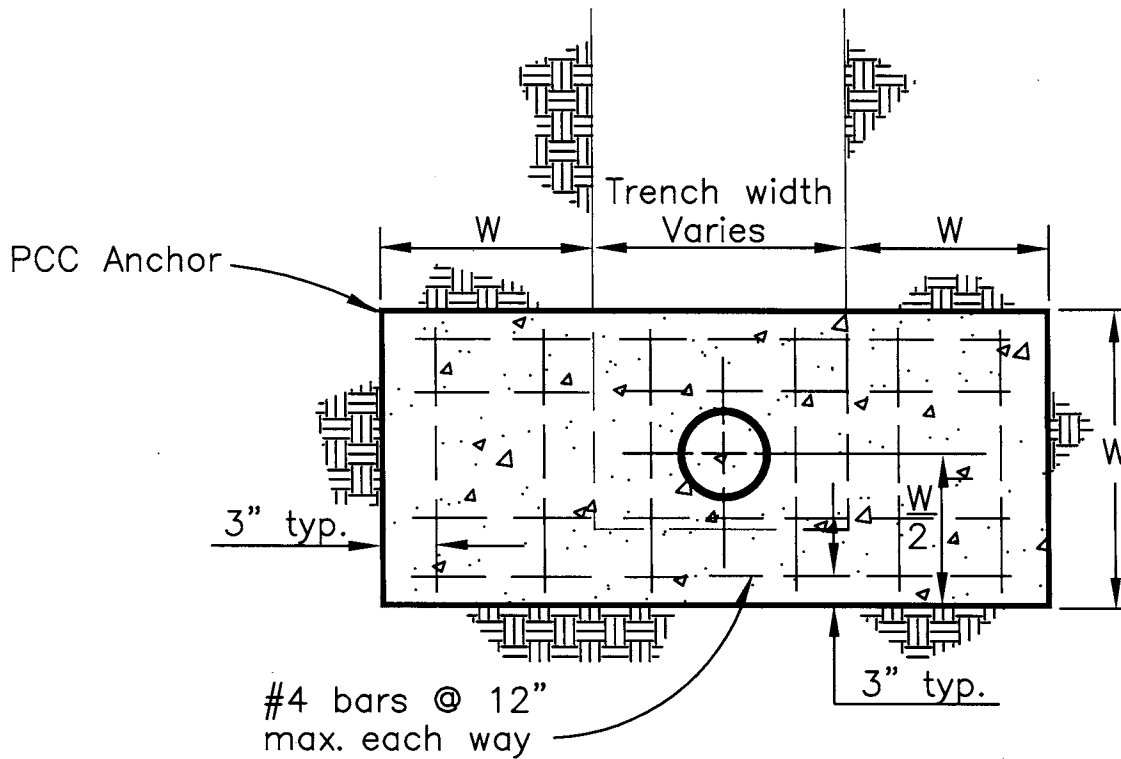
APPROVED BY:
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CITY ENGINEER

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DATE



REDUCER ANCHOR DIMENSIONS		
D ¹ by D ²	H	W
12" by 10"	1'-4"	1'-0"
12" by 8"	2'-0"	1'-3"
12" by 6"	2'-0"	1'-7"
8" by 6"	1'-0"	1'-0"
8" by 4"	1'-0"	1'-5"
6" by 4"	1'-0"	8"

PROFILE



SECTION "A"-"A"

* REQUIRED ONLY WHERE LARGER CONNECTING JOINT IS OTHER THAN FLANGED.

STANDARD REDUCER ANCHOR *

DRAWN BY: LDL
 CHECKED BY:
 LAST REVISED: 10/04

SCALE:
 N.T.S.

SECTION:
WATER

DRAWING NO.: **WA-6**



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Christy precast concrete meter box model #B-36 with solid lid marked "WATER"

Curb & gutter

10"-12"

NOTE:

1. If Blowoff box is off road, a blue paddle marker is required.

2"x4" pressure treated wood on each long side of bottom of box.

2" Ball curb valve Mueller #B-25172 or Ford #B41-777W-Q with brass plug.

36"

2" Type "K" soft copper.

Gland

MJ Cap

MUELLER #H-15526 quarter bend or FORD #L44-77-G.

Water main

Corporation stop shall be Mueller model #H-15023 2"IP FORD #FB1100-777-Q

1 1/2" Dia. dilly lugs (4 required)

Minimum of 18" from face of concrete anchor block to back of gland.

Concrete anchor block

END OF MAIN BLOWOFF

DRAWN BY: LDL
 CHECKED BY:
 LAST REVISED: 10/04

SCALE:
 N.T.S.

SECTION:

WATER

DRAWING NO.: **WA-7**

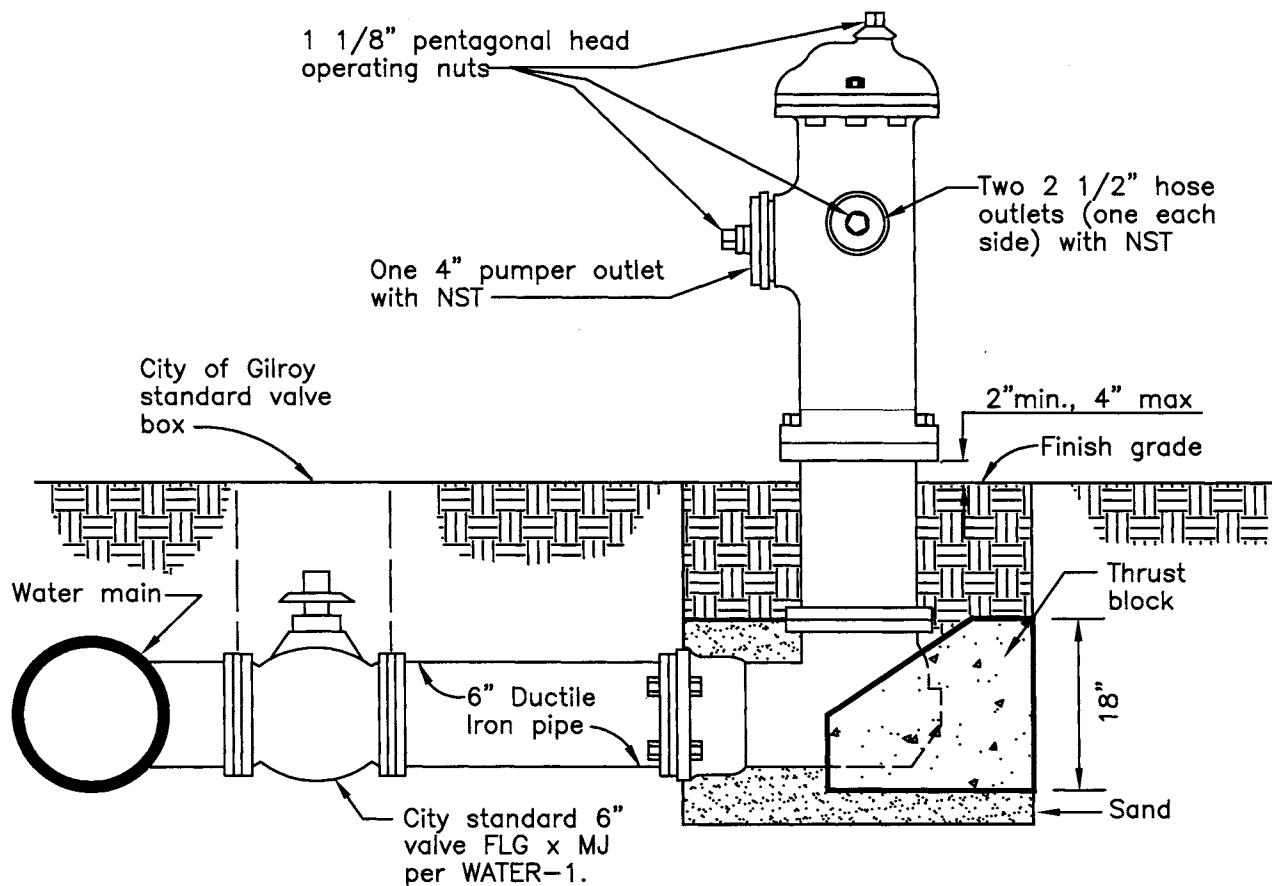


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CITY ENGINEER

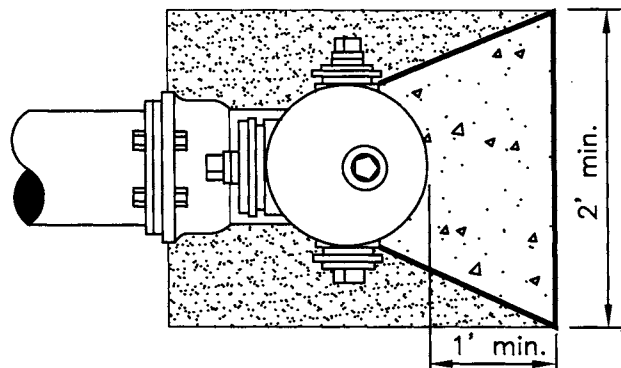
AUG 12 2005
 DATE



PROFILE

NOTE:

- 1.) Hydrants shall be MUELLER A-421 or AMERICAN FLOW CONTROL B-84-B, dry barrel, drain plugged, painted enamel safety yellow. Paint shall be KEL-GUARD #1700-63 paint inhibitive enamel by KELLY-MOORE.
- 2.) New or existing hydrants shall be painted for final acceptance of project.
- 3.) Hydrants shall be a minimum of 40 feet from all structures. A keyed gate valve shall be provided for each hydrant in an accessible location. Valves shall not be located in parking stalls.
- 4.) The lowest operating nut shall be a minimum of 18" above grade and the hydrant flange shall be a minimum of 2" above finish grade.



