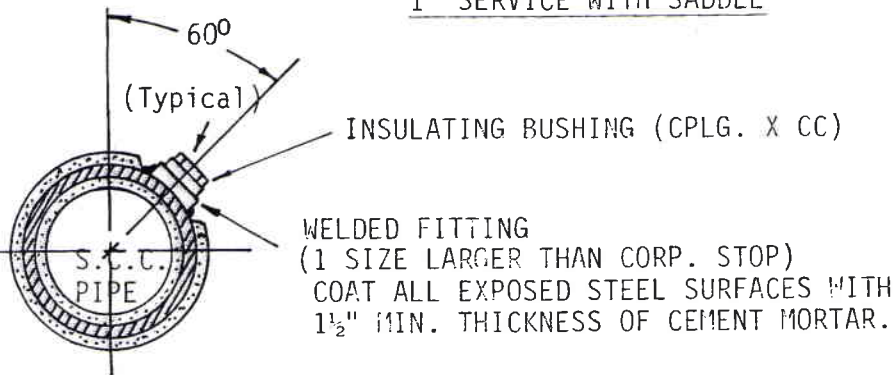
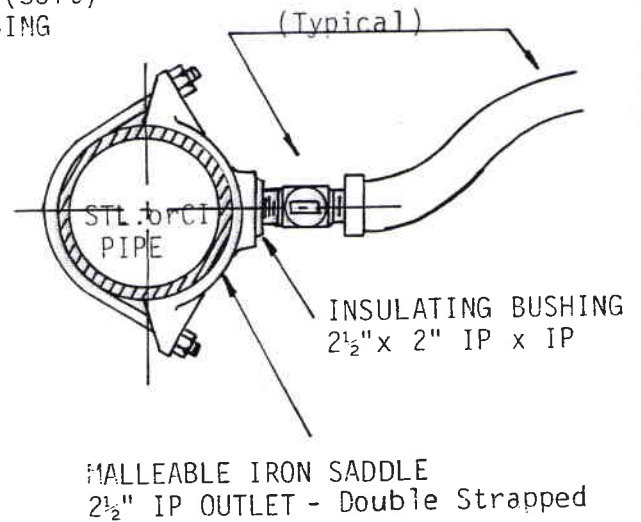
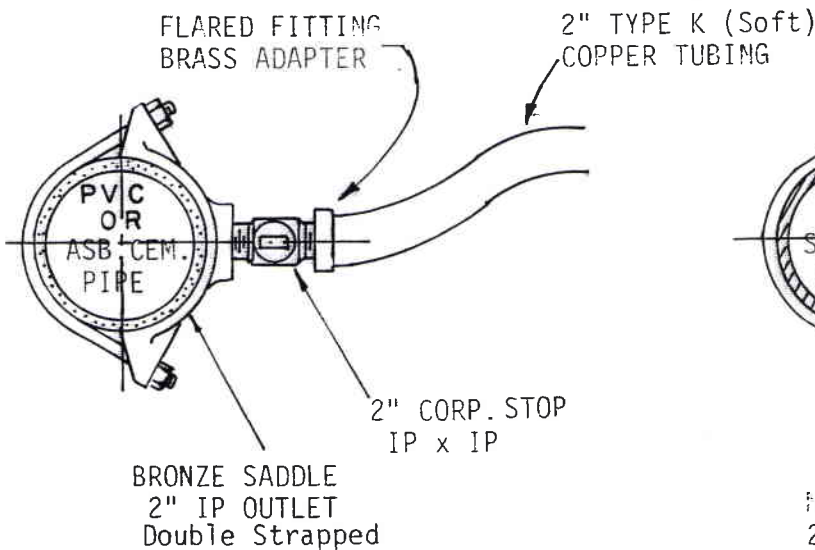


1" SERVICE WITH SADDLE



1"- 2" SERVICE TO STEEL MAIN

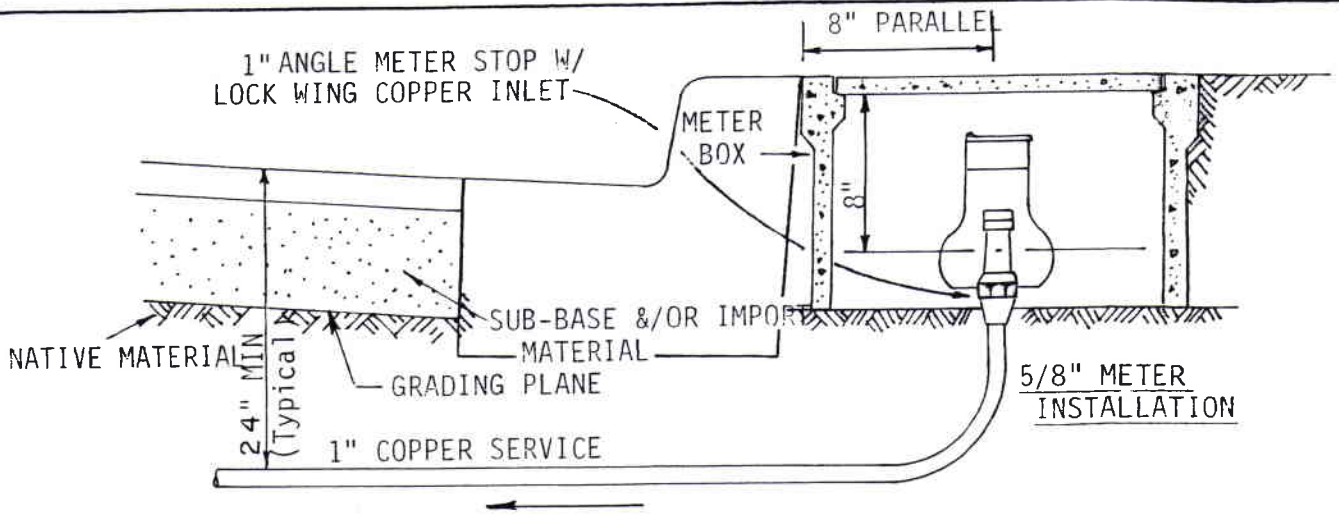
| SERVICE | LINES |
|--|--|
| ALL SERVICE LINES SHALL BE 1", 2", 4", etc. DIAMETER PIPING WITH INTERMEDIATE SIZES NOT PERMITTED. | |
| 5/8" - 1" | Meters use 1" copper |
| 1 1/2" - 2" | Meters use 2" copper |
| 4" | Meters use 4" ductile iron |
| 6" | Meters and above use pipe conforming to Water Specs. |



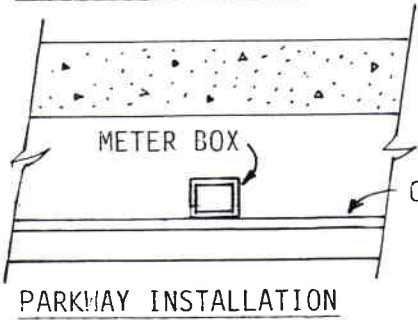
2" SERVICE

ENCASE ALL MALLEABLE IRON OR STEEL WITH POLYETHYLENE.

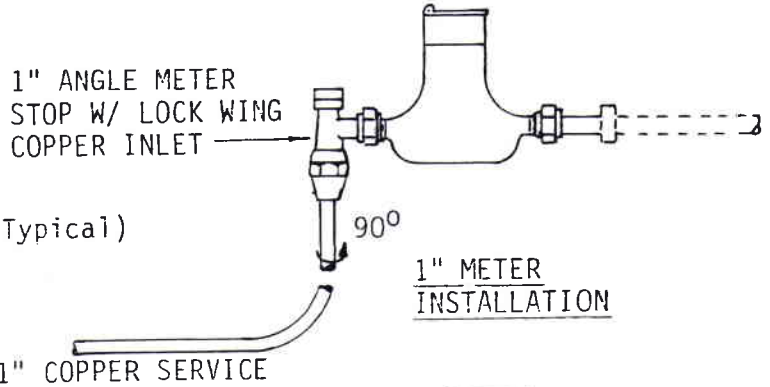
| | | | | | | |
|--|----------------------------------|------|------|-----------------------------|---|----------------------------|
| | REV. | APP. | DATE | DESCRIPTION | CITY OF MARTINEZ PUBLIC WORKS DEPARTMENT STANDARD DETAIL SERVICE CONNECTIONS | SCALE |
| | DRAWN BY: <i>A. Ponce</i> | | | CHECKED BY: | | STD. DRWG. NO. |
| | APPROVED BY: <i>R. P. Cullen</i> | | | DATE: <i>23797 12/20/00</i> | | W-1 |
| | CITY ENGINEER, R.C.E. | | | DATE: | | SHEET <u>1</u> OF <u>1</u> |



METER BOX LOCATION

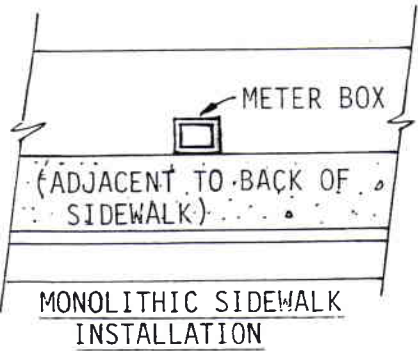


PARKWAY INSTALLATION



1" METER INSTALLATION

PARALLEL TO SIDEWALK



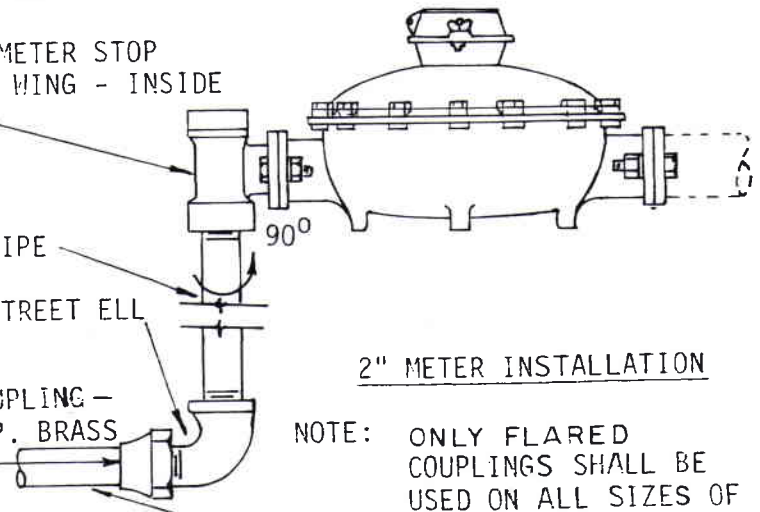
MONOLITHIC SIDEWALK INSTALLATION

2" ANGLE METER STOP WITH LOCK WING - INSIDE IP INLET

2" BRASS PIPE
2" BRASS STREET ELL

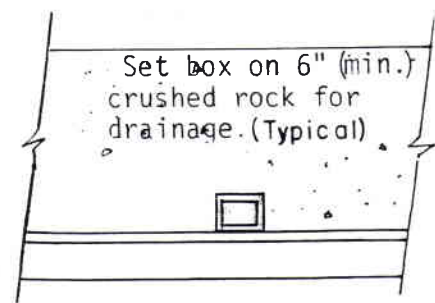
FLARED COUPLING - INSIDE I.P. BRASS ADAPTER.

2" COPPER SERVICE



2" METER INSTALLATION

NOTE: ONLY FLARED COUPLINGS SHALL BE USED ON ALL SIZES OF COPPER SERVICE LINES.



COMMERCIAL SIDEWALK INSTALLATION

- NOTE: - CURB STOP SHALL BE MUELLER H10257 WITH MUELLER H15530 QUARTER BEND COUPLING.
- ANGLE STOP SHALL BE MUELLER H14275.
- UNLESS OTHERWISE APPROVED BY ENGINEER.
- METER BOXES SHALL BE PARALLEL TO SIDEWALK.

| | | | |
|------------|--------------------|---------|---------|
| 5/8" METER | CHRISTY BOX NO. B9 | 8" PAR. | 3" DEEP |
| 1" | " " " " B16 | 8" | " " " " |
| 1-1/2" | " " " " B30 | 9" | " " " " |
| 2" | " " " " B36 | 12" | " " " " |

ALL LIDS EXCEPT B-9, WITH READING LIDS

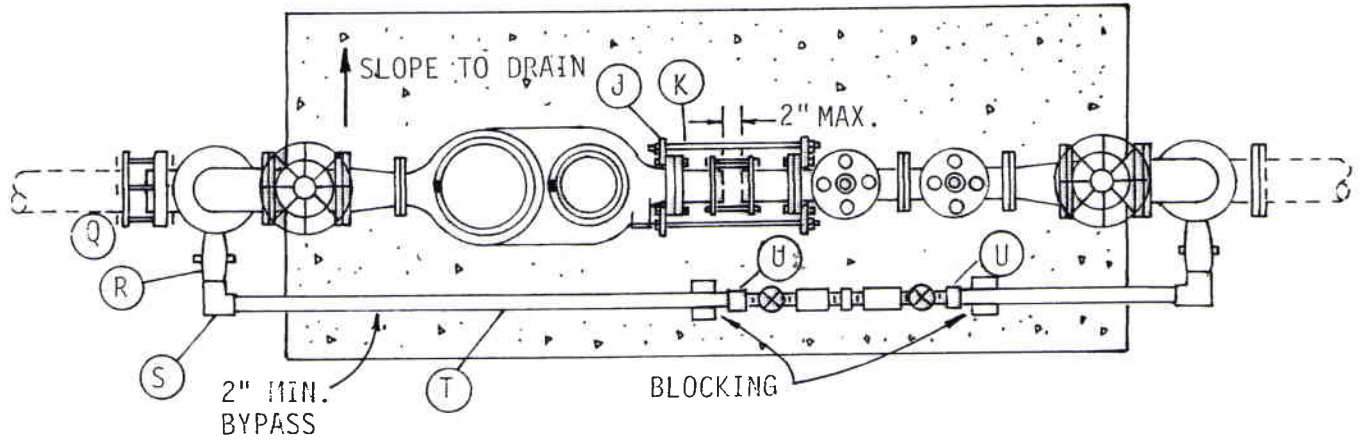


| REV. | APP. | DATE | DESCRIPTION |
|--------------------------|------|----------------|-------------|
| | | | |
| DRAWN BY: A. Rocha | | CHECKED BY: | |
| APPROVED BY: R.R. Cullen | | DATE: 12/22/88 | |
| CITY ENGINEER, R.C.E. | | DATE: | |

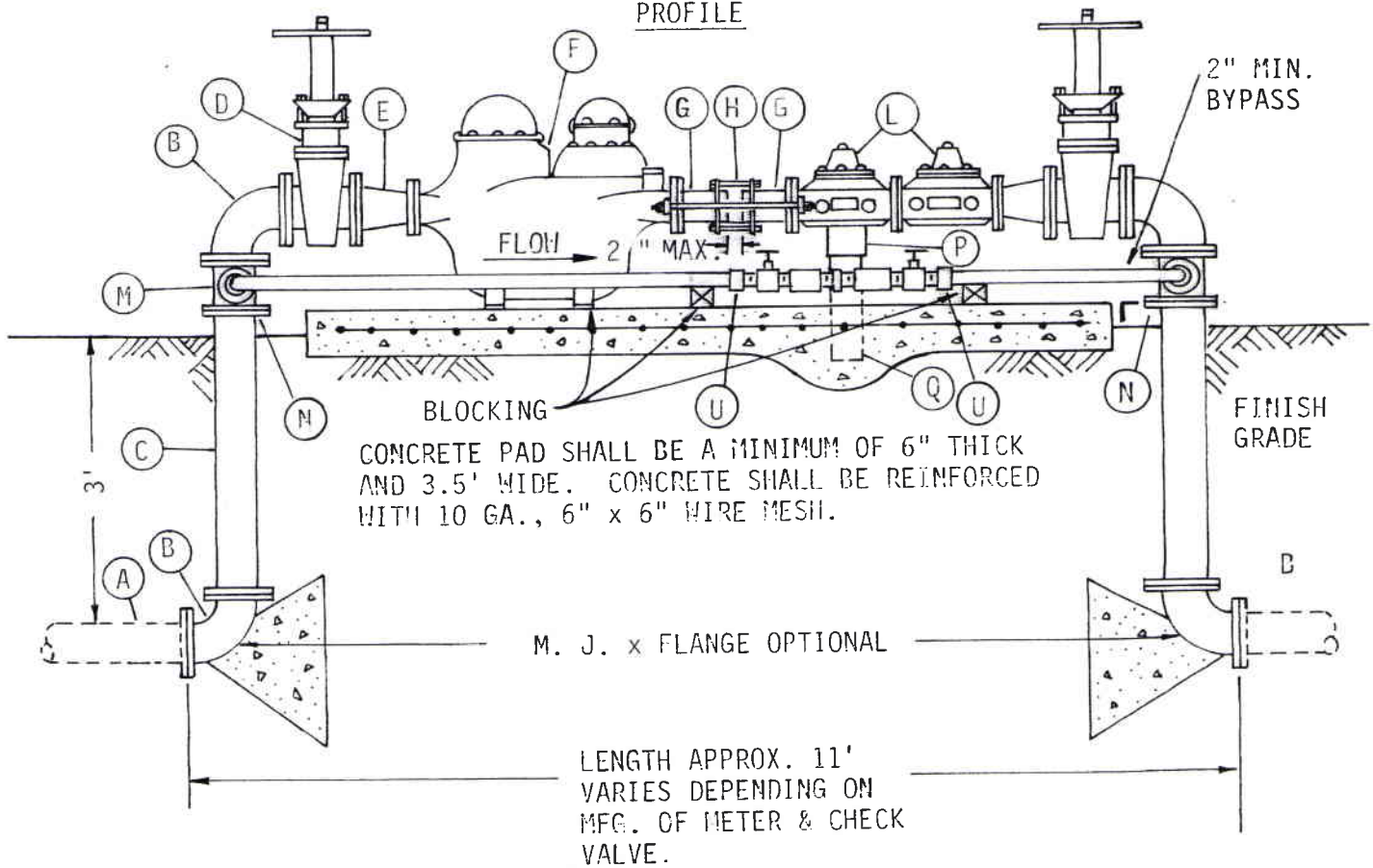
CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT
STANDARD DETAIL
5/8" TO 2"
METER INSTALLATIONS

| |
|----------------|
| SCALE: |
| STD. DRWG. NO. |
| W-2 |
| SHEET 1 OF 1 |

PLAN



PROFILE



| REV. | APP. | DATE | DESCRIPTION |
|---------------------------------|------|-------------|-------------|
| | | | |
| DRAWN BY: A. POCHA | | CHECKED BY: | |
| APPROVED BY: <i>J.P. Cullen</i> | | 23797 | 12/22/00 |
| CITY ENGINEER, R.C.E. | | DATE: | |

CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

3" COMPOUND METER

ASSEMBLY ABOVE GROUND


SCALE:
STD. DRWG.
NO.
W-3

SHEET 1 OF 2

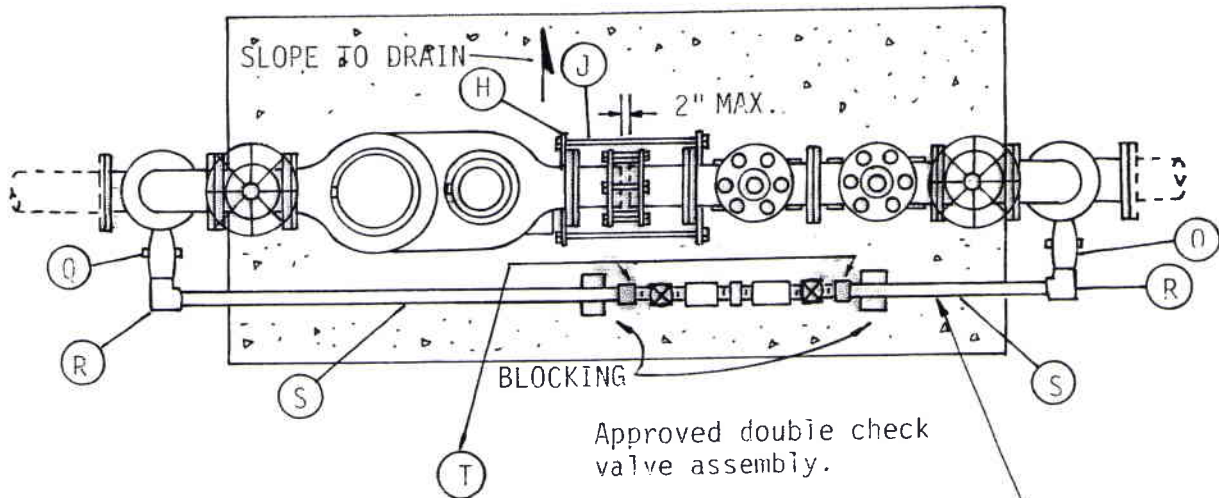
| LIST OF MATERIAL | | |
|--------------------------|------|---|
| ITEM | QTY. | DESCRIPTION |
| SERVICE | | |
| A | 1 | 4" DUCTILE IRON |
| B | 4 | 4" ELL 90° FLG. |
| C | 2 | 4" C.I., PIPE F.B.E. |
| D | 1 | 4" GATE VALVE FLG. |
| E | 1 | 4" x 3" REDUCER FLG. |
| F | 1 | 3" COMPOUND METER |
| G | 2 | 3" C.I. PIPE F.O.E. (6" LONG) |
| H | 1 | 3" FLEX CPLG. C.I. |
| J | 4 | DUC LUG |
| K | 2 | 5/8" Ø TIE ROD S./S. (21" LONG) CUT TO FIT |
| M | 2 | 4" x 4" x 4" FLANGED TEE WITH FLANGED REDUCER |
| N | 2 | 2 1/2" x 2" NYLON BUSHING |
| P | 1 | 4" CPLG. S.S. GALV. |
| Q | 1 | 4" GALV. PIPE T.O.E. (18" LONG) |
| R | 2 | 2" CORP COCK I.P. - (MIN.) |
| S | 2 | 2" ELL 90° K x I.P. FE. - SL. (MIN.) |
| T | 12' | 2" COPPER TUBING (MIN.) |
| | 7 | 4" FLG. HARDWARE SET |
| | 2 | 3" FLG. HARDWARE SET |
| U | 4 | 2" MIN. METER FLANGE |
| DOUBLE CHECK VALVE ASS'Y | | |
| D | 1 | 4" GATE VALVE FLG. |
| E | 1 | 4" x 3" REDUCER FLG. |
| L | 2 | 3" CHECK VALVE FLG (APPROVED STYLE) |
| | 1 | 4" FLG. HARDWARE SET |
| | 3 | 3" FLG. HARDWARE SET |

NOTES:

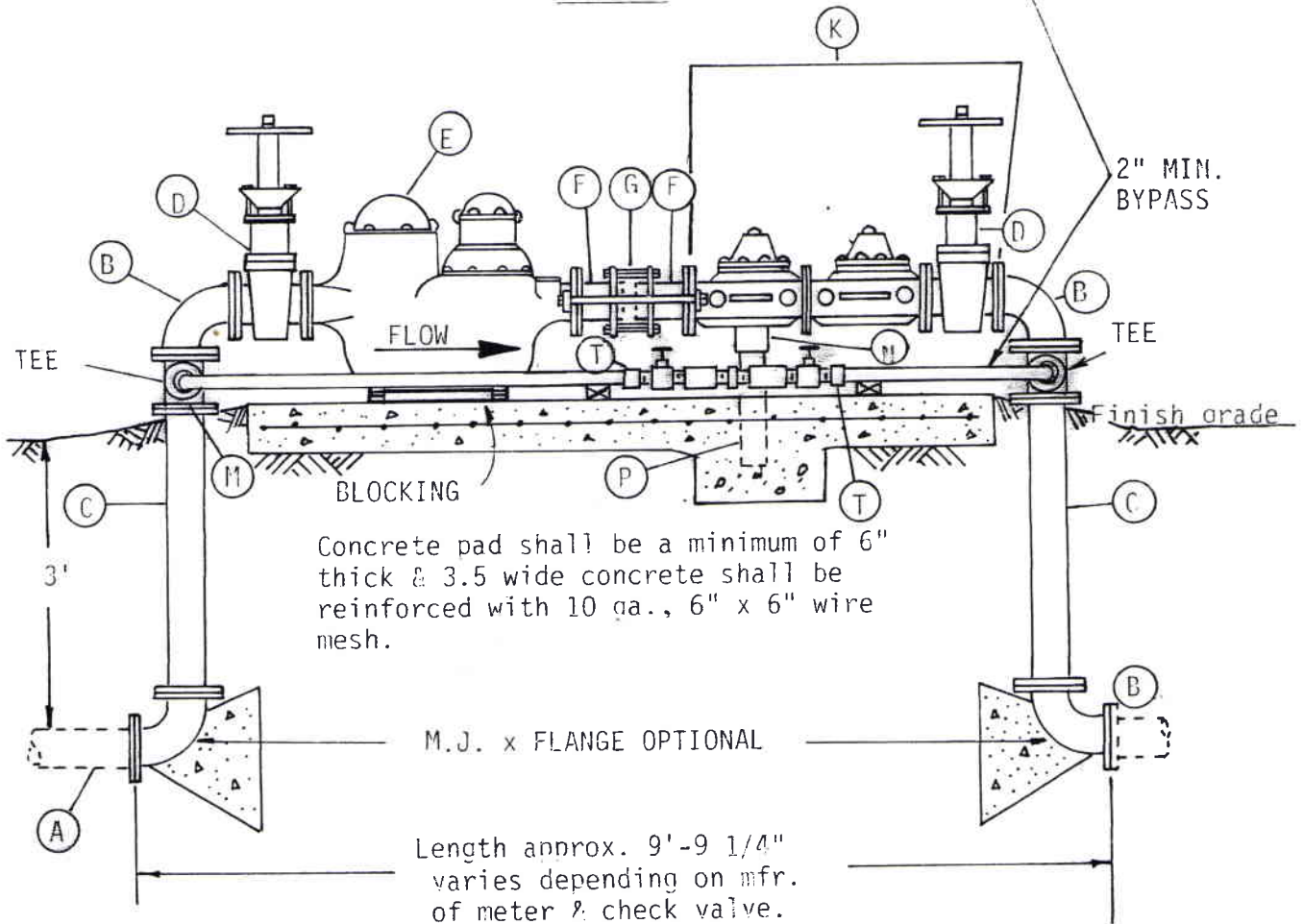
1. ASS'Y SHALL HAVE AN ENCLOSURE THAT IS MINIMUM 5' HIGH x 4' WIDE x 13' LONG AND 18" MIN. INSIDE CLEARANCE; WITH A REMOVEABLE TOP AND A 3' WIDE LOCKABLE GATE. DETAILS TO BE APPROVED BY CITY.
2. USE INSULATION KIT BETWEEN ALL DISSIMILAR METALS.

| | | | | | | |
|---|---------------------------------|------|------|-----------------------|---|--|
|  | REV. | APP. | DATE | DESCRIPTION | CITY OF MARTINEZ PUBLIC WORKS DEPARTMENT | SCALE: STD. DRWG. NO. W-3 |
| | DRAWN BY: <i>A. Fuchs</i> | | | CHECKED BY: | | |
| | APPROVED BY: <i>R.P. Cullen</i> | | | DATE: <i>12/22/88</i> | SHEET 2 OF 2 | |
| | CITY ENGINEER, R.C.E. | | | DATE: | | |

PLAN



PROFILE



Concrete pad shall be a minimum of 6" thick & 3.5 wide concrete shall be reinforced with 10 ga., 6" x 6" wire mesh.

M.J. x FLANGE OPTIONAL

Length approx. 9'-9 1/4" varies depending on mfr. of meter & check valve.



| REV. | APP. | DATE | DESCRIPTION |
|----------------------------------|------|-----------------------|-------------|
| | | | |
| DRAWN BY: <i>A. P. ...</i> | | CHECKED BY: | |
| APPROVED BY: <i>R. P. Cullen</i> | | DATE: <i>12/22/86</i> | |
| CITY ENGINEER, R.C.E. | | DATE: | |


CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT
4" COMPOUND METER
& BACKFLOW PREVENTION
DEVICE ABOVE GROUND

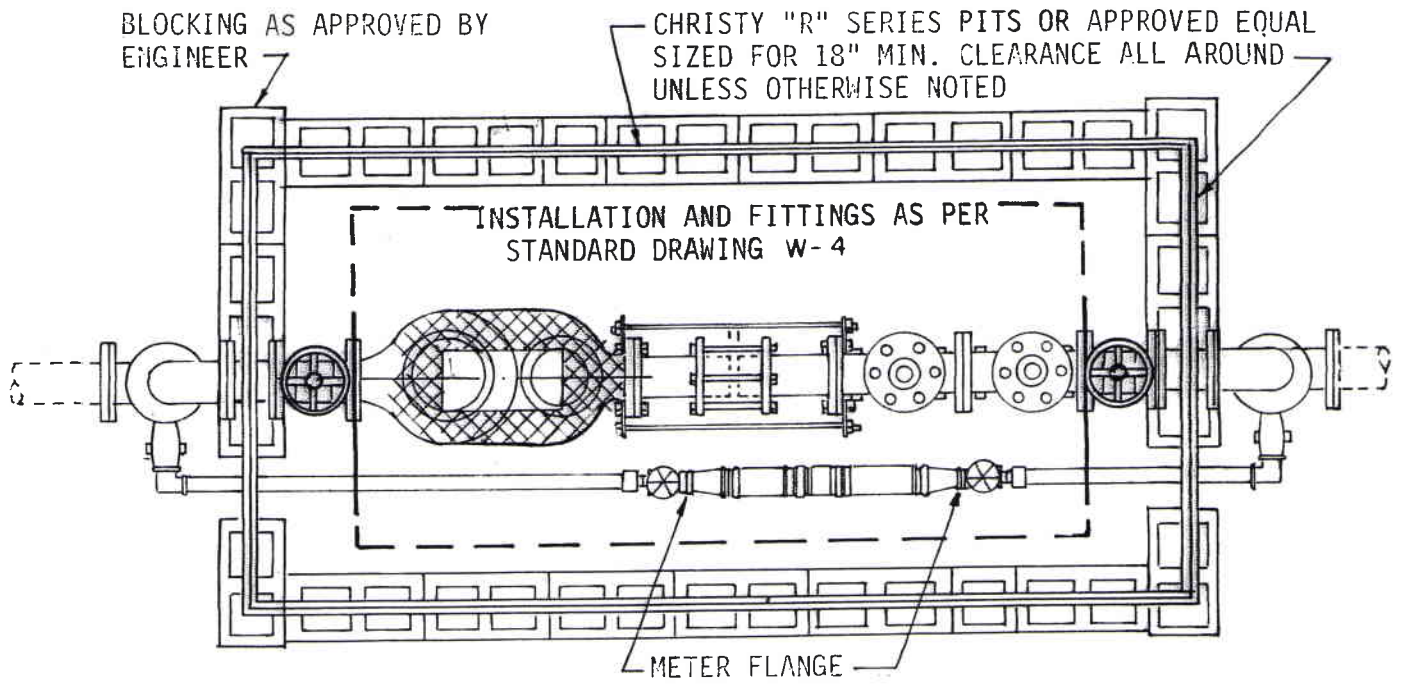
SCALE:
STD. DRWG.
NO.
W-4
SHEET 1 OF 2

| LIST OF MATERIAL | | |
|--------------------------|------|--|
| Item | Qty. | Description |
| A | 1 | DUCTILE IRON |
| B | 4 | 4" ELL 90° |
| C | 2 | 4" C.I. PIPE F.B.E. |
| D | 1 | 4" GATE VALVE FLG. |
| E | 1 | 4" COMPOUND METER |
| F | 2 | 4" C.I. PIPE F.O.E. (6" LONG) |
| G | 1 | 4" FLEX. CPLG. C.I. |
| H | 4 | DUC LUG |
| J | 2 | 5/8" Ø TIE ROD S.S. (21" LONG) CUT TO FIT. |
| L | 2 | 4" x 4" x 4" FLANGED TEE WITH FLANGED RED. |
| M | 2 | 4" x 4" x 2½" TEE |
| N | 1 | 4" CPLG. S.S. GALV. |
| P | 1 | 4" TREADED PIPE GALVANIZED |
| Q | 2 | 2" CORP. COCK I.P. (LOCKABLE) (MIN.) |
| R | 2 | 2" ELL 90° K x I.P. FE.-SL. (MIN.) |
| S | 12' | 2" COPPER TUBING (MIN.) |
| T | 8 | 4" FLG. HARDWARE SET |
| | 4 | 2" BRASS METER FLANGES (MIN.) |
| DOUBLE CHECK VALVE ASS'Y | | |
| D | 1 | 4" GATE VALVE FLG. |
| K | 1 | 4" CHECK VALVE ASSEMBLY APPROVED |

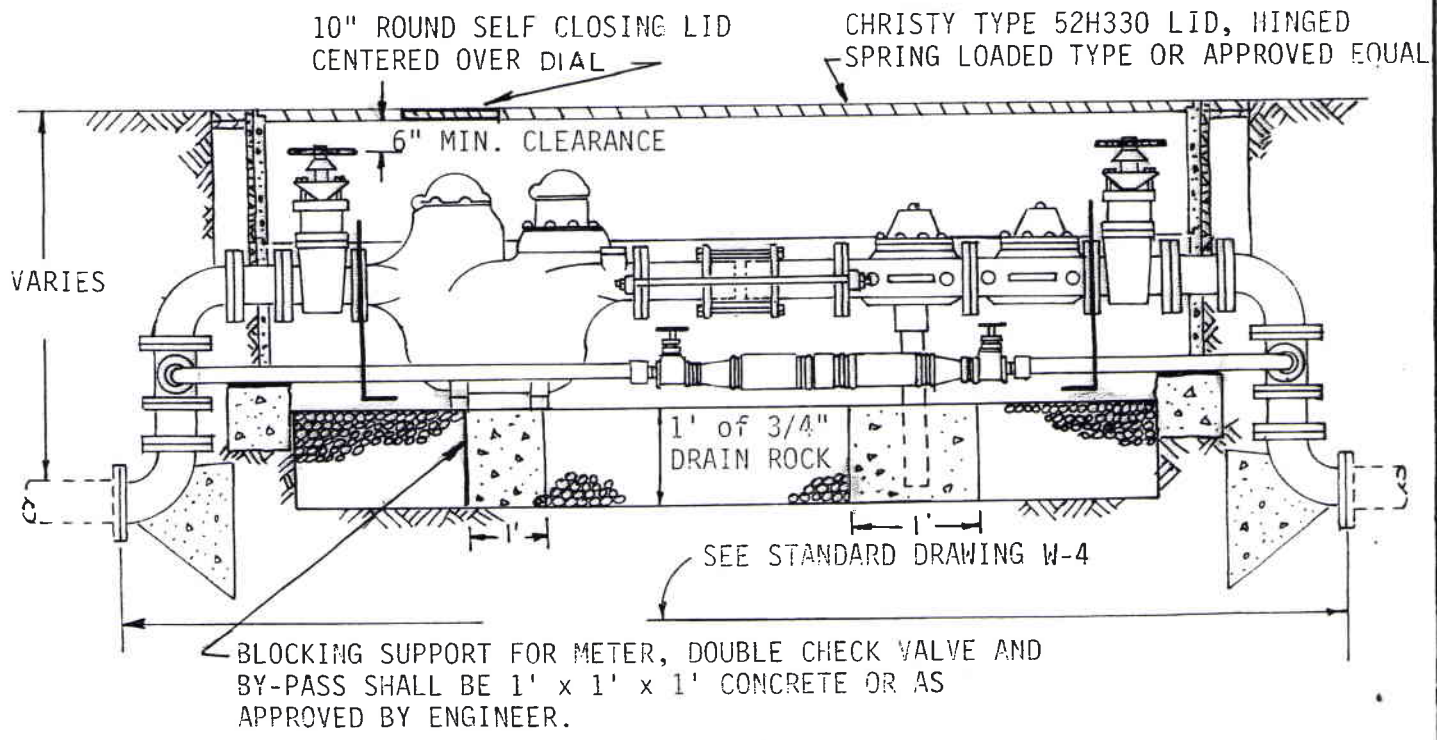
NOTES:

- ASS'Y SHALL HAVE AN ENCLOSURE THAT IS MINIMUM 5' HIGH x 4' WIDE x 13' LONG AND 18" MINIMUM INSIDE CLEARANCES WITH A REMOVABLE TOP AND A 3' WIDE LOCKABLE GATE. DETAILS TO BE APPROVED BY CITY.
- USE INSULATION KIT BETWEEN ALL DISSIMILAR METALS.


| | | | | | | | |
|---|---------------------------------|------|------|-------------|---|----------------|---|
|  | REV. | APP. | DATE | DESCRIPTION | CITY OF MARTINEZ PUBLIC WORKS DEPARTMENT 4" COMPOUND METER ASSEMBLY ABOVE GROUND | SCALE: | |
| | DRAWN BY: <i>A. Rocha</i> | | | CHECKED BY: | | STD. DRWG. NO. | |
| | APPROVED BY: <i>R.P. Lullen</i> | | | 23797 | | 12/22/88 | W-4 <hr/> SHEET 2 OF 2 |
| | CITY ENGINEER, R.C.E. | | | DATE: | | | |



