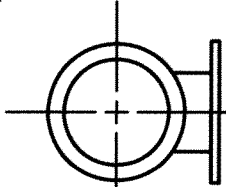


USE 6" FLANGED SADDLED OUTLET FOR INSTALLATION ON 12" OR LARGER PIPE



USE C.I. TEE FOR INSTALLATION ON 6" OR 8" PIPELINE

## PIPELINE INSTALLATION

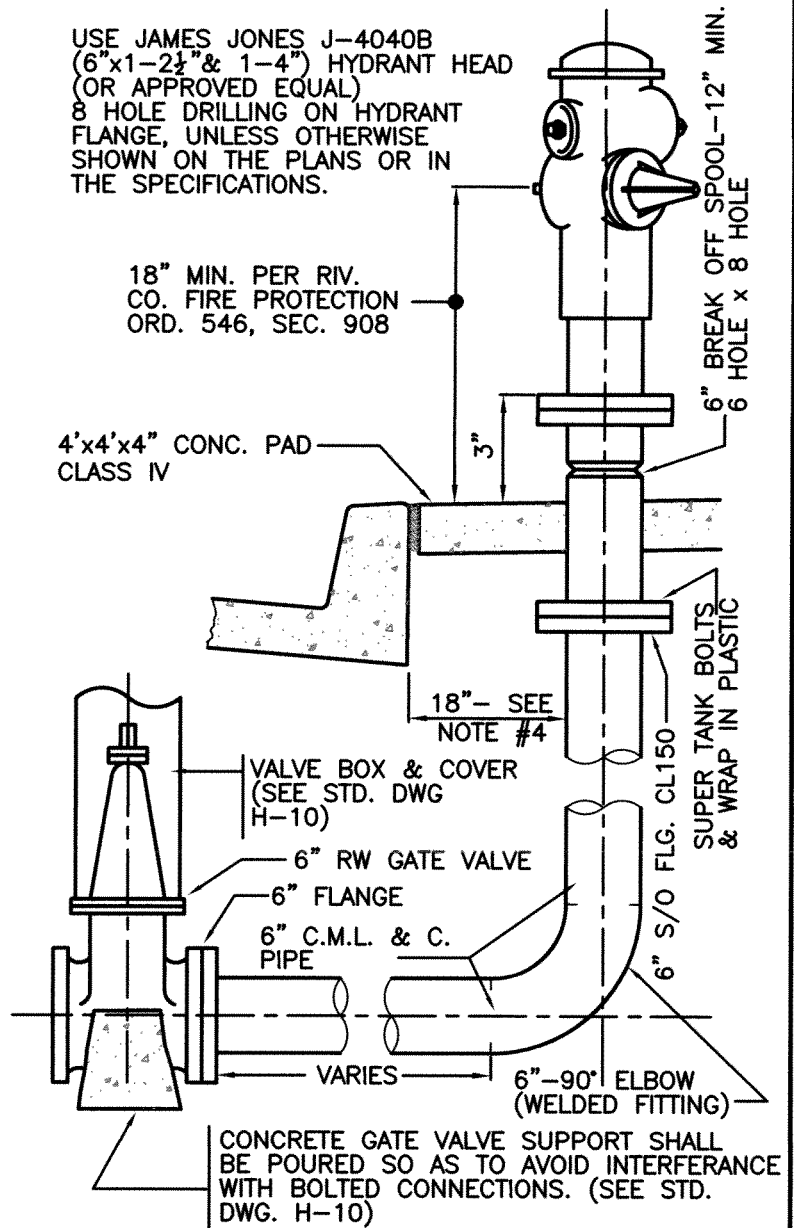
### NOTES:

1. HYDRANT TO BE PAINTED WITH RUSTOLEUM 7644 SAFETY YELLOW OR APPROVED EQUAL.
2. ALL FLANGES SHALL BE FULL WELD (DOUBLE PASS) AND COATED IN THE FIELD AS DIRECTED BY THE ENGINEER PER NOTE #6.
3. ALTERNATE MATERIALS MAY BE USED WHEN AUTHORIZED.
4. FIRE HYDRANT PLACEMENT:
  - A.) CURB & SIDEWALK SEPARATED: HYDRANT TO BE 18" BEHIND CURB AS SHOWN.
  - B.) CURB & SIDEWALK ADJACENT: HYDRANT TO BE 18" BEHIND SIDEWALK BUT NOT LESS THAN 8" WITHIN THE ROAD RIGHT-OF-WAY.
  - C.) NO CURBS OR SIDEWALKS PROPOSED: HYDRANT TO BE 18" WITHIN THE ROAD RIGHT-OF-WAY.
5. FIRE HYDRANT LOCATION:
  - A.) STREET LOCATIONS: HYDRANT TO BE AT CURB RETURN
  - B.) OTHER THAN ST. INTERSECTIONS: HYDRANT TO BE ON LOT LINE AS SHOWN ON PLANS.
6. FIELD COATING SHALL BE EITHER:
  - A.) PROTECTO WRAP #1170 PRIMER AND #200 COAL-TAR-RESIN
  - B.) CEMENT MORTAR.
7. DIRECTION OF OUTLETS AT 45° PER RIV. CO. FIRE PROTECTION ORD. 546, SEC. 901-F

USE JAMES JONES J-4040B (6"x1-2½" & 1-4") HYDRANT HEAD (OR APPROVED EQUAL) 8 HOLE DRILLING ON HYDRANT FLANGE, UNLESS OTHERWISE SHOWN ON THE PLANS OR IN THE SPECIFICATIONS.

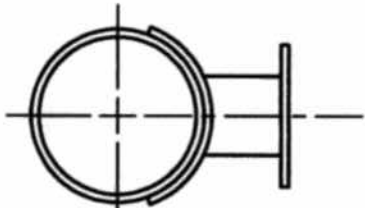
18" MIN. PER RIV. CO. FIRE PROTECTION ORD. 546, SEC. 908

4'x4'x4" CONC. PAD CLASS IV



## FIRE HYDRANT ASSEMBLY WITH C.I. BREAK-AWAY SPOOL

DATE	REVISION	BY
APPROVED BY <i>Robert V. Lindquist</i> 12/17/97		
GENERAL MANAGER		DATE
<i>John M. Brudin</i>		12/12/97
DISTRICT ENGINEER		DATE
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
FIRE HYDRANT INSTALLATION (6"x1-2½" & 1-4") STANDARD FIRE HYDRANT		
STANDARD H-2A		



USE 6" FLANGED SADDLED OUTLET FOR INSTALLATION ON 12" OR LARGER PIPE



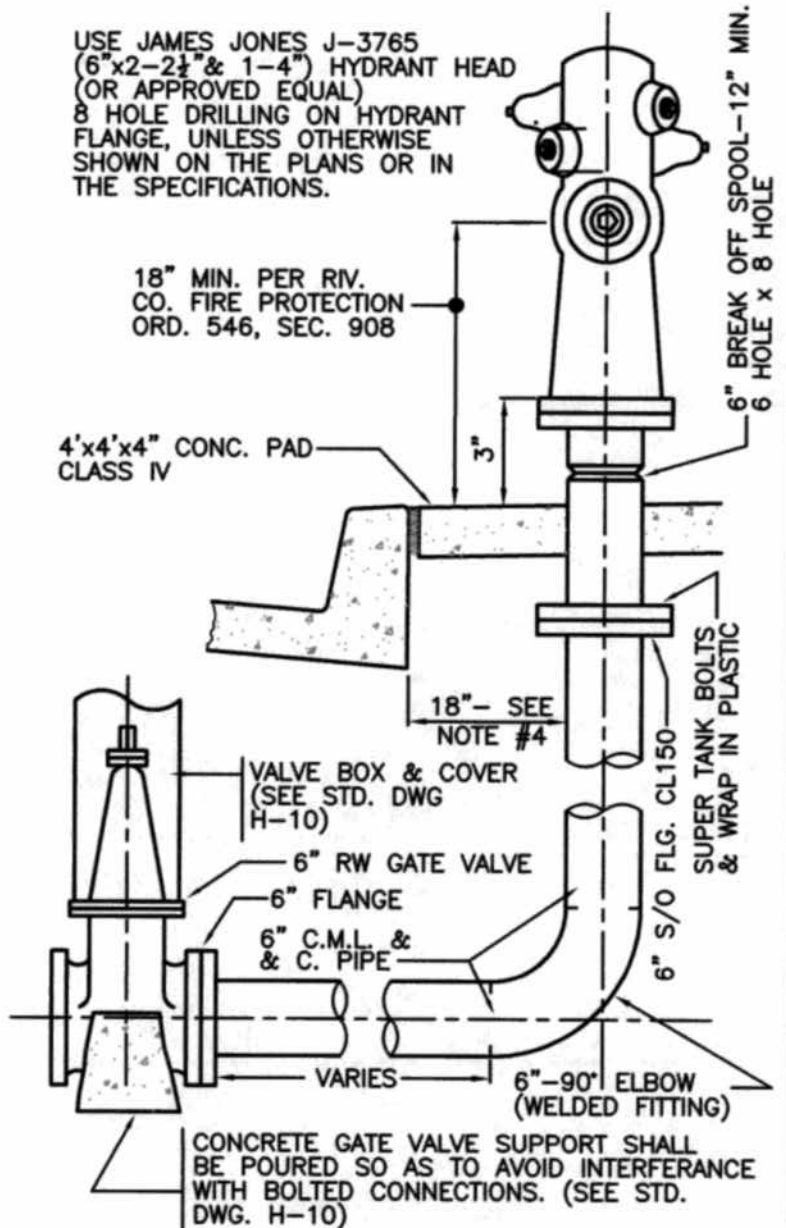
USE C.I. TEE FOR INSTALLATION ON 6" OR 8" PIPELINE

## PIPELINE INSTALLATION

### NOTES:

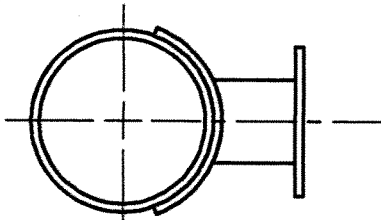
1. HYDRANT TO BE PAINTED WITH RUSTOLEUM 7644 YELLOW OR APPROVED EQUAL.
2. ALL FLANGES SHALL BE FULL WELD (DOUBLE PASS) AND COATED IN THE FIELD AS DIRECTED BY THE ENGINEER PER NOTE #6.
3. ALTERNATE MATERIALS MAY BE USED WHEN AUTHORIZED.
4. FIRE HYDRANT PLACEMENT:
  - A.) CURB & SIDEWALK SEPARATED: HYDRANT TO BE 18" BEHIND CURB AS SHOWN.
  - B.) CURB & SIDEWALK ADJACENT: HYDRANT TO BE 18" BEHIND SIDEWALK BUT NOT LESS THAN 8" WITHIN THE ROAD RIGHT-OF-WAY.
  - C.) NO CURBS OR SIDEWALKS PROPOSED: HYDRANT TO BE 18" WITHIN THE ROAD RIGHT-OF-WAY.
5. FIRE HYDRANT LOCATION:
  - A.) STREET LOCATIONS: HYDRANT TO BE AT CURB RETURN
  - B.) OTHER THAN ST. INTERSECTIONS: HYDRANT TO BE ON LOT LINE AS SHOWN ON PLANS.
6. FIELD COATING SHALL BE EITHER:
  - A.) PROTECTO WRAP #1170 PRIMER AND #200 COAL-TAR-RESIN
  - B.) CEMENT MORTAR.
7. LARGE OUTLET TO BE POINTED TOWARDS THE STREET PER RIV. CO. FIRE PROTECTION ORD. 546 SEC. 901-H.

USE JAMES JONES J-3765 (6"x2-2½" & 1-4") HYDRANT HEAD (OR APPROVED EQUAL) 8 HOLE DRILLING ON HYDRANT FLANGE, UNLESS OTHERWISE SHOWN ON THE PLANS OR IN THE SPECIFICATIONS.

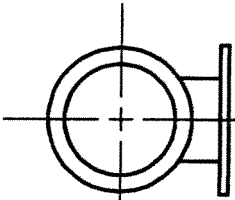


## FIRE HYDRANT ASSEMBLY WITH C.I. BREAK-AWAY SPOOL

DATE	REVISION	BY
APPROVED BY <i>Robert V. Lindquist</i> 12/17/97		
	GENERAL MANAGER	DATE
<i>Fohn M. Brudin</i> 12/12/97 DISTRICT ENGINEER DATE		
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
FIRE HYDRANT INSTALLATION (6"x2-2½" & 1-4") SUPER FIRE HYDRANT STANDARD H-2B		



USE 6" FLANGED SADDLED OUTLET FOR INSTALLATION ON 12" OR LARGER PIPE



USE C.I. TEE FOR INSTALLATION ON 6" OR 8" PIPELINE

## PIPELINE INSTALLATION

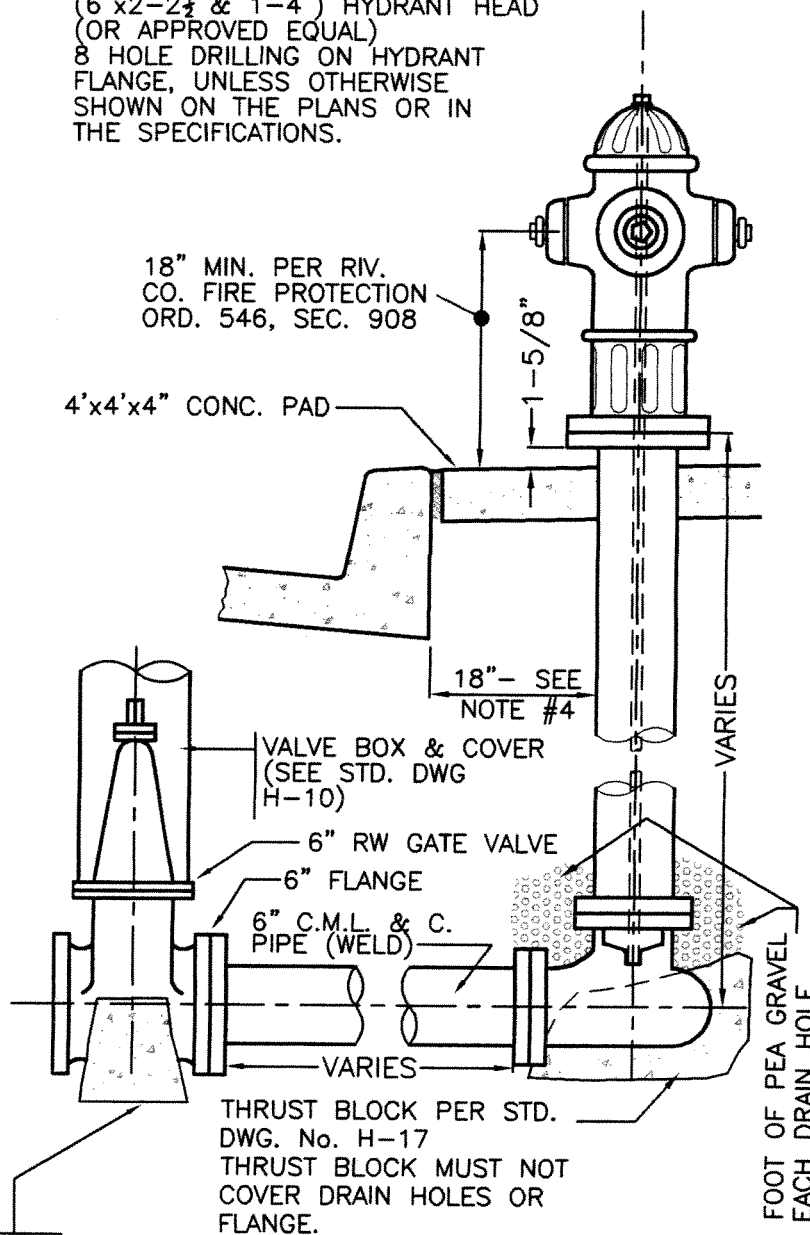
### NOTES:

1. HYDRANT TO BE PAINTED WITH RUSTOLEUM 7644 YELLOW OR APPROVED EQUAL.
2. ALL FLANGES SHALL BE FULL WELD (DOUBLE PASS) AND COATED IN THE FIELD AS DIRECTED BY THE ENGINEER PER NOTE #6.
3. ALTERNATE MATERIALS MAY BE USED WHEN AUTHORIZED.
4. FIRE HYDRANT PLACEMENT:
  - A.) CURB & SIDEWALK SEPARATED: HYDRANT TO BE 18" BEHIND CURB AS SHOWN.
  - B.) CURB & SIDEWALK ADJACENT: HYDRANT TO BE 18" BEHIND SIDEWALK BUT NOT LESS THAN 8" WITHIN THE ROAD RIGHT-OF-WAY.
  - C.) NO CURBS OR SIDEWALKS PROPOSED: HYDRANT TO BE 18" WITHIN THE ROAD RIGHT-OF-WAY.
5. FIRE HYDRANT LOCATION:
  - A.) STREET LOCATIONS: HYDRANT TO BE AT CURB RETURN
  - B.) OTHER THAN ST. INTERSECTIONS: HYDRANT TO BE ON LOT LINE AS SHOWN ON PLANS.
6. FIELD COATING SHALL BE EITHER:
  - A.) PROTECTO WRAP #1170 PRIMER AND #200 COAL-TAR-RESIN
  - B.) CEMENT MORTAR.
7. LARGE OUTLET TO BE POINTED TOWARDS THE STREET PER RIV. CO. FIRE PROTECTION ORD. 546 SEC. 901-H.