PLAN

STANDARD FIRE HYDRANT

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CHECKED BY:	N.T.S.
LAST REVISED: 10/04	

SECTION:

WATER

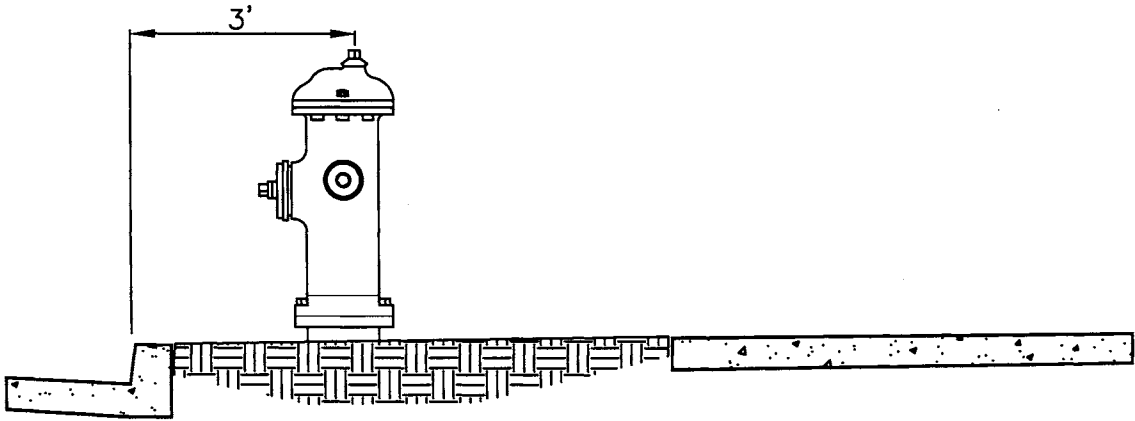
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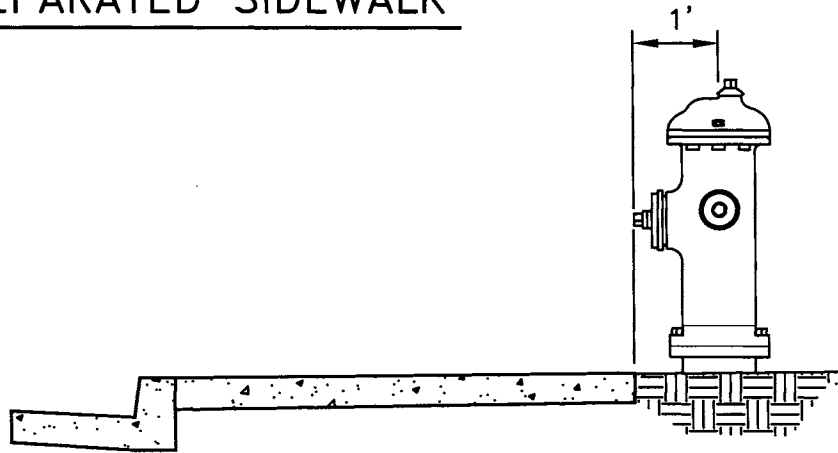
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CITY ENGINEER

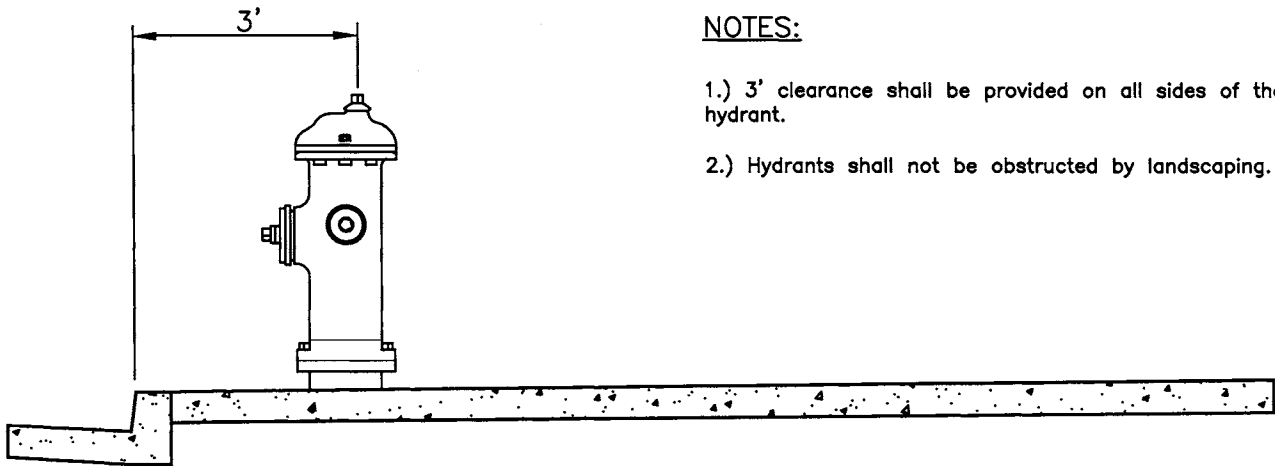
AUG 12 2005
DATE



SEPARATED SIDEWALK



MONOLITHIC SIDEWALK



COMMERCIAL SIDEWALK

NOTES:

- 1.) 3' clearance shall be provided on all sides of the hydrant.
- 2.) Hydrants shall not be obstructed by landscaping.

FIRE HYDRANT PLACEMENT

DRAWN BY: LDL
 CHECKED BY: _____
 LAST REVISED: 10/04

SCALE:
N.T.S.

SECTION:
WATER

DRAWING NO.: **WA-9**

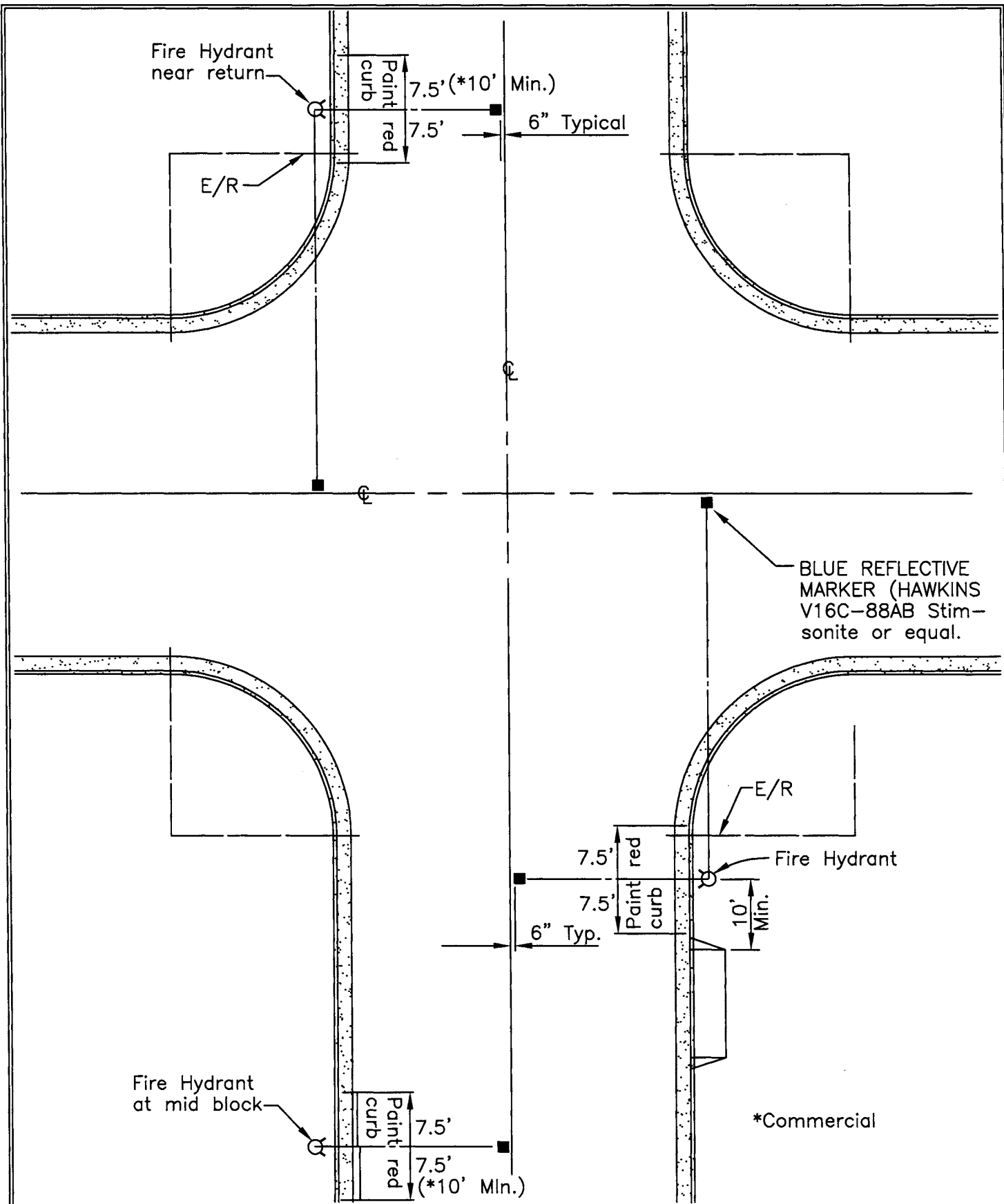


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CITY ENGINEER

AUG 12 2005

DATE



FIRE HYDRANT LOCATION MARKER

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CHECKED BY:	
LAST REVISED: 10/04	