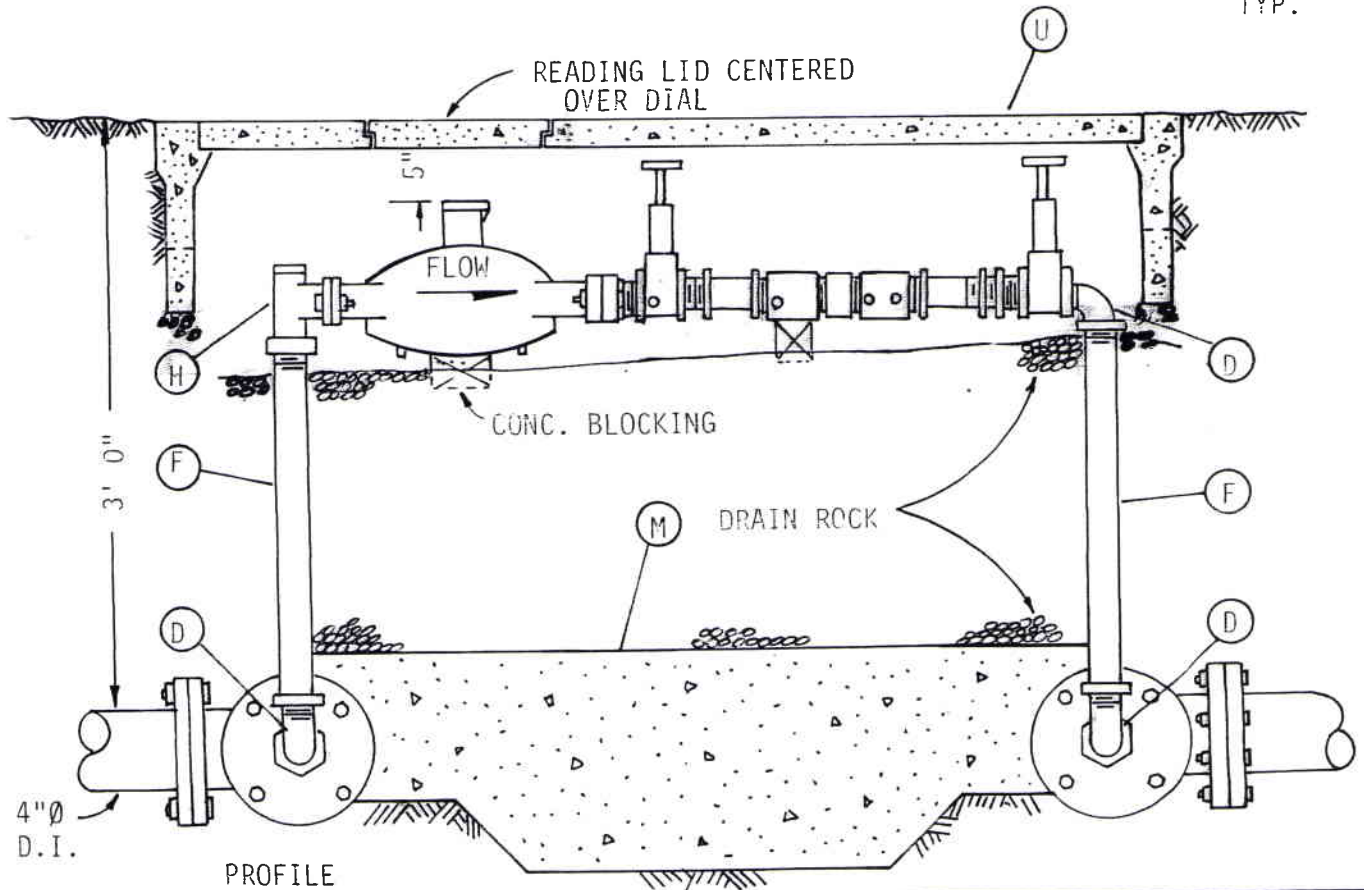
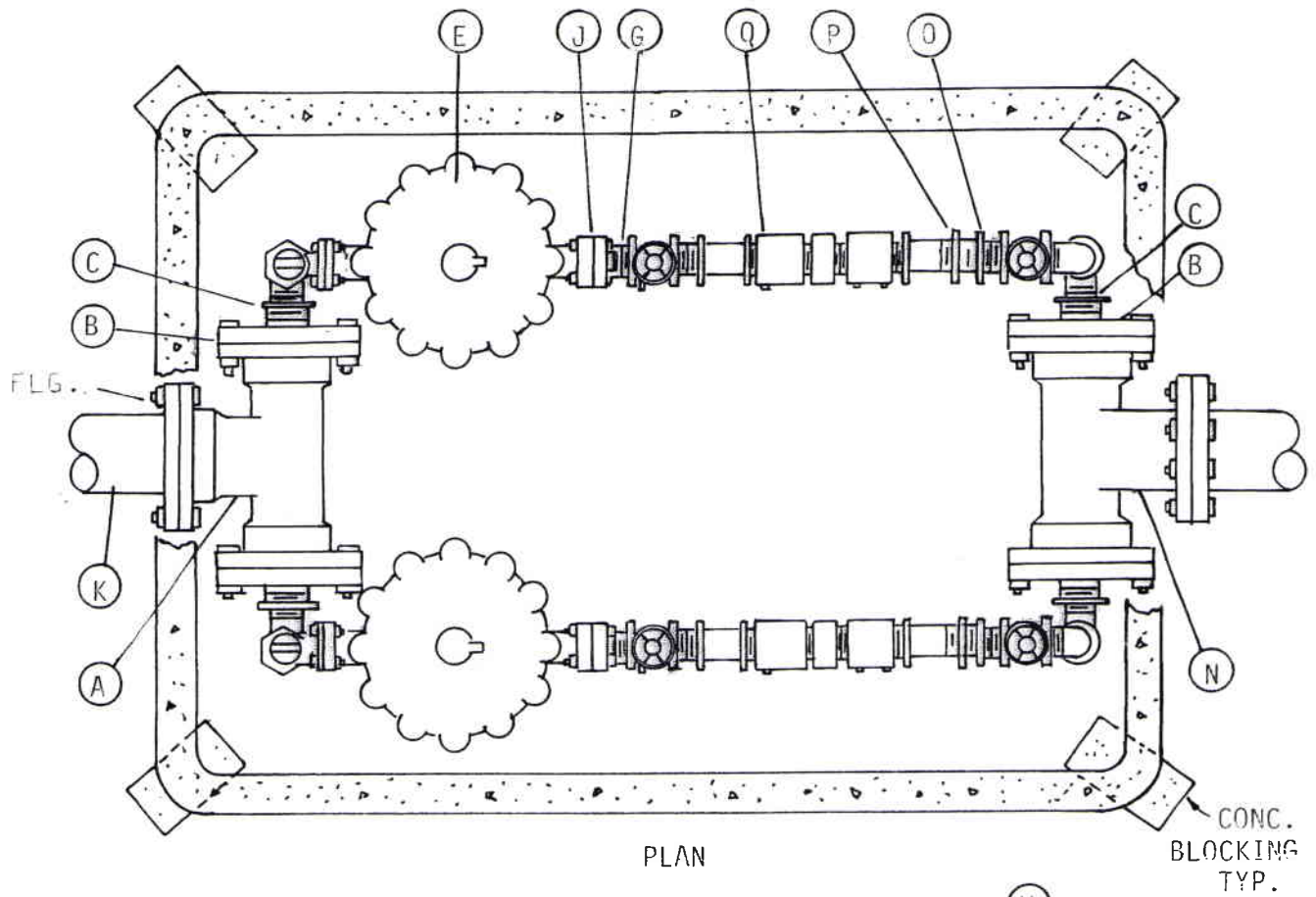
PLAN



PROFILE

|  | CITY OF MARTINEZ PUBLIC WORKS DEPARTMENT | SCALE: STD. DRWG. NO. W-5 | | | | | | | | |
|---|---|--|------|-------------|-------------|--|--|--|--|--|
| | 4" COMPOUND METER & BACKFLOW PREVENTION DEVICE BELOW GROUND | SHEET 1 OF 1 | | | | | | | | |
| | <table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 15%;">REV.</th> <th style="width: 15%;">APP.</th> <th style="width: 15%;">DATE</th> <th style="width: 55%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | REV. | APP. | DATE | DESCRIPTION | | | | | |
| | REV. | APP. | DATE | DESCRIPTION | | | | | | |
| | | | | | | | | | | |
| DRAWN BY: <i>A. Rocha</i> APPROVED BY: <i>P.R. Cullen</i> CITY ENGINEER, R.C.E. | CHECKED BY: <i>23797</i> DATE: <i>12/22/88</i> | | | | | | | | | |





| REV. | APP. | DATE | DESCRIPTION |
|---------------------------------|------|-----------------------|-------------|
| | | | |
| DRAWN BY: <i>A. Rocha</i> | | CHECKED BY: | |
| APPROVED BY: <i>R.P. Cullen</i> | | DATE: <i>12/22/88</i> | |
| CITY ENGINEER, R.C.E. | | DATE: | |

CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

1 1/2" & DUAL 2" METER
INSTALLATION SERVICE

SCALE:
STD. DRWG.
NO.
W-6

SHEET 1 OF 2

| LIST OF MATERIAL | | |
|--|------|---|
| ITEM | QTY. | DESCRIPTION |
| DUAL 2" METER INSTALLATION SERVICE | | |
| A | 1 | 4" TEE M.J. |
| B | 4 | 4" FLANGED, TAPPED 2-1/2" I.P. |
| C | 4 | 2-1/2" x 2" NYLON BUSHING |
| D | 6 | 2" ELL STREET, S.S. BRASS |
| E | 2 | 2" METER |
| F | 4 | 2" x 18" NIPPLE, S.S. BRASS |
| G | 2 | 2" x 6" NIPPLE, S.S. BRASS |
| H | 2 | 2" ANGLE STOP, I.P. x FLG., BRASS |
| J | 2 | 2" OVAL FLG., TAPPED 2" I.P. |
| K | - | 4" D.I. PIPE |
| L | 2 | NO. 65 METER BOX & COVER |
| M | - | THRUST BLOCK |
| N | 1 | 4" TEE M.J. x FLG. |
| DUAL 1 1/2" METER INSTALLATION SERVICE | | |
| U | 1 | METER BOX & COVER* |
| DUAL 1 1/2" METER INSTALLATION SERVICE (-S) (Same as above except substitute the following) | | |
| H' | 2 | 2" BRASS WHEEL VALVES @ BRASS 2" x 1 1/2" BUSHINGS, NIPPLES & FLANGES. |
| E' | 2 | 1 1/2" METER |
| G' | 2 | 1 1/2" x 6" NIPPLE, S.S. BRASS |
| J' | 2 | 1 1/2" OVAL FLANGE |
| D' | 2 | 2" x 1 1/2" REDUCING STREET ELL |
| CHECK VALVE (SIZE AS APPROXIMATE) | | |
| Q | 2 | DOUBLE CHECK VALVE ASSEMBLY |
| O | 4 | BRASS METER FLANGE |
| P | 2 | BRASS NIPPLES |

* METER BOX AND COVER SHALL BE CHRISTY PRODUCTS OR EQUAL. SIZED FOR MINIMUM 3 INCHES FOR 3 INCH MINIMUM CLEARANCE ALL AROUND, UNLESS NOTED.



| REV. | APP. | DATE | DESCRIPTION |
|--------------------------------|------|----------------|-------------|
| | | | |
| DRAWN BY: A. Poch | | CHECKED BY: | |
| APPROVED BY: <i>R. Lullien</i> | | 23797 12/22/88 | |
| CITY ENGINEER, R.C.E. | | DATE: | |

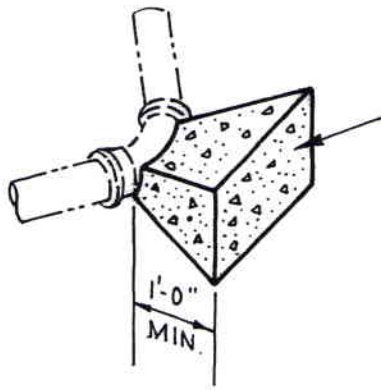
CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

DUAL 1-1/2" & 2" METER
INSTALLATION SERVICE

SCALE:
STD. DRWG.
NO.

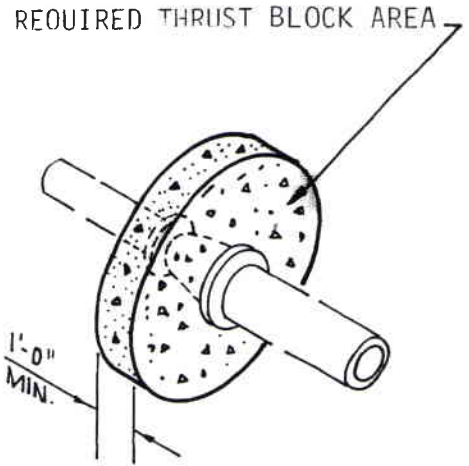
W-6

SHEET 2 OF 2

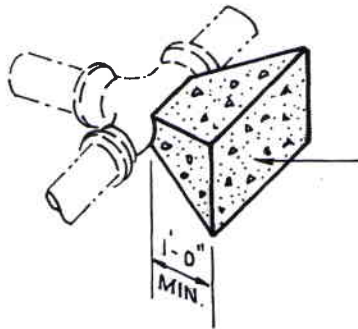


REQUIRED THRUST
BLOCK AREA

TYPICAL THRUST BLOCK - ELL

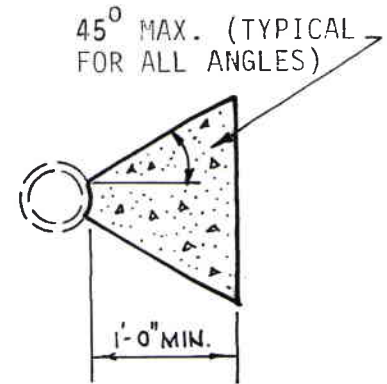


TYPICAL THRUST BLOCK - REDUCER
AS REQUIRED BY ENGINEER

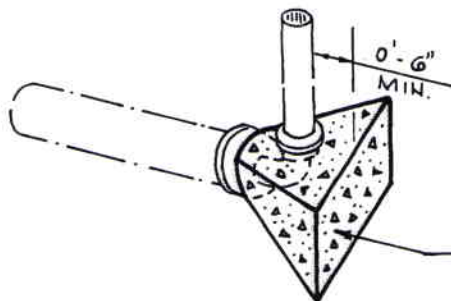


REQUIRED THRUST
BLOCK AREA

TYPICAL THRUST BLOCK - TEE



TYPICAL SECTION
THRU THRUST BLOCK



REQUIRED THRUST
BLOCK AREA

TYPICAL THRUST BLOCK - PERMANENT BLOW-OFF

NOTE: WRAP ALL FITTING PRIOR TO INSTALLING THRUST BLOCK.



| REV. | APP. | DATE | DESCRIPTION |
|-----------------------|------|-------------|-------------|
| | | | |
| DRAWN BY: A. ROCHA | | CHECKED BY: | |
| APPROVED BY: | | | |
| <i>P.R. Cullen</i> | | 23797 | 12/28/98 |
| CITY ENGINEER, R.C.E. | | DATE: | |

CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

BLOCKING DETAIL

SCALE:
STD. DRWG.
NO.

W-7

SHEET 1 OF 6

TYPICAL THRUST BLOCKS

| FITTING | PIPE SIZE (IN) | SOIL TYPE | BEARING AREA (SQ. FT.) | D (FT.) | CONCRETE VOLUME (CU. FT.) | FITTING | PIPE SIZE (IN) | SOIL TYPE | BEARING AREA (SQ. FT.) | D (FT.) | CONCRETE VOLUME (CU. FT.) |
|-----------------|----------------|--------------|------------------------|---------|---------------------------|-----------|----------------|--------------|------------------------|---------|---------------------------|
| 28" x 28" ELBOW | 6 | CLAY OR SAND | 10 | 1.0 | 6 | 45° ELBOW | 6 | CLAY OR SAND | 10 | 1.0 | 6 |
| | 8 | CLAY OR SAND | 11 | 1.0 | 6 | | 8 | CLAY OR SAND | 11 | 1.0 | 6 |
| | 10 | CLAY OR SAND | 11 | 1.0 | 7 | | 10 | CLAY | 14 | 1.2 | 11 |
| | 12 | CLAY OR SAND | 12 | 1.0 | 9 | | 12 | SAND | 12 | 1.0 | 8 |
| | 14 | CLAY OR SAND | 13 | 1.0 | 0 | | 14 | CLAY | 18 | 1.5 | 18 |
| | 16 | CLAY | 16 | 1.2 | 14 | | 16 | SAND | 13 | 1.0 | 9 |
| 90° ELBOW | 16 | SAND | 14 | 1.0 | 11 | TEE | 14 | CLAY | 24 | 1.8 | 29 |
| | 6 | CLAY OR SAND | 10 | 1.0 | 6 | | 14 | SAND | 14 | 1.0 | 11 |
| | 8 | CLAY | 14 | 1.2 | 9 | | 16 | CLAY | 32 | 2.2 | 47 |
| | 8 | SAND | 11 | 1.0 | 6 | | 16 | SAND | 17 | 1.2 | 16 |
| | 10 | CLAY | 23 | 1.7 | 24 | | 6 | CLAY OR SAND | 10 | 1.0 | 6 |
| | 10 | SAND | 14 | 1.0 | 10 | | 8 | CLAY OR SAND | 10 | 1.0 | 6 |
| | 12 | CLAY | 33 | 2.2 | 46 | | 10 | CLAY | 17 | 2.0 | 19 |
| | 12 | SAND | 16 | 1.0 | 12 | | 10 | SAND | 9 | 1.2 | 6 |
| | 14 | CLAY | 45 | 2.7 | 77 | | 12 | CLAY | 23 | 2.4 | 32 |
| | 14 | SAND | 24 | 1.4 | 25 | | 14 | CLAY | 32 | 2.8 | 51 |
| C.I. PLUG | 14 | CLAY | 57 | 3.1 | 113 | REDUCER | 14 | SAND | 16 | 1.7 | 17 |
| | 16 | GLAY | 29 | 1.5 | 36 | | 16 | CLAY | 40 | 3.2 | 75 |
| | 6 | SAND OR SAND | 6 | 1.0 | 3 | | 16 | SAND | 21 | 2.0 | 27 |
| | 8 | CLAY OR SAND | 10 | 1.0 | 7 | | 16 x 14 | CLAY | 9 | | 9 |
| | 10 | CLAY | 16 | 1.6 | 13 | | 16 x 14 | SAND | 5 | | 5 |
| | 10 | SAND | 8 | 1.0 | 4 | | 16 x 12 | CLAY | 17 | | 17 |
| | 12 | CLAY | 23 | 2.0 | 26 | | 16 x 12 | SAND | 9 | | 9 |
| | 12 | SAND | 12 | 1.2 | 8 | | 14 x 12 | CLAY | 9 | | 9 |
| | 14 | CLAY | 31 | 2.2 | 36 | | 14 x 12 | SAND | 5 | | 5 |
| | 14 | SAND | 16 | 1.4 | 12 | | 14 x 8 | SAND | 11 | | 11 |
| 16 | CLAY | 40 | 2.6 | 57 | 12 x 8 | CLAY | 13 | | 13 | | |
| 16 | SAND | 20 | 1.6 | 17 | 12 x 8 | SAND | 7 | | 7 | | |



| | | | |
|-----------------------|------|----------------|-------------|
| REV. | APP. | DATE | DESCRIPTION |
| DRAWN BY: A. ROCHA | | CHECKED BY: | |
| APPROVED BY: | | DATE: | |
| R. J. Allen | | 23797 12/22/82 | |
| CITY ENGINEER, R.C.E. | | | |

CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

BLOCKING DETAIL

SCALE:
STD. DRWG.
NO.
W-7

SHEET 2 OF 6

WAFER BUTTERFLY VALVE (SHOWN)
OR FLANGED BUTTERFLY VALVE

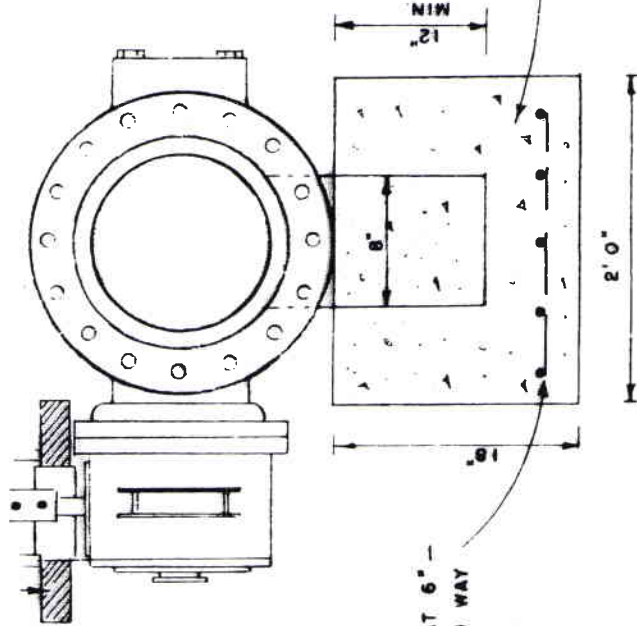
FOR VALVE BOX INSTALLATION
SEE STANDARD DRAWING NO. W-9

FLANGE & R.T. ADAPTERS

FLANGES

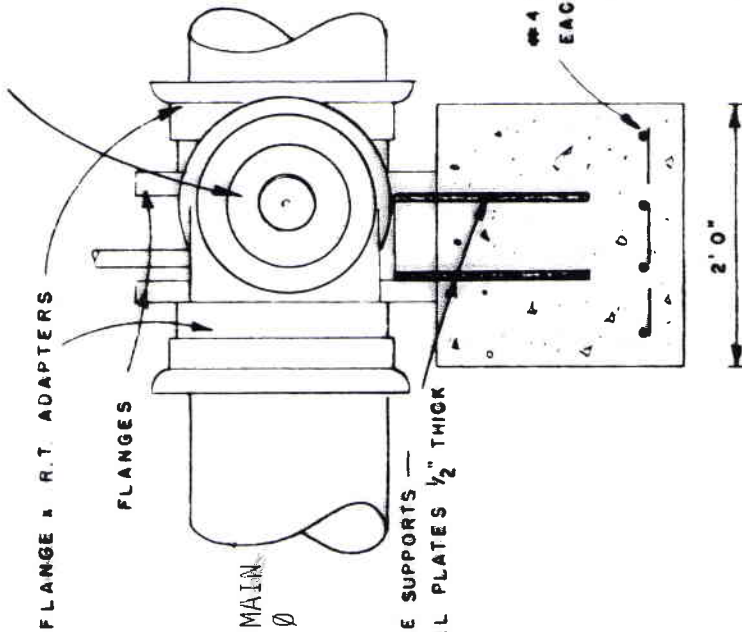
WATER MAIN
12" Ø

VALVE SUPPORTS
STEEL PLATES 1/2" THICK



CONCRETE PEDESTAL

SECTION



ELEVATION

BUTTERFLY VALVES

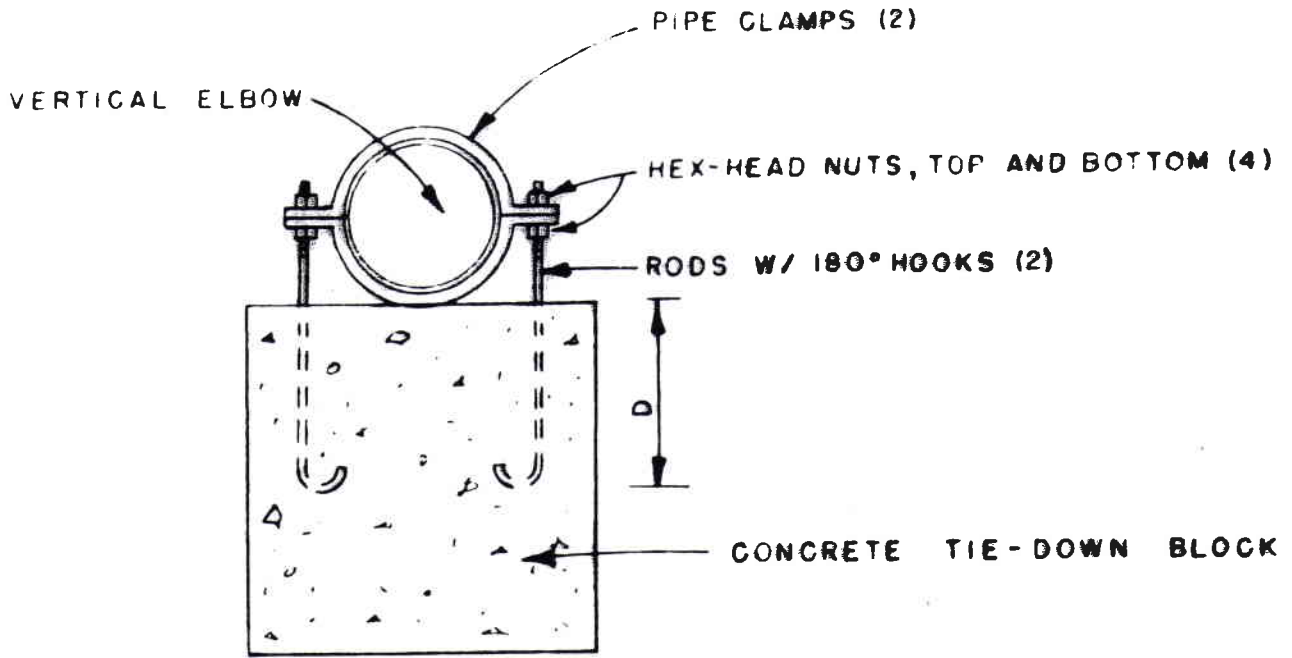


| REV. | APP. | DATE | DESCRIPTION |
|--------------------------------|------|------|-----------------------|
| DRAWN BY: A. ROCHA | | | CHECKED BY: |
| APPROVED BY: <i>P.R. Allen</i> | | | DATE: <i>12/22/88</i> |
| CITY ENGINEER, R.C.E. | | | |

CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

BLOCKING DETAIL

SCALE:
STD. DRWG.
NO.
W-7
SHEET 3 OF 6



SECTION

TIE - DOWN BLOCKS

| PIPE DIAM. | 22- 1/2° ELBOWS | | | 45° ELBOWS | | |
|---------------|-----------------|-----|-------------|------------|-----|-------------|
| | RODS | "D" | BLOCK SIZE | RODS | "D" | BLOCK SIZE |
| 4" | 3/8" | 6" | 7 CU. FT. | 3/8" | 8" | 14 CU. FT. |
| 6" | 3/8" | 8" | 15 | 3/8" | 10" | 29 |
| 8" | 3/8" | 10" | 26 | 1/2" | 14" | 50 |
| 10" | 1/2" | 12" | 42 | 5/8" | 16" | 82 |
| 12" | 1/2" | 14" | 60 | 3/4" | 18" | 117 |
| 14" | 5/8" | 16" | 80 | 7/8" | 21" | 159 |
| 16" | 3/4" | 18" | 104 CU. FT. | 1" | 24" | 206 CU. FT. |

CONCRETE TIE-DOWN BLOCKS FOR VERTICAL ELBOWS

CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

SCALE:
STD. DRWG.
NO.

REV. APP. DATE DESCRIPTION

DRAWN BY: A. ROCHA | CHECKED BY:

APPROVED BY:

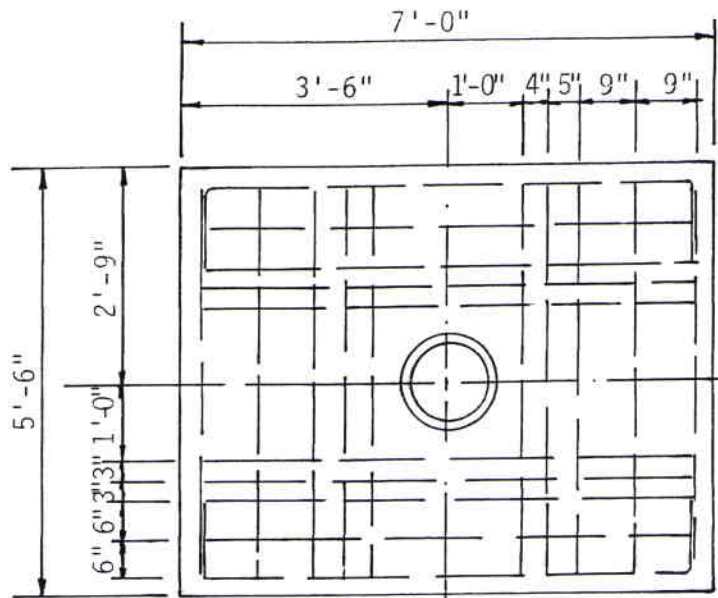
R. P. Cullen
CITY ENGINEER, R.C.E.

23797 12/30/32
DATE:

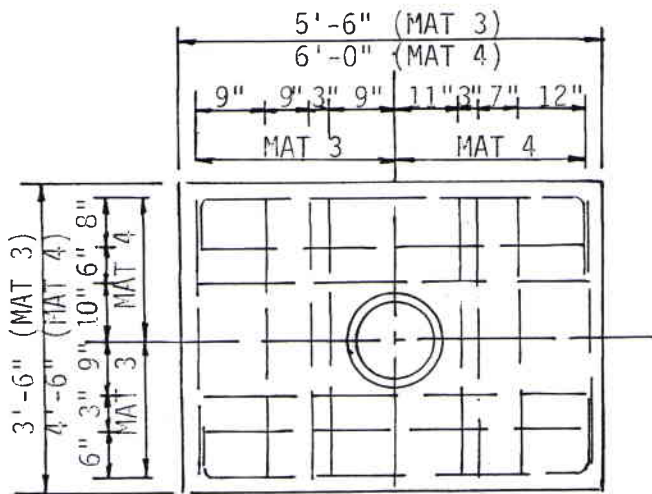
BLOCKING DETAIL

W-7

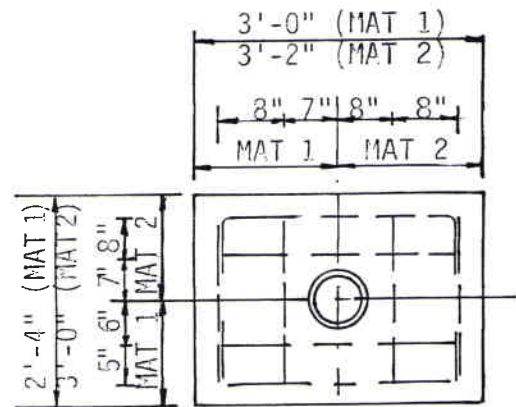
SHEET 4 OF 6



MAT 5



MATS 3 & 4



MATS 1 & 2

CONCRETE ANCHORS

| PIPE SIZE | TIE ROD SIZE | DIMENSIONS | | | ANCHOR & MAT | STEEL IN MAT | CONCRETE IN MAT |
|-----------|--------------|------------|-------|-------|--------------|--------------|-----------------|
| | | a | b | c | | | |
| 4" | 1/2" | 4'-6" | 1'-0" | 6" | 1 | 12 LBS. | 1/4 CU. YDS. |
| 6" | 1/2" | 5'-0" | 1'-0" | 6" | 2 | 14 LBS. | 3/8 CU. YDS. |
| 8" | 5/8" | 6'-0" | 1'-0" | 6" | 3 | 36 LBS. | 3/4 CU. YDS. |
| 10"-12" | 7/8" | 7'-9" | 1'-0" | 1'-3" | 4 | 68 LBS. | 1 CU. YDS. |
| 14"-16" | 1" | 10'-0" | 1'-3" | 1'-6" | 5 | 120 LBS. | 1-3/4 CU. YDS. |

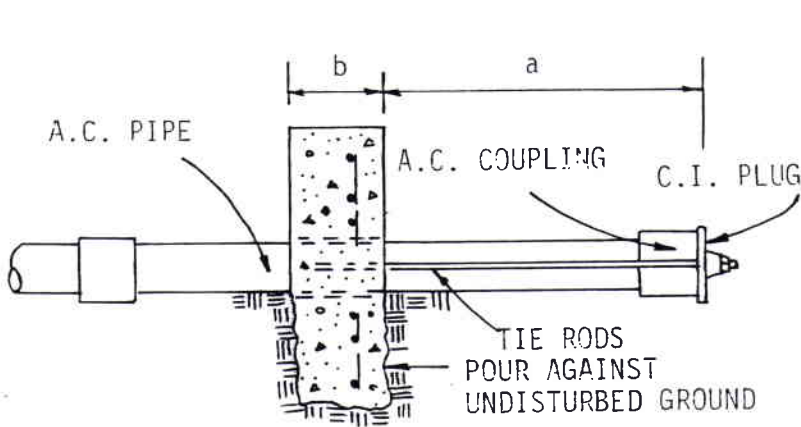
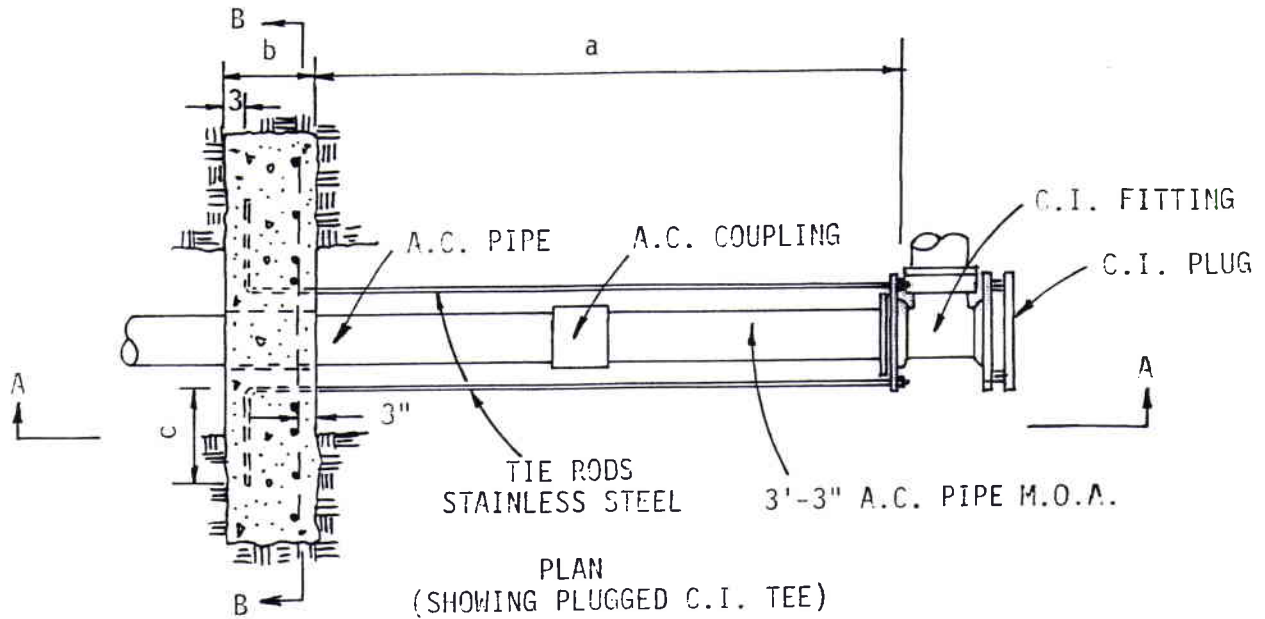


| REV. | APP. | DATE | DESCRIPTION |
|---|------|------|-------------|
| DRAWN BY: A. ROCHA CHECKED BY: | | | |
| APPROVED BY: <i>R. R. Cullen</i> 23797 12/22/82 | | | |
| CITY ENGINEER, R.C.E. | | | DATE: |

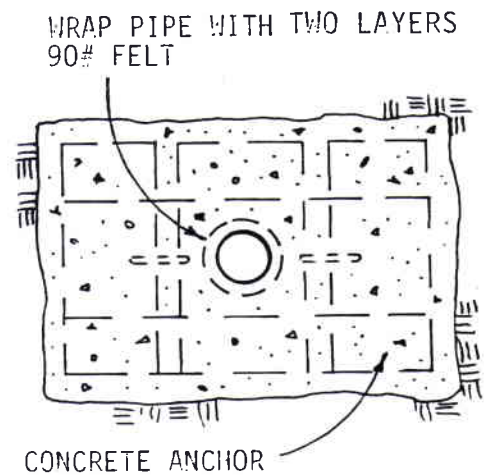
CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

BLOCKING DETAIL

| |
|----------------|
| SCALE: |
| STD. DRWG. NO. |
| W-7 |
| SHEET 5 OF 6 |



SECTION A-A
 (SHOWING PLUGGED A.C. PIPE)