USE MUELLER A-423 (6"x2-2½" & 1-4") HYDRANT HEAD (OR APPROVED EQUAL)  
 8 HOLE DRILLING ON HYDRANT FLANGE, UNLESS OTHERWISE SHOWN ON THE PLANS OR IN THE SPECIFICATIONS.

18" MIN. PER RIV. CO. FIRE PROTECTION ORD. 546, SEC. 908

4'x4'x4" CONC. PAD



## FIRE HYDRANT ASSEMBLY WITH SAFETY FLANGE

CONCRETE GATE VALVE SUPPORT SHALL BE POURED SO AS TO AVOID INTERFERENCE WITH BOLTED CONNECTIONS. (SEE STANDARD DWG. H-10)

1 CUBIC FOOT OF PEA GRAVEL AROUND EACH DRAIN HOLE

DATE	REVISION	BY
APPROVED BY _____		
GENERAL MANAGER		DATE
DISTRICT ENGINEER		DATE
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
FIRE HYDRANT INSTALLATION (6"x2-2½" & 1-4") SUPER FIRE HYDRANT (DRY BARREL)		
STANDARD H-2C		

Materials required when installing additional operating valve, when distance from main line to ASSY exceeds 50'.

(ALL LISTED MATERIALS TO BE LATHED)  
**MATERIAL LIST**

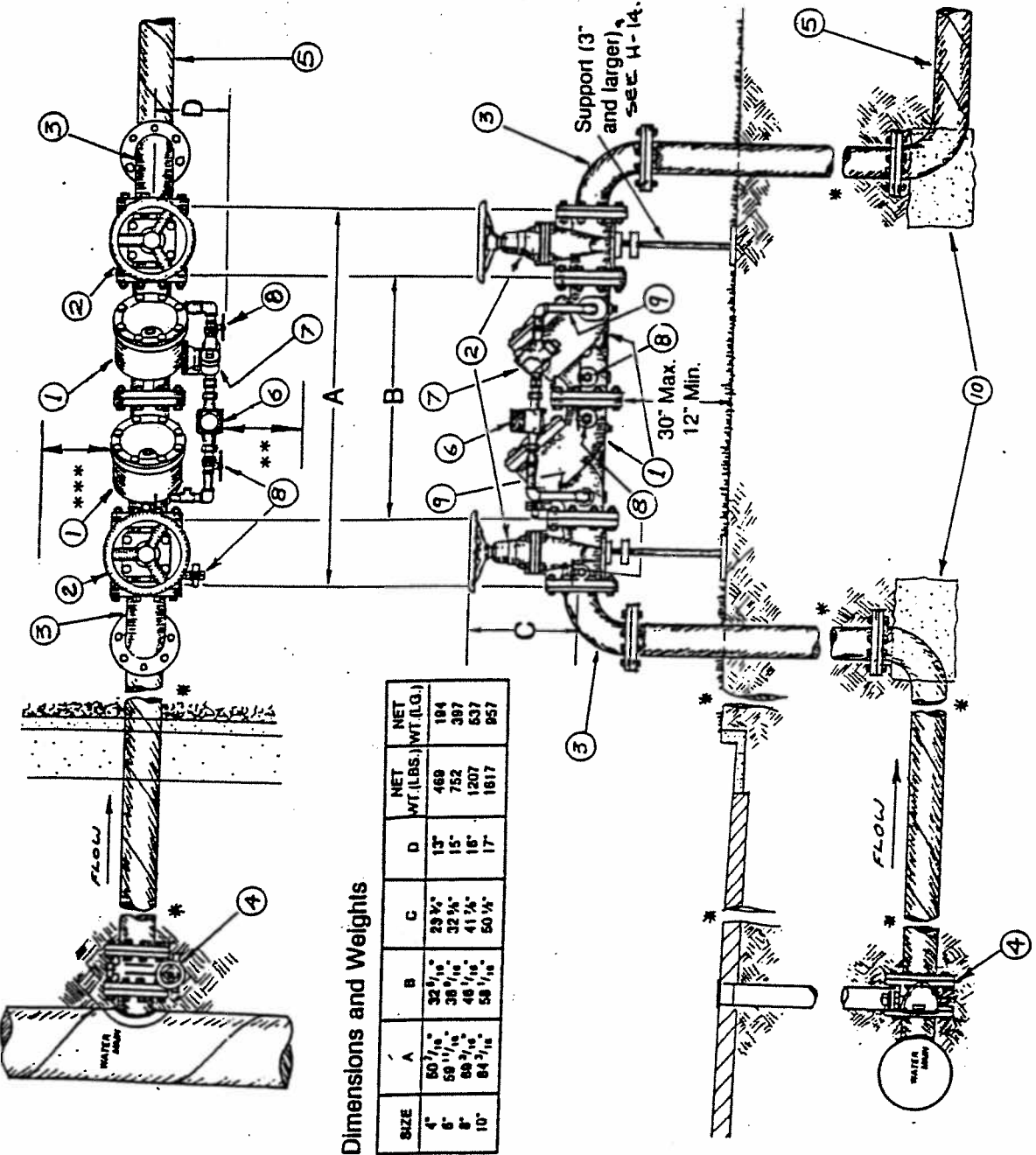
- ① 1 ea ... Double Check Detector A
- ② 2 ea ... O.S.&Y. gate valves (U.L. approved)
- ③ 2 ea ... BRASS, FLANGES STEEL ELBOWS
- ④ 1 ea ... 3/4" O.S.&Y. valve (Note: fire assembly to be U.L. approved)
- ⑤ 1 ea ... 36" long cast iron pipe w/ flange on one end
- ⑥ 1 ea ... 3/4" disc meter
- ⑦ 1 ea ... Double check valve
- ⑧ 2 ea ... 3/4" resilient seat ball valves
- ⑨ 2 ea ... 3/4" red brass nipples (length varies)
- ⑩ ... Paired in place concrete.

**NOTES**

1. ALL MATERIALS TO BE LATHED. Pipe to meet LATHED Specifications
2. Operating valve required when CCDA is to be installed away from main supply line where access to main line is restricted.
3. Post indicator or O.S.&Y. valve required by the fire protection authority will be installed by the customer. Otherwise, Isolation valve will be installed by LATHED on customer's side of double check detector assembly.
4. When CCDA is furnished by others use 3/4" I.D. x 7-1/2 galvanized nipple for meter spacing.

\* THIS DISTANCE VARIES ACCORDING TO SITE CONDITIONS  
 \*\* 24" MIN. CLEARANCE  
 \*\*\* 12" MIN. CLEARANCE

FLOW	No more than 10 P.S.I. head loss
4"	1 G.P.M. - 1000 G.P.M.
6"	1 G.P.M. - 1800 G.P.M.
8"	1 G.P.M. - 2400 G.P.M.
10" x 12"	1 G.P.M. - 4000 G.P.M.



Dimensions and Weights

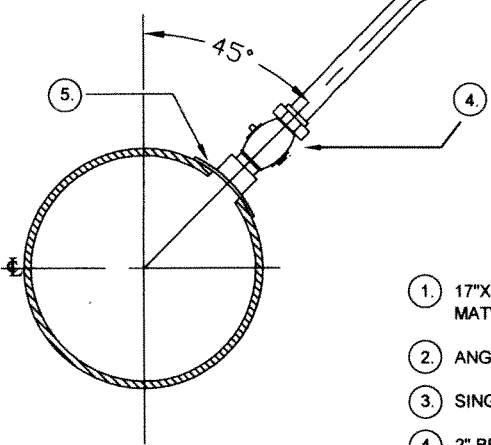
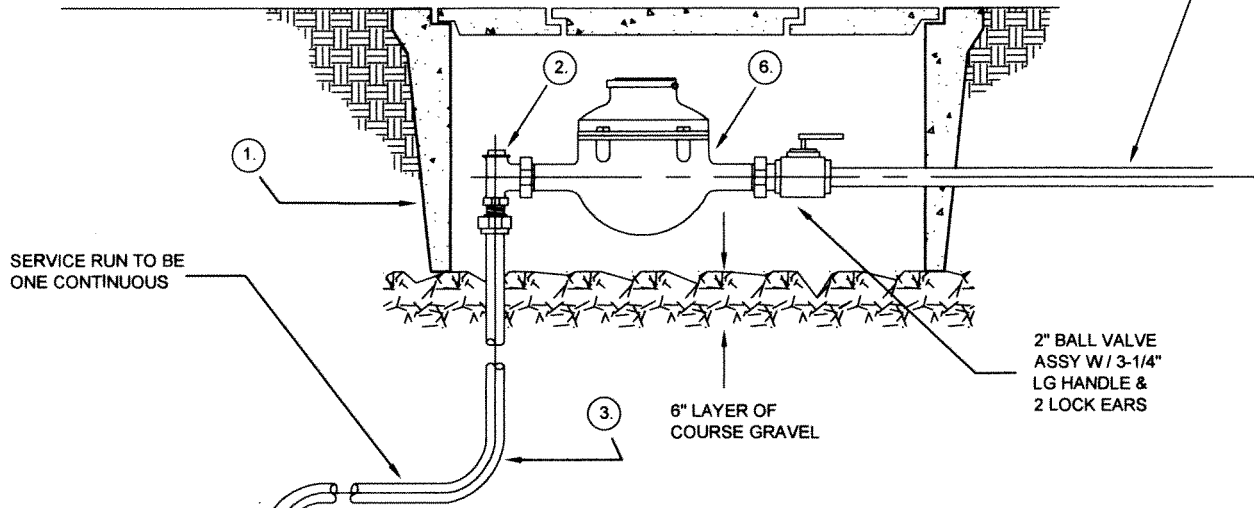
SIZE	A	B	C	D	NET WT. (LBS.)	NET WT. (LBS.)
4"	50 7/16"	32 1/16"	23 3/4"	13"	488	184
6"	59 1/16"	38 9/16"	32 3/8"	15"	752	387
8"	68 3/16"	48 1/16"	41 1/8"	16"	1207	537
10"	84 7/16"	58 7/16"	50 1/2"	17"	1817	957

SCALE	DATE
DESIGNED <i>A. Culberty</i>	9-23-96
DRAWN <i>A. Culberty</i>	9-23-96
APPROVED <i>A. Culberty</i>	
GENERAL MANAGER	

4" 6" 8" OR 10" DOUBLE CHECK DETECTOR ASSY.  
**STANDARD H-3**

**LAKE HEMET MUNICIPAL WATER DISTRICT**  
 2480 EAST FLORIDA AVENUE - P. O. BOX 8039  
 HEMET, CALIFORNIA 92344-0809  
 PHONE (714) 668-3241 FAX (714) 766-7031

BACKFLOW DEVICE MAY BE REQUIRED W/ COMERCIAL BLDG. OR IF SECOND SOURCE OF WATER IS ON-SITE OR METER IS REMOTE.



- ① 17"x30" METER BOX PER LHMWD'S APPROVED MAT'L LIST.
- ② ANGLE METER STOP (COPPER TUBE SIZE)
- ③ SINGLE-2" COPPER SERVICE TUBING (TYPE K)
- ④ 2" BRASS CORPORATION STOP (COPPER TUBE SIZE)
- ⑤ 2 1/2" WELDED SADDLE WITH 2 1/2"x 2" DIELECTRIC BUSHING FOR STEEL PIPE OR SMITH-BLAIR # 315 SINGLE STRAP SERVICE OR APPROVED EQUAL FOR PVC OR D.I.P.
- ⑥ 2" MULTI-JET METER PER LHMWD'S APPROVED MAT'L LIST.

**PLACEMENT OF METER BOX**

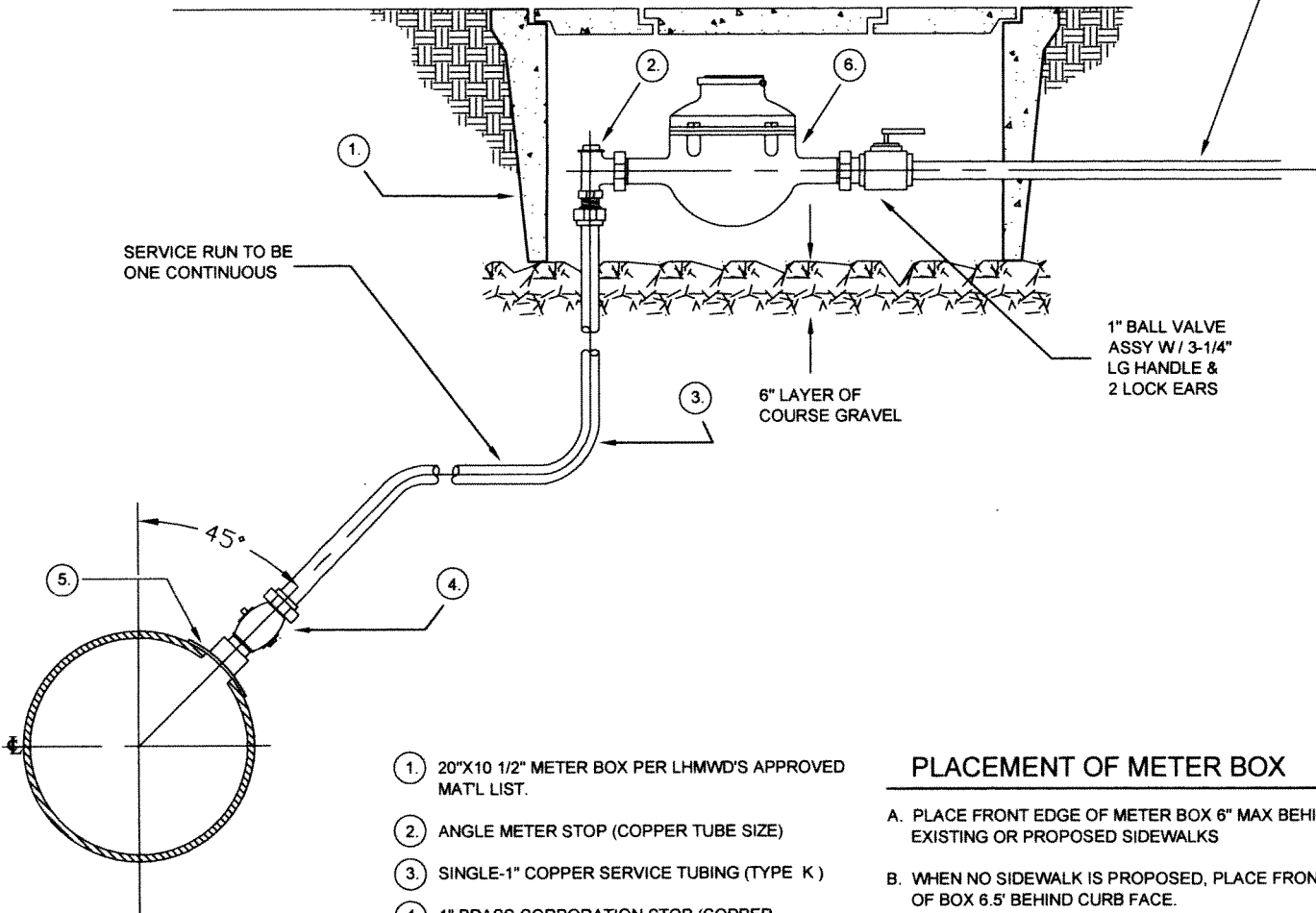
- A. PLACE FRONT EDGE OF METER BOX 6" MAX BEHIND EXISTING OR PROPOSED SIDEWALKS
- B. WHEN NO SIDEWALK IS PROPOSED, PLACE FRONT EDGE OF BOX 6.5' BEHIND CURB FACE.
- C. WHEN NO CURBS ARE EXISTING OR TO BE INSTALLED UPON COMPLETION OF THE WATER SYSTEM, PLACE BACK EDGE OF METER BOX ON PROPERTY LINE.

**GENERAL NOTES**

- 1. ALL FITTINGS BETWEEN AND INCLUDING CORPORATION STOP AND BALL VALVE SHALL:
  - A. BE MADE OF BRASS OR BRONZE:
  - B. BE OF THE BANDED PATTERN:
  - C. BE DESIGNED FOR A MIN OF 175 PSI (COLD WATER) WORKING PRESSURE.
- 2. PRESSURE TEST PRIOR TO WRAPPING OR BACKFILLING.
- 3. CORPORATION STOP & FITTINGS AT PIPELINE SHALL BE PRIMED AND WRAPPED WITH APPROVED COAL TAR RESIN TAPE.
- 4. ALL SERVICE PIPE & TUBING SHALL BE LAID ON A CONSTANT SLOPE UP FROM WATER MAIN TO METER. NO DIPS OR POCKETS WILL BE PERMITTED. PROVIDE 36" MIN. COVER AT GAS MAIN CROSSING.

DATE:	REVISION	BY
APPROVED BY <i>Thomas W. Wagener</i> 10/7/2010 GENERAL MANAGER      DATE:		
<i>M. J. ...</i> 10/7/10 CHIEF ENGINEER      DATE:		
SCALE: NONE		DRAWN BY: S.R.W.
<b>LAKE HEMET MUNICIPAL WATER DIST.</b>		
<b>WATER IMPROVEMENT</b>		
<b>2" SERVICE CONNECTION</b>		
<b>STANDARD H-4</b>		

BACKFLOW DEVICE MAY BE REQUIRED W/ COMERCIAL BLDG. OR IF SECOND SOURCE OF WATER IS ON-SITE OR METER IS REMOTE.