SECTION: **WATER**

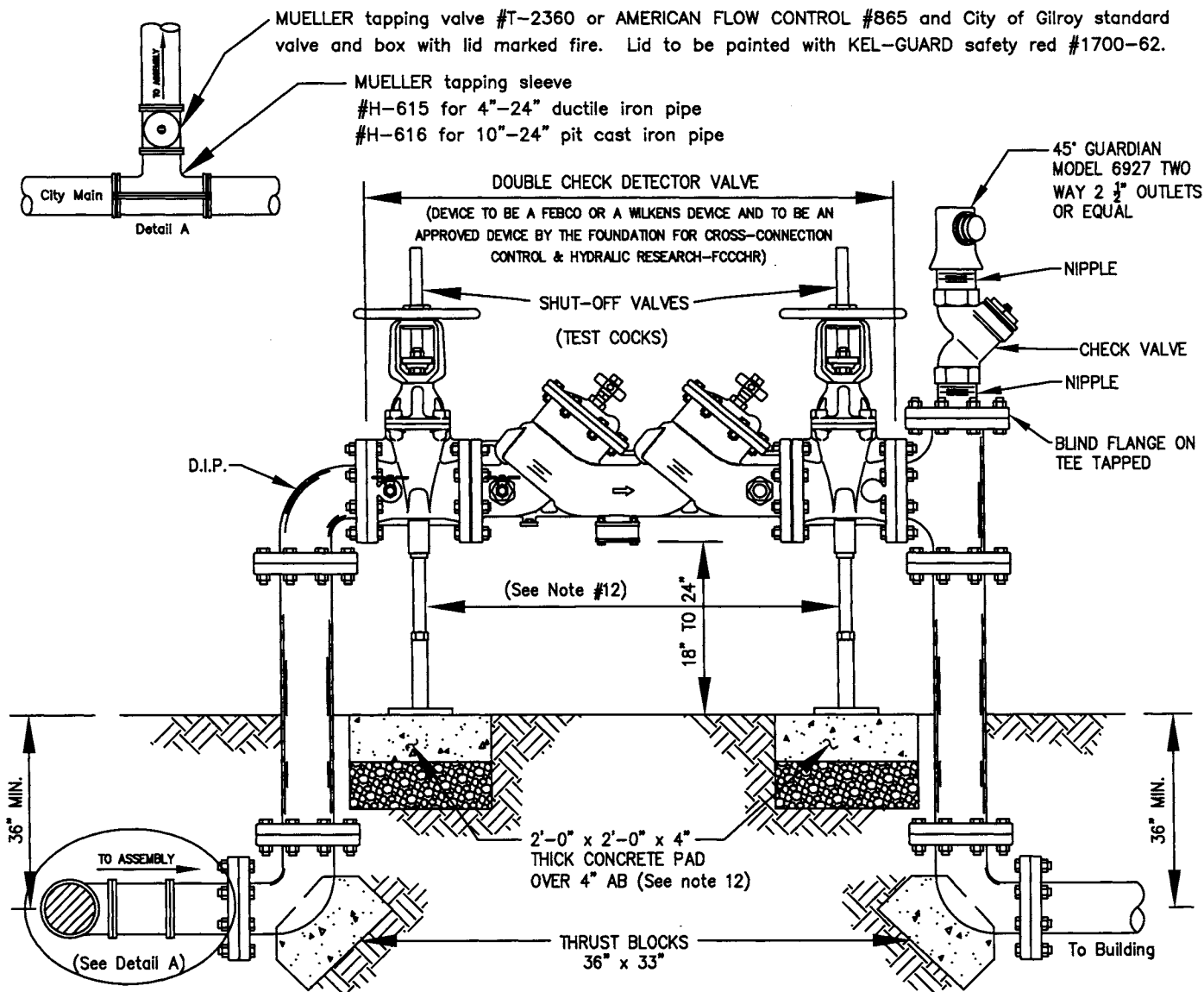


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 CITY ENGINEER

AUG 12 2005
 DATE

DRAWING NO.: **WA-10**

*Commercial



GENERAL NOTES:

1. Location of DDC & FDC shall be approved prior to installation.
2. F.D.C. to be located within 40' of the Public Hydrant and near the driveway to the building.
(F.D.C. may be located on D.C.D.V. if D.C.D.V. is within 40' of the Public Hydrant and near the driveway to the building)
3. Threads on F.D.C. to be 2.5" from N.H.T.
4. Resilient seat gate valves and test cocks are required.
5. Water supply - no connections or tees will be allowed between meter and device.
6. Protection from freeze damage is recommended in exposed areas.
7. Device must be accessible for testing and maintenance.
8. Bypass meter to read in gallons.
9. See additional notes on sheet 20B2 for backflow device installation.
10. D.C.D.V to be painted Forest Green (Kelly-Moore Gloss Alkyd Rust Inhibitive Enamel #51) or approved equal.
(Alternative colors to be approved by the City Engineer)
11. Provide copies of backflow tests by approved tester to the City of Gilroy Water Department.
12. D.C.D.A braces are optional for 6" and smaller devices upon the requirement of the City Engineer.

DOUBLE CHECK DETECTOR ASSEMBLY



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AUG 12 2005

DATE

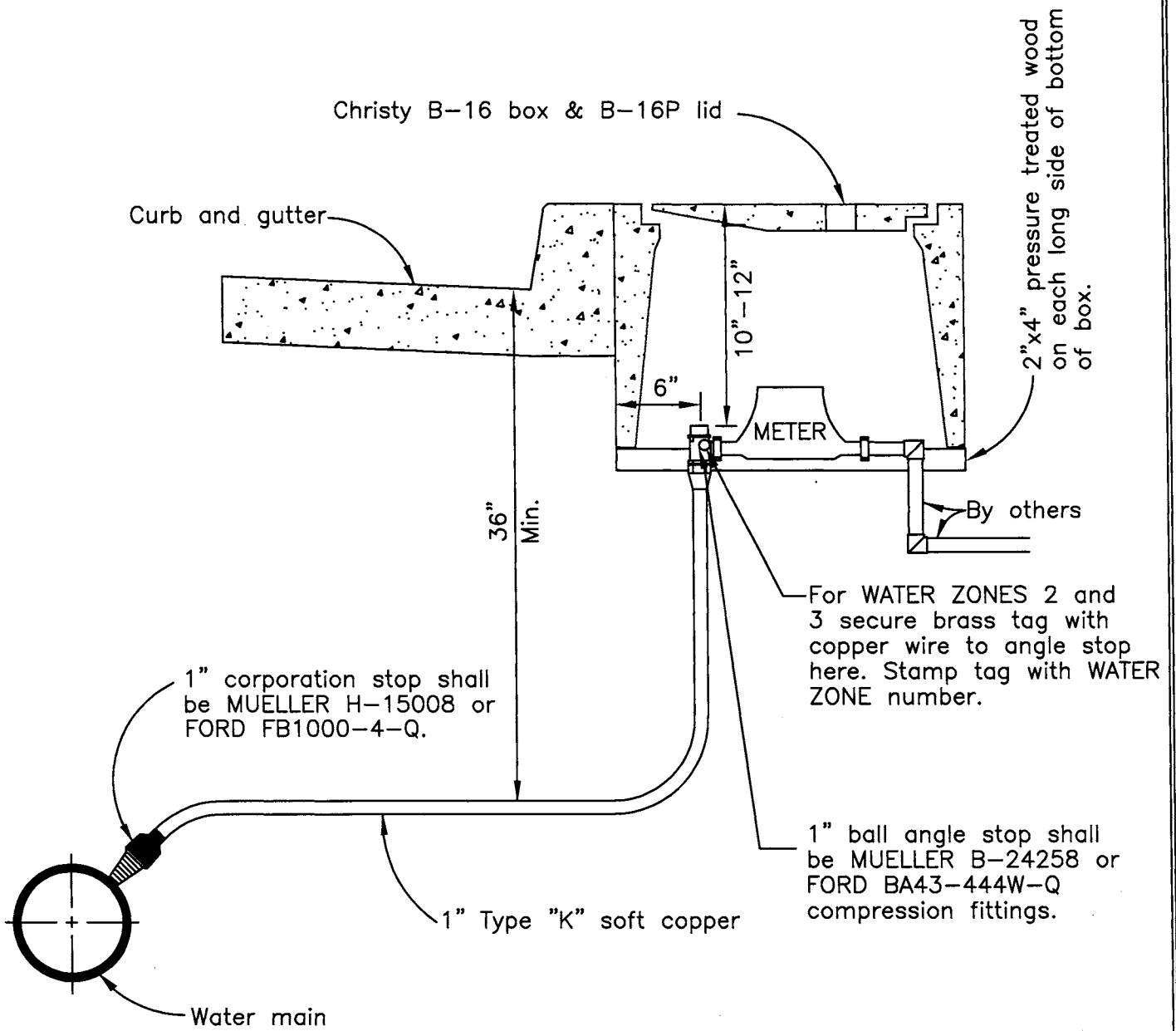
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 LAST REVISED: 2/05

SCALE:
 N.T.S.