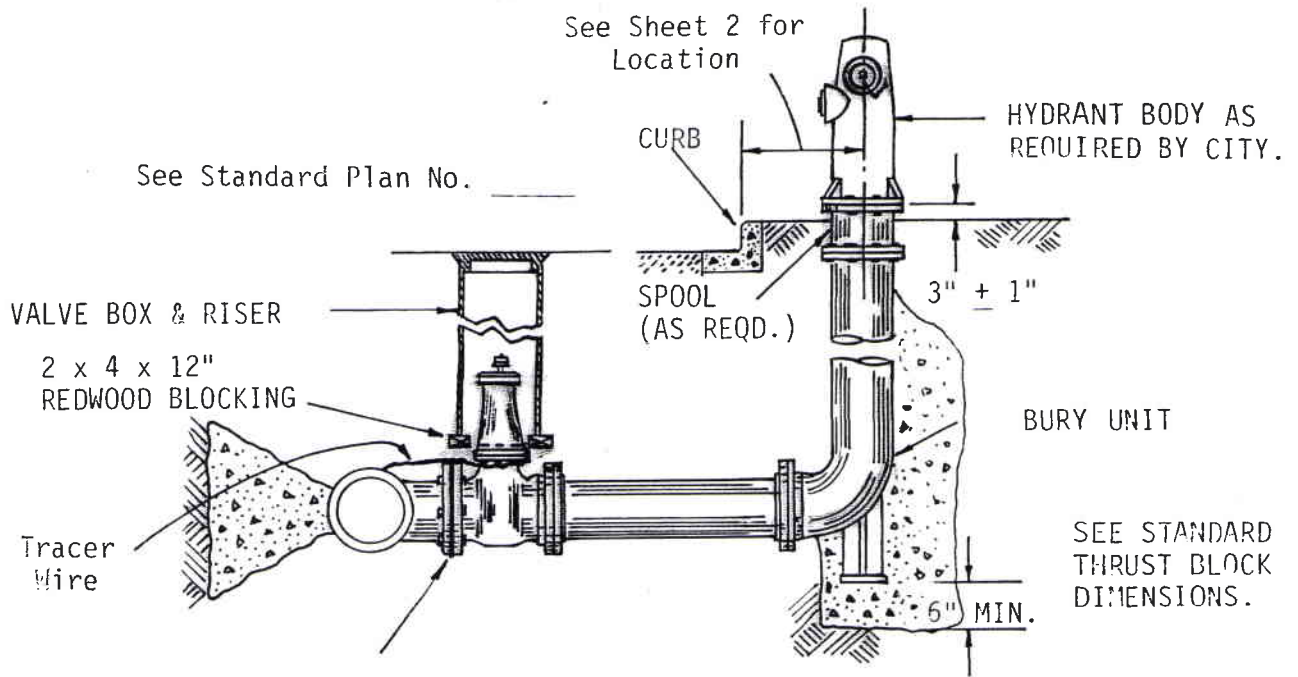


SECTION B-B

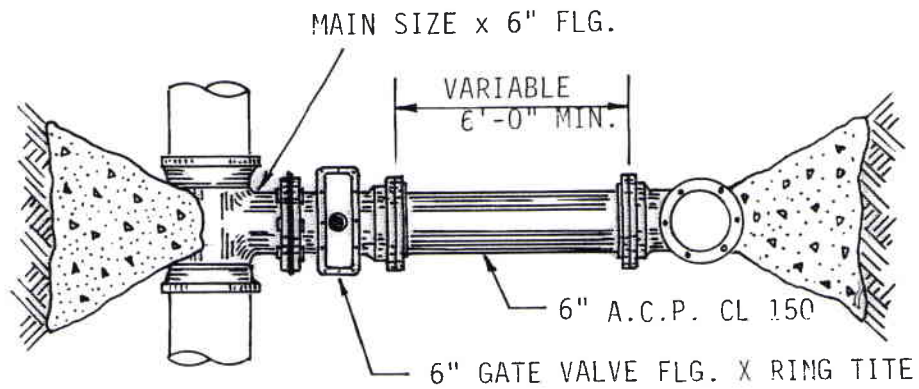
ANCHOR INSTALLATIONS FOR A.C. PIPE

NOTE: FOR DIMENSIONS a, b, AND c SEE SHEET 5 OF 6 STANDARD DRAWING W-7.

| | <table border="1"> <tr> <th>REV.</th> <th>APP.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table> | REV. | APP. | DATE | DESCRIPTION | | | | | <p>CITY OF MARTINEZ PUBLIC WORKS DEPARTMENT</p> | <p>SCALE: STD. DRWG. NO. W-7</p> |
|---|--|-------------------------------|---------------------|-------------|-------------|--|--|--|--|--|--|
| | REV. | APP. | DATE | DESCRIPTION | | | | | | | |
| | | | | | | | | | | | |
| | <p>DRAWN BY: ROCHA CHECKED BY: APPROVED BY: <i>R.P. Callan</i> 23797 12/22/88</p> | <p>BLOCKING DETAIL</p> | <p>SHEET 6 OF 6</p> | | | | | | | | |
| <p>CITY ENGINEER, R.C.E. DATE:</p> | | | | | | | | | | | |
| | | | | | | | | | | | |



ELEVATION



PLAN

MAIN INSTALLED IN STREET

NOTES:

1. FIRE HYDRANT INSTALLATIONS SHALL COMPLY WITH FIRE DISTRICT AND CITY REQUIREMENTS.
2. SEE DRAWING W-7 FOR THRUST BLOCK DETAILS
3. ENCASE ALL METALLIC SURFACES BELOW GROUND WITH POLYETHYLENE.



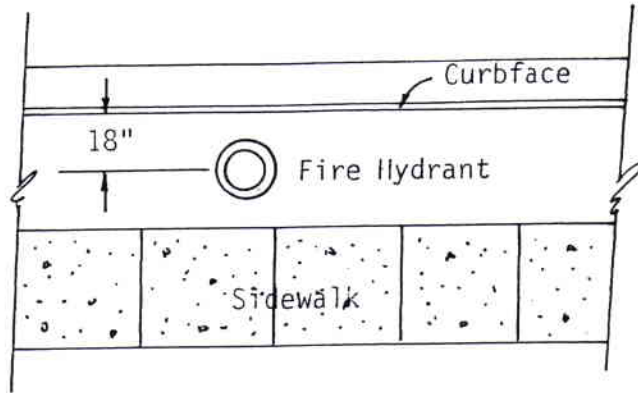
| REV. | APP. | DATE | DESCRIPTION |
|------------------------|------|----------------|-------------|
| | | | |
| DRAWN BY: A. [unclear] | | CHECKED BY: | |
| APPROVED BY: | | DATE: | |
| R. K. Cullen | | 23797 12/22/08 | |
| CITY ENGINEER, R.C.E. | | | |

CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

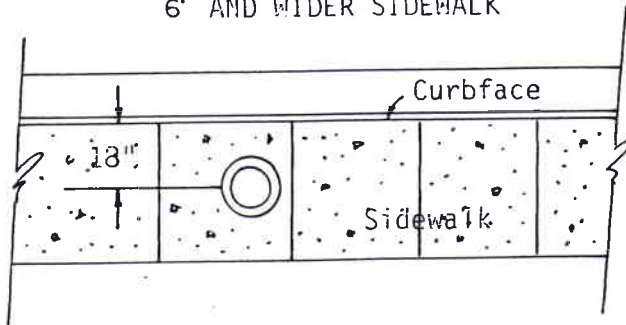
STANDARD VALVE AND
HYDRANT INSTALLATIONS

SCALE:
STD. DRWG.
NO.
W-8
SHEET 1 OF 2

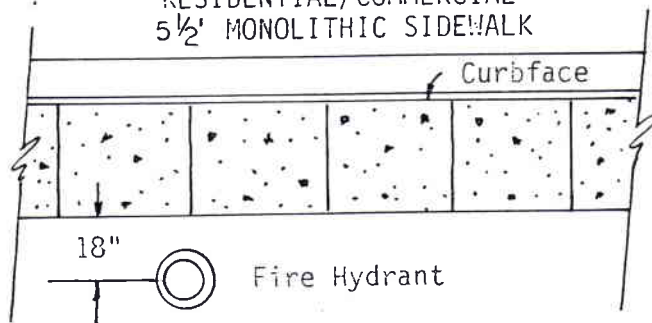
PLANTER AREA



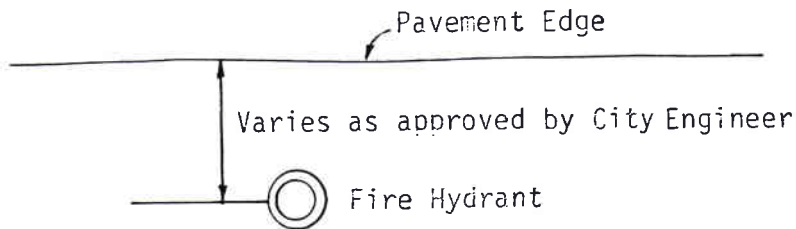
COMMERCIAL AREA
6' AND WIDER SIDEWALK



RESIDENTIAL/COMMERCIAL
5 1/2' MONOLITHIC SIDEWALK



ROADSIDE AREA



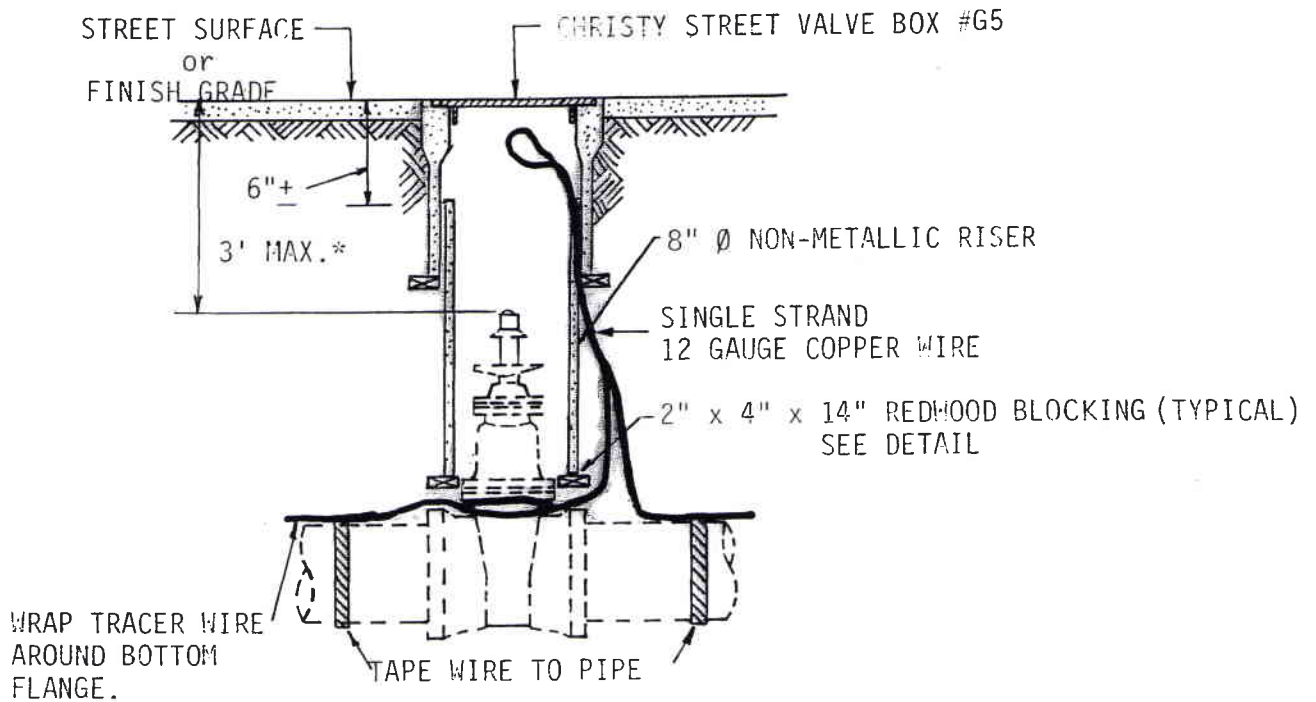
| REV. | APP. | DATE | DESCRIPTION |
|---------------------------------|------|-----------------------|-------------|
| | | | |
| DRAWN BY: A. ROCHA | | CHECKED BY: | |
| APPROVED BY: <i>R.K. Lullen</i> | | DATE: <i>12/22/98</i> | |
| CITY ENGINEER, R.C.E. | | DATE: | |

CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

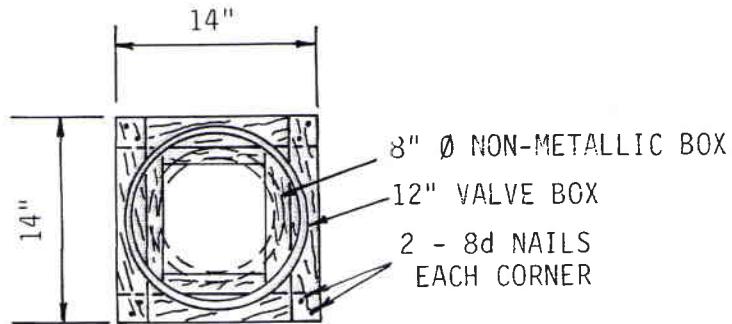
STANDARD VALVE AND
HYDRANT INSTALLATIONS

SCALE:
STD. DRWG.
NO.
W-8

SHEET 2 OF 2




STANDARD VALVE & BLOW-OFF BOX
INSTALLED IN TRAFFIC AREA



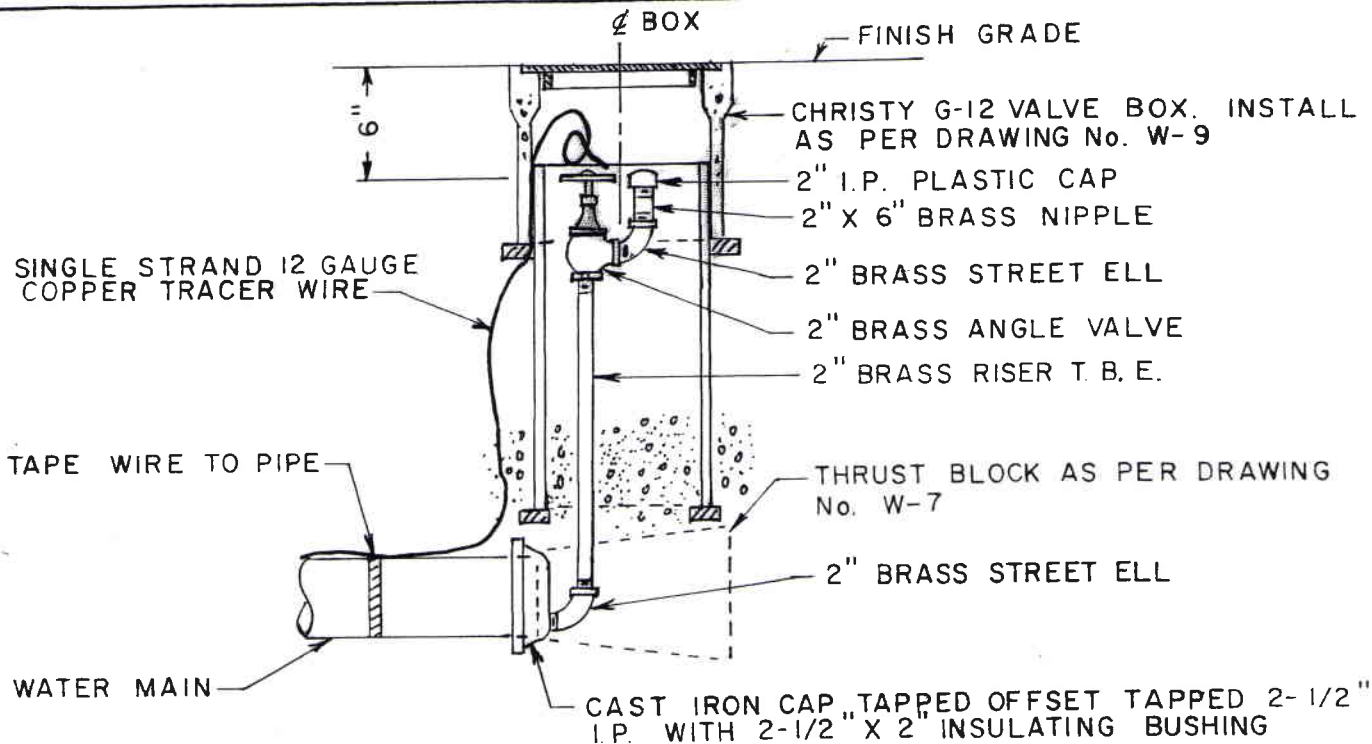
PLAN

REDWOOD BLOCKING
DETAIL

*NOTE: FOR DISTANCE EXCEEDING 3', DETAIL OF STEM EXTENSION SHALL BE SUBMITTED FOR APPROVAL BY THE CITY ENGINEER.

| | | | |
|---|---|---------------------|--|
|  | CITY OF MARTINEZ PUBLIC WORKS DEPARTMENT | | SCALE: STD. DRWG. NO. W-9 |
| | REV. APP. DATE | DESCRIPTION | STANDARD VALVE BOX |
| | DRAWN BY: <i>A. Lopez</i> CHECKED BY: | | |
| | APPROVED BY: <i>R.K. Cullen</i> DATE: <i>23797 12/22/06</i> | | |
| CITY ENGINEER, R.C.E. | | SHEET 1 OF 1 | |



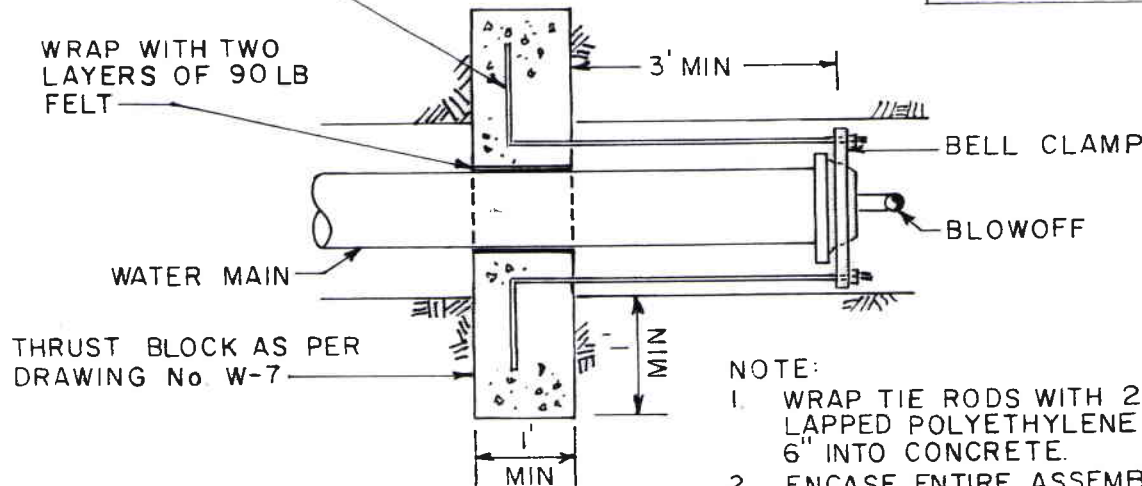


TYPE 1 INSTALLATION

MINIMUM TIE ROD SIZE

| | | |
|----------|---|--------|
| 6" PIPE | - | 5/8" ∅ |
| 8" PIPE | - | 3/8" ∅ |
| 12" PIPE | - | 1" ∅ |

2-TIE ROD T.O.E. STAINLESS STEEL (FIELD DETERMINE LENGTH)



NOTE:

1. WRAP TIE RODS WITH 2 LAYERS OF LAPPED POLYETHYLENE TAPE MINIMUM 6" INTO CONCRETE.
2. ENCASE ENTIRE ASSEMBLY IN POLYETHYLENE.