- ① 20"X10 1/2" METER BOX PER LHMWD'S APPROVED MAT'L LIST.
- ② ANGLE METER STOP (COPPER TUBE SIZE)
- ③ SINGLE-1" COPPER SERVICE TUBING (TYPE K)
- ④ 1" BRASS CORPORATION STOP (COPPER TUBE SIZE)
- ⑤ 1 1/4" WELDED SADDLE WITH 1 1/4"X 1" DIELECTRIC BUSHING FOR STEEL PIPE OR SMITH-BLAIR # 315 SINGLE STRAP SERVICE OR APPROVED EQUAL FOR PVC OR D.I.P.
- ⑥ 5/8" OR 3/4" MULTI-JET METER PER LHMWD'S APPROVED MAT'L LIST.

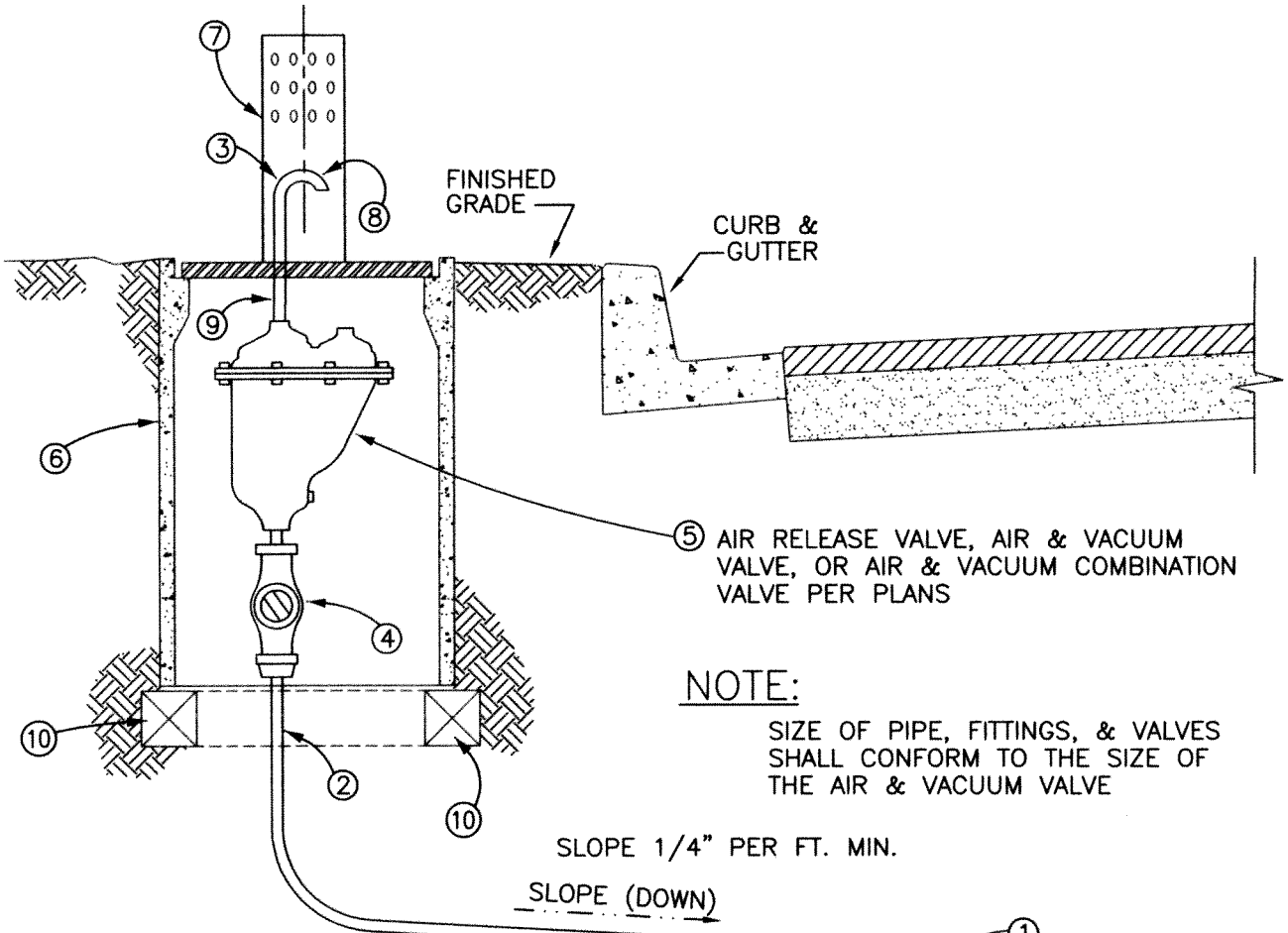
**PLACEMENT OF METER BOX**

- A. PLACE FRONT EDGE OF METER BOX 6" MAX BEHIND EXISTING OR PROPOSED SIDEWALKS
- B. WHEN NO SIDEWALK IS PROPOSED, PLACE FRONT EDGE OF BOX 6.5' BEHIND CURB FACE.
- C. WHEN NO CURBS ARE EXISTING OR TO BE INSTALLED UPON COMPLETION OF THE WATER SYSTEM, PLACE BACK EDGE OF METER BOX ON PROPERTY LINE.

**GENERAL NOTES**

- 1. ALL FITTINGS BETWEEN AND INCLUDING CORPORATION STOP AND BALL VALVE SHALL:
  - A. BE MADE OF BRASS OR BRONZE:
  - B. BE OF THE BANDED PATTERN:
  - C. BE DESIGNED FOR A MIN OF 175 PSI (COLD WATER) WORKING PRESSURE.
- 2. PRESSURE TEST PRIOR TO WRAPPING OR BACKFILLING.
- 3. CORPORATION STOP & FITTINGS AT PIPELINE SHALL BE PRIMED AND WRAPPED WITH APPROVED COAL TAR RESIN TAPE.
- 4. ALL SERVICE PIPE & TUBING SHALL BE LAID ON A CONSTANT SLOPE UP FROM WATER MAIN TO METER. NO DIPS OR POCKETS WILL BE PERMITTED. PROVIDE 36" MIN. COVER AT GAS MAIN CROSSING.

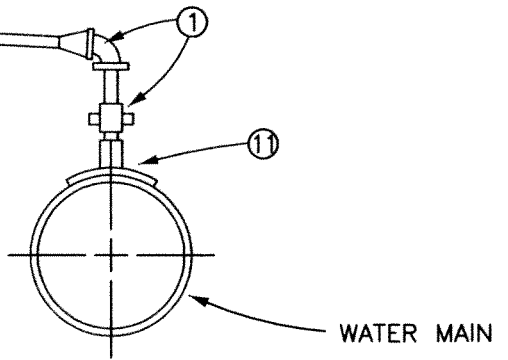
DATE:	REVISION	BY
APPROVED BY <i>Thomas W. Wiegner</i> 10/7/2010 GENERAL MANAGER      DATE:		
<i>M. O'Dowd</i> 10/7/10 CHIEF ENGINEER      DATE:		
SCALE: NONE		DRAWN BY: S.R.W.
<b>LAKE HEMET MUNICIPAL WATER DIST.</b> <b>WATER IMPROVEMENT</b>		
<b>1" SERVICE CONNECTION</b>		
<b>STANDARD H-5</b>		



**NOTE:**  
 SIZE OF PIPE, FITTINGS, & VALVES  
 SHALL CONFORM TO THE SIZE OF  
 THE AIR & VACUUM VALVE

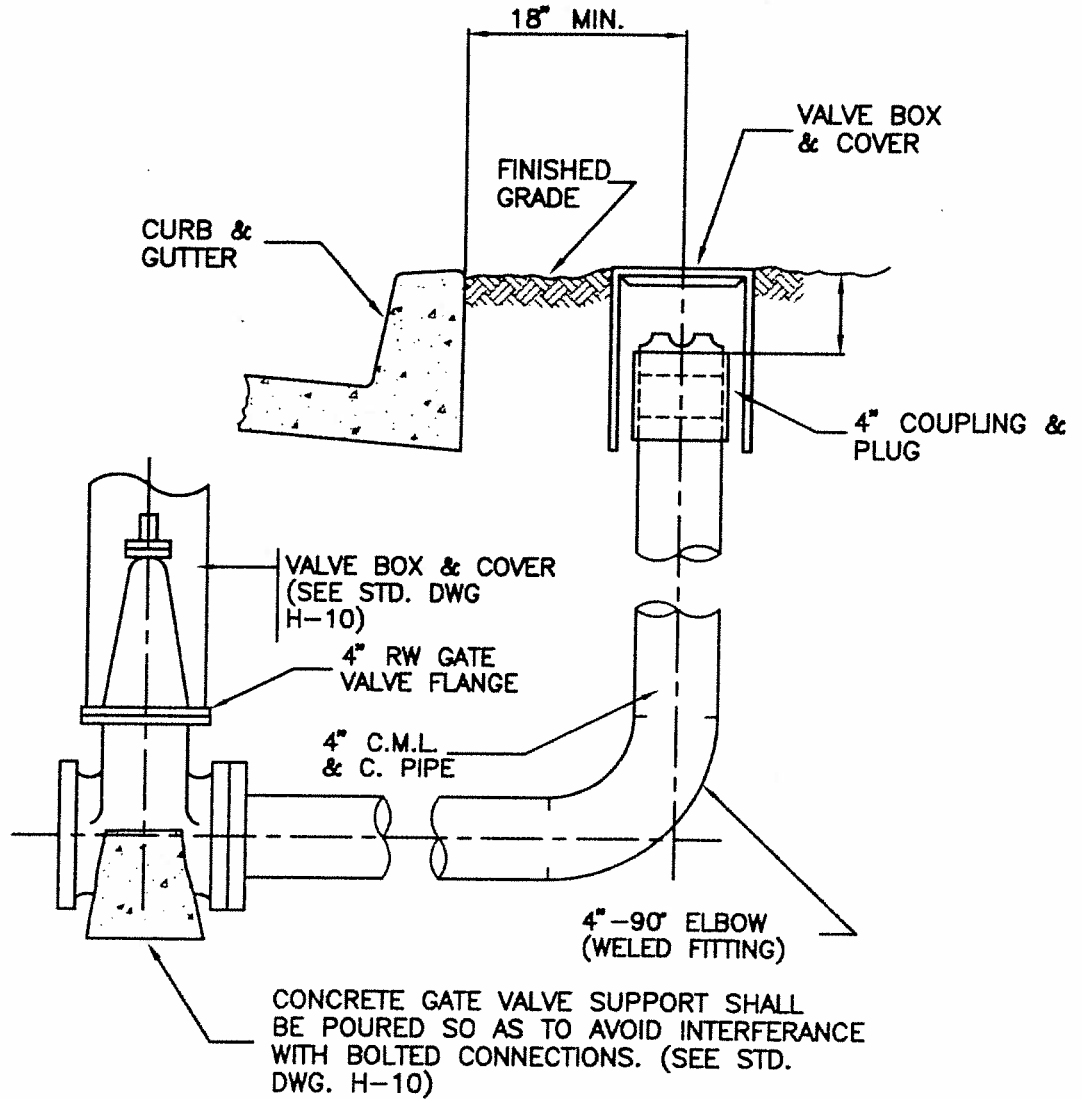
SLOPE 1/4" PER FT. MIN.

SLOPE (DOWN)



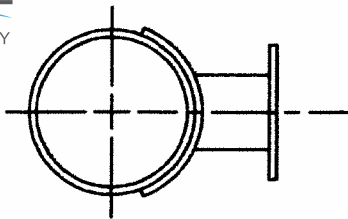
- ① CORPORATION STOP WITH 90° TAIL PIECE
- ② COPPER TUBING (1" MIN.)
- ③ 90° ELL
- ④ CORPORATION STOP, (TO BE KEPT EXPOSED)
- ⑤ PER PLANS (2" MAX. SIZE)
- ⑥ 13"x24"(ID.) BROOKS #38 BOX OR EQUAL
- ⑦ 30"x8"x0.188" WALL PERFORATED STEEL PIPE WELDED TO A 12 1/2"x23 1/2" DIAMOND PLATE STEEL LID
- ⑧ 1" 90° STREET ELL
- ⑨ 1"x12" PLASTIC NIPPLE
- ⑩ 4"x4" REDWOOD SUPPORTS FOR FOUR WALLS OF BOX
- ⑪ 1 1/2" WELDED SADDLE WITH 1 1/2"x1" DIELECTRIC BUSHING FOR STEEL PIPE OR SMITH-BLAIR #315 SINGLE STRAP SERVICE OR APPROVED EQUAL FOR PVC OR D.I.P.

DATE	REVISION	BY
APPROVED BY <i>Thomas W. Wagoner</i> 10/7/2010		
<i>M. Wagoner</i> GENERAL MANAGER		DATE 10/7/10
DISTRICT ENGINEER		DATE
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
<b>AIR &amp; VACUUM VALVE ASSEMBLY</b>		
STANDARD H-6		

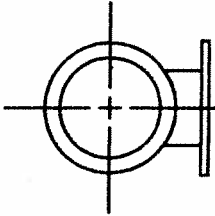


DATE	REVISION	BY
APPROVED BY	<i>[Signature]</i>	8/11/97
	GENERAL MANAGER	DATE
	<i>[Signature]</i>	7/31/97
	DISTRICT ENGINEER	DATE
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
4" FLUSHOUT ASSEMBLY		
STANDARD H-7		





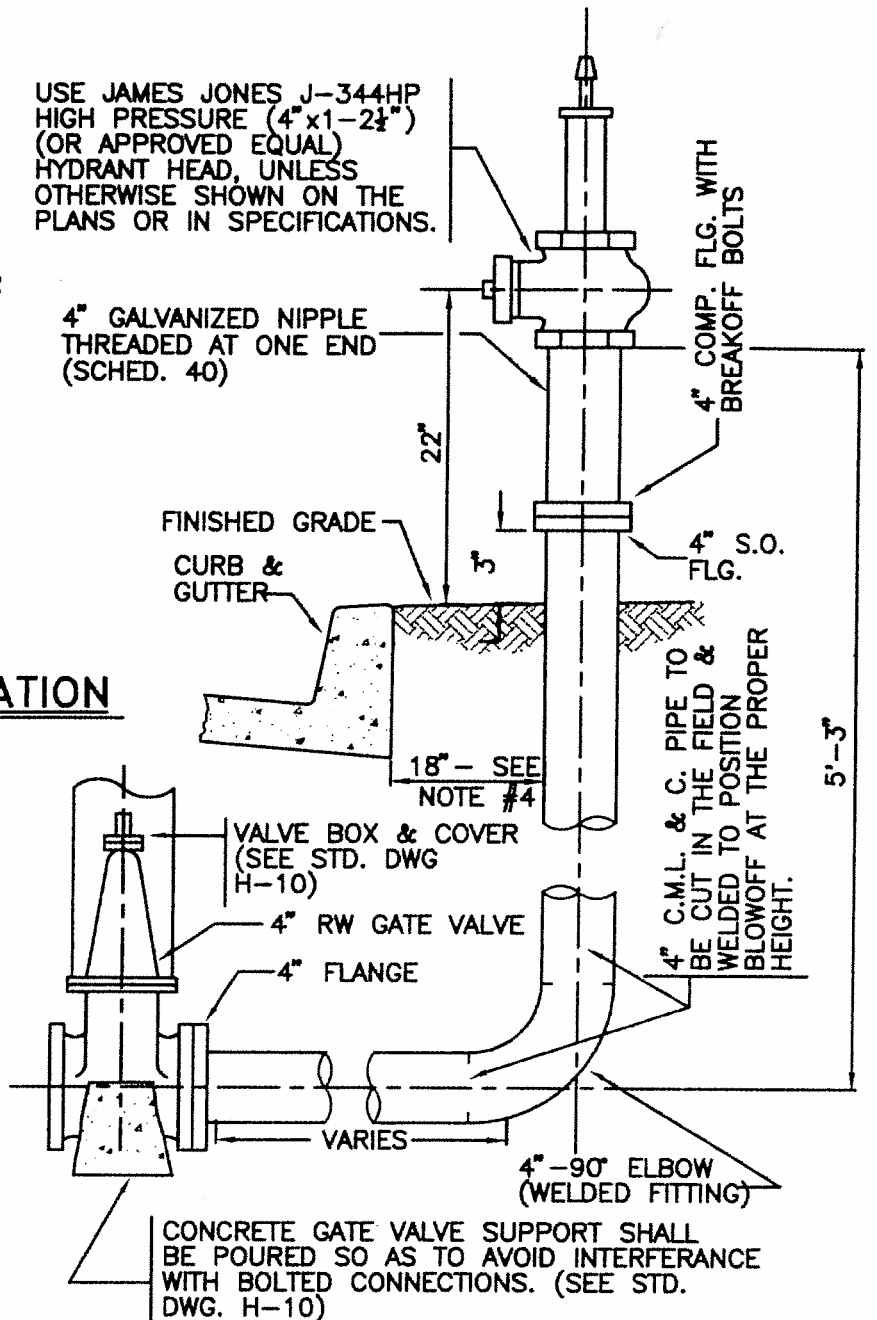
USE 4" FLANGED SADDLED OUTLET FOR INSTALLATION ON 8" OR LARGER PIPE



USE C.I. TEE FOR INSTALLATION ON 4" OR 6" PIPELINE

USE JAMES JONES J-344HP HIGH PRESSURE (4"x1-2 1/2") (OR APPROVED EQUAL) HYDRANT HEAD, UNLESS OTHERWISE SHOWN ON THE PLANS OR IN SPECIFICATIONS.

