VALLEY CENTER
MUNICIPAL WATER DISTRICT

STANDARD DRAWINGS

Latest Revision: APRIL 2022

29300 Valley Center Road - P.O. Box 67
Valley Center, CA 92082 (760) 735-4500

Water Standard Drawings
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APRIL 2022

Latest Revision

Water Standard Drawings
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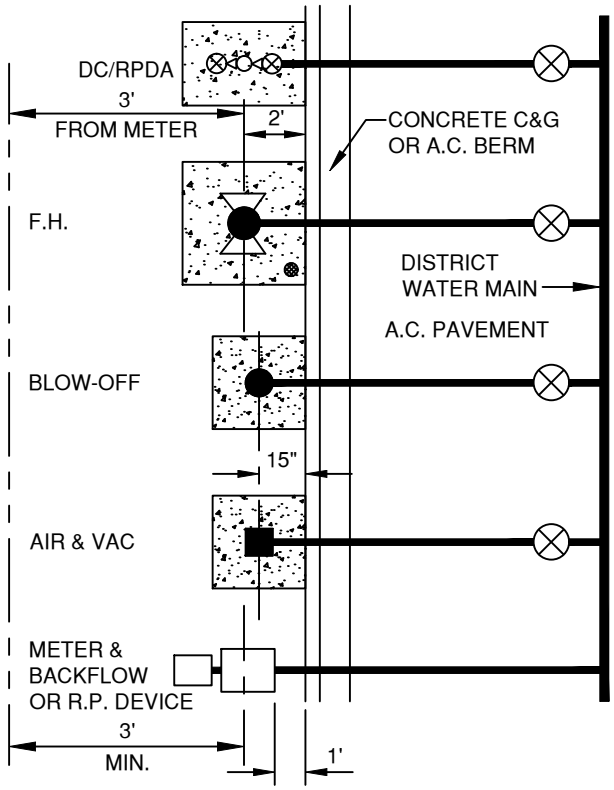
APRIL 2022