TYPE 2 INSTALLATION

2" BLOWOFF ASSEMBLY-END OF MAIN



| REV. | APP. | DATE | DESCRIPTION |
|----------------------------------|------|-----------------------|-------------|
| | | | |
| DRAWN BY: JC | | CHECKED BY: | |
| APPROVED BY: <i>R. K. Cullen</i> | | DATE: <i>12/22/88</i> | |
| CITY ENGINEER, R.C.E. | | DATE: | |

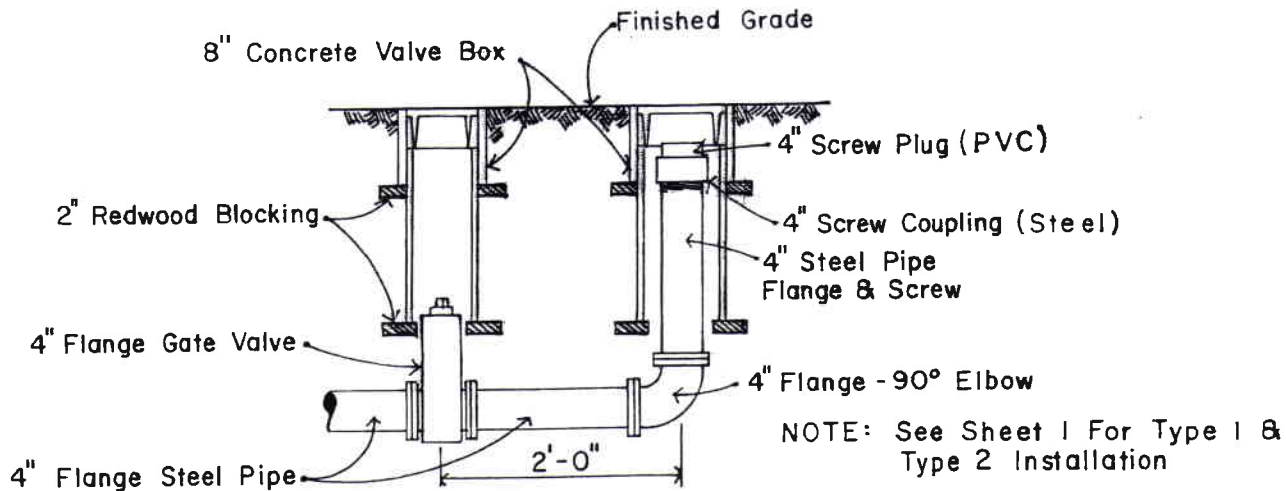
CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

STANDARD BLOWOFF

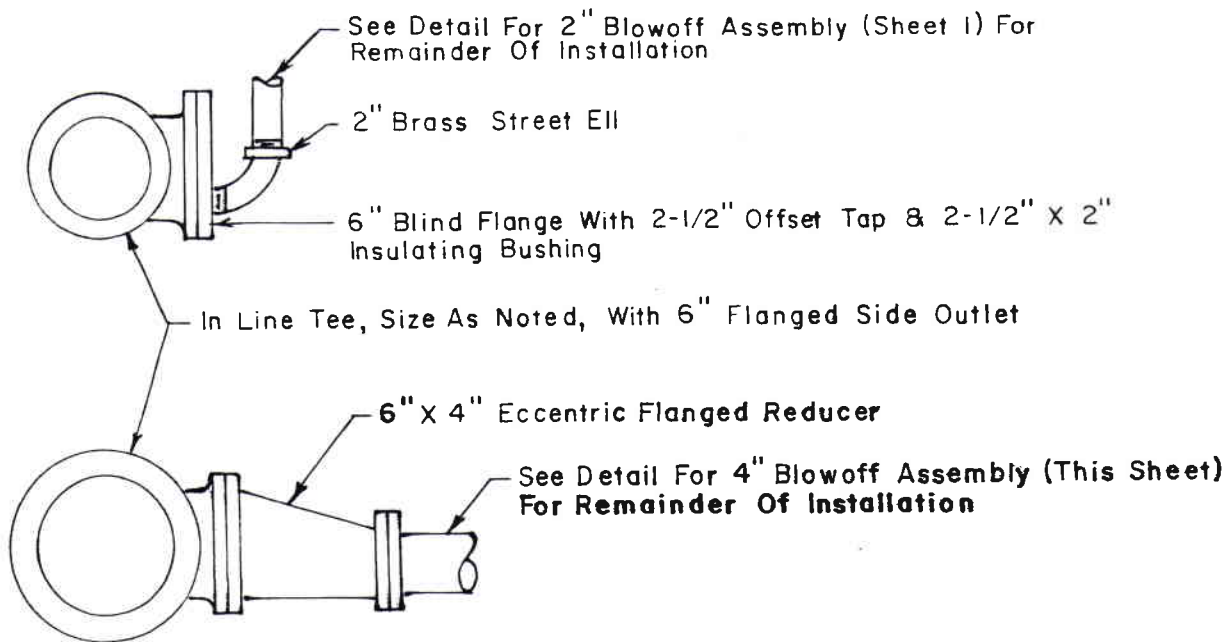
SCALE: NONE
STD. DRWG.
NO.

W-10

SHEET 1 OF 2



4" BLOWOFF ASSEMBLY - END OF MAIN



- NOTE: 1. In Line Blowoff Assembly To Be Installed At Sag Or Low Point In Main Line
 2. All Bolts To Be Stainless Steel
 3. Encase Assembly In Polyethylene
 4. Concrete Thrust Block Per Drawing No. W-7

2" & 4" BLOWOFF ASSEMBLY - IN LINE



| REV. | APP. | DATE | DESCRIPTION |
|-----------------------|------|------|----------------|
| | | | |
| | | | |
| | | | |
| | | | |
| APPROVED BY: | | | |
| <i>R.A. Cullen</i> | | | 23797 |
| CITY ENGINEER, R.C.E. | | | DATE: 12/22/88 |

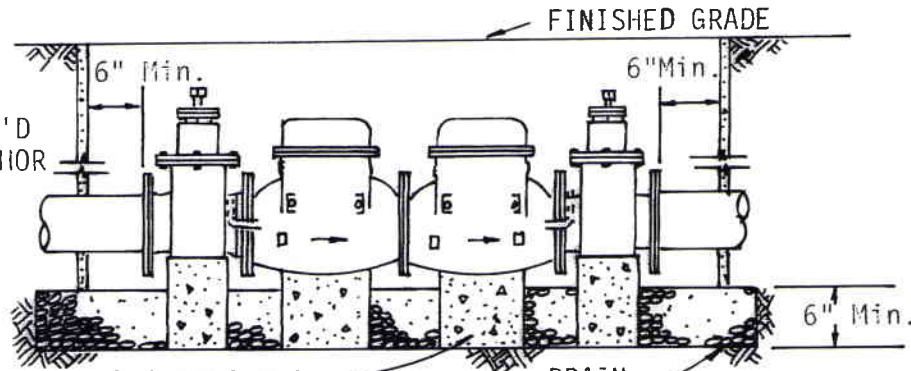
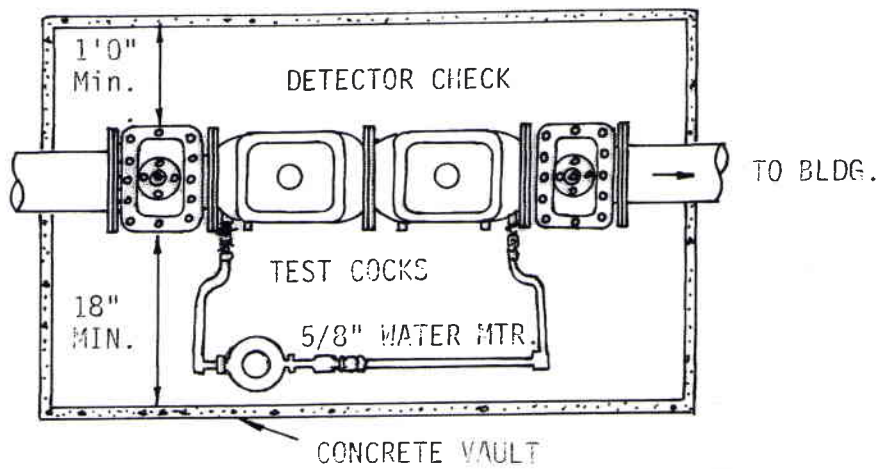
CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

STANDARD BLOWOFF

SCALE: NONE
STD. DRWG.
NO.

W-10

SHEET 2 OF 2



SEE STANDARD DRAWING FOR REQ'D BLOCKING OR ANCHOR DETAILS.

BLOCKING SHALL BE 1'x1'x1' CONCRETE OR AS APP'D BY CITY ENGINEER.
DRAIN ROCK

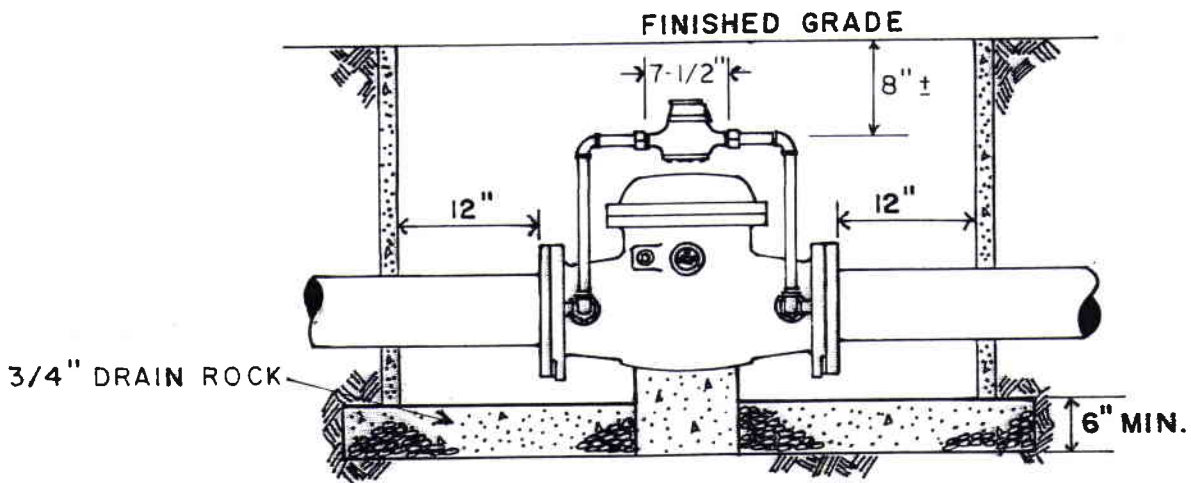
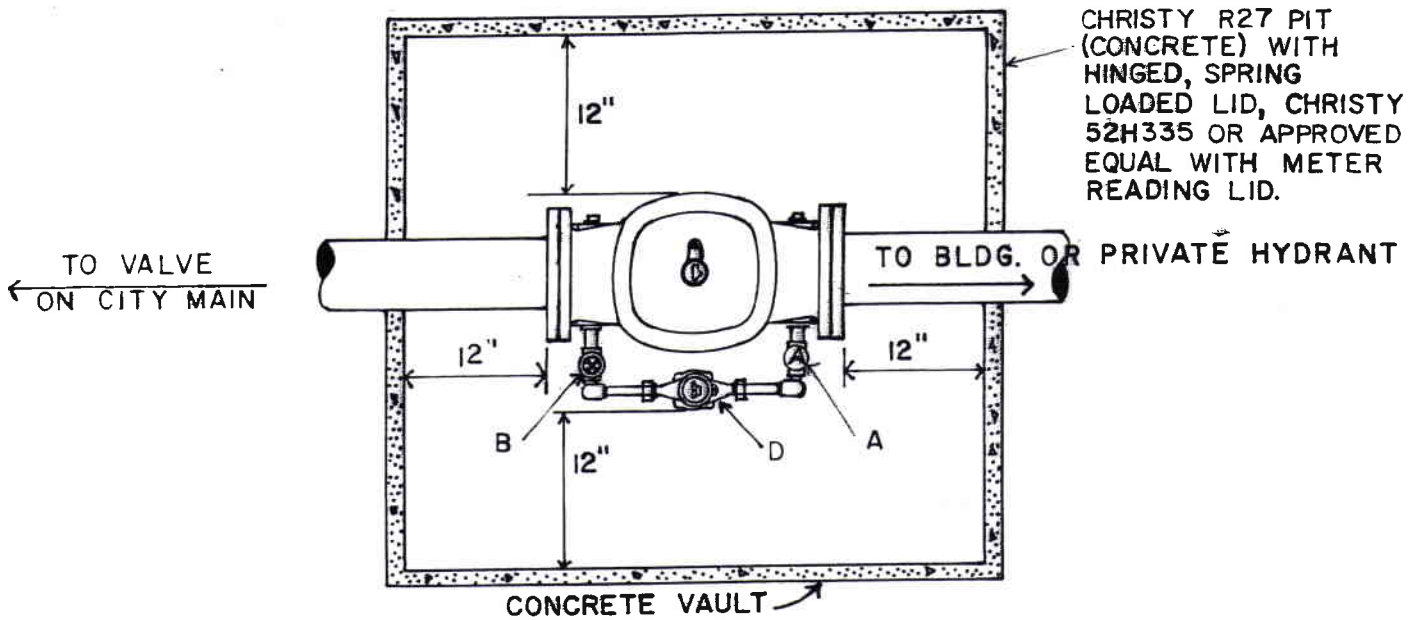
- NOTES:**
1. DOUBLE CHECK VALVE DETECTOR CHECK ASSEMBLY SHALL BE INSTALLED ON CLASS III AND IV FIRE SERVICE
 2. DETECTOR CHECK ASSEMBLY SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION TO FACILITATE TESTING AND REPAIRS.
 3. PROVIDE TRAFFIC COVERS FOR VAULTS IN AREAS WHERE VAULT WILL BE SUBJECTED TO VEHICULAR TRAFFIC.
 4. DETECTOR CHECK ASSEMBLY, (EXCEPT THE METER), SHALL BE THE PROPERTY OF THE CUSTOMER. THE CITY RESERVES THE RIGHT TO PERIODICALLY CHECK AND SERVICE THE ASSEMBLY.
 5. FOR LIST OF APPROVED CHECK VALVES, CONTACT THE WATER TREATMENT PLANT, 372-3588.
 6. REDUCED PRESSURE PRINCIPLE BACKFLOW ASSEMBLY IS REQUIRED INSTEAD OF CHECK ASSEMBLY IF A CHEMICAL IS INTRODUCED INTO FIRE LINE.
 7. READING LID SHALL BE LOCATED ABOVE DETECTOR METER.
 8. DETECTOR METER, ONLY, SHALL BE FURNISHED BY CITY.
 9. DOUBLE CHECK DETECTOR CHECK ASSEMBLY SHALL BE PURCHASED AS A SINGLE UNIT.
 10. FOR VAULT AND LID DETAILS, SEE STANDARD DRAWING W-5.



| REV. | APP. | DATE | DESCRIPTION |
|--|------|------|-------------|
| DRAWN BY: A. ROCHA CHECKED BY: | | | |
| APPROVED BY: <i>R.P. Cullen</i> 23797 12/22/88 | | | |
| CITY ENGINEER, R.C.E. | | | DATE: |

CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT
DOUBLE CHECK VALVE -
DETECTOR CHECK ASSEMBLY

SCALE:
STD. DRWG.
NO.
W-11
SHEET 1 OF 1



- (1) SINGLE CHECK VALVE DETECTOR CHECK ASSEMBLY SHALL BE INSTALLED ON CLASS I AND II FIRE SERVICE AND PRIVATE FIRE HYDRANT LINE.
- (2) DETECTOR CHECK TO BE LOCATED WITHIN RIGHT OF WAY OR CITY EASEMENT.
- (3) VAULTS WILL NOT BE ALLOWED IN AREAS WHERE VAULT MIGHT BE SUBJECT TO VEHICULAR TRAFFIC.
- (4) DETECTOR METER, ONLY, TO BE FURNISHED BY CITY.
READING LID SHALL BE LOCATED ABOVE METER.

MATERIALS LIST.

- A. CHECK VALVE (DETECTOR METER LINE) FORD HA 31-323 (ANGLE), HS 31-323 OR HS 81-333.
- B. 3/4" CURB STOP.
- C. ALL TRIM MATERIALS TO BE BRASS / COPPER.
- D. CITY FURNISHED 5/8" X 3/4" DETECTOR METER

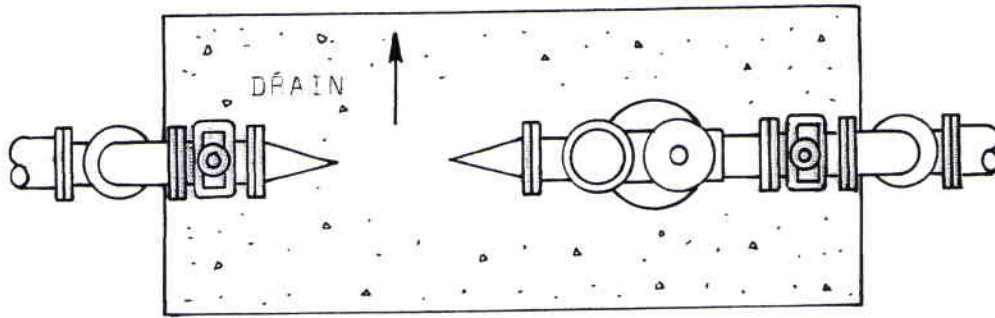


| | | |
|-------------------------------|-------------|--------------------------|
| JC | 9-91 | REV. NOTE 3 - SPRING LID |
| REV. / APP. / DATE | | DESCRIPTION |
| DRAWN BY: RENE '84 | CHECKED BY: | |
| APPROVED BY: <i>R. Cullen</i> | | 23797 SEP 1991 |
| CITY ENGINEER, R.C.E. | | DATE: |

CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

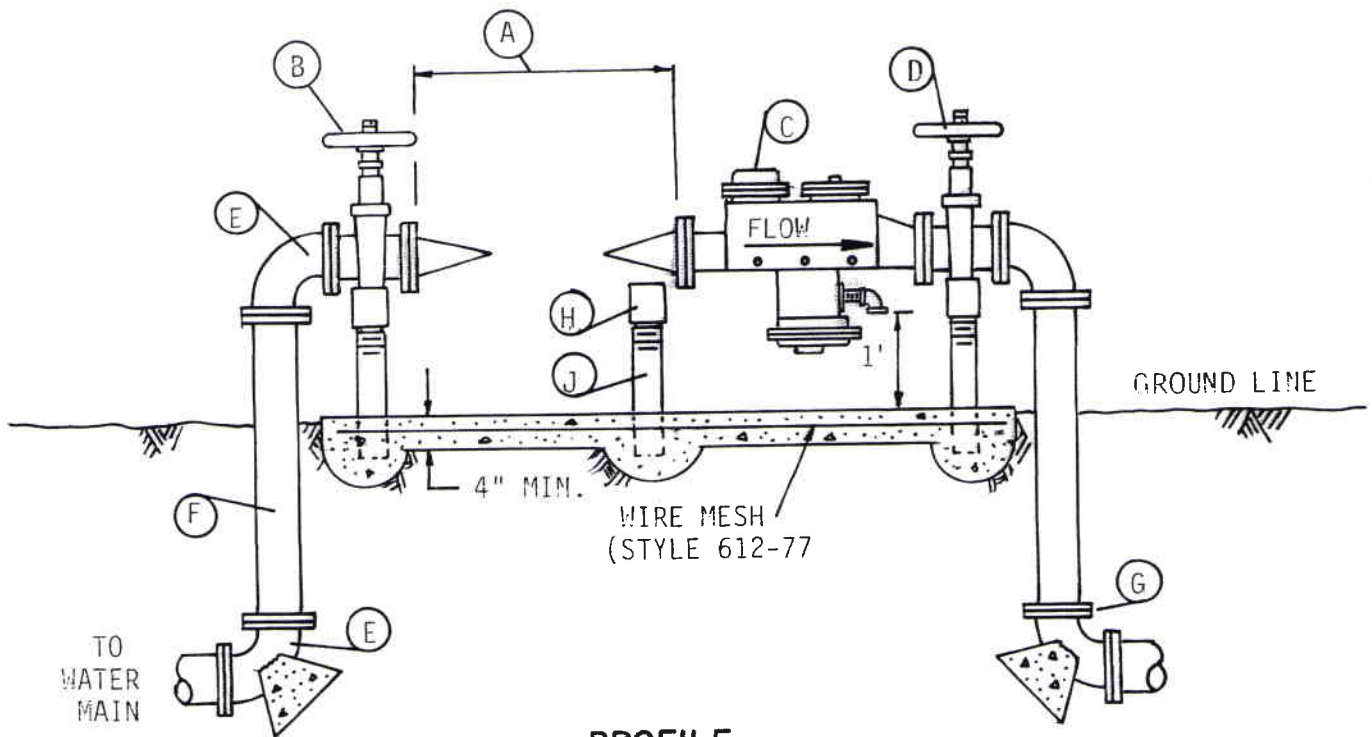
SINGLE CHECK VALVE -
DETECTOR CHECK ASSEMBLY

| |
|----------------|
| SCALE: NONE |
| STD. DRWG. NO. |
| W-12 |
| SHEET 1 OF 1 |




WIDTH OF CONCRETE PAD TO BE
1' WIDER THAN ABOVE ASSY. ON
EACH SIDE.