4" GALVANIZED NIPPLE THREADED AT ONE END (SCHED. 40)



## STEEL PIPELINE INSTALLATION

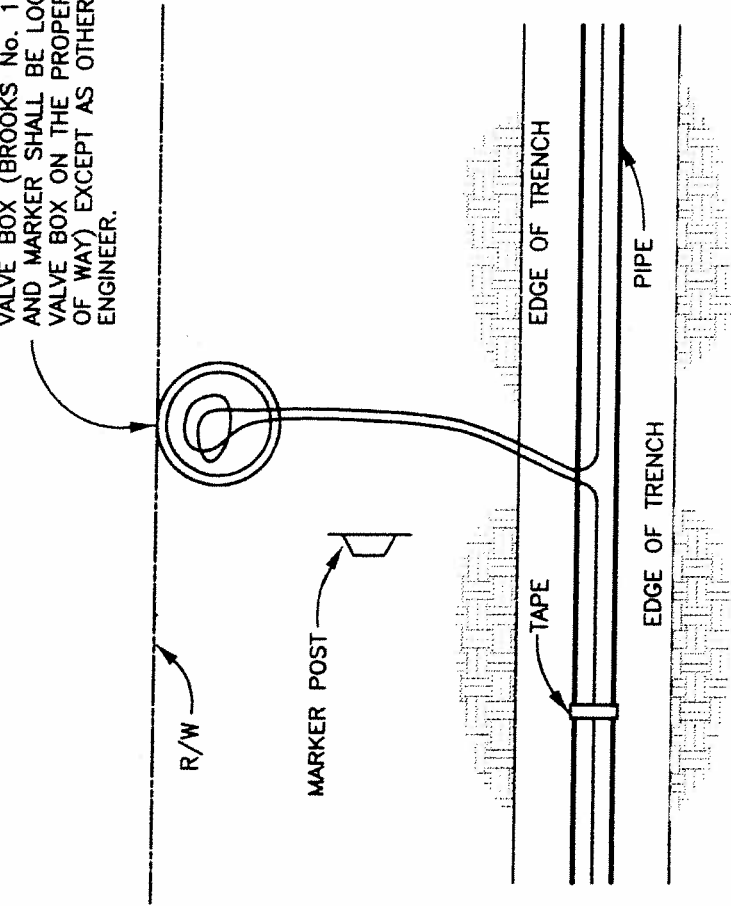
### NOTES:

1. BLOW OFF TO BE PAINTED WITH RUSTOLEUM 7644 SAFETY YELLOW OR APPROVED EQUAL. HYDRANT HEAD ONLY TO BE PAINTED WITH RUSTOLEUM 7665 FIRE HYDRANT RED.
2. ALL FLANGES SHALL BE FULL WELD (DOUBLE PASS) AND COATED IN THE FIELD AS DIRECTED BY THE ENGINEER PER NOTE #6.
3. ALTERNATE MATERIALS MAY BE USED WHEN AUTHORIZED.
4. BLOW OFF PLACEMENT:
  - A.) CURB & SIDEWALK SEPARATED: BLOW OFF TO BE 18" BEHIND CURB AS SHOWN.
  - B.) CURB & SIDEWALK ADJACENT: BLOW OFF TO BE 18" BEHIND SIDEWALK BUT NOT LESS THAN 8" WITHIN THE ROAD RIGHT-OF-WAY.
  - C.) NO CURBS OR SIDEWALKS PROPOSED: BLOW OFF TO BE 18" WITHIN THE ROAD RIGHT-OF-WAY.
5. BLOW OFF LOCATION:
  - A.) STREET LOCATIONS: BLOW OFF TO BE AT CURB RETURN
  - B.) OTHER THAN ST. INTERSECTIONS: BLOW OFF TO BE ON LOT LINE AS SHOWN ON PLANS.
6. FIELD COATING SHALL BE EITHER:
  - A.) PROTECTO WRAP #1170 PRIMER AND #200 COAL-TAR-RESIN
  - B.) CEMENT MORTAR.

## BLOW OFF ASSEMBLY

DATE	REVISION	BY
APPROVED BY		8/11/97
GENERAL MANAGER		DATE
DISTRICT ENGINEER		DATE
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
BLOW OFF INSTALLATION (4"x1-2 1/2") WHARFHEAD HYDRANT		
STANDARD H-8		

VALVE BOX (BROOKS No. 1-SP OR APPROVED EQUAL) AND MARKER SHALL BE LOCATED WITH THE BACK OF VALVE BOX ON THE PROPERTY LINE (IN STREET RIGHT OF WAY) EXCEPT AS OTHERWISE DIRECTED BY THE ENGINEER.

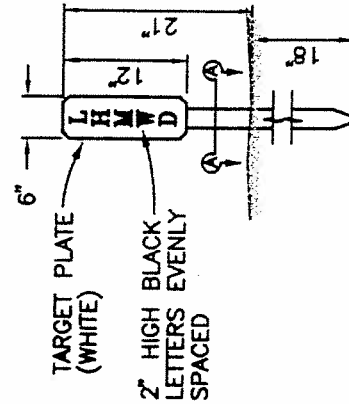


**PLAN VIEW**

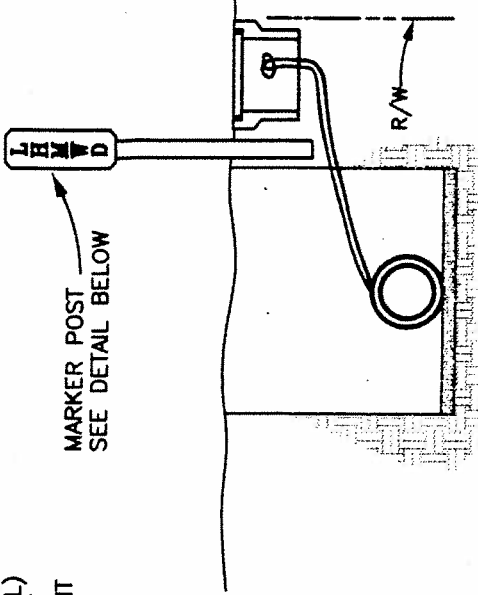
**NOTES**

LOCATOR WIRE : (14 GA. SOLID COPPER WIRE, UF, THWN, OR THHN)

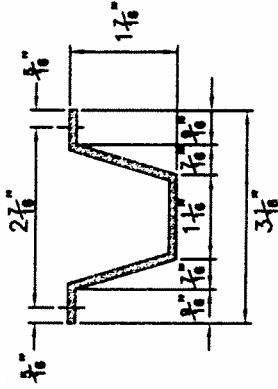
1. TO BE PLACED ON TOP OF PIPE & SECURED WITH TAPE.
2. LOCATOR WIRE SHALL BE BROUGHT TO THE SURFACE AT 660 FT. O.C. MAX. BY FIRE HYDRANTS OR INSTALL L.H.M.W.D. MARKER POSTS (GIVE STATIONS AT VALVE BOXES).
3. LOOP 2 FEET OF WIRE IN BROOKS No.1-SP, OR EQUAL, VALVE BOX WITHIN 2 FEET OF FIRE HYDRANT OR L.H.M.W.D. MARKER.
4. WIRE TO BE CONTINUOUS STRAND.
5. LOCATOR WIRE SHALL BE INSTALLED OVER ALL WATERLINES, RECLAIMED WATERLINES AND FORCEMAINS UNLESS TELEMETRY WIRE IS BURIED WITH PIPE.
6. USE A CAST IRON COVER LABELED WATER, SEWER, OR RECLAIMED (RECLAIMED TO BE PAINTED LAVENDER).



**MARKER POST DETAIL**



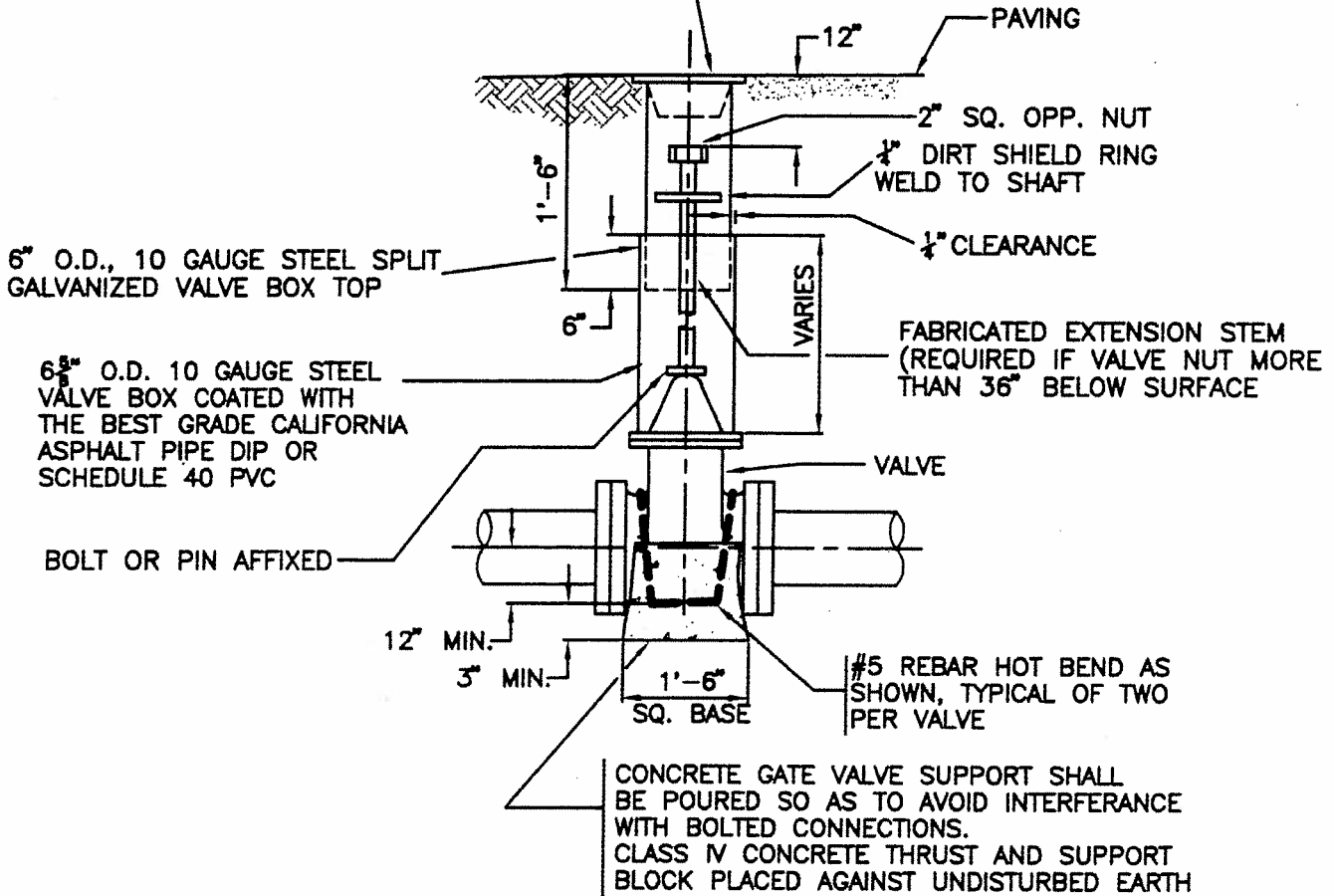
**TYP. TRENCH SECTION**



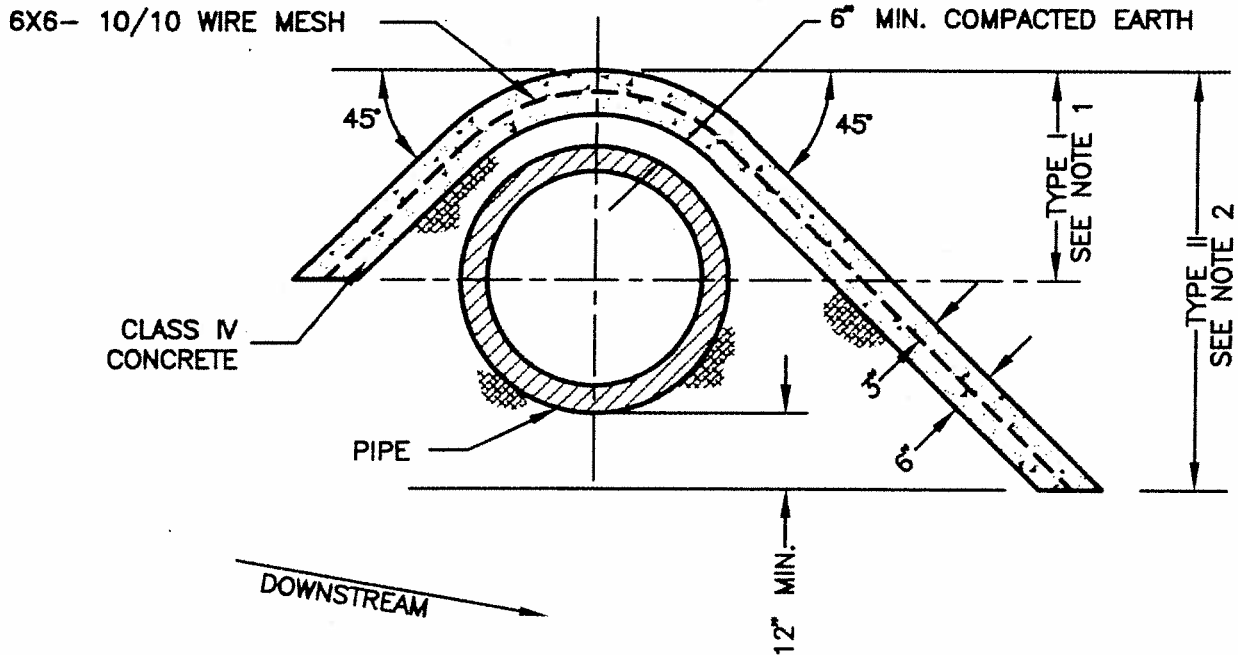
**SECTION A-A**

DATE	REVISION	BY
APPROVED BY	GENERAL MANAGER	DATE 8/1/97
	DISTRICT ENGINEER	DATE 7/31/97
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
LOCATOR WIRE INSTALLATION		
STANDARD H-9		

VALVE BOX COVER  
 PAINT WITH ONE (1) COAT 1069 HEAVY DUTY RUST INHIBITIVE  
 RED PRIMER AND TWO (2) COATS OF 7644 SAFETY YELLOW  
 TRAFFIC PAINT



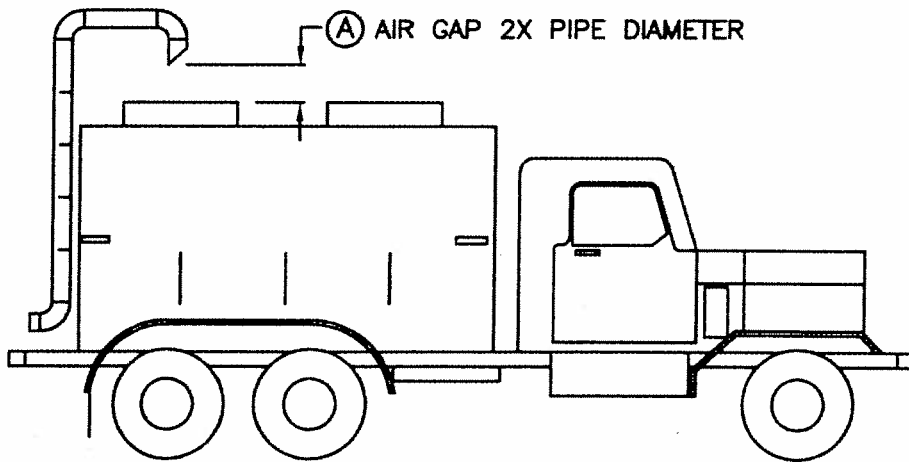
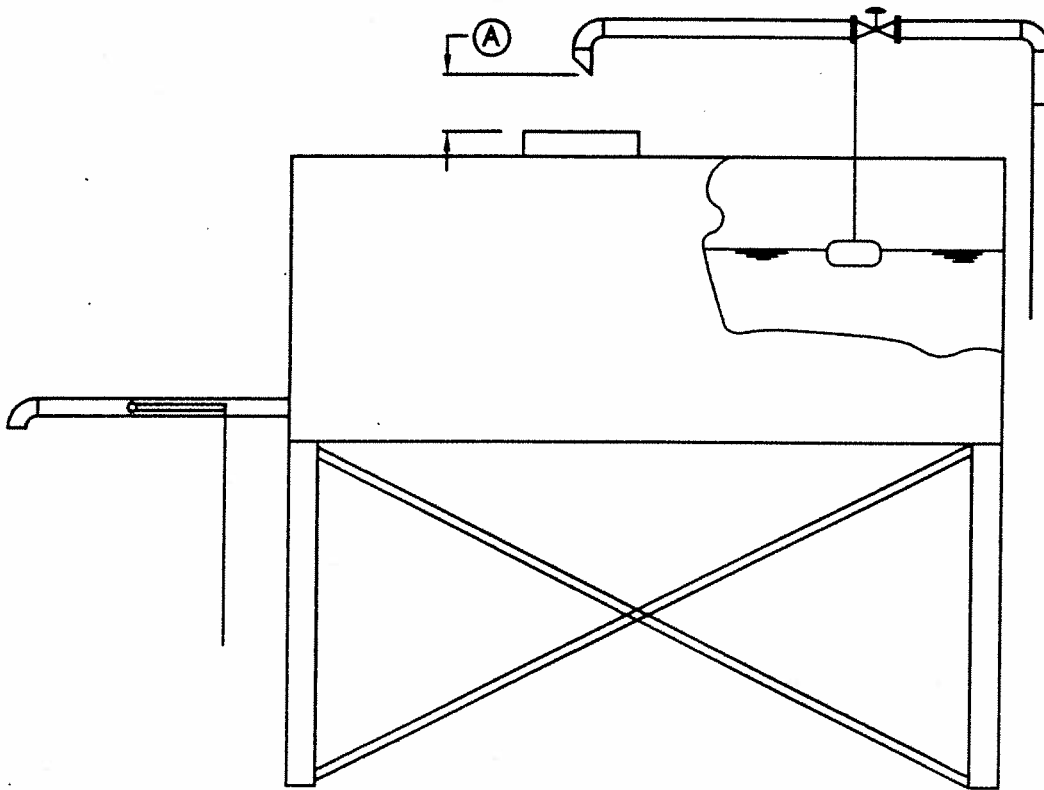
DATE	REVISION	BY
APPROVED BY <i>R. S. ...</i> 8/1/97		
GENERAL MANAGER		DATE
<i>[Signature]</i>		7/31/97
DISTRICT ENGINEER		DATE
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
VALVE BOX & COVER		
STANDARD H-10		