SECTION:

WATER

DRAWING NO.: **WA-11**



NOTE:

1. A Direct Tap or a Double Strap Bronze Saddle Tap may be used to connect to the Main Line.
2. Parts for Saddle installation:
 - A. Saddle to be a MUELLER-BR2B OR FORD-202B
 - B. Corporation Stop to be a MUELLER-H-15028 or FORD-FB1100-4-Q

TYPICAL 1" SERVICE INSTALLATION

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CHECKED BY:	N.T.S.
LAST REVISED: 10/04	

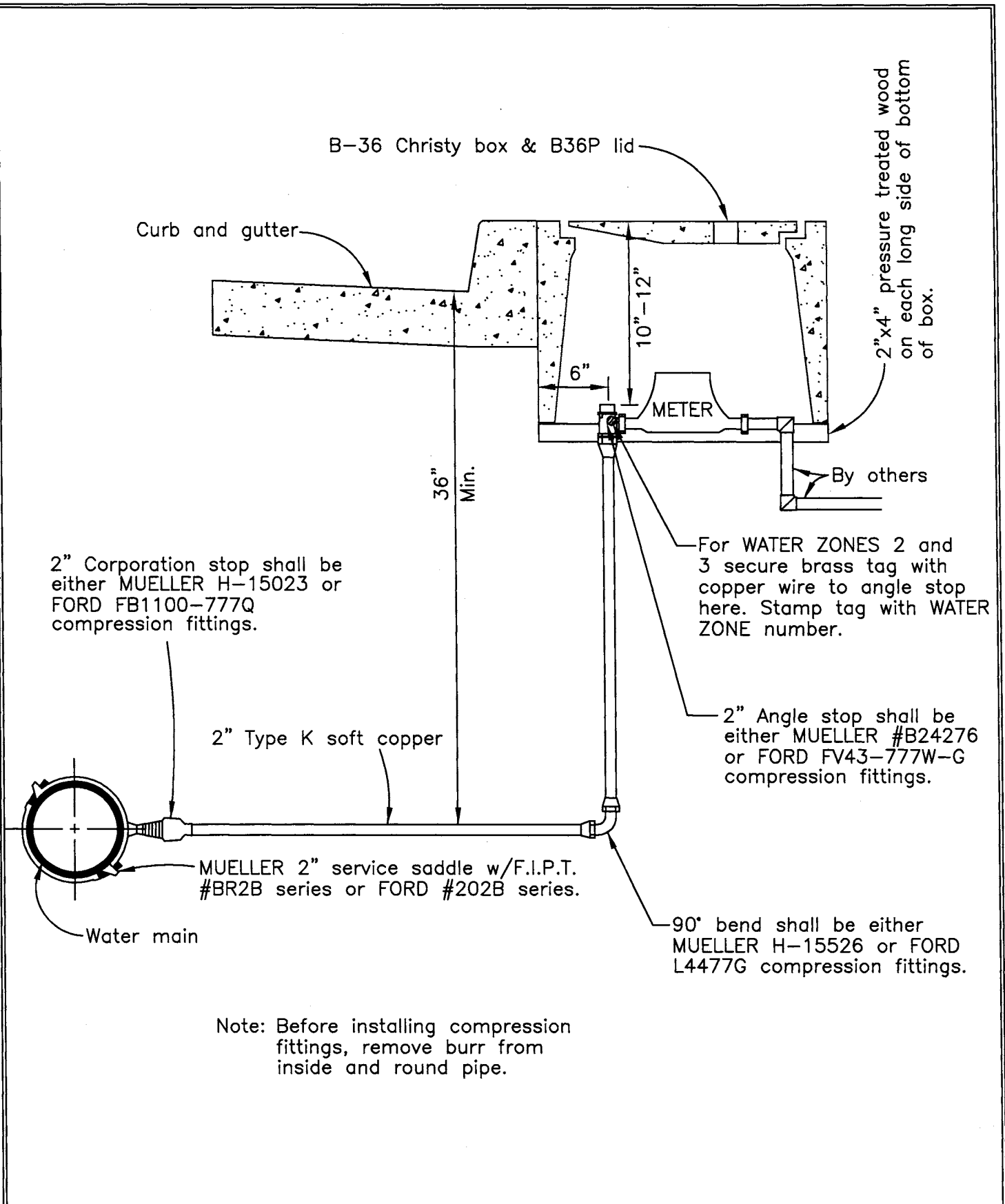
SECTION: **WATER**



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 DATE

DRAWING NO.: **WA-12**



TYPICAL 2" SERVICE INSTALLATION



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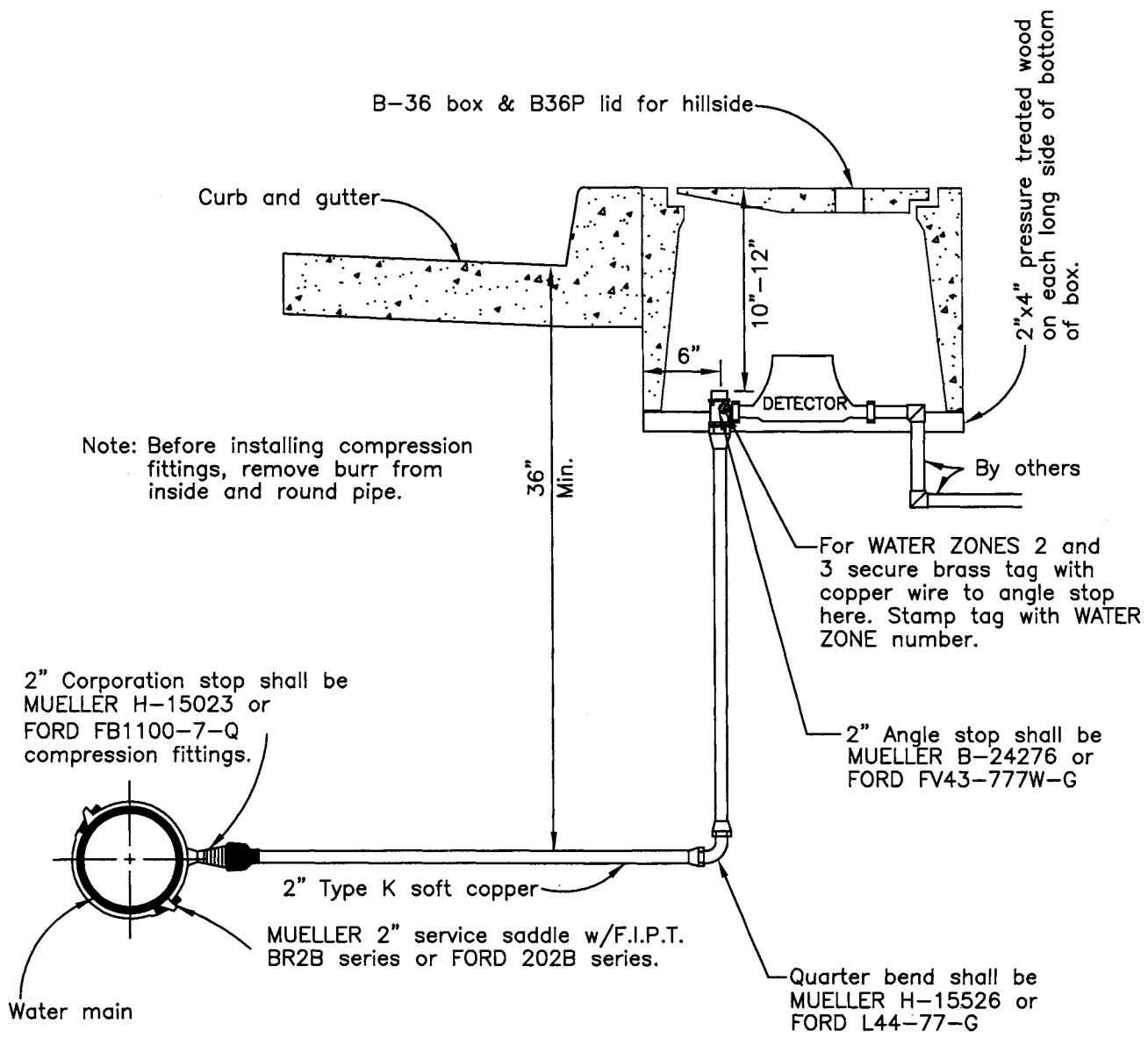
AUG 12 2005
 DATE

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 CHECKED BY:
 LAST REVISED: 10/04

SCALE:
 N.T.S.

SECTION:
WATER

DRAWING NO.: **WA-13**



Note: Before installing compression fittings, remove burr from inside and round pipe.

2" Corporation stop shall be MUELLER H-15023 or FORD FB1100-7-Q compression fittings.

For WATER ZONES 2 and 3 secure brass tag with copper wire to angle stop here. Stamp tag with WATER ZONE number.

2" Angle stop shall be MUELLER B-24276 or FORD FV43-777W-G

MUELLER 2" service saddle w/F.I.P.T. BR2B series or FORD 202B series.