PLAN




PROFILE

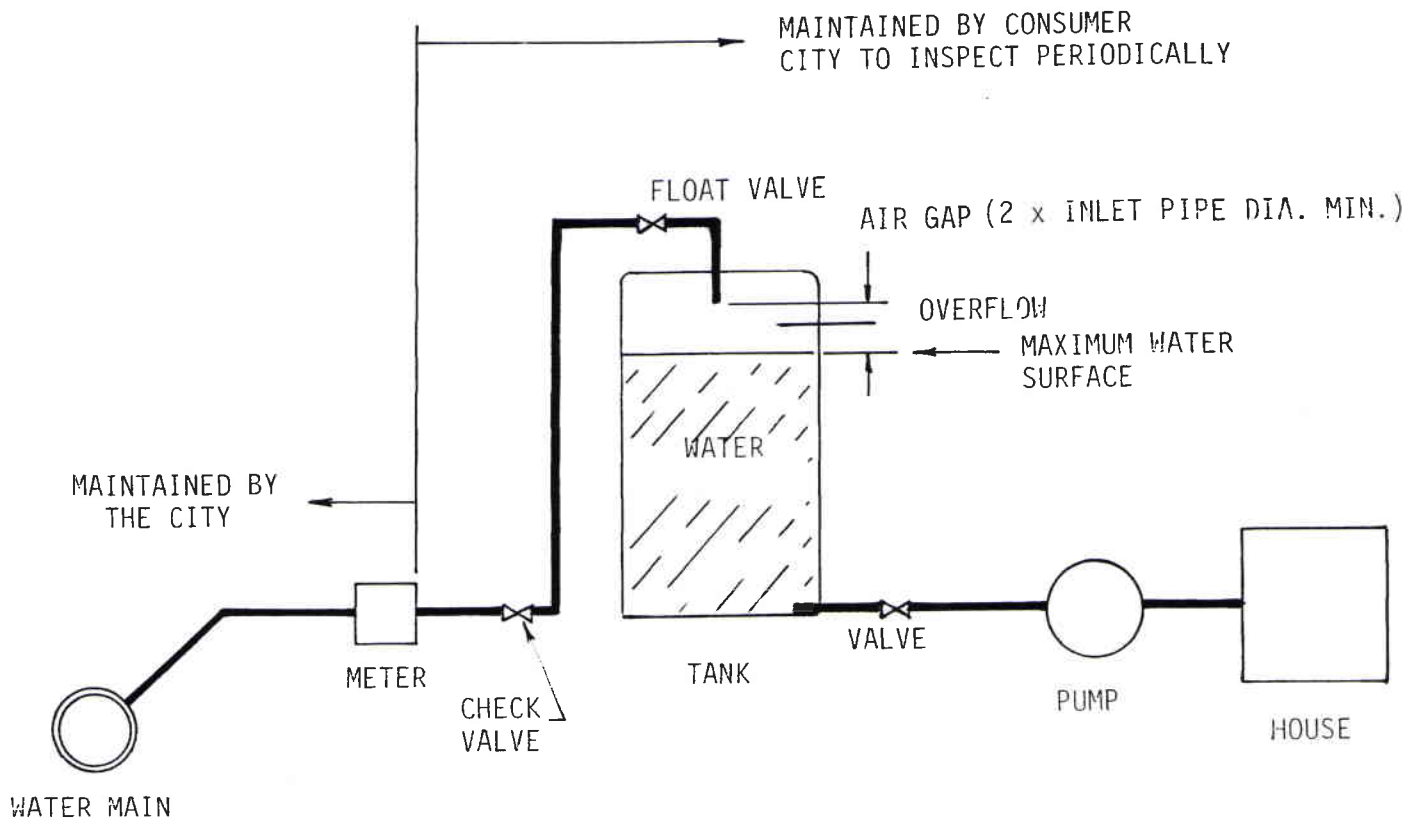
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|---|--|---|------------------------------------|
|  | REV. APP. DATE DESCRIPTION | CITY OF MARTINEZ PUBLIC WORKS DEPARTMENT | SCALE: STD. DRWG. NO. |
| | DRAWN BY: A. ROCKA CHECKED BY: | 3" & LARGER REDUCED PRESSURE BACKFLOW PREVENTION DEVICE INSTALLATION | W-13 |
| | APPROVED BY: | DATE: | SHEET 1 OF 2 |
| | <i>P.R. Cullen</i> 23797 12/22/88 CITY ENGINEER, R.C.E. | | |

| LIST OF MATERIAL | | |
|---|-----|---|
| ITEM | QTY | DESCRIPTION SERVICE |
| A | 1 | METER ASSY. (SIZE AND TYPE AS REQUIRED) |
| B | 1 | GATE VALVE FLG. (WITH HANDWHEEL, |
| E | 4 | ELL 90 ^U FLG. |
| F | 2 | CAST IRON PIPE F.B.E. |
| G | 1 | INSULATING GASKET SET (TYPICAL) |
| H | 2 | 4" CPLG. SS, GALV. |
| J | 2 | 4" PIPE GALV. T.O.E. (18" LONG) |
| | 8 | FLG. HARDWARE SET |
| REDUCED PRESSURE BACKFLOW PREVENTER ASSY. | | |
| C | 1 | REDUCED PRESSURE BACKFLOW PREVENTER (APPROVED STYLE) |
| D | 1 | GATE VALVE FLG. (WITH HANDWHEEL) |
| H | 1 | 4" CPLG. SS, GALV. |
| J | 1 | 4" PIPE GALV. T.O.E. (18" LONG) |
| | 2 | FLG. HARDWARE SET |

NOTES:

1. SEE APPROPRIATE STANDARD DETAIL DRAWING FOR METER.
2. BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION TO FACILITATE TESTING AND REPAIRS.
3. BACKFLOW PREVENTION DEVICES SHALL BE WITHIN A PROTECTIVE ENCLOSURE. SEE NOTE _____, STANDARD PLANS.
4. SECONDARY BY-PASS LINE AND ACCESSORIES TO BE INSTALLED AT CERTAIN INSTALLATIONS AS REQUIRED BY CITY ENGINEER.
5. APPROVED BACKFLOW PREVENTION DEVICES CONTACT THE WATER TREATMENT PLANT AT 372-3588.
6. THE CITY RESERVES THE RIGHT TO PERIODICALLY TEST AND SERVICE THE DEVICES.

| | | | | | | |
|---|--|------|-------------|-------------|--|---|
|  | REV. | APP. | DATE | DESCRIPTION | CITY OF MARTINEZ PUBLIC WORKS DEPARTMENT 3" & LARGER REDUCED PRESSURE BACKFLOW PREVENTION DEVICE INSTALLATION | SCALE: STD. DRWG. NO. W-13 SHEET <u>2</u> OF <u>2</u> |
| | DRAWN BY: A. FOCKA | | CHECKED BY: | | | |
| | APPROVED BY: <i>R.P. Cullen</i> 23797 12/22/88 | | | | | |
| | CITY ENGINEER, R.C.E. | | | DATE: | | |



NOTES:

1. AIR GAP INSTALLATION TO BE INSPECTED BY CITY.
2. SUBMIT DETAILS OF INSTALLATION FOR REVIEW.
3. INSTALLATION SHALL BE CERTIFIED BY REGISTERED DESIGN ENGINEER.



| REV. | APP. | DATE | DESCRIPTION |
|-----------------------|------|-----------------|-------------|
| | | | |
| DRAWN BY: | | CHECKED BY: | |
| APPROVED BY: | | DATE: | |
| <i>R.R. Cullen</i> | | <i>12/22/88</i> | |
| CITY ENGINEER, R.C.E. | | | |

CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

**SCHEMATIC
BOOSTER PUMP
INSTALLATION**

SCALE:
STD. DRWG.
NO.

W-14

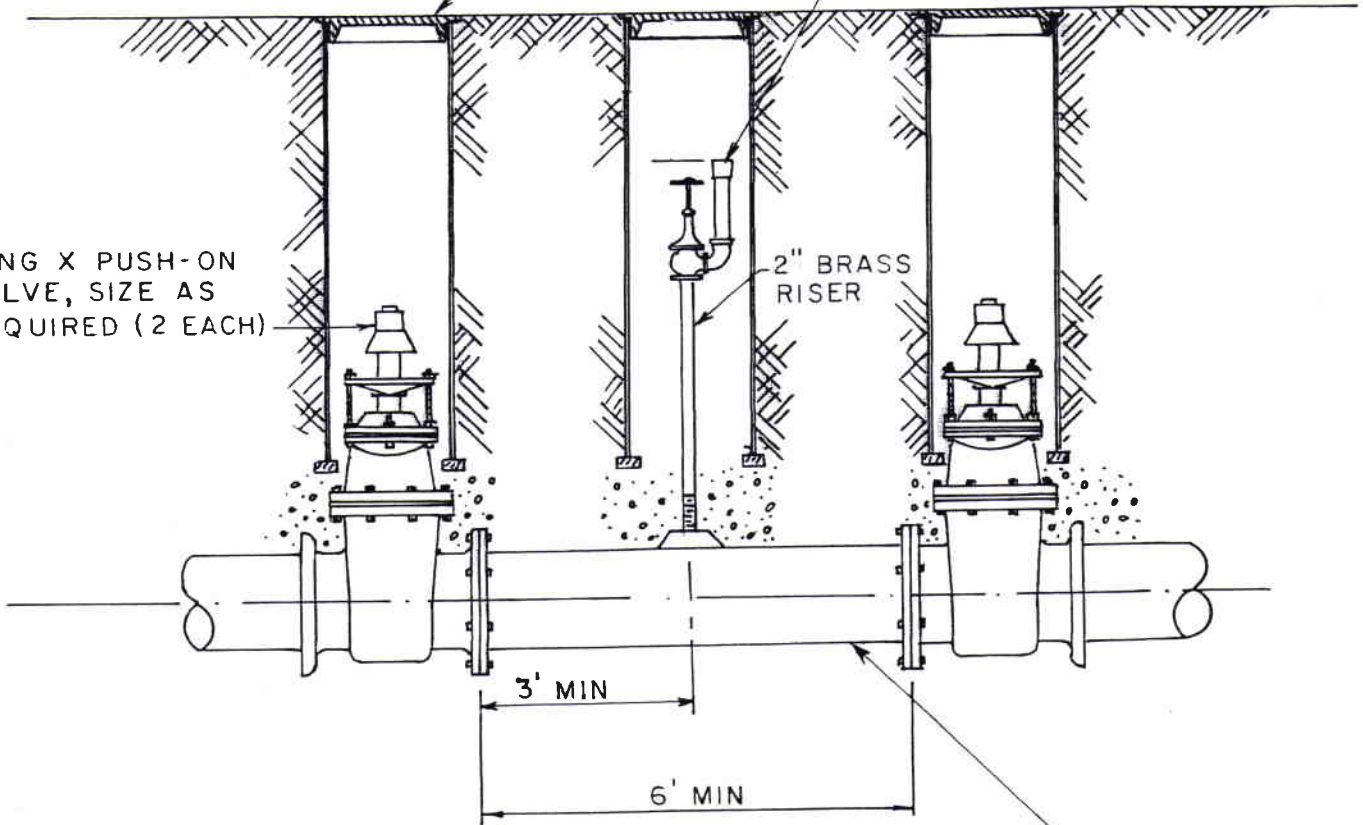
SHEET 1 OF 1

VALVE BOX - SEE DRWG. W-9
FOR STANDARD INSTALLATION

2" BLOWOFF. SEE DRWG. W-10
FOR TYPICAL INSTALLATION

FLNG X PUSH-ON
VALVE, SIZE AS
REQUIRED (2 EACH)

2" BRASS
RISER



FLNG DUCTILE IRON SPOOL
WITH FACTORY INSTALLED
2-1/2" BOSS. INSTALL 2-1/2"
X 2" DIELECTRIC BUSHING.

NOTE: BOTH VALVES NORMALLY CLOSED.



| REV. | APP. | DATE | DESCRIPTION |
|-----------------------|------|-------------|-------------|
| | | | |
| DRAWN BY: | | CHECKED BY: | |
| APPROVED BY: | | DATE: | |
| CITY ENGINEER, R.C.E. | | | |

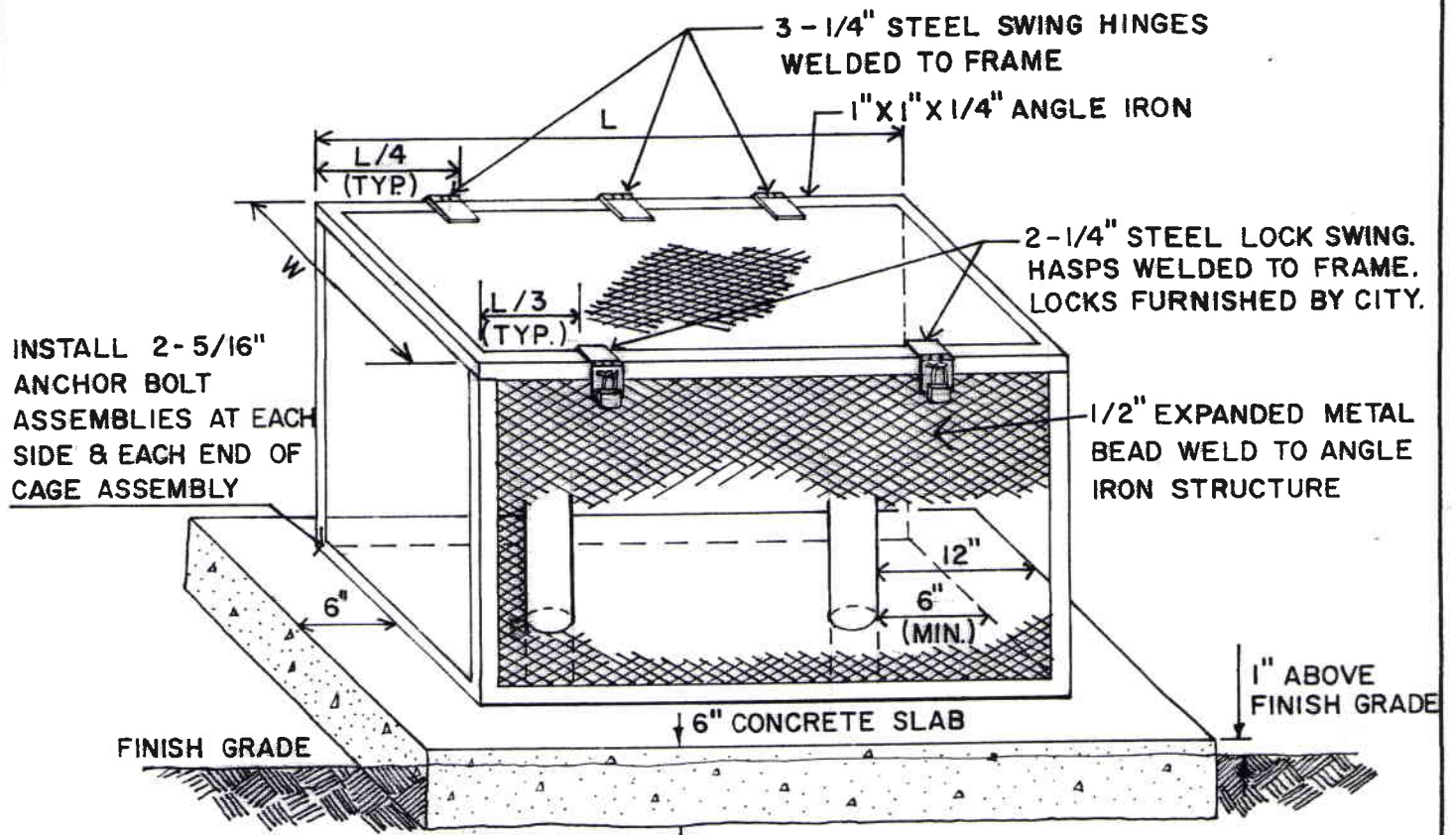
CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

ZONE VALVE
ASSEMBLY

SCALE:
STD. DRWG.
NO.