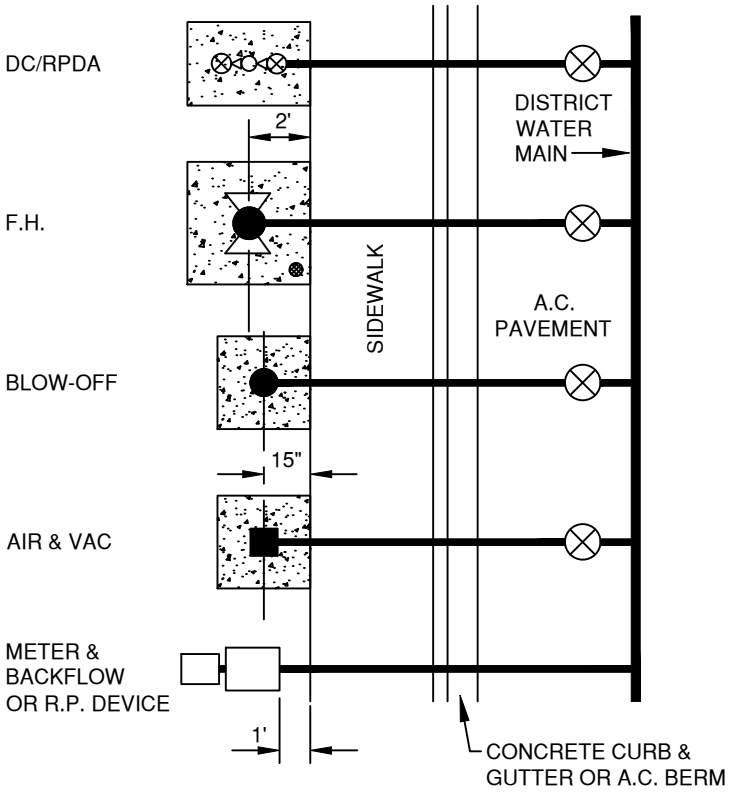
STANDARD LEGEND

RECYCLED WATER MAIN	EXISTING RECYCLED WATER MAIN
RECYCLED WATER SERVICE	EXISTING RECYCLED WATER SERVICE
WATER MAIN	EXISTING WATER MAIN
WATER SERVICE	EXISTING WATER SERVICE
BLOW OFF	EXISTING BLOW OFF
AIR & VACUUM RELEASE	EXISTING AIR & VACUUM RELEASE
CHECK VALVE	EXISTING GATE VALVE
FIRE HYDRANT	EXISTING FIRE HYDRANT
GATE VALVE	STORM DRAIN OR CULVERT
ALL CLOSED GATES	GAS LINE
THRUST BLOCK	ELECTRICAL
COMBINATION AV/BO	ELECTRICAL OVERHEAD
WATER QUALITY SAMPLING STATION	TELEPHONE
FIRE SERVICE	POWER POLE
WATER DISTRICT BOUNDARY	WELL
EDGE OF PAVEMENT	

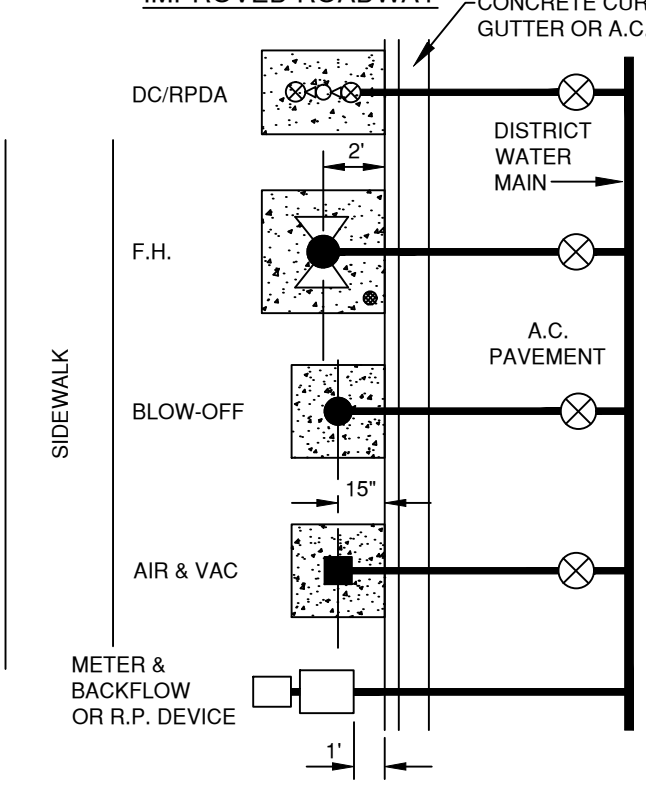
APPROVED: 3/2/2020 District Engineer Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **STANDARD SYMBOLS FOR WATER CONSTRUCTION DRAWINGS**	NOT TO SCALE DWG. NUMBER **W-1**



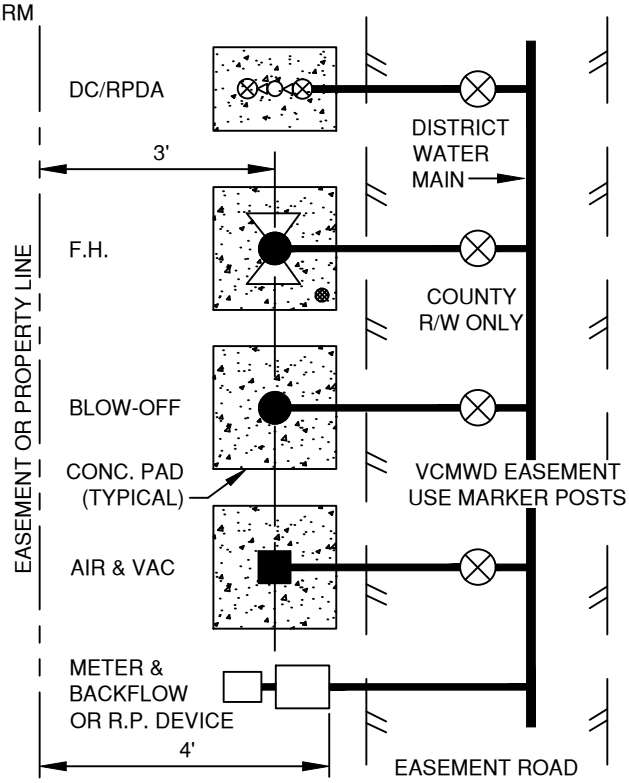
TYPE "A" INSTALLATION
IMPROVED ROADWAY



TYPE "B" INSTALLATION
CONTIGUOUS SIDEWALK



TYPE "C" INSTALLATION
NON-CONTIGUOUS SIDEWALK



TYPE "D" INSTALLATION
UNIMPROVED AREA

NOTE:
FIELD CONDITIONS MAY REQUIRE ADJUSTMENT IN APPURTENANCE LOCATIONS (SUBJECT TO VCMWD APPROVAL)