NOTES:

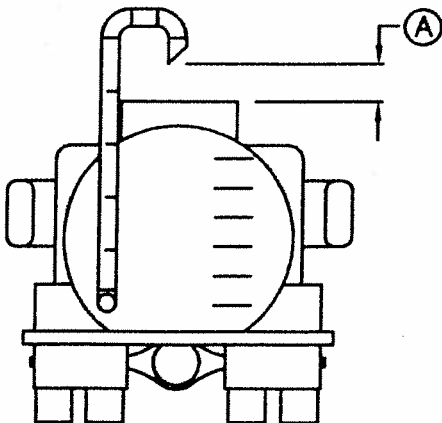
1. THE DOWNSTREAM TOE OF TYPE I CONCRETE BLANKET ENDS AT THE CENTERLINE OF PIPE AS SHOWN ABOVE.
2. THE DOWNSTREAM TOE OF TYPE II CONCRETE BLANKET ENDS 12" BELOW THE BOTTOM OF PIPE AS SHOWN ABOVE.

DATE	REVISION	BY
APPROVED BY <i>Rob V. Lipitz</i> 8/11/97		
GENERAL MANAGER		DATE
<i>Walt</i>		7/31/97
DISTRICT ENGINEER		DATE
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
CONCRETE BLANKET		
STANDARD H-11		



Ⓐ AIR GAP 2X PIPE DIAMETER

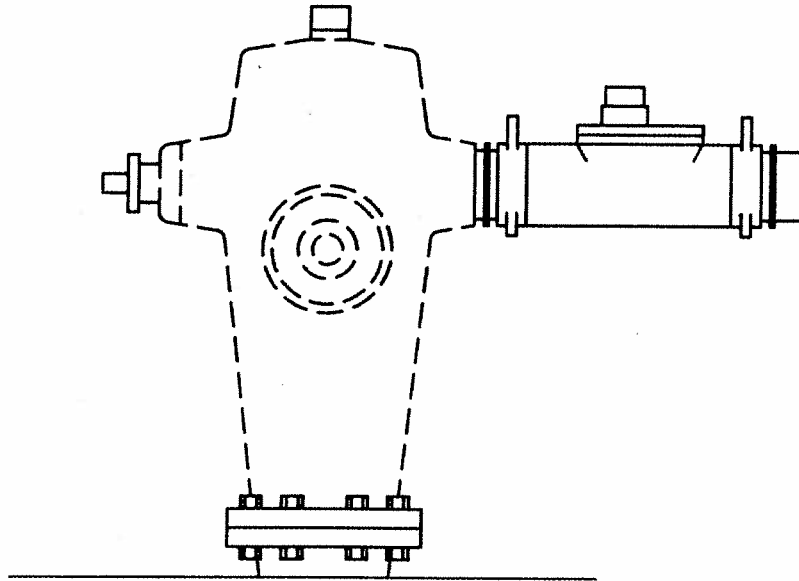
Ⓐ = AIR GAP, MINIMUM CLEARANCE 2 PIPE DIAMETERS



DATE	REVISION	BY
APPROVED BY	<i>R. K. [Signature]</i>	8/1/97
	GENERAL MANAGER	DATE
	<i>[Signature]</i>	7/31/97
	DISTRICT ENGINEER	DATE
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
<b>AIR GAP</b> APPROVED FOR WATER TRUCKS, TANKS OPERATING WITH L.H.M.W.D. DOMESTIC WATER		
STANDARD H-12		

# CAUTION

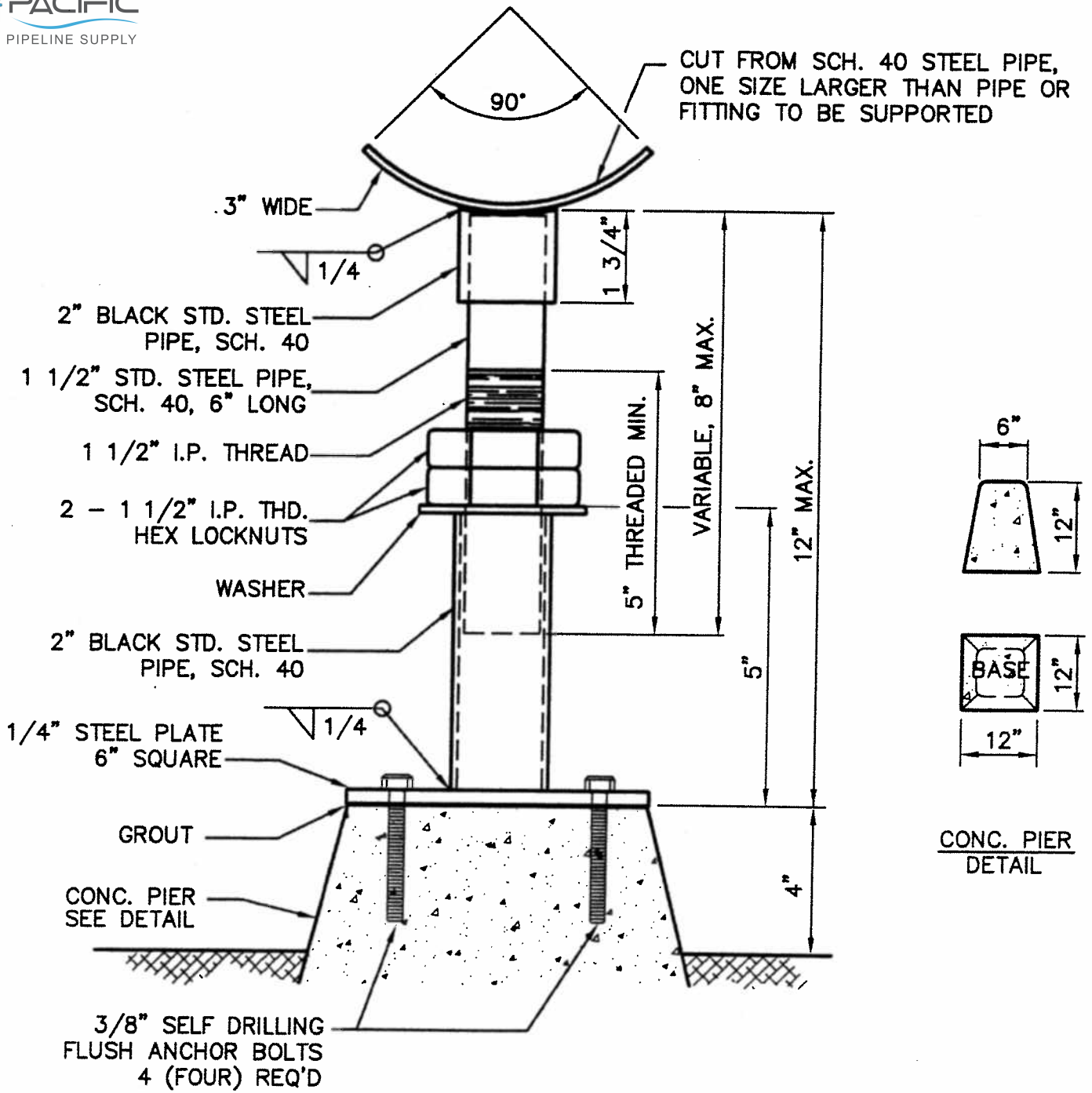
HYDRANTS ARE TO BE TURNED  
 OFF AND ON SLOWLY TO AVOID WATER  
 HAMMER DAMAGE



**NOTES:**

1. OPENING AND CLOSING OF HYDRANT IS PERMITTED ONLY WITH HYDRANT WRENCH.
2. SERVICE MAY BE MOVED FROM ONE LOCATION TO ANOTHER ONLY WITH THE APPROVAL OF THE WATER DISTRICT.
3. BACKFLOW DEVICES MAY BE REQUIRED FOR CERTAIN USES.
4. SERVICE CONNECTIONS MAY BE TERMINATED AT ANY TIME AT THE DISCRETION OF THE WATER DISTRICT.
5. CHARGES FOR LOSS OR DAMAGE TO ANY SERVICE MATERIAL WILL BE BASED UPON CURRENT PRICES.

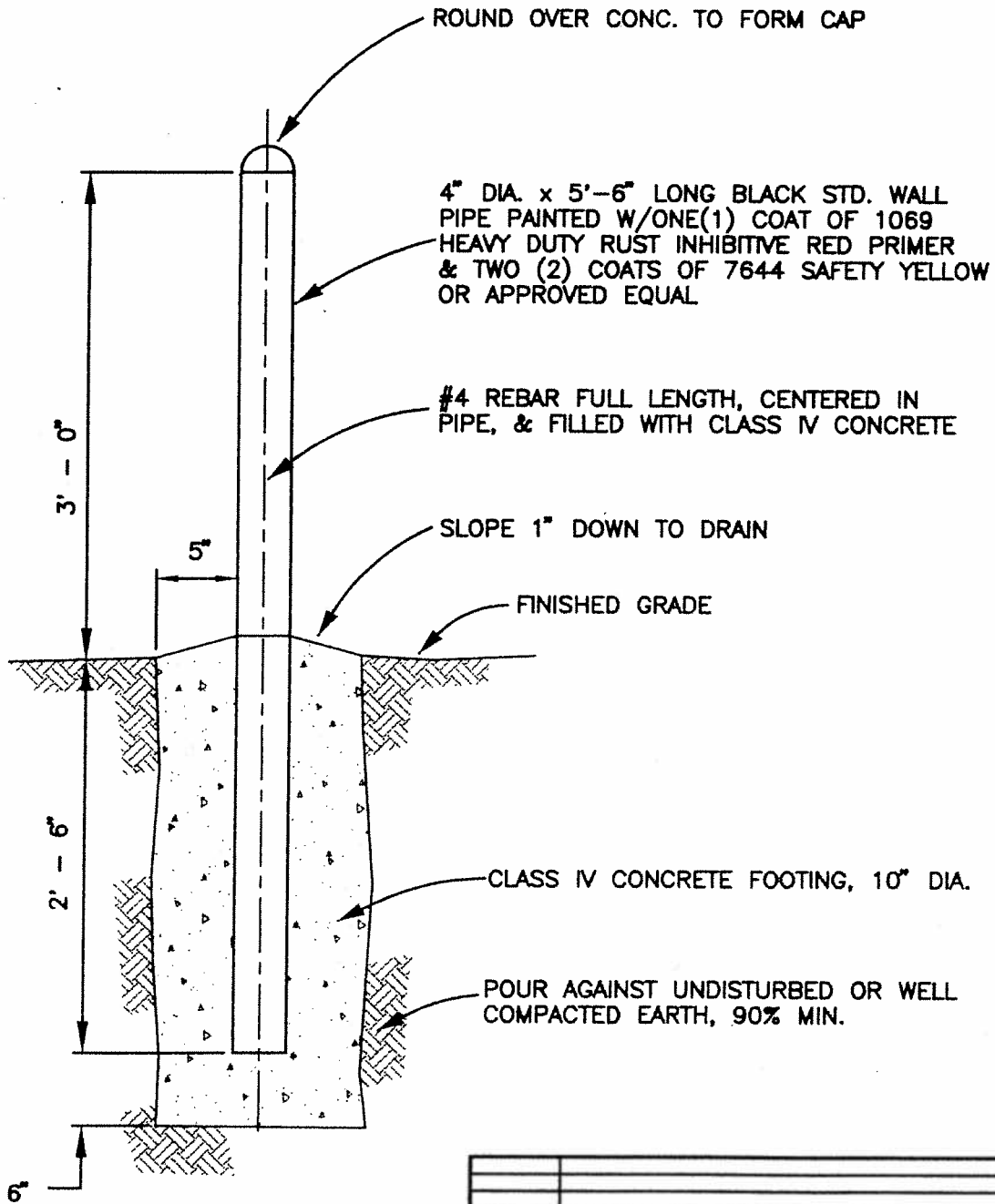
DATE	REVISION	BY
APPROVED BY	<i>R. V. [Signature]</i>	8/1/97
	GENERAL MANAGER	DATE
	<i>[Signature]</i>	7/31/97
	DISTRICT ENGINEER	DATE
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
TEMPORARY WATER SERVICE		
STANDARD H-13		



**NOTE:**

1. IN EVENT SUPPORT IS MOUNTED ON CONCRETE SLAB OR FLOOR, PIER NOT REQUIRED.
2. ALL EXPOSED METAL SURFACES SHALL BE PROTECTED IN ACCORDANCE WITH THE SPECIFICATIONS, EXCEPT THE THREADS.
3. DIMENSIONS OF CONCRETE PIER MAY BE INCREASED DEPENDING ON FIELD CONDITIONS.

DATE	REVISION	BY
APPROVED BY	<i>[Signature]</i>	8/1/97
	GENERAL MANAGER	DATE
	<i>[Signature]</i>	7/31/97
	DISTRICT ENGINEER	DATE
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
ADJUSTABLE PIPE SUPPORT		
STANDARD H-14		