Quarter bend shall be MUELLER H-15526 or FORD L44-77-G

TYPICAL 2" RESIDENTIAL FIRE SERVICE

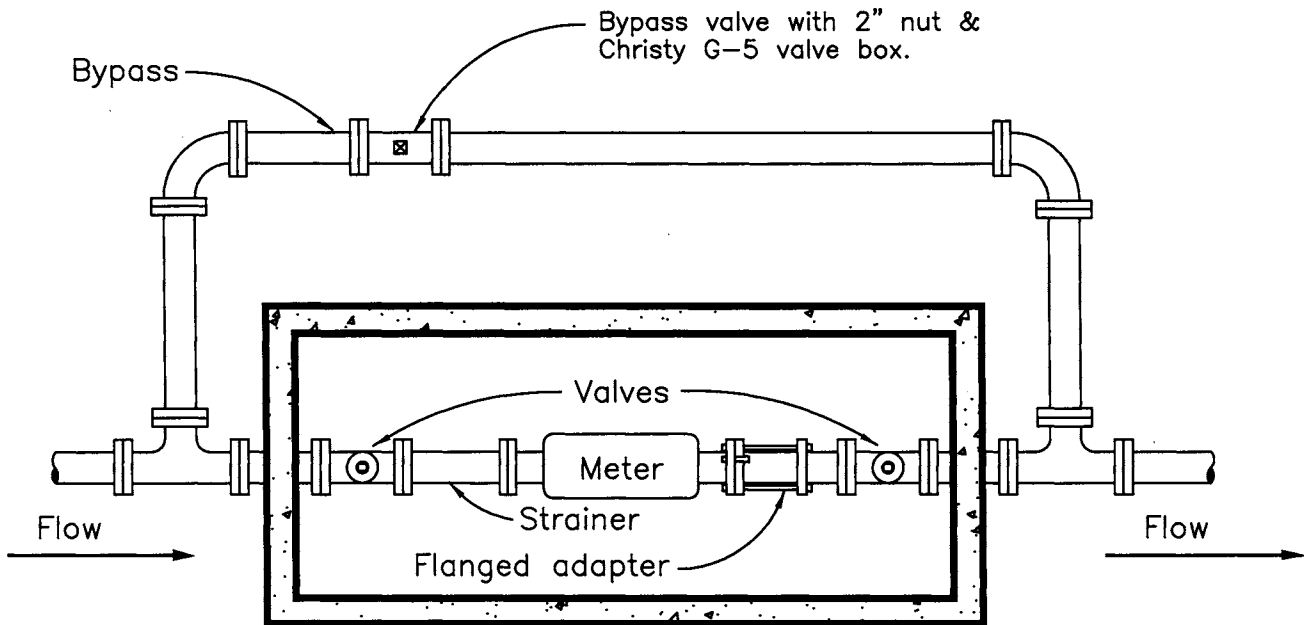


APPROVED BY: *[Signature]*
 CITY ENGINEER AUG 12 2005 DATE

DRAWN BY: LDL	SCALE:
CHECKED BY:	N.T.S.
LAST REVISED: 10/04	
SECTION:	
WATER	
DRAWING NO. WA-13A	

NOTES:

1. Bypass installation to be used only for 3" meter or larger.
2. Top of meter to be 12" from top of concrete box.
3. The bypass valve shall be locked in the off position by City personnel. Contractor shall compensate the City for cost of chain and lock.
4. All valves shall be City of Gilroy standard.
5. 3" valve and larger shall be MUELLER or AMERICAN DARLING resilient wedge.
6. Service valves may be outside of meter box in G-5 valve box with 2" operating nut.
7. Bypass shall be same size as service line.
8. Check valve required with looped systems.



PLAN VIEW

Enclosure
 Box - Christy #B48BOX
 Lid - Christy #B48M2

**COMMERCIAL & INDUSTRIAL
 METER INSTALLATION & BYPASS**

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 LAST REVISED: 10/04

SCALE:
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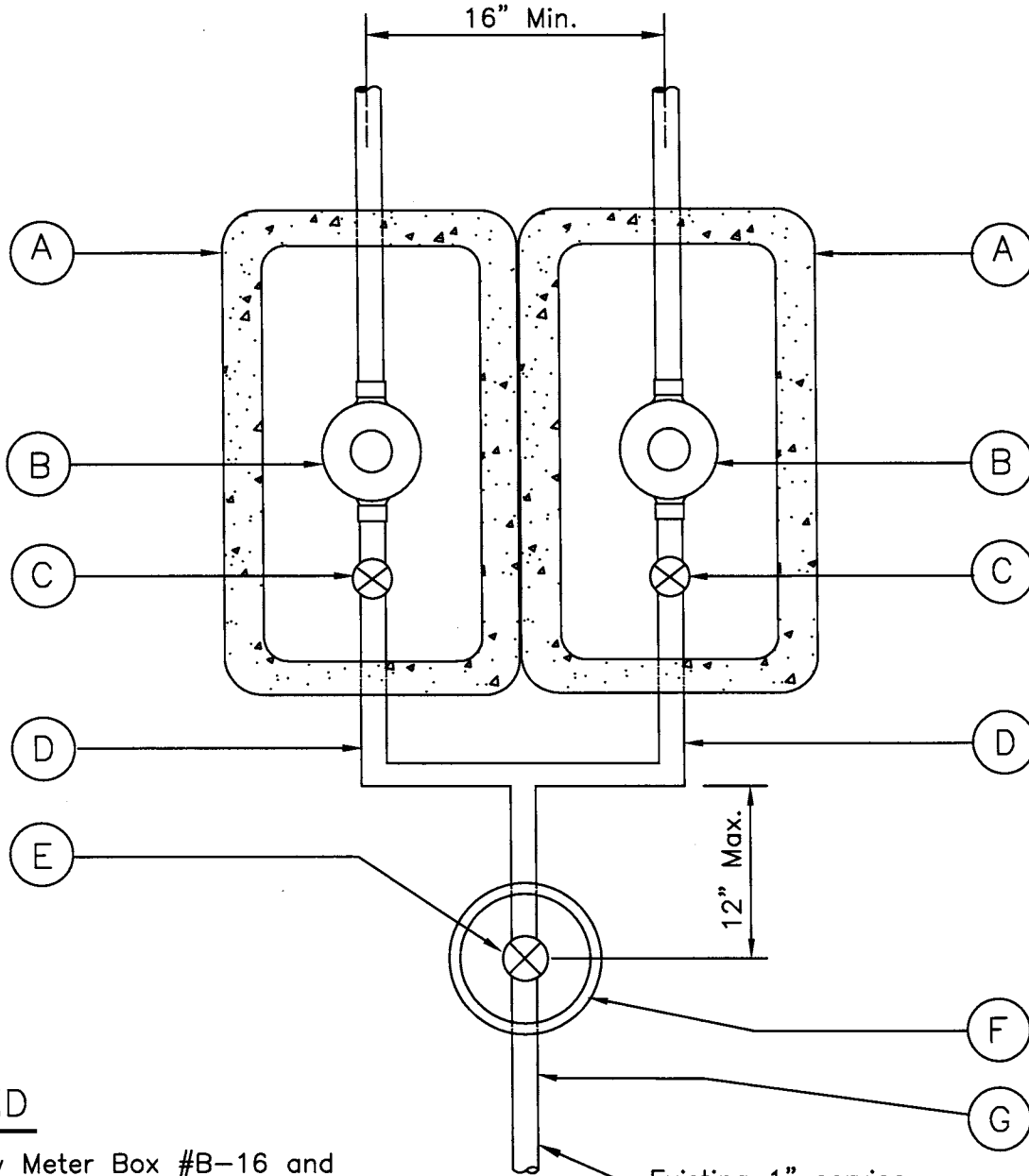
DATE

SECTION:

WATER

DRAWING NO.: **WA-14**

1" SPLIT SERVICE



Existing 1" service shall be copper.

LEGEND

- A. Christy Meter Box #B-16 and Lid w/ Probe Hole #B16P
- B. 1" Meter
- C. 1" Curb stop MUELLER B-20283 or FORD B11-444-W.
- D. 1" Brass pipe & brass fittings
- E. 1" Curb stop or angle stop
- F. Christy #G-5 valve box & lid marked "WATER"
- G. Conduit installed for Multiple Service Radio. Install per WA-15A.

EXISTING 1" MULTIPLE METER SET

DRAWN BY: LDL
 CHECKED BY:
 LAST REVISED: 10/04

SCALE:
N.T.S.