APPROVED:

3/2/2020

District Engineer — Date

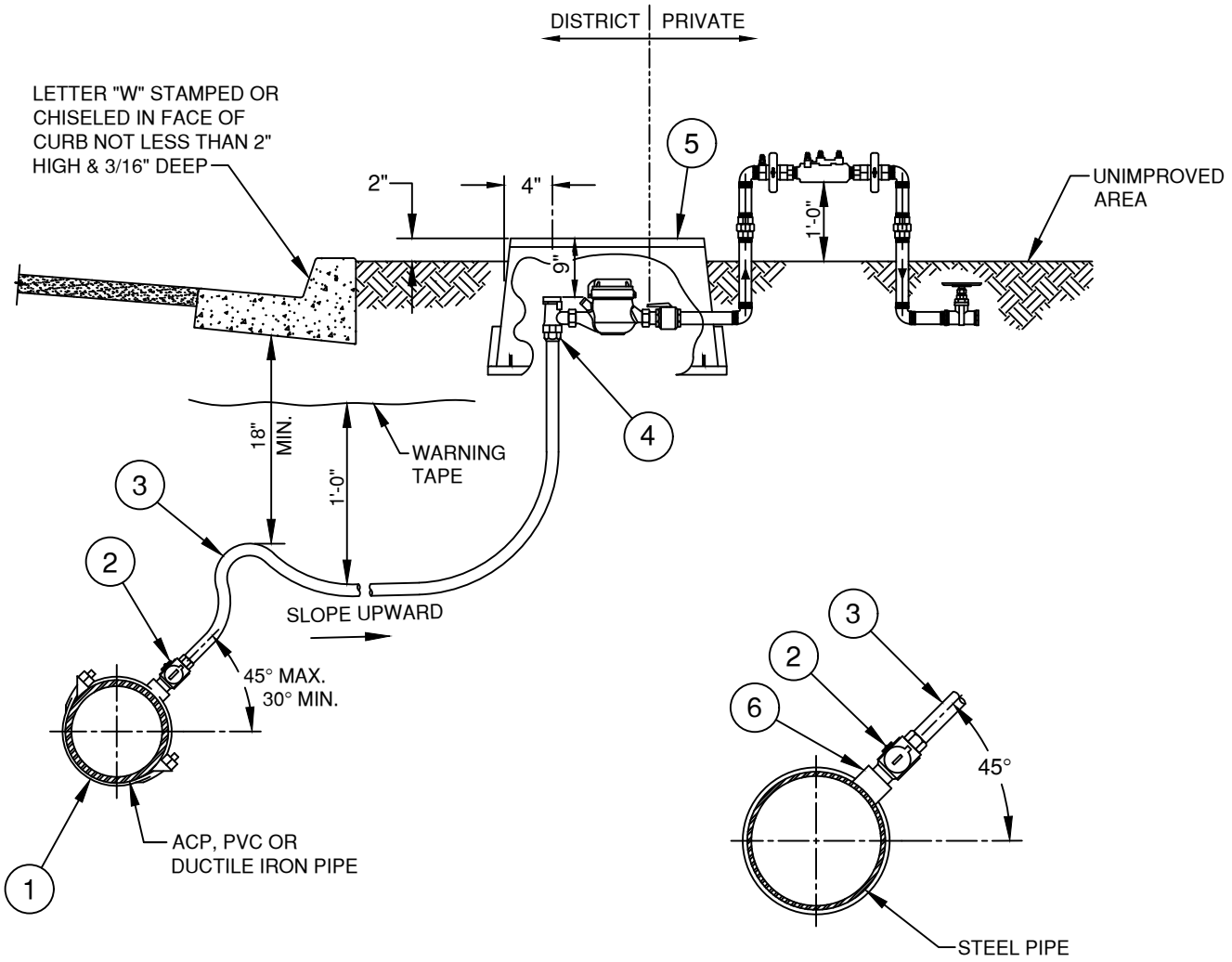
3/2/2020
Latest Revision Date

VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

TYPICAL INSTALLATION FOR WATER MAIN APPURTENANCES

NOT TO SCALE

DWG. NUMBER
W-2



CONNECTION TO STEEL PIPE

NOTE:

1. FOR THE LOCATION OF APPURTENANCES SEE STANDARD DRAWING NO. W-2
2. DISTRICT INSTALLED BACKFLOW AREA TO REMAIN CLEAR.

1" Ⓦ

LEGEND ON PLANS

NO.	DESCRIPTION
1	MAIN SIZE x SERVICE SIZE, BRONZE DOUBLE STRAP SADDLE FOR ACP & DIP, SS DOUBLE STRAP FOR PVC
2	BRONZE BALL CORPORATION STOP M.I.P. x COMP (OPERATING NUT TO BE POSITIONED ON RIGHT SIDE)
3	COPPER TUBING x REQUIRED LENGTH x SERVICE SIZE, TYPE K SOFT COPPER
4	BRONZE BALL ANGLE METER STOP w/LOCKWING (1" COMP x METER SWIVEL)
5	PLASTIC METER BOX
6	FORGED STEEL HIGH PRESSURE 1/2 COUPLING

APPROVED:

11.20.2021

District Engineer **Date**

10/20/2021

Latest Revision Date

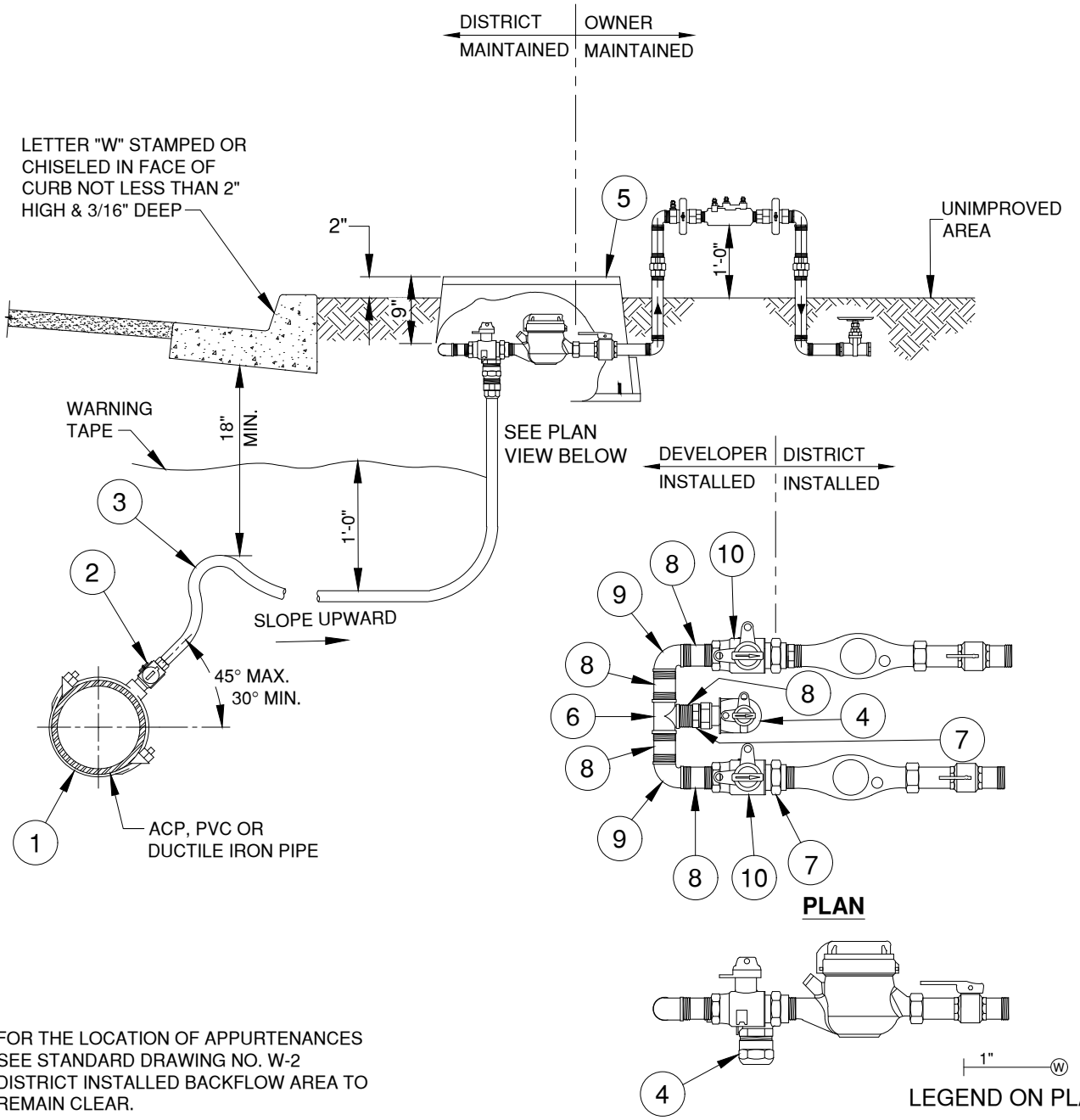
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