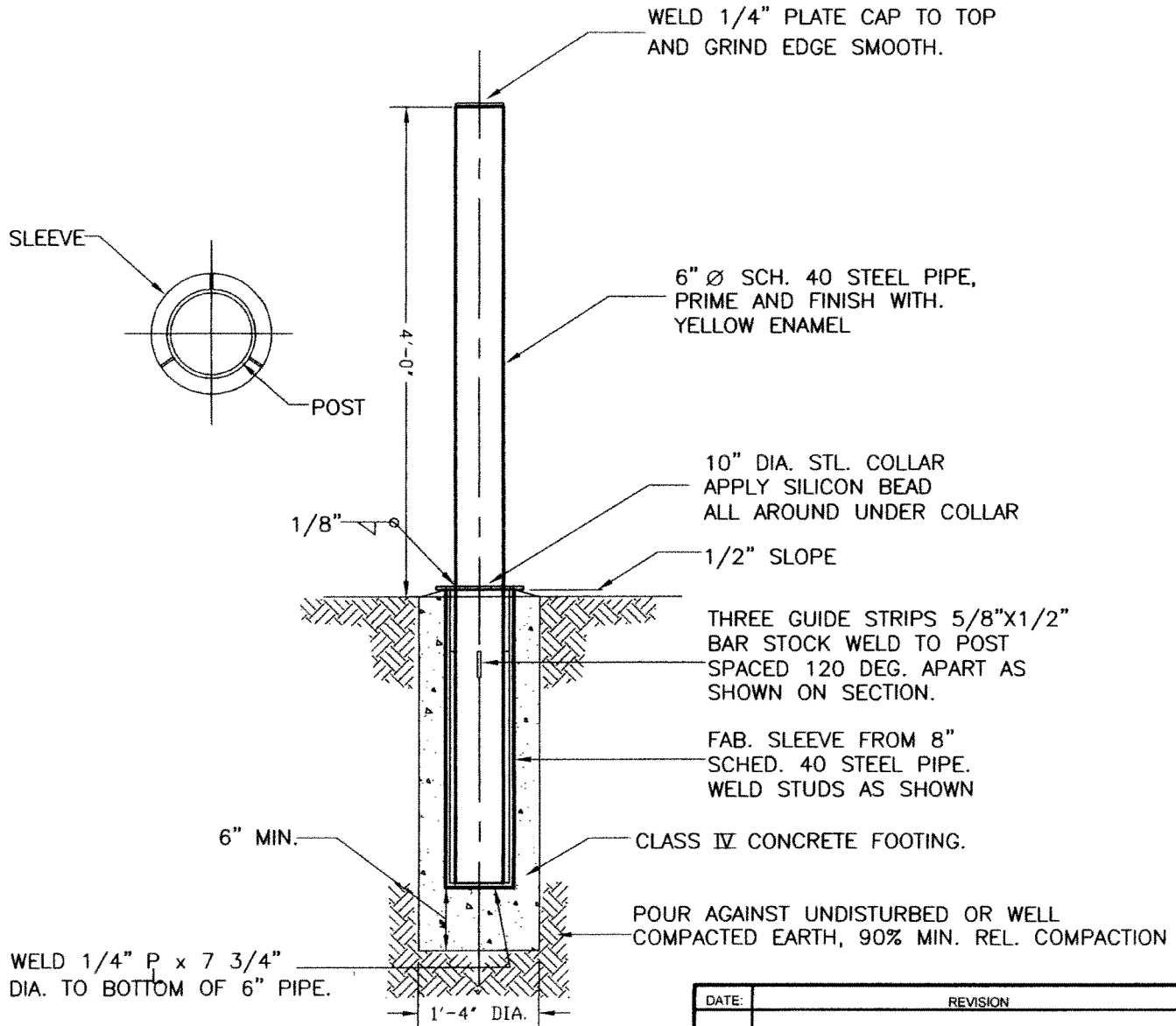


**NOTE:**

LOCATION SHALL BE AS SHOWN ON PLAN VIEW, OR AS DIRECTED IN THE FIELD BY THE INSPECTOR OR THE ENGINEER

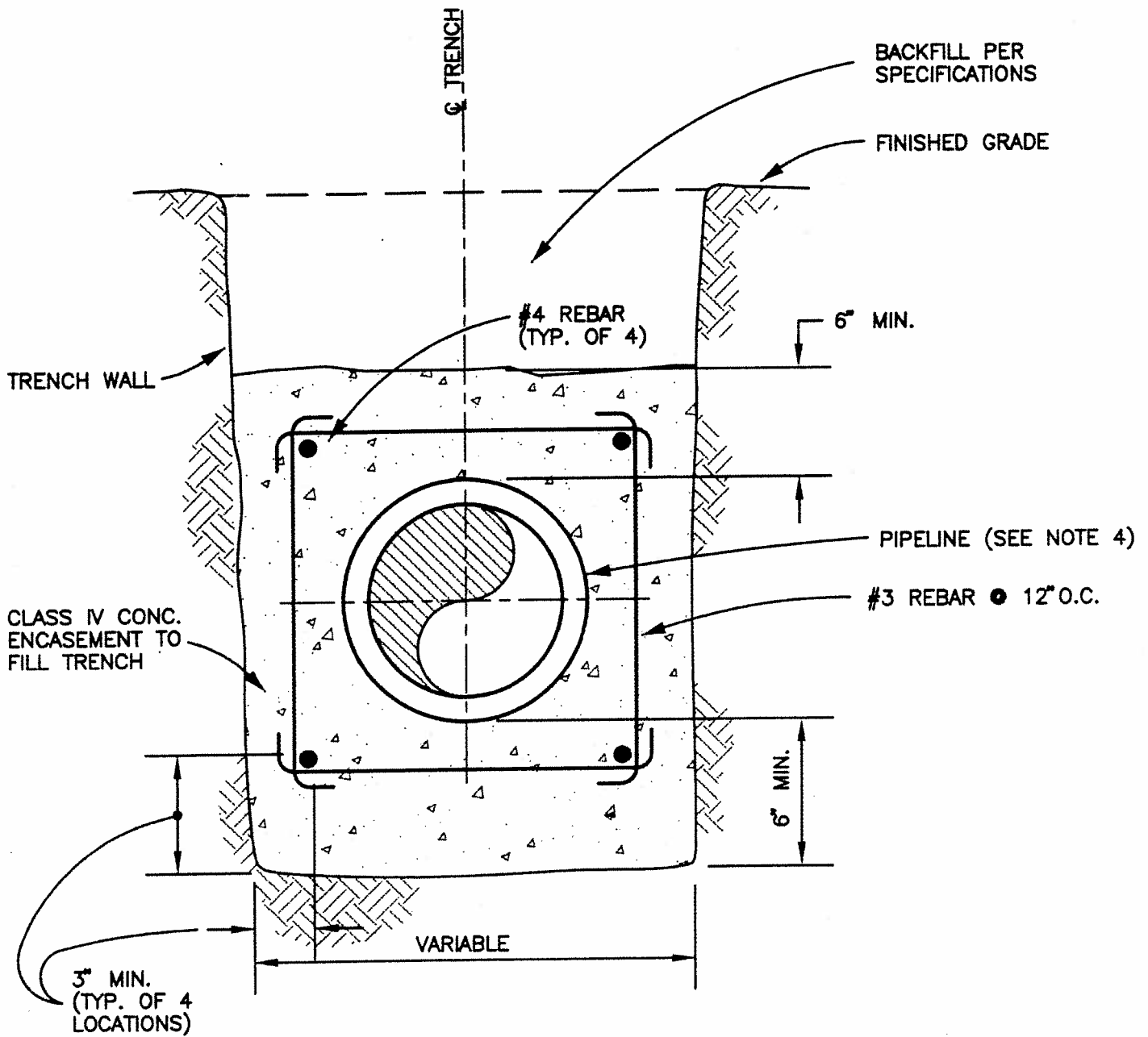
DATE	REVISION	BY
APPROVED BY	<i>R. V. [Signature]</i>	8/1/97
	GENERAL MANAGER	DATE
	<i>[Signature]</i>	7/31/97
	DISTRICT ENGINEER	DATE
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
GUARD POST INSTALLATION DETAIL		
STANDARD H-15		





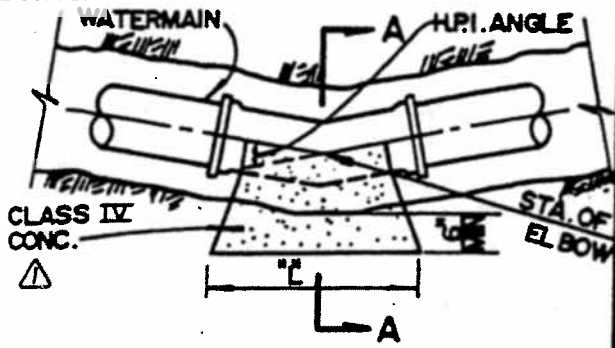
**NOTE:**  
 LOCATION SHALL BE AS SHOWN ON PLAN VIEW, OR AS DIRECTED IN THE FIELD BY THE INSPECTOR OR THE ENGINEER

DATE:	REVISION	BY
APPROVED BY <i>Thomas W. Wegner</i> GENERAL MANAGER DATE:		
<i>J. D. L. Hall</i> 7/20/09 CHIEF ENGINEER DATE:		
SCALE: NONE		DRAWN BY: S.R.W.
<b>LAKE HEMET MUNICIPAL WATER DIST.                      WATER IMPROVEMENT</b>		
<b>REMOVABLE GUARD POST</b>		
<b>STANDARD H-15B</b>		

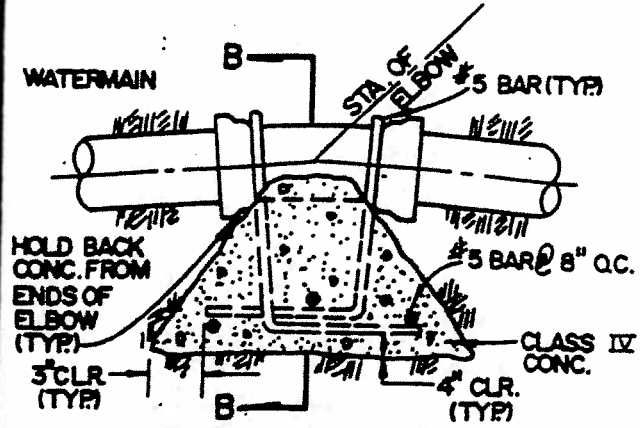


1. PIPE ENCASEMENT TO BE INSTALLED WHERE INDICATED ON THE PLANS AND/OR AS DIRECTED IN THE FIELD BY THE DISTRICT.
2. CONTRACTOR SHALL TAKE DUE PRECAUTION AGAINST PIPE FLOTATION DURING PLACING OF THE CONCRETE.
3. IF ANY PIPE APPURTENANCE, SUCH AS OUTLETS, MANWAYS, ETC., ARE REQUIRED IN THE AREA WHERE PIPE ENCASEMENT IS REQUIRED, THE ENCASEMENT SHALL BE FORMED SO THAT REASONABLE ACCESS IS AVAILABLE TO THE PIPE APPURTENANCES.
4. WRAP PIPE WITH THREE (3) LAYERS OF 20lb. FELT PAPER.

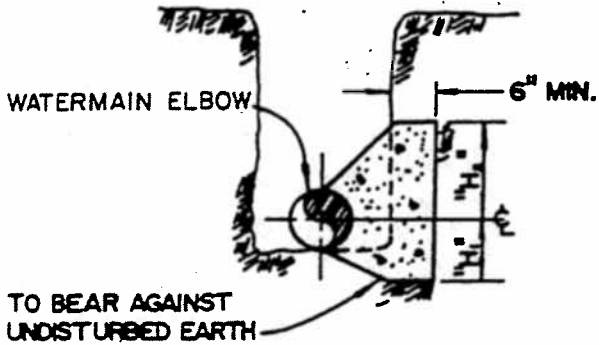
DATE	REVISION	BY
APPROVED BY	<i>[Signature]</i>	8/1/97
	GENERAL MANAGER	DATE
	<i>[Signature]</i>	7/31/97
	DISTRICT ENGINEER	DATE
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
PIPE ENCASEMENT DETAIL		
STANDARD H-16		



**SECTIONAL PLAN**

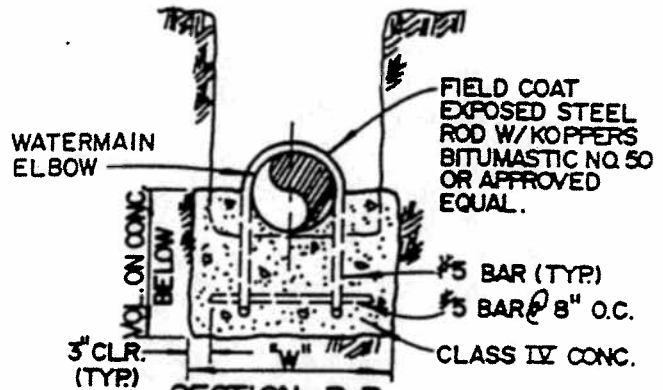


**SECTIONAL ELEVATION**



**SECTION A-A**

**HORIZONTAL THRUST BLOCK**



**SECTION B-B**

**VERTICAL ANCHOR BLOCK**

PIPE DIA.	"H <sub>1</sub> "	"H <sub>2</sub> "	"L"	H.P.I. ANGLE
4"	1/2 O.D.	1/2 O.D.	4'-0"	5° TO 41°
4"	4"	4"	4'-0"	42° TO 83°
4"	10"	5"	4'-0"	84° TO 104°
6"	1/2 O.D.	1/2 O.D.	4'-0"	5° TO 27°
6"	6"	6"	4'-0"	28° TO 51°
6"	1'-6"	9"	4'-0"	52° TO 90°
8"	1/2 O.D.	1/2 O.D.	4'-0"	5° TO 20°
8"	8"	8"	4'-0"	21° TO 36°
8"	1'-8"	10"	4'-0"	37° TO 54°
8"	2'-2"	13"	4'-0"	55° TO 78°
8"	2'-8"	16"	4'-0"	79° TO 111°
10"	1/2 O.D.	1/2 O.D.	4'-0"	5° TO 16°
10"	10"	10"	4'-0"	17° TO 28°
10"	1'-10"	11"	4'-0"	29° TO 39°
10"	2'-4"	4"	4'-0"	40° TO 53°
10"	2'-10"	7"	4'-0"	54° TO 70°
10"	2'-10"	7"	6'-0"	71° TO 120°
12"	1/2 O.D.	1/2 O.D.	4'-0"	5° TO 13°
12"	12"	12"	4'-0"	14° TO 22°
12"	2'-0"	2"	4'-0"	23° TO 30°
12"	2'-6"	5"	4'-0"	31° TO 40°
12"	3'-0"	8"	4'-0"	41° TO 52°
12"	3'-0"	8"	6'-0"	53° TO 83°

PIPE DIA.	"W"	VOLUME OF CONC. CF	GRADE % DIFFERENCE
4"	1'-6"	4.3	5 TO 15
4"	1'-6"	6.5	16 TO 25
4"	1'-6"	8.6	26 TO 35
4"	1'-6"	10.8	36 TO 45
4"	1'-6"	13.0	46 TO 55
4"	1'-6"	15.1	56 TO 65
6"	2'-0"	7.6	5 TO 10
6"	2'-0"	11.4	11 TO 25
6"	2'-0"	15.2	26 TO 40
6"	2'-0"	22.8	41 TO 55
6"	2'-0"	10.3	5 TO 10
6"	2'-0"	13.5	11 TO 20
6"	2'-0"	20.6	21 TO 30
6"	2'-0"	31.0	31 TO 40
6"	2'-0"	41.3	41 TO 55
8"	2'-6"	20.9	5 TO 15
8"	2'-6"	27.8	16 TO 25
8"	2'-6"	41.7	26 TO 35
8"	2'-6"	56.6	36 TO 55
8"	2'-6"	69.5	46 TO 55
8"	2'-6"	27.6	5 TO 15
8"	2'-6"	36.8	16 TO 25
8"	2'-6"	55.3	26 TO 35
8"	2'-6"	73.7	36 TO 45
8"	2'-6"	92.1	46 TO 55

**LAKE HEMET MUNICIPAL WATER DISTRICT  
 WATER IMPROVEMENT**

APPROVED BY: *[Signature]*  
 GENERAL MANAGER DATE  
*[Signature]* 7/11/91  
 DISTRICT ENGINEER DATE

STANDARD DRAWING

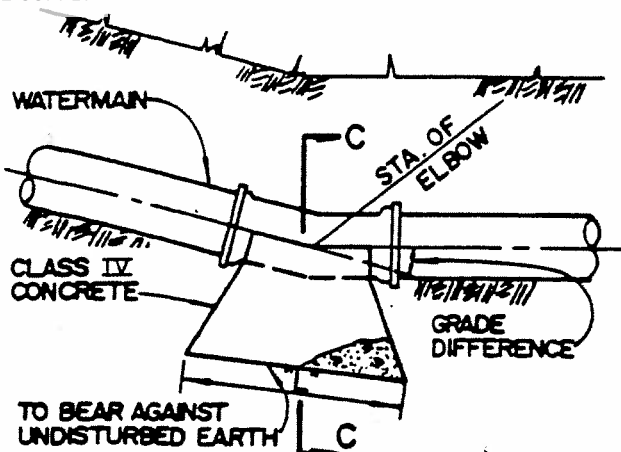
STANDARD

**THRUST BLOCKS FOR P.V.C. AND D.I.P.  
 PIPELINES, CLASS 200 P.S.I. MAX.**

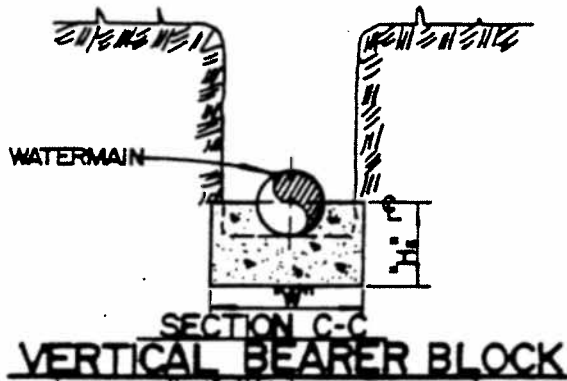
**H-17**

REVISION

SHEET 1 OF 2

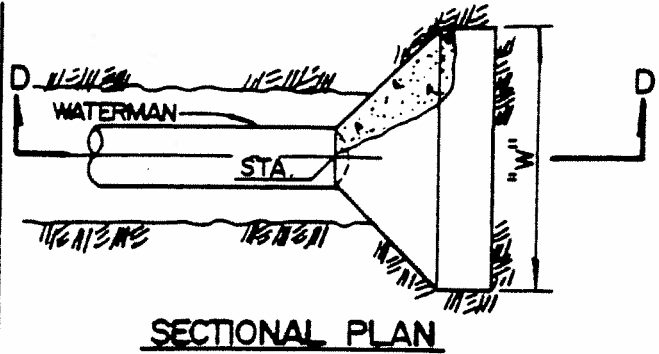


**SECTIONAL ELEVATION**

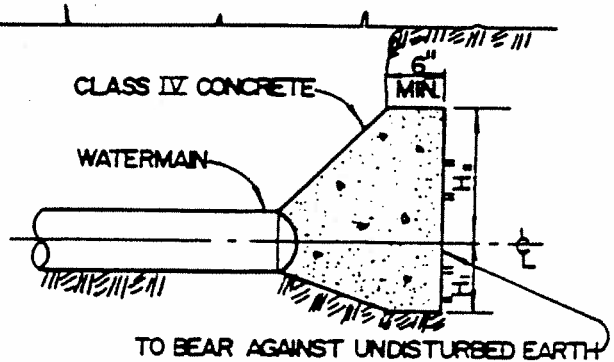


**SECTION C-C  
 VERTICAL BEARER BLOCK**

PPE DIA.	"W"	"H <sub>1</sub> "	"L"	GRADE % DIFF.
4"	1'-6"	8"	12"	5 TO 80
6"	2'-0"	9"	12"	5 TO 40
6"	2'-0"	9"	1'-8"	41 TO 85
8"	2'-0"	10"	12"	5 TO 25
8"	2'-0"	10"	1'-8"	26 TO 40
8"	2'-0"	10"	2'-0"	41 TO 55
10"	2'-6"	14"	12"	5 TO 10
10"	2'-6"	14"	2'-0"	11 TO 40
10"	2'-6"	14"	3'-0"	41 TO 60
12"	2'-6"	15"	2'-0"	5 TO 25
12"	2'-6"	15"	3'-0"	26 TO 60
12"	2'-6"	15"	4'-0"	44 TO 80