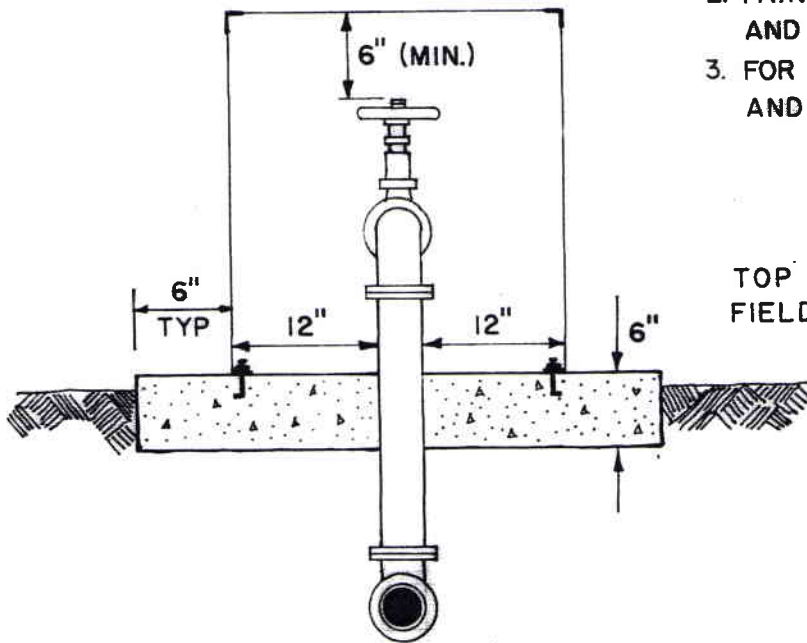
W-15

SHEET 1 OF 1

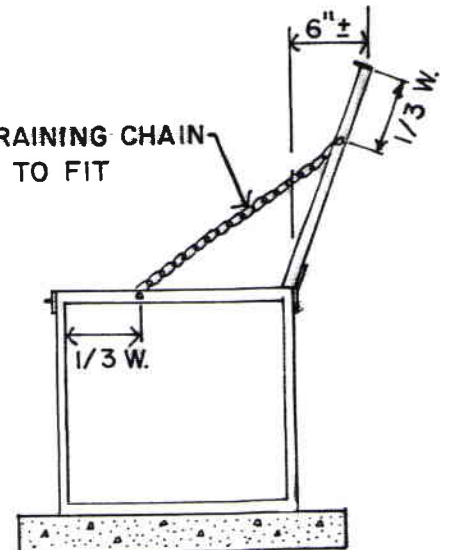


NOTES:

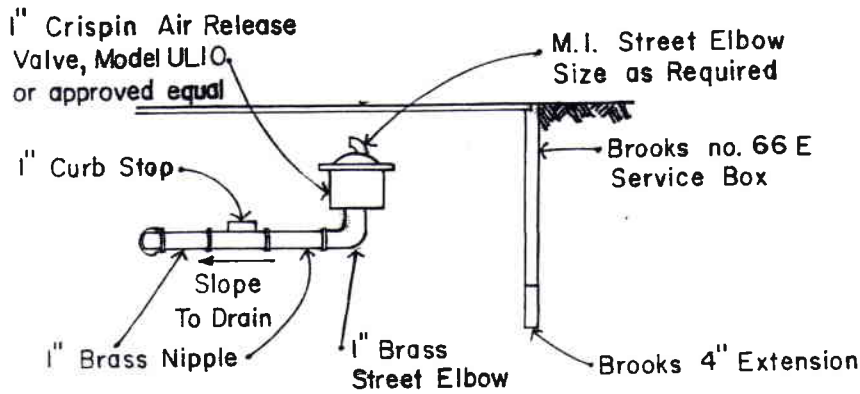
1. PROVIDE SHOP DRAWINGS FOR APPROVAL.
2. PAINT UNIT WITH 2 COATS OF PRIMER AND 1 COAT OF EXTERIOR BLACK ENAMEL.
3. FOR LENGTH UNDER 5'. USE 2 HINGES AND 1 HASP.



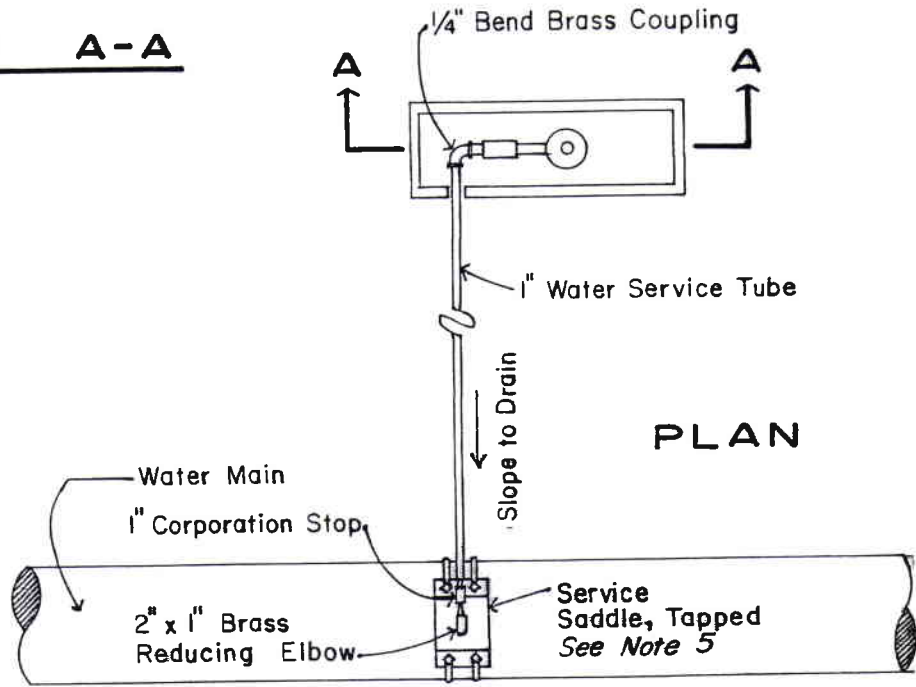
TOP RESTRAINING CHAIN FIELD CUT TO FIT



| | | | | |
|--|--|--------------------|--|----------------------------------|
| | 7-84 | | CITY OF MARTINEZ PUBLIC WORKS DEPARTMENT | SCALE: STD. DRWG. NO. |
| | REV. APP. DATE | DESCRIPTION | <h1 style="margin: 0;">PROTECTIVE ENCLOSURE</h1> | <h1 style="margin: 0;">W-16</h1> |
| | DRAWN BY: RENE | CHECKED BY: R.R.C. | | |
| | APPROVED BY: <i>R.P. Cullen</i> 23797 12/20/88 CITY ENGINEER, R.C.E. DATE: | | | |
| | | | SHEET ___ OF ___ | |



SECTION A-A



AIR & VACUUM RELIEF VALVE ASSEMBLY

NOTES:

1. All underground steel pipes shall be enclosed within a min. of 8-mil thick polyethylene encasement, & be carefully secured with 10-mil thick tape.
2. Place box behind & adjacent to sidewalk or in location similar to nearby water meter boxes.
3. Service box shall have 3" min. crushed rock bottom.
4. Steel pipe shall be tapped in accordance with the manufacturer's recommendations, Tap shall be made 2-1/2" with 2-1/2" x 2" insulated bushing.
5. Bronze service saddle shall be used with non-metallic (PVC) pipe, tapped 2". Malleable iron service saddle shall be used with ductile iron pipe. Iron saddle shall be tapped 2-1/2" with 2-1/2" x 2" insulated bushing.

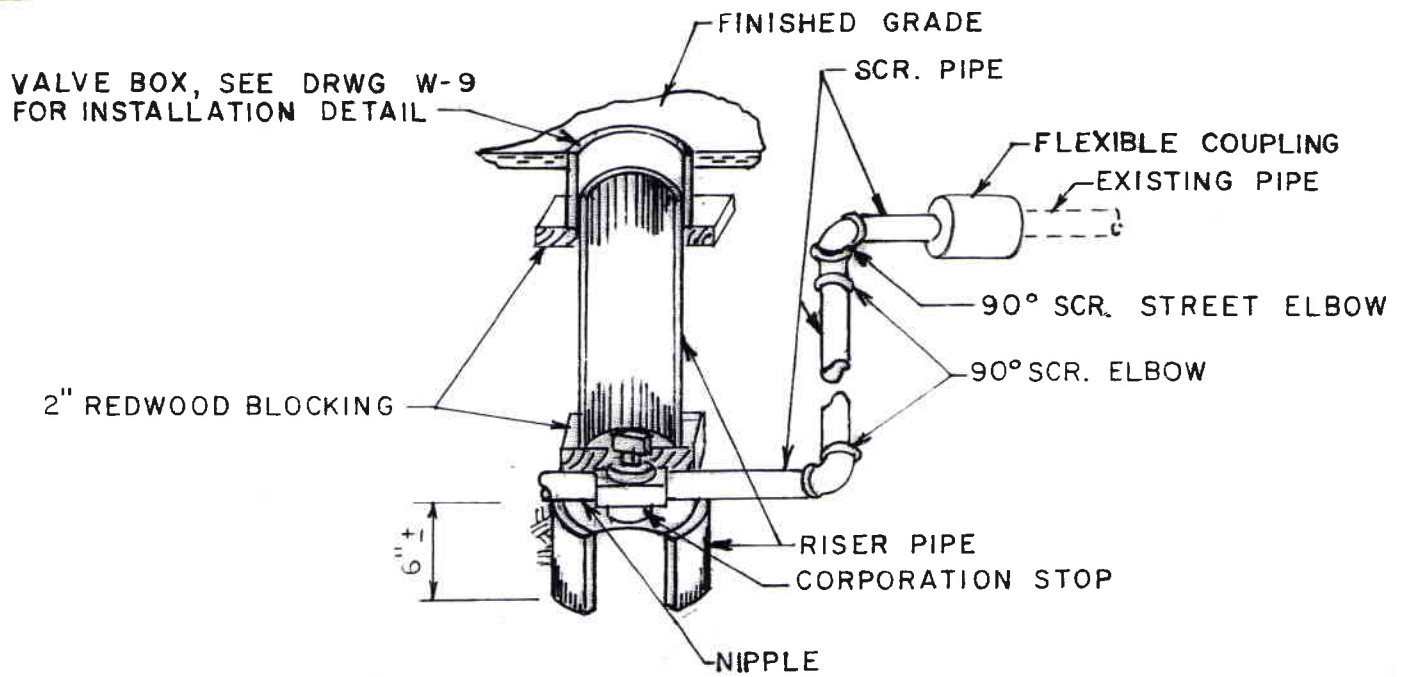


| | | |
|---------------------------------|-------|------------------------------|
| VS | 12-91 | REMOVE BOLTED COVER |
| JC | 9-91 | UNIVERSAL VALVE & ADD NOTE 5 |
| REV. | APP. | DATE |
| DRAWN BY: <i>GENE</i> | | CHECKED BY: <i>RRG</i> |
| APPROVED BY: <i>R.P. Cullen</i> | | DATE: <i>23797 DEC 1991</i> |
| CITY ENGINEER, R.C.E. | | DATE: |

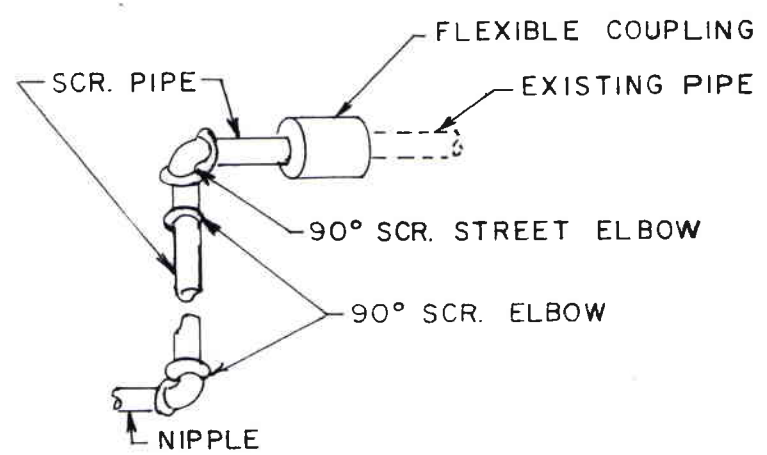
CITY OF MARTINEZ
PUBLIC WORKS DEPARTMENT

AIR & VACUUM RELIEF
VALVE ASSEMBLY

| |
|----------------|
| SCALE: NONE |
| STD. DRWG. NO. |
| W-17 |
| SHEET 1 OF 1 |




TYPE A INSTALLATION



TYPE B INSTALLATION

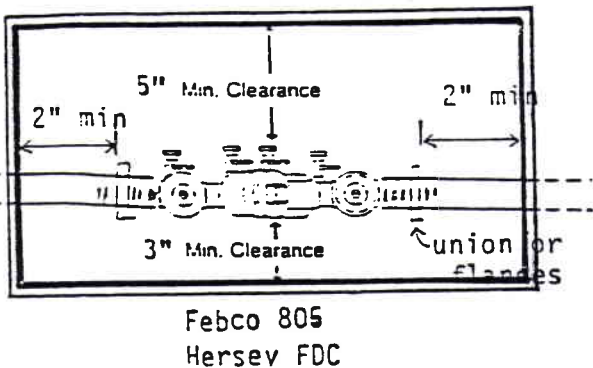
NOTE: NEW PIPE & FITTINGS SHALL BE THE SAME SIZE AS EXISTING PIPE.

| | | | | | | |
|---|---|------|----------------|-------------|---|---|
|  | REV. | APP. | DATE | DESCRIPTION | CITY OF MARTINEZ PUBLIC WORKS DEPARTMENT | SCALE: NONE |
| | DRAWN BY: JC | | CHECKED BY: | | | SWING CONNECTION TO 4" & SMALLER EXISTING PIPE |
| | APPROVED BY: | | DATE: | | W-18 | |
| | <i>R.P. Cullen</i> CITY ENGINEER, R.C.E. | | 23797 12/22/88 | | | |

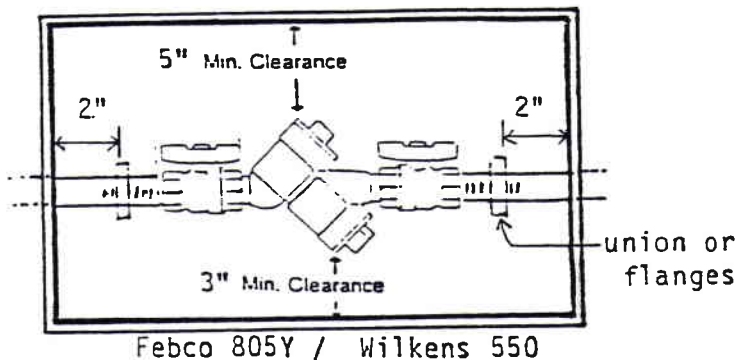
BACKFLOW PREVENTION DEVICE

Typical Installations

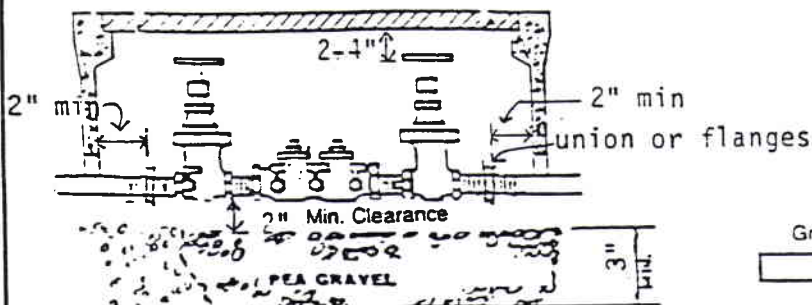
Pit Installation (Top View)
(Sizes 3/4" through 2")



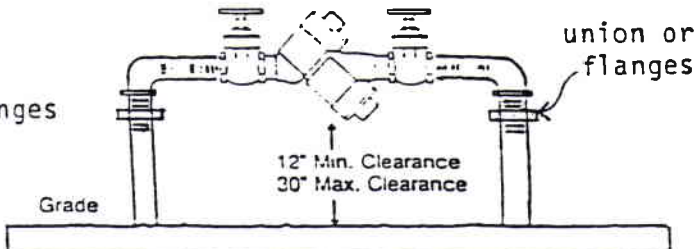
Pit Installation (Top View)
(Sizes 3/4" through 2")



Pit Installation (Side View)
(Sizes 3/4" through 2")



Outside Installation (Side View)
(Sizes 3/4" through 2")



1. Typical backflow prevention device installation shall be back of sidewalk, immediately adjacent to the water meter, and above ground. There shall be no SECONDARY CONNECTIONS BETWEEN water meter and the backflow prevention device.

2. Entire assembly shall be purchased and installed as a complete unit. Backflow prevention devices shall be from City of Martinez's "List of Approved Backflow Prevention Devices" and meet AWWA and USC Foundation standards.


3. Double Check Valve Assembly (DCVA) may be installed in a pit if it is in a traffic area. All backflow prevention devices that are installed in an area where vehicles have access shall have at least two 2 1/2" diameter posts installed vertically, adjacent to the backflow device, to prevent vehicles from parking on or driving over the backflow prevention device.

4. 3/4" thru 2" backflow prevention devices shall have full flow ball valve shut offs.

5. Screwed installation shall have one union or set of flanges on each side of the backflow prevention device in an accessible location. Pipe shall be brass between meter and backflow prevention device. The union/flange material shall be compatible with backflow prevention device and piping material.

6. Meter box and cover for pit installation shall be Christy Products or approved equal. Size shall be as listed below (for DCVA only):

| | | |
|--------------------|---|--------------|
| 3/4" and 1" DCVA | - | Christy B-30 |
| 1 1/2" and 2" DCVA | - | Christy B-36 |

| | | | | |
|---|---|--|---|--|
|  | CITY OF MARTINEZ PUBLIC WORKS DEPARTMENT | | SCALE: STD. DRWG. NO. W-19 | |
| | 3/4" TO 2" INSTALLATIONS BACKFLOW PREVENTION DEVICE | | SHEET <u>1</u> OF <u>1</u> | |
| | REV. APP. DATE DESCRIPTION DRAWN BY: <i>R. R. Cullen</i> CHECKED BY: APPROVED BY: <i>R. R. Cullen</i> 23797 12/22/88 CITY ENGINEER, R.C.E. DATE: | | | |
| | | | | |



CITY OF MARTINEZ WATER SYSTEM

List of Approved Backflow Prevention Devices

| Reduced Pressure Principal Assemblies (RP) | | |
|--|----------------------|--------------------------|
| Company | Model | Size |
| Febco | 825Y | ¾", 1", 1¼", 1½", 2" |
| | 825YA | ¾", 1", 1½", 2" |
| | 825YD | 2½" (ONLY) |
| | 860 WITH OSY VALVES | 3" - 10" |
| Double Check Valve Assemblies (DC) | | |
| Company | Model | Size |
| Watts | 007 M3 QT | ¾" |
| | 007 M2 QT | 1 1/2" |
| | 007 M1 QT | 1" - 2" |
| | LF007-NRS VALVES | 3" (ONLY) |
| * Double Check Detector Check Assemblies (DCDA) Fire Service Only | | |
| Company | Model | Size |
| Febco | 856 (DCDA ONLY) | 2½", 3", 4", 6", 8" |
| | 876/876V (DCDA ONLY) | 2½", 3", 4", 6", 8", 10" |
| | | |
| | | |

*** Exceptions on case by case only**

Notes: RP = Reduced Pressure Assembly
 DC = Double Check Assembly
 DCDA = Double Check Detector Check Assembly
 LF = Lead Free

Lead free regulations must be met

Approved by: TOM CAMPBELL
 Date: 6/2/16