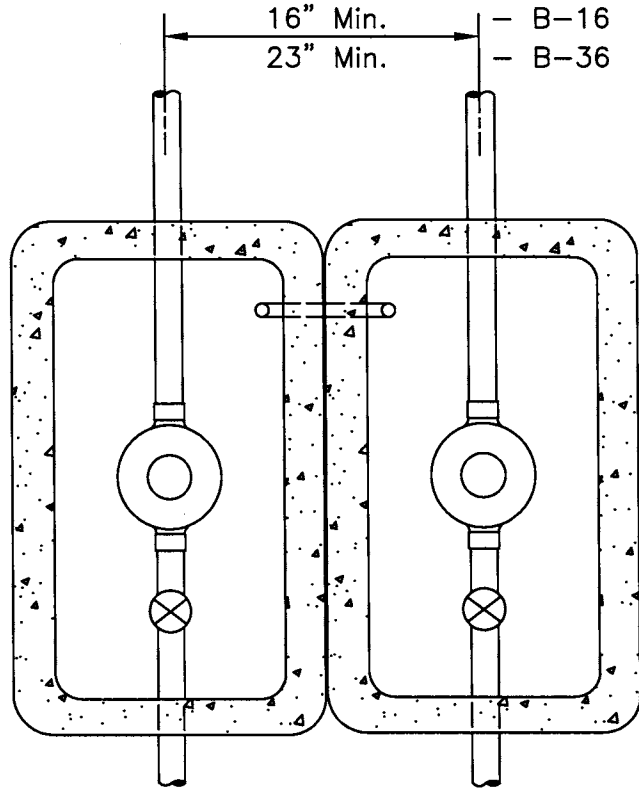
SECTION:
WATER

DRAWING NO.: **WA-15**

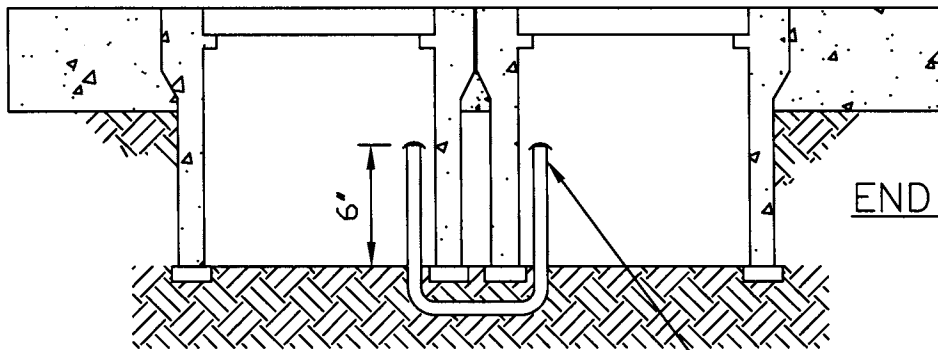


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 CITY ENGINEER

AUG 1 2 2005
 DATE



TOP VIEW



END VIEW

NOTES:

1. For 1" meter, use B-16 Christy Meter Box with a B-16P lid.
2. For 2" meter, use B-36 Christy Meter Box with a B-36P lid.
3. Install conduit in all multiple meter box applications.
4. Use 3/4" size conduit when connecting up to 12 boxes. For more than 12 boxes, use at least 1" min. conduit.
5. Meter Boxes to be within 5' of each other.

Install Liquid Tight Flexible non-metallic conduit (See note #4 for sizing). Bend ends up 90° and tape holes shut with duct tape.

MULTIPLE SERVICE RADIO CONDUIT INSTALLATION

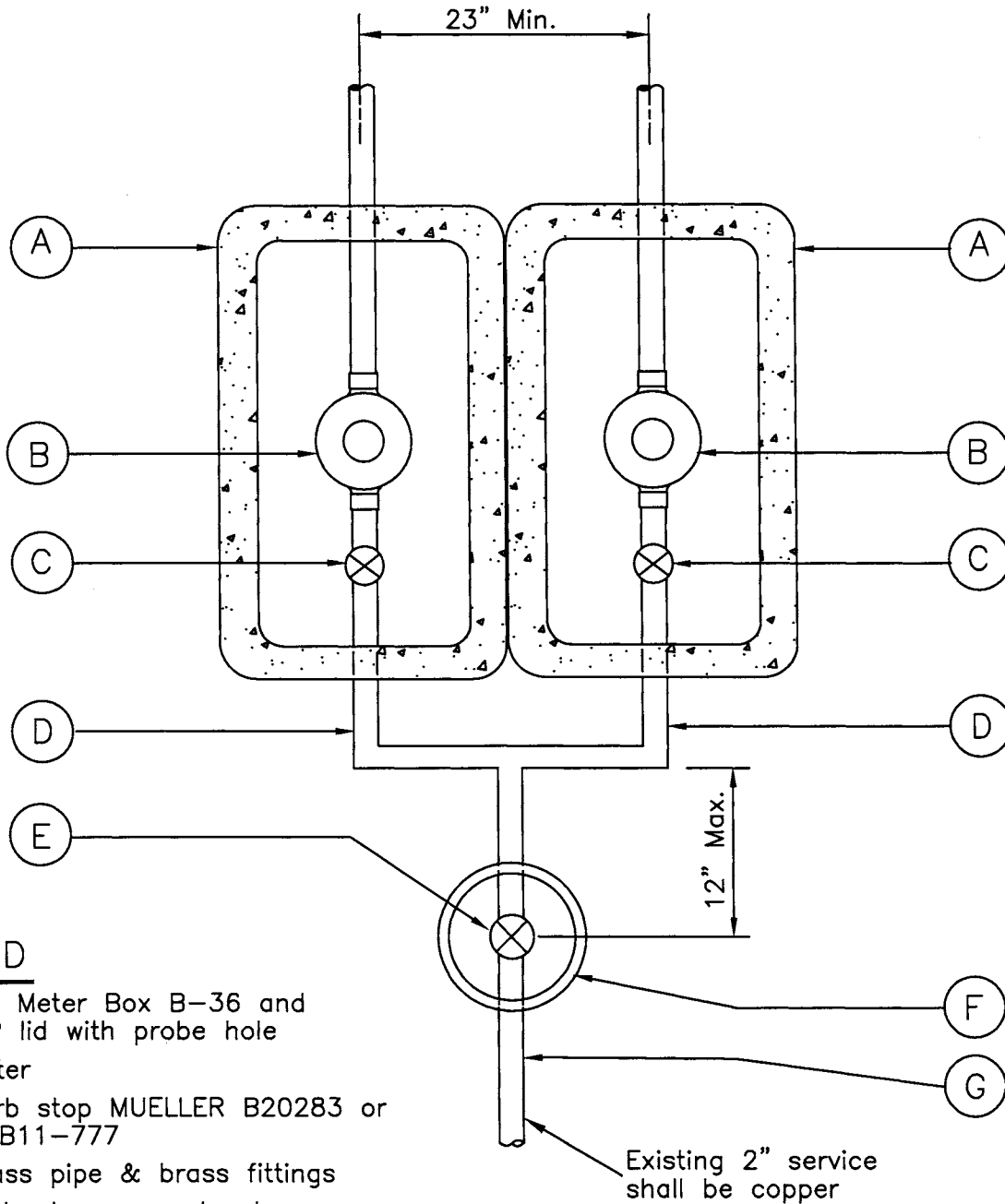


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 CITY ENGINEER
 AUG 12 2005
 DATE

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CHECKED BY:	N.T.S.
LAST REVISED: 10/04	

SECTION:
WATER
 DRAWING NO.: **WA-15A**

2" SPLIT SERVICE



LEGEND

- A. Christy Meter Box B-36 and B-36P lid with probe hole
- B. 2" Meter
- C. 2" Curb stop MUELLER B20283 or FORD B11-777
- D. 2" Brass pipe & brass fittings
- E. 2" Curb stop or angle stop
- F. Christy G-5 valve box & lid marked "WATER"
- G. Radio conduit installed per WA-15A

EXISTING 2" MULTIPLE METER SET



APPROVED BY:

Rose L...

CITY ENGINEER

AUG 12 2005

DATE

DRAWN BY: LDL
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 LAST REVISED: 10/04

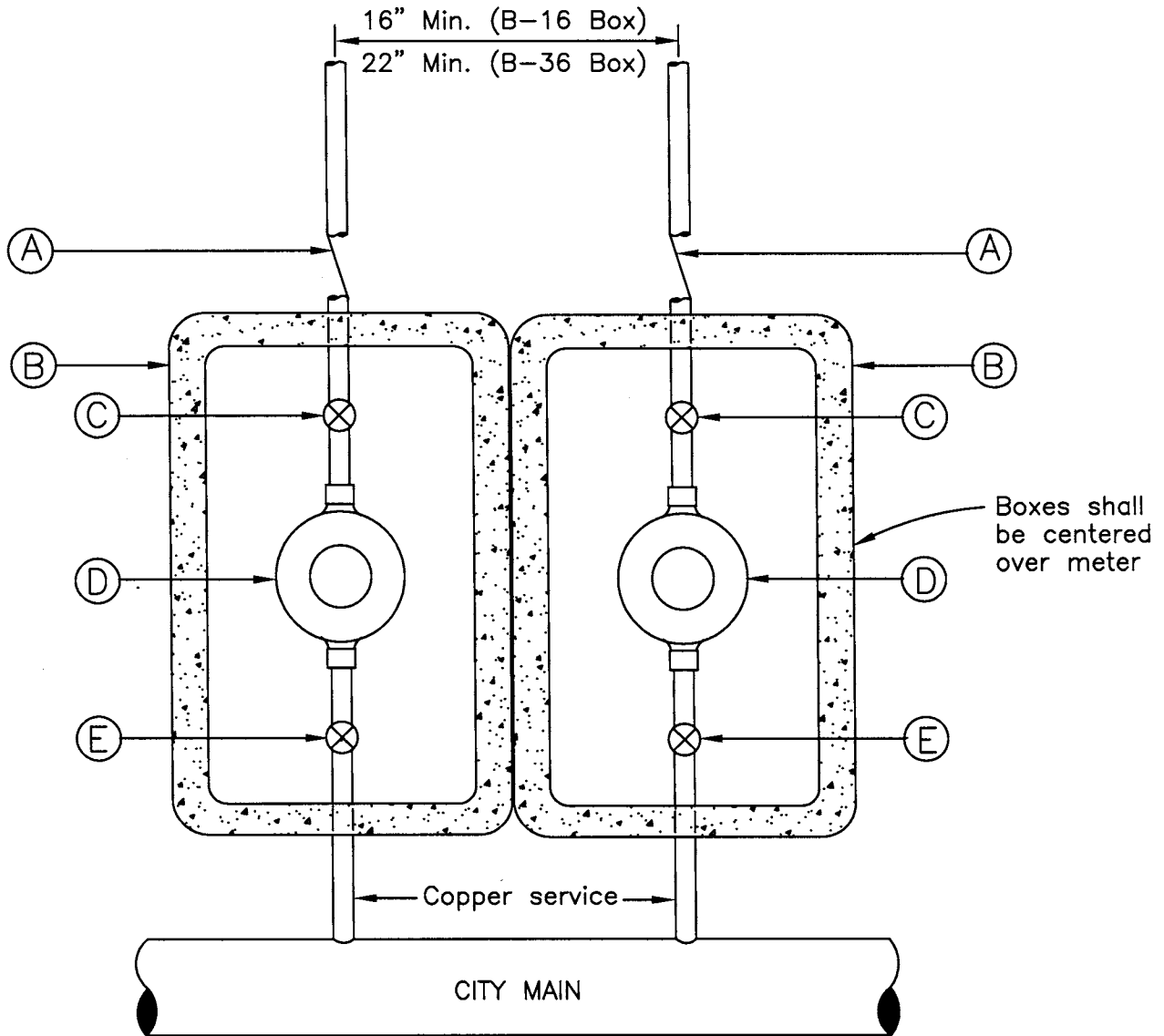
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SECTION:

WATER

DRAWING NO.: **WA-16**

LOOPED WATER SYSTEM (2 or more meters)



LEGEND

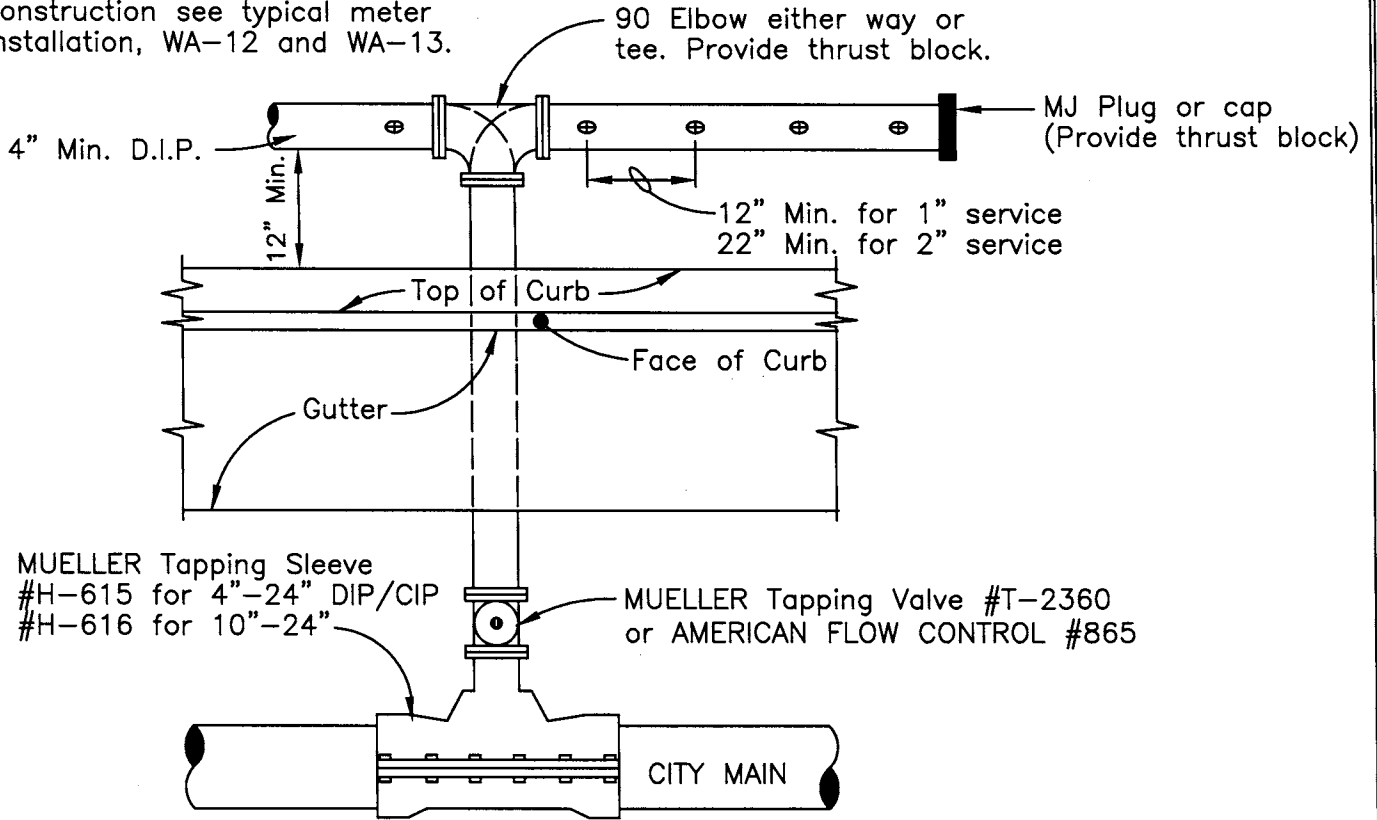
- A. Backflow Device to be installed at each meter per City Standard WA-19B.
- B. Christy Meter Box B-16 or B-36 And B-16 P or B-36 P lid
- C. Ball valve MUELLER 1"-2" B-20283 or FORD 1" B11-444, 2" B11-777
- D. Meter
- E. 1" or 2" Angle stop MUELLER 1" B-24258, 2" B24276 or FORD 1" BA43-444W-Q, 2" FV43-777W-G

* Commercial installation shall follow Uniform Plumbing Code.

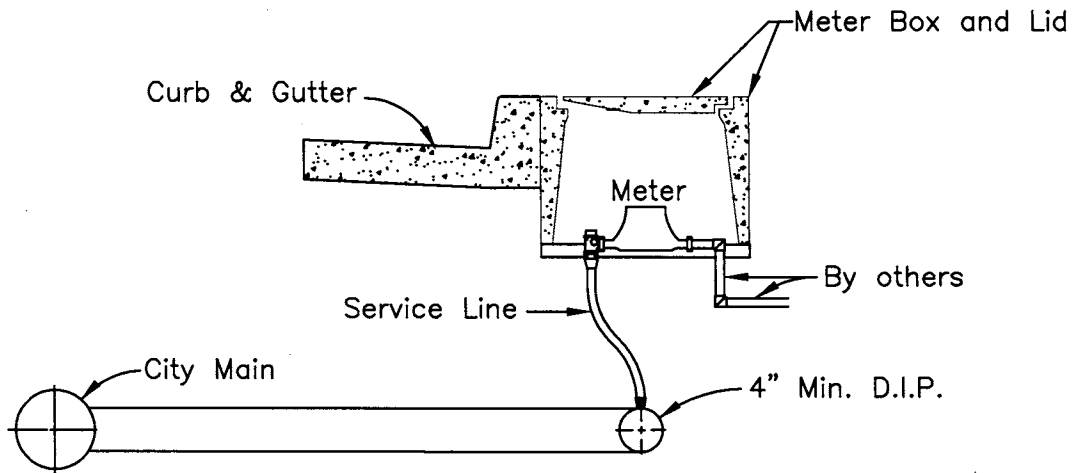
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		CHECKED BY:	N.T.S.
		LAST REVISED: 10/04	
APPROVED BY: CITY ENGINEER		SECTION:	
		WATER	
		DRAWING NO.: WA-17	
AUG 12 2005 DATE			

NOTE:

For meter and service line construction see typical meter installation, WA-12 and WA-13.



PLAN



TYPICAL SECTION

**MULTIPLE METER INSTALLATION
FOUR OR MORE METERS AND SERVICES**

DRAWN BY: LDL
CHECKED BY:
LAST REVISED: 10/04

SCALE:
N.T.S.

SECTION:

WATER

DRAWING NO.: **WA-18**





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STANDARDIZED POLICY FOR
BACKFLOW PREVENTION DEVICE INSTALLATION

1. All backflow prevention devices will be shown on the site plan for all new development and for development requiring retrofitting of the device. All devices shall be installed as per Gilroy Standard Details.
2. All backflow devices shall be placed within five feet of the property lines, but may not be located within the public right-of-way without specific approval of the City Engineer. All buildings located at property line shall have backflow devices located immediatly inside of building.
3. All Backflow Prevention Devices DOWNTOWN shall not be located within the public right-of-way. All buildings located at property line shall have backflow devices located immediately inside of building.
4. Backflow devices shall not extend more than 24" above grade to the bottom of the pipe. The vertical position shall be as specified by the Gilroy Standard Details.
5. Backflow devices shall be landscaped in a way that will limit the visual intrusion of the device and so as to allow for adequate access by maintenance personnel.
6. All backflow devices and all exposed plumbing 3" or greater shall be painted Forest Green (Kelley-Moore Gloss Alkyd Rust Inhibitive Enamel #51) or approved equal. (Alternate color to be approved by the City Engineer).
7. Approved materials and devices are listed in the plumbing code or the Cross-Connection Control and Hydrolic Research at the University of Southern California (CCCHR-USC).
8. A dielectric union where required by U.P.C.