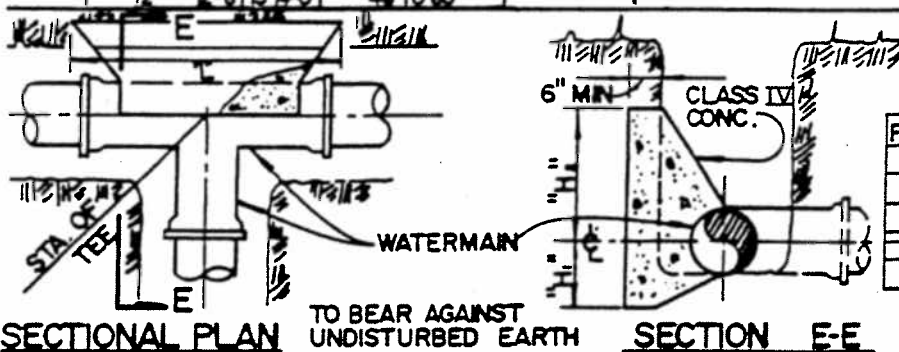


**SECTIONAL PLAN**



**SECTION D-D  
 END THRUST BLOCK**

PIPE DIA.	"H <sub>1</sub> "	"H <sub>2</sub> "	"W"
4"	9"	6"	3'-6"
6"	1'-6"	9"	4'-0"
8"	2'-2"	13"	4'-0"
10"	2'-10"	1'-5"	4'-0"
12"	3'-0"	1'-6"	5'-0"



**SECTIONAL PLAN SECTION E-E  
 TEE THRUST BLOCK**

PIPE DIA.	"H <sub>1</sub> "	"H <sub>2</sub> "	"L"
4"	9"	6"	3'-6"
6"	1'-6"	9"	4'-0"
8"	2'-2"	13"	4'-0"
10"	2'-10"	17"	4'-0"
12"	3'-0"	1'-6"	5'-0"

\* USE OUTLET PIPE DIAMETER

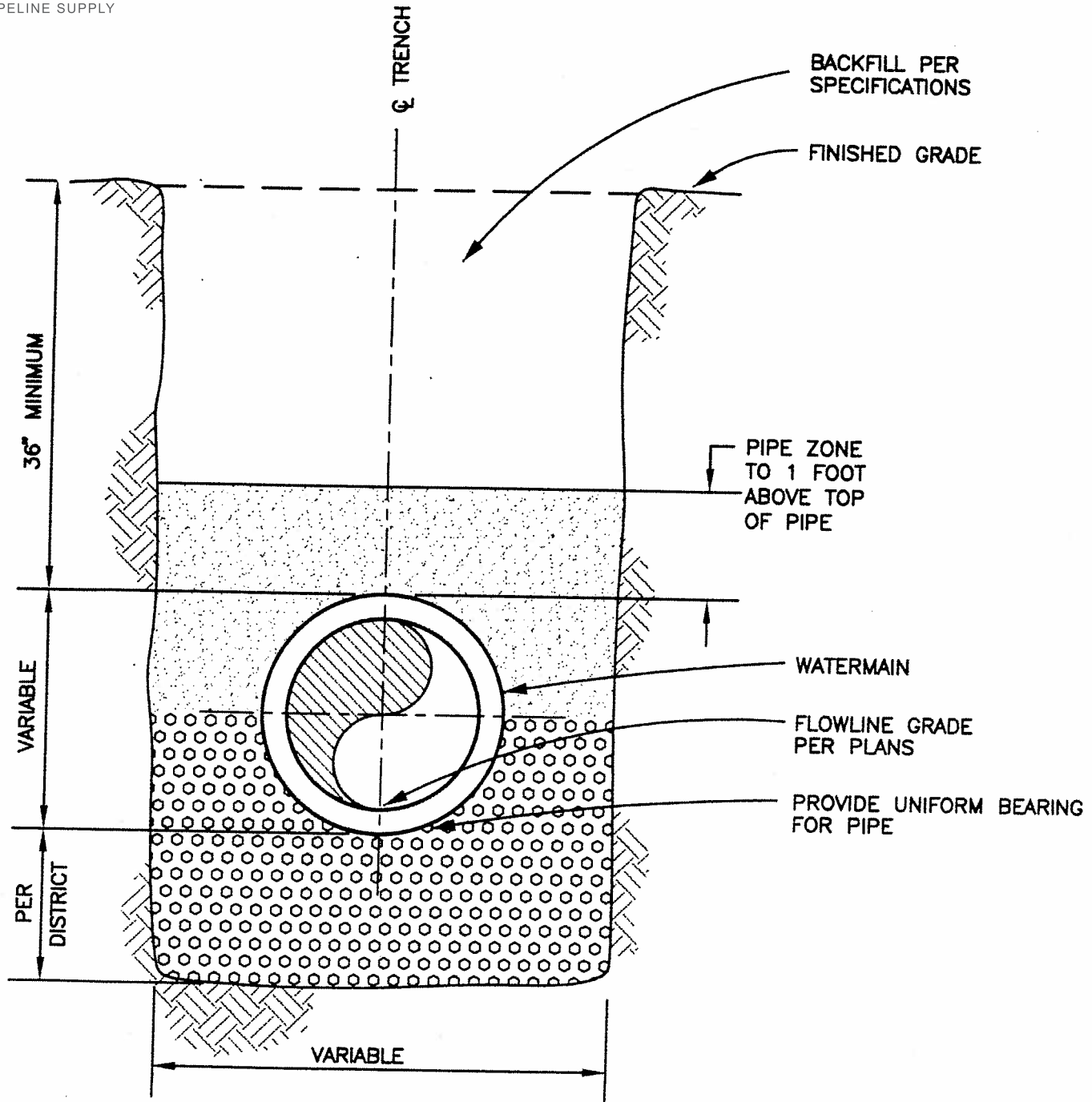
**LAKE HEMET MUNICIPAL WATER DISTRICT  
 WATER IMPROVEMENT**

APPROVED BY: *[Signature]* 8/1/97  
 GENERAL MANAGER DATE  
*[Signature]* 7/1/97  
 DISTRICT ENGINEER DATE

STANDARD DRAWING  
**THRUST BLOCKS FOR P.V.C. AND D.I.P.  
 PIPELINES, CLASS 200 P.S.I. MAX.**

STANDARD  
**H-17**  
 SHEET 2 OF 2

REVISION

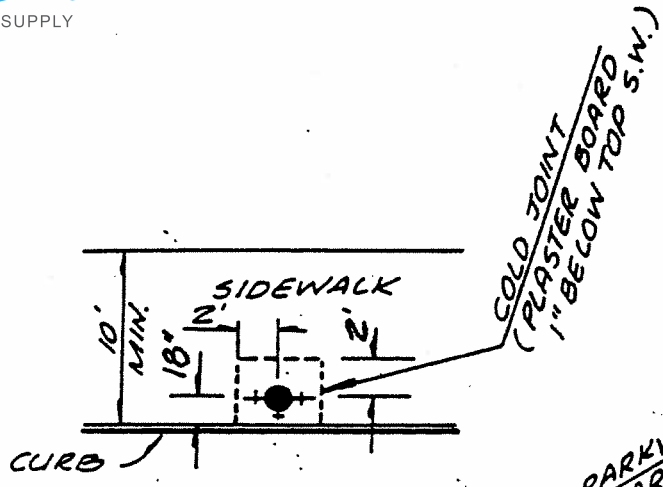


**NOTE:**

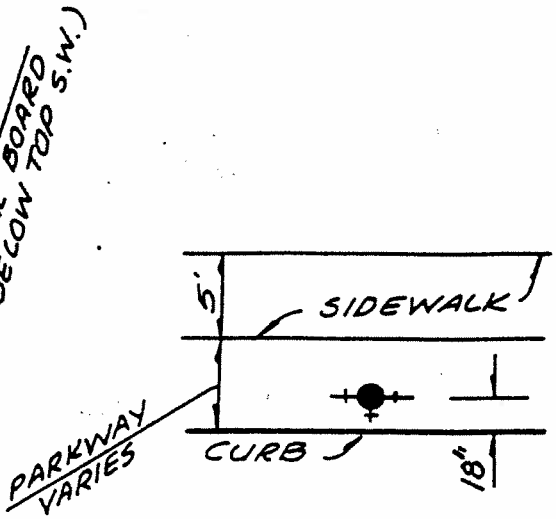
WHENEVER TRENCH BOTTOM IS INSUFFICIENTLY STABLE, IN THE OPINION OF THE DISTRICT, TO PROVIDE A SUITABLE FOUNDATION FOR THE PIPE, OVEREXCAVATE BELOW DESIGN GRADE AS ORDERED, AND REFILL WITH CAREFULLY PLACED AND SUFFICIENTLY COMPACTED CRUSHED ROCK; OR AS PER SPECIFICATION AND MANUFACTURE'S SPECIFICATION.

FIRST TWO FEET BELOW THE PIPE IS THE CONTRACTOR'S RESPONSIBILITY.

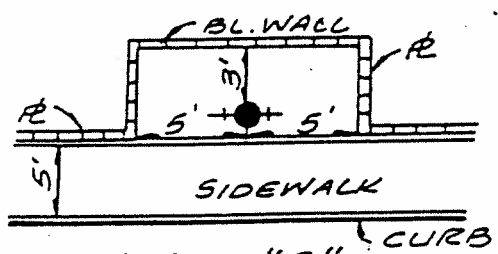
DATE	REVISION	BY
APPROVED BY	<i>R. V. L. S.</i>	8/1/97
	GENERAL MANAGER	DATE
	<i>M. B.</i>	7/31/97
	DISTRICT ENGINEER	DATE
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
SPECIAL BEDDING DETAIL		
STANDARD H-18		



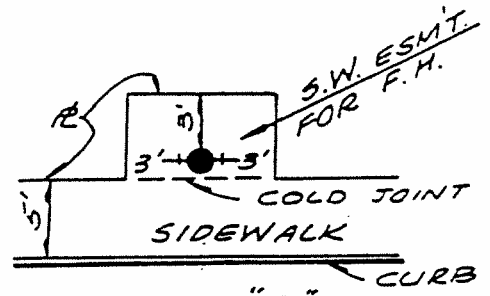
DETAIL "A"  
 MIN. 10' SIDEWALK



DETAIL "B"  
 PARKWAY

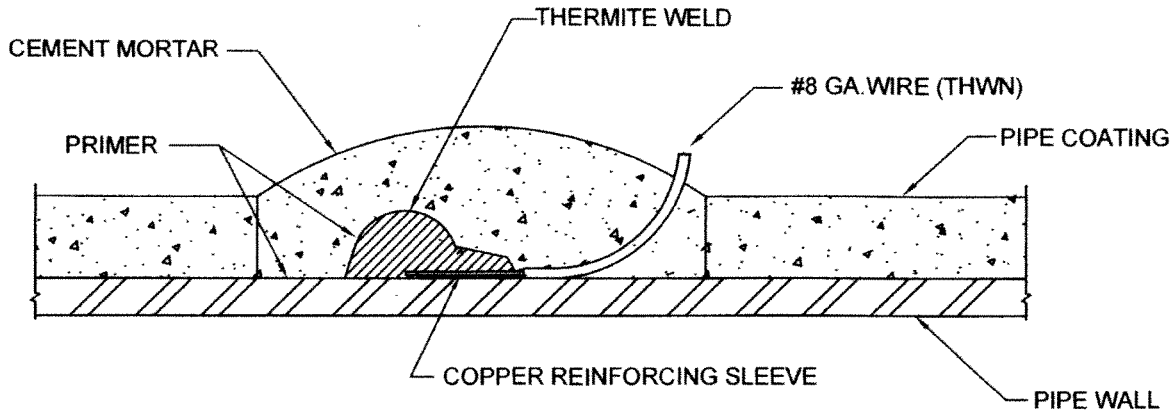


DETAIL "C"  
 BLOCK WALL

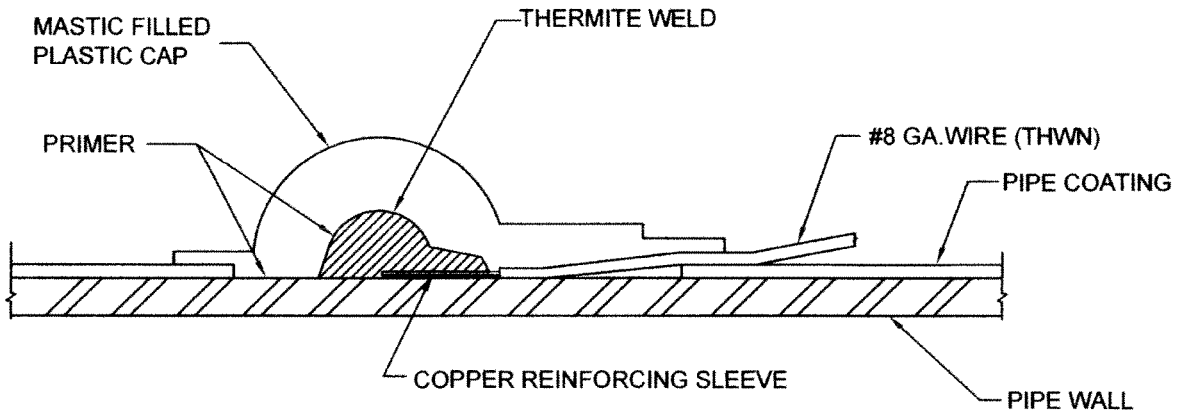


DETAIL "D"  
 SIDEWALK EASEMENT

DATE	REVISION	BY
APPROVED BY	<i>R. S. [Signature]</i>	8/1/97
	GENERAL MANAGER	DATE
	<i>[Signature]</i>	7/31/97
	DISTRICT ENGINEER	DATE
LAKE HEMET MUNICIPAL WATER DISTRICT WATER IMPROVEMENT		
FIRE HYDRANT LOCATIONS		
STANDARD H-19		



**C.M.L. & C. PIPE**

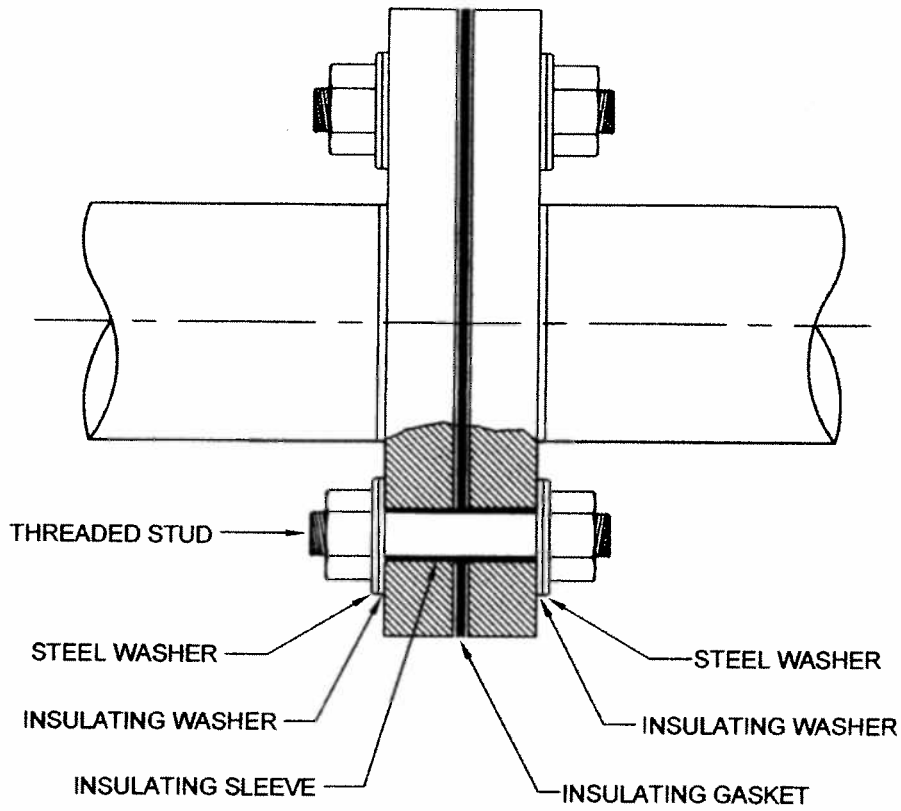


**DIELECTRIC COATED PIPE**

**NOTES:**

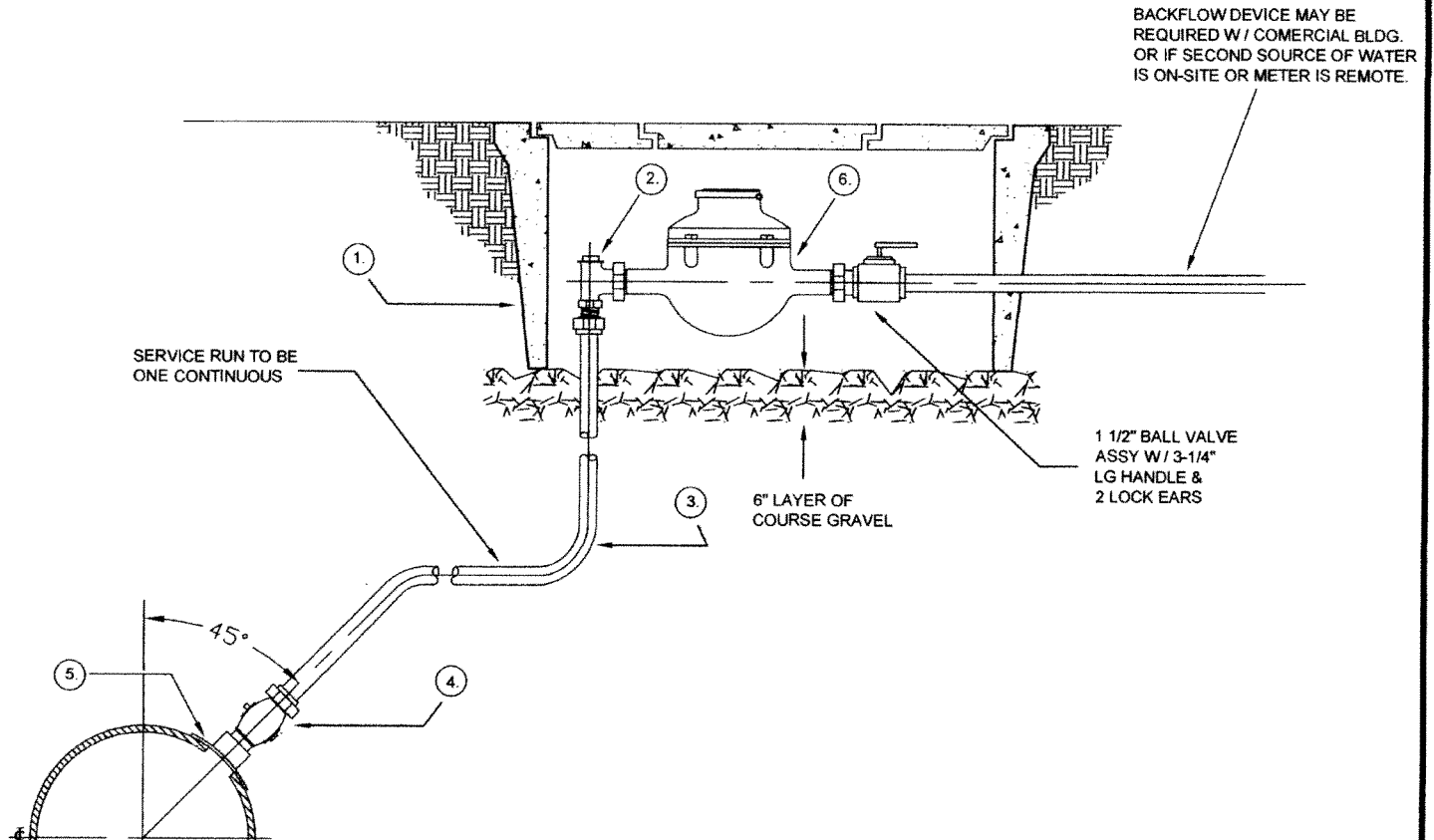
1. THERMITE WELD ALLOY SHALL BE SUITABLE FOR TYPE OF PIPE METAL (I.E. STEEL OR IRON.)
2. CLEAN PIPE TO BRIGHT METAL WITH FILE OR GRINDER
3. WELD WIRE TO PIPE FOLLOWING WELD MANUFACTURER'S DIRECTIONS.
4. STRIKE SIDE OF WELD SOLIDLY WITH A 16OZ. OR LARGER HAMMER TO TEST WELD.
5. REMOVE FLUX AND COAT WITH PRIMER.
6. RECOAT WITH MORTAR FOR CML&C PIPE AT JOINT ENCASED IN FIELD APPLIED MORTAR.
7. INSTALL MASTIC-FILLED PLASTIC CAP FOR DIELECTRIC COATED PIPE.
8. FOR WIRES ABOVE GROUND, TAG INDIVIDUAL WIRES FOR IDENTIFICATION PURPOSES, FOR BURNED WIRES, PLACE MARKER TAPE.

DATE:	REVISION	BY
APPROVED BY <i>Stannus W. Wagner</i> 1-26-09 GENERAL MANAGER      DATE:		
<i>H.D. Wall</i> 1/26/09 DISTRICT ENGINEER      DATE:		
SCALE: NONE		DRAWN BY: S.R.W.
<b>LAKE HEMET MUNICIPAL WATER DIST.</b> <b>WATER IMPROVEMENT</b> <b>THERMITE WELD</b> <b>DETAILS</b>		
<b>STANDARD H-20</b>		



DATE:	REVISION	BY
APPROVED BY <i>Thomas W Wagner</i> 2/11/09 GENERAL MANAGER DATE:		
<i>H. D. Wall</i> 2/4/09 CHIEF ENGINEER DATE:		
SCALE: NONE	DRAWN BY: S.R.W.	
<b>LAKE HEMET MUNICIPAL WATER DIST.          WATER IMPROVEMENT</b>		
<b>INSULATED FLANGE JOINT</b>		
<b>STANDARD H-21</b>		





- ① 13"x24" METER BOX PER LHMWD'S APPROVED MAT'L LIST.
- ② ANGLE METER STOP (COPPER TUBE SIZE)
- ③ SINGLE-1 1/2" COPPER SERVICE TUBING (TYPE K)
- ④ 1 1/2" BRASS CORPORATION STOP (COPPER TUBE SIZE)
- ⑤ 2 1/2" WELDED SADDLE WITH 2 1/2"x 2" DIELECTRIC BUSHING FOR STEEL PIPE OR SMITH-BLAIR # 313 DOUBLE STRAP SERVICE OR APPROVED EQUAL FOR PLASTIC OR D.I.P.
- ⑥ 1 1/2" MULTI-JET METER PER LHMWD'S APPROVED MAT'L LIST.

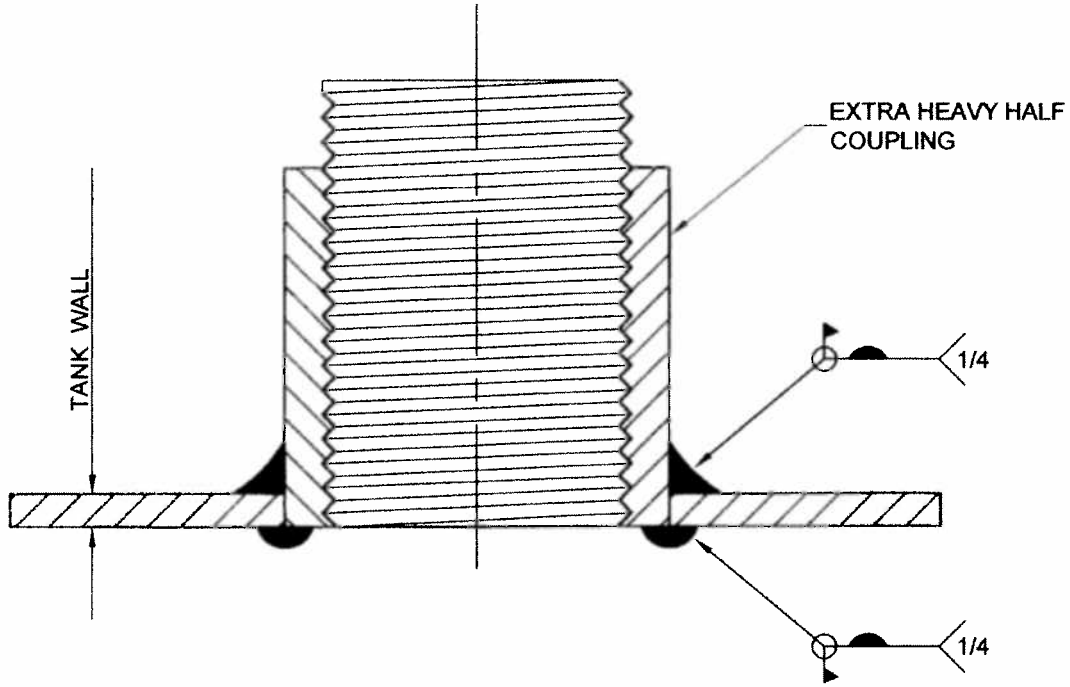
**PLACEMENT OF METER BOX**

- A. PLACE FRONT EDGE OF METER BOX 6" MAX BEHIND EXISTING OR PROPOSED SIDEWALKS
- B. WHEN NO SIDEWALK IS PROPOSED, PLACE FRONT EDGE OF BOX 6.5' BEHIND CURB FACE.
- C. WHEN NO CURBS ARE EXISTING OR TO BE INSTALLED UPON COMPLETION OF THE WATER SYSTEM, PLACE BACK EDGE OF METER BOX ON PROPERTY LINE.

**GENERAL NOTES**

- 1. ALL FITTINGS BETWEEN AND INCLUDING CORPORATION STOP AND BALL VALVE SHALL:
  - A. BE MADE OF BRASS OR BRONZE:
  - B. BE OF THE BANDED PATTERN:
  - C. BE DESIGNED FOR A MIN OF 175 PSI (COLD WATER) WORKING PRESSURE.
- 2. PRESSURE TEST PRIOR TO WRAPPING OR BACKFILLING.
- 3. CORPORATION STOP & FITTINGS AT PIPELINE SHALL BE PRIMED AND WRAPPED WITH APPROVED COAL TAR RESIN TAPE.
- 4. ALL SERVICE PIPE & TUBING SHALL BE LAID ON A CONSTANT SLOPE UP FROM WATER MAIN TO METER. NO DIPS OR POCKETS WILL BE PERMITTED. PROVIDE 36" MIN. COVER AT GAS MAIN CROSSING.

DATE:	REVISION	BY
APPROVED BY <u>Thomas W. Wagner</u> 2/24/09 GENERAL MANAGER DATE:		
<u>W.D. Wall</u> 2/24/09 CHIEF ENGINEER DATE:		
SCALE: NONE	DRAWN BY: S.R.W.	
<b>LAKE HEMET MUNICIPAL WATER DIST.                      WATER IMPROVEMENT</b>		
<b>1 1/2" SERVICE CONNECTION</b>		
<b>STANDARD H-22</b>		



TANK OUTLETS	
CORPORATION STOPS	EXTRA HEAVY HALF COUPLING SIZE
3/4" (CS)	1-1/4" (IP)
1" (CS)	1-1/4" (IP)
1-1 1/2" (IP)	2-1/2" (IP)
2" (IP)	2-1/2" (IP)
















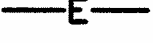
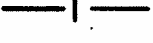



DATE:	REVISION	BY
APPROVED BY <u>Thomas W. Wagner</u> 12/22/09 GENERAL MANAGER DATE:		
<u>M. S. Wall</u> 12/22/09 CHIEF ENGINEER DATE:		
SCALE: NONE		DRAWN BY: S.R.W.
LAKE HEMET MUNICIPAL WATER DIST. WATER IMPROVEMENT		
WELDED OUTLETS ON TANKS FOR 3/4" THRU 2" CORP STOPS		
STANDARD H-23		

LAKE HEMET MUNICIPAL WATER DISTRICT  
TECHNICAL SPECIFICATIONS

**DESIGN GUIDELINES**

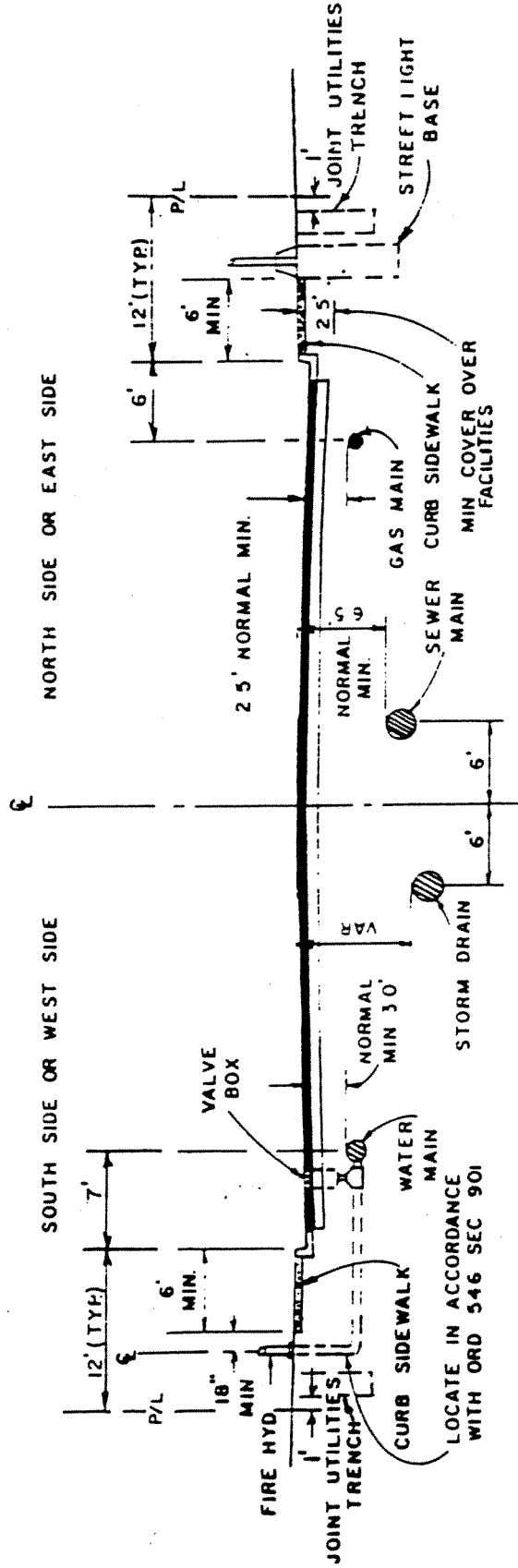
The following are provided as Design Guidelines to develop the Plans for LHMWD.

- Standard Symbols
- Normal Location of Underground Utilities
- Typical Lot Layout

	.....	SEWER MAIN
	.....	FORCE MAIN
	.....	MANHOLE (IDENTIFICATION NUMBER SHOWN ON INDEX MAP)
	.....	CLEANOUT (IDENTIFICATION SHOWN ON INDEX MAP)
	.....	MANHOLE WITH BOLT-DOWN COVER
	.....	WYE
	.....	LATERAL (● 2% GRADE, MINIMUM, UNLESS NOTED AS "LF")
	.....	CHIMNEY
	.....	SEWER NOT A PART OF THIS CONTRACT (ON INDEX MAP)
	.....	SEWER NOT A PART OF THIS CONTRACT (ON CONST. DRAWINGS)
	.....	EASEMENT LIMITS
	.....	PLAN SHEET NUMBER (ON INDEX MAP)
	.....	WATER MAIN (SIZE IN INCHES)
	.....	GAS MAIN (SIZE IN INCHES)
	.....	SEWER LINE (SIZE IN INCHES)
	.....	UNDERGROUND ELECTRICAL
	.....	UNDERGROUND TELEPHONE
	.....	STORM DRAIN PIPE
	.....	UNDERGROUND TRAFFIC SIGNAL CABLE
	.....	CABLE TV

SOLID LINES REPRESENT PROPOSED FACILITIES  
 DASHED LINES REPRESENT EXISTING FACILITIES

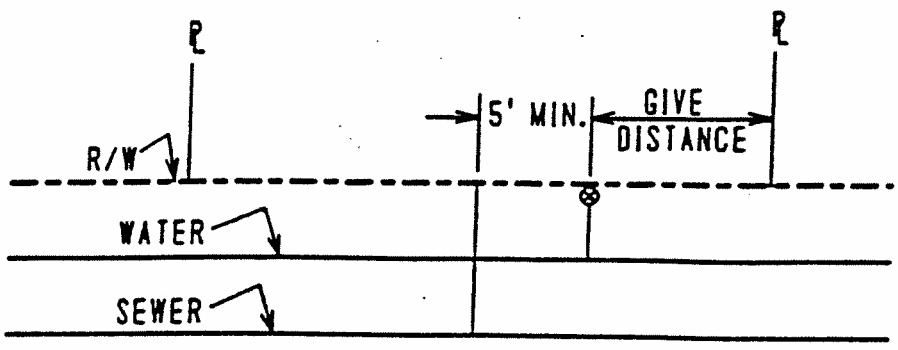
STANDARD SYMBOLS



- NOTE 1 LOCATION AND DEPTH OF EXISTING AND PROPOSED UTILITIES MUST BE PROVIDED BY THE SUBDIVIDER AND SHOWN ON ANY PLANS SUBMITTED TO THE TRANSPORTATION DEPARTMENT FOR APPROVAL.
2. CHANGES MAY BE PERMITTED BY THE DIRECTOR OF TRANSPORTATION IN CASES OF CONFLICTING FACILITIES.
3. CONFLICTS BETWEEN UTILITY COMPANY FACILITIES, EXISTING AND PROPOSED, MUST BE MUTUALLY RESOLVED BY THE UTILITY COMPANIES.

NOTE SEE STANDARD NO. 1000 OR 1001 FOR RESIDENTIAL LIGHTING DETAILS.

## NORMAL LOCATION OF UNDERGROUND UTILITIES



TYPICAL LOT  
N.T.S.

TYPICAL LOT LAYOUT