BACKFLOW PREVENTION DEVICE INSTALLATION		DRAWN BY: LDL	SCALE:
		CHECKED BY:	N.T.S.
		LAST REVISED: 10/04	
SECTION:		WATER	
	APPROVED BY:  CITY ENGINEER	AUG 12 2005 DATE	DRAWING NO.: WA-19

Location shall be approved prior to installation. (Includes monolithic sidewalk)

North-West Utilities Protective enclosure or Freeze Protection Blanket required

Curb & Gutter

Sidewalk

WATER METER

Flow

36"

11" min., 18" max.

3/4" to 2" size

18" min., 24" max.

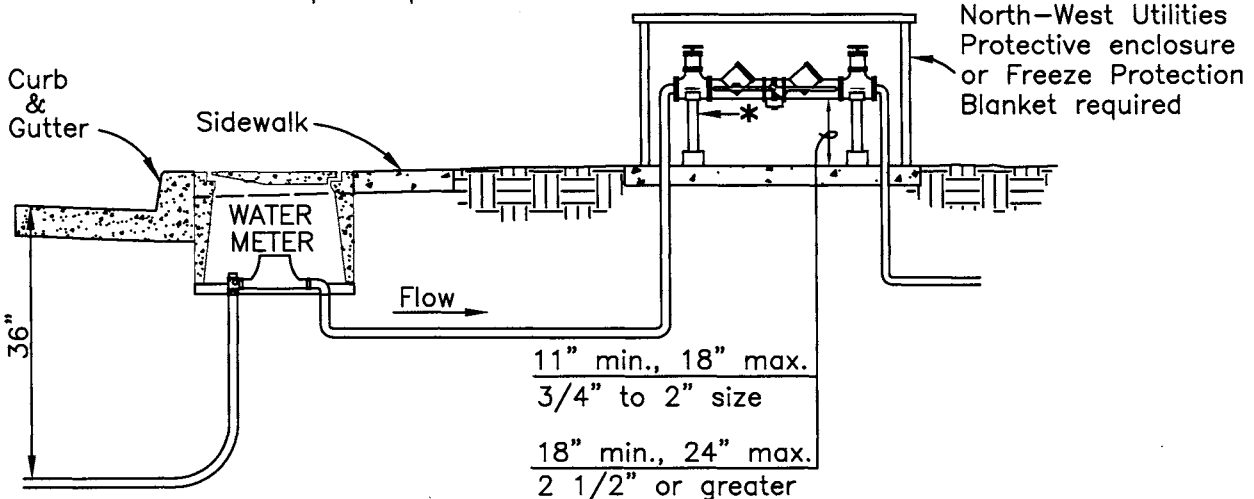
2 1/2" or greater

*Saddle supports required for valves 3" or greater.

SEPARATED SIDEWALK

GENERAL NOTES:

1. Shutoff valves and test cocks are required (3/4" - 2", ball valve; 3" or greater, resilient seat gate valves).
2. Water supply - no connections or tees will be allowed between meter and device.
3. Protection from freeze damage is recommended in exposed areas.
4. Device must be accessible for testing and maintenance.
5. See Detail WA-11 for paint specification.



MONOLITHIC SIDEWALK

**REDUCED PRESSURE PRINCIPAL
BACKFLOW PREVENTOR INSTALLATION (DOMESTIC/IRRIGATION)**

DRAWN BY: LDL
CHECKED BY:
LAST REVISED: 10/04

SCALE:
N.T.S.

SECTION:

WATER

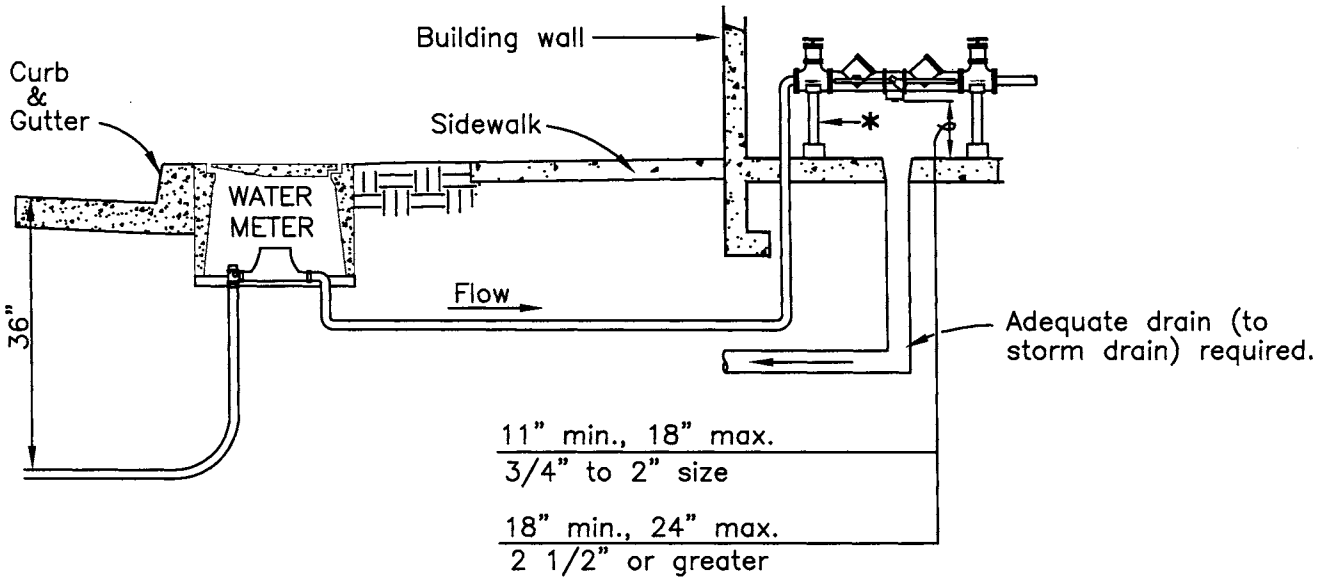
DRAWING NO.: **WA-19A**



APPROVED BY:

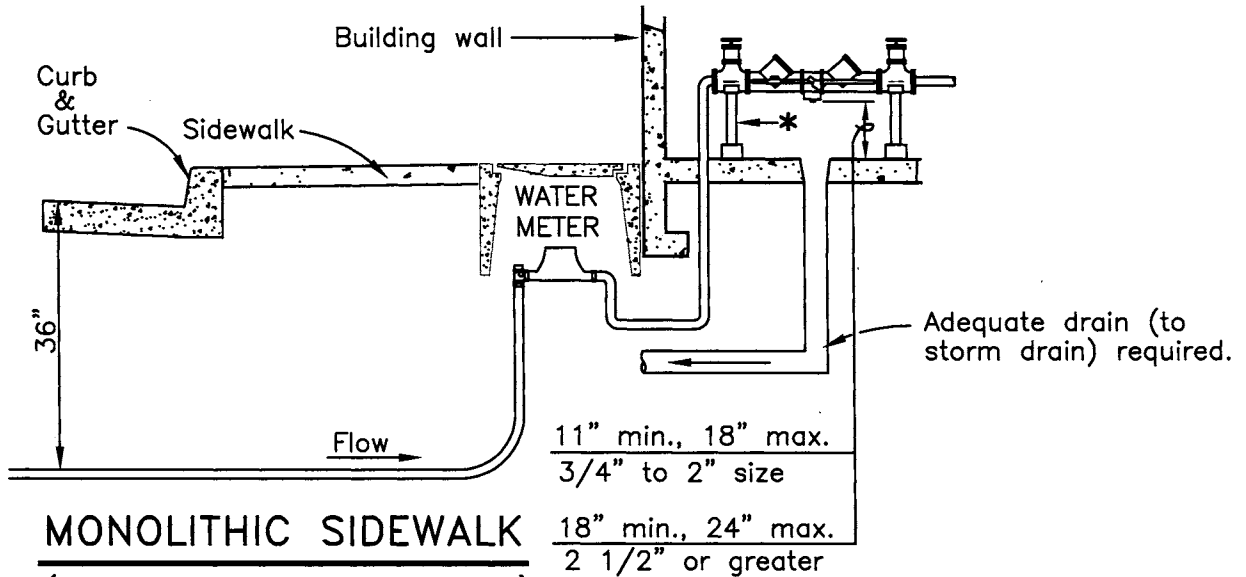
[Signature]
CITY ENGINEER

AUG 12 2005
DATE



**SEPARATED SIDEWALK
(IN EXISTING BUILDING ONLY)**

*Saddle supports required for valves 3" or greater.



**MONOLITHIC SIDEWALK
(IN EXISTING BUILDING ONLY)**

GENERAL NOTES:

1. Shutoff valves and test cocks are required (3/4" - 2", ball valve; 3" or greater, resilient seat gate valves).
2. Water supply - no connections or tees will be allowed between meter and device.
3. Protection from freeze damage is recommended in exposed areas.
4. Device must be accessible for testing and maintenance.
5. Location subject to City Engineer's Approval.

**REDUCED PRESSURE PRINCIPAL
BACKFLOW PREVENTER INSTALLATION (IN BUILDING)**

DRAWN BY: LDL	SCALE:
CHECKED BY:	N.T.S.
LAST REVISED: 10/04	

SECTION:

WATER

DRAWING NO.: **WA-19B**



APPROVED BY:

[Signature]
CITY ENGINEER

AUG 12 2005
DATE