3/4" AND 1" WATER SERVICE

NOT TO SCALE

DWG. NUMBER

W-3



NOTE:

1. FOR THE LOCATION OF APPURTENANCES SEE STANDARD DRAWING NO. W-2
2. DISTRICT INSTALLED BACKFLOW AREA TO REMAIN CLEAR.

NO.	DESCRIPTION	NO.	DESCRIPTION
1	MAIN SIZE x SERVICE SIZE, BRONZE DOUBLE STRAP SADDLE FOR ACP & DIP, SS DOUBLE STRAP FOR PVC	8	1" x SHORT BRASS NIPPLE
2	BRONZE BALL CORPORATION STOP M.I.P. x COMP (OPERATING NUT TO BE POSITIONED ON RIGHT SIDE)	9	1" 90° BRASS ELBOW
3	COPPER TUBING x REQUIRED LENGTH x SERVICE SIZE, TYPE K SOFT COPPER	10	STRAIGHT BALL METER STOP w/LOCKWING (1" F.N.P.T BY METER SWIVEL)
4	BRONZE BALL ANGLE METER STOP w/LOCKWING (1" COMP x METER SWIVEL)	11	NOT USED
5	PLASTIC METER BOX	12	NOT USED
6	1" TEE	13	NOT USED
7	1" x 1 1/4" FIRE METER BUSHING	14	NOT USED

APPROVED:

1/24/22

District Engineer **Date**

1/24/22

Latest Revision Date

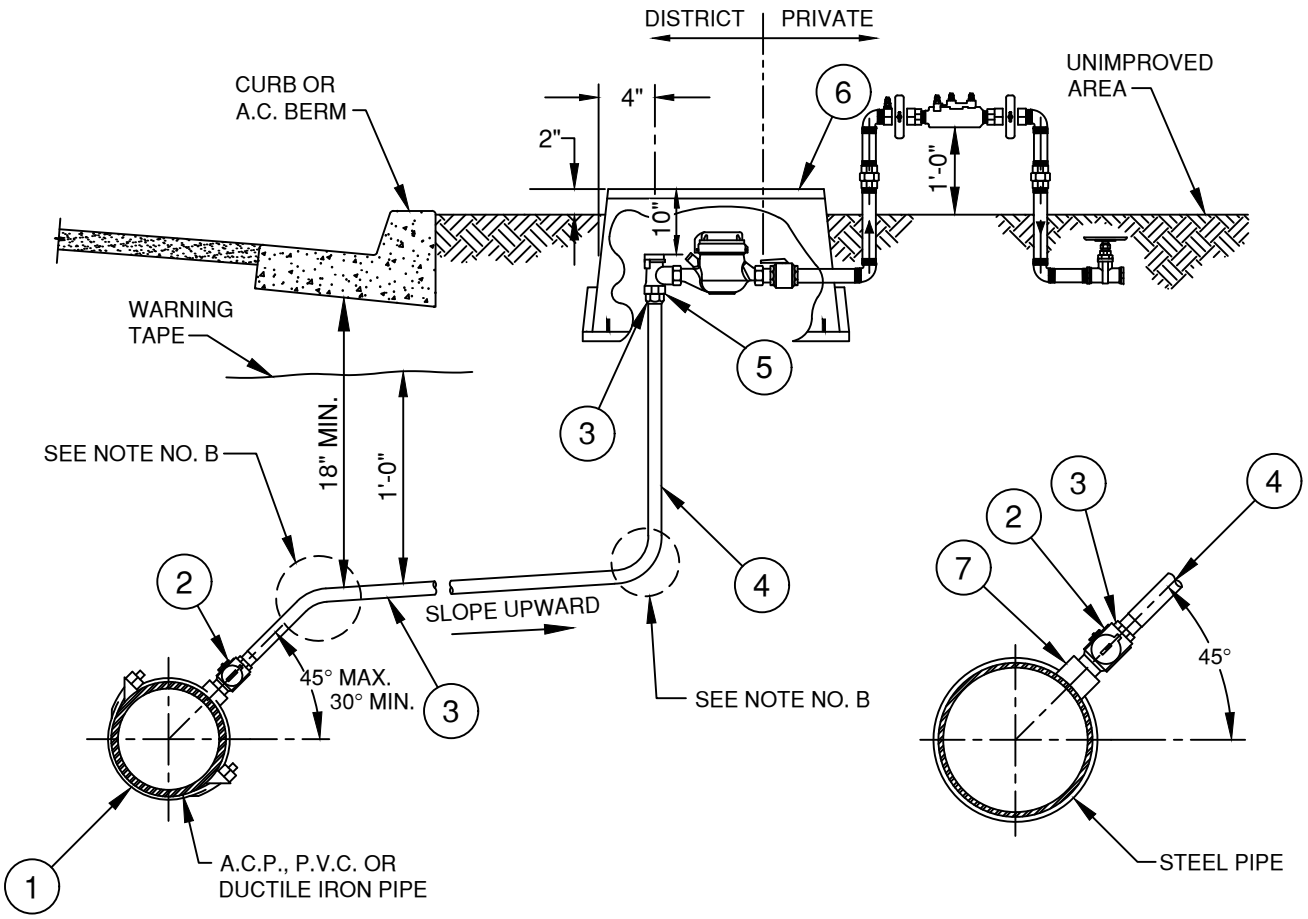
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

3/4" DOMESTIC & 1" FIRE WATER SERVICE

NOT TO SCALE

DWG. NUMBER

W-3A



CONNECTION TO STEEL PIPE

NOTE:

A. FOR THE LOCATION OF APPURTENANCES SEE STANDARD DRAWING NO. W-2.

B. A 90° OR 45° COPPER SWEAT ELL x LONG RADIUS MAY BE USED FOR SHALLOW INSTALLATIONS.

C. DISTRICT INSTALLED BACKFLOW AREA TO REMAIN CLEAR.

2" Ⓦ

LEGEND ON PLANS

NO.	DESCRIPTION
1	MAIN SIZE x SERVICE SIZE, BRONZE DOUBLE STRAP SADDLE FOR ACP & DIP, SS DOUBLE STRAP FOR PVC
2	BRONZE BALL CORPORATION STOP M.I.P. x F.I.P. (OPERATING NUT TO BE POSITIONED ON THE RIGHT SIDE)
3	COPPER SWEAT x M.I.P. ADAPTER
4	COPPER TUBING x REQUIRED LENGTH
5	FLANGED BRONZE ANGLE METER STOP w/LOCKWING, FIP x FLANGE
6	PLASTIC METER BOX
7	FORGED STEEL HIGH PRESSURE 1/2 COUPLING

APPROVED:

10-20-2021

District Engineer **Date**

10/20/2021

Latest Revision Date

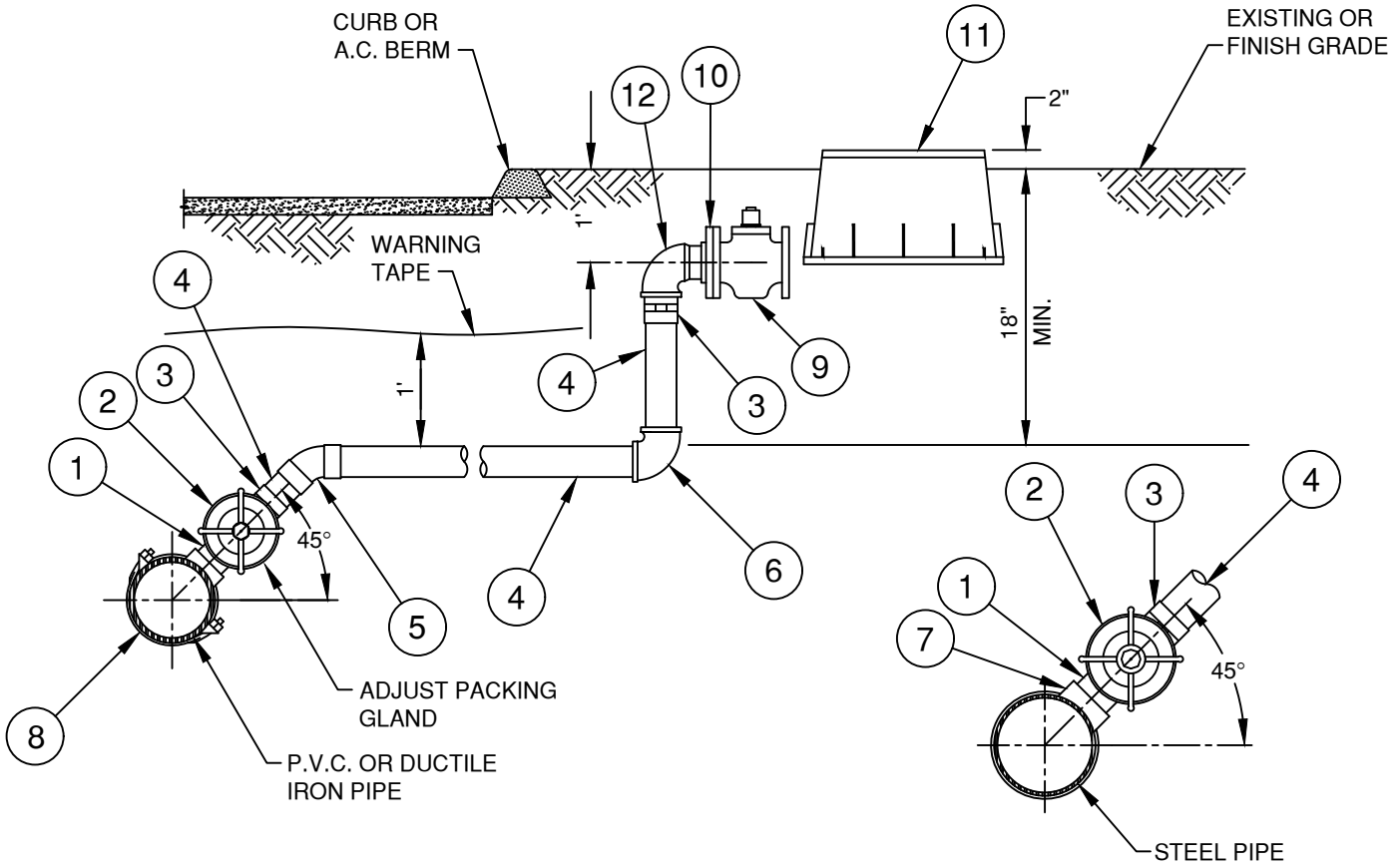
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

1 1/2" OR 2" WATER SERVICE

NOT TO SCALE

DWG. NUMBER

W-4



CONNECTION TO STEEL PIPE

NOTE:

1. FOR THE LOCATION OF APPURTENANCES SEE STANDARD DRAWING NO. W-2
2. DISTRICT INSTALLED BACKFLOW AREA TO REMAIN CLEAR.

3" W

LEGEND ON PLANS

NO.	DESCRIPTION	NO.	DESCRIPTION
1	BRASS NIPPLE, CLOSE OR SHORT MIP x MIP	7	FORGED STEEL HIGH PRESSURE 1/2 COUPLING
2	BRONZE GATE VALVE w/BRONZE HANDWHEEL, F.I.P. x F.I.P. THREAD W/ SS NUT	8	CAST IRON DOUBLE STRAP SADDLE x MAIN SIZE FOR A.C. & D.I.P., SS DOUBLE STRAP FOR P.V.C.
3	COPPER SWEAT ADAPTOR x M.I.P. THREAD	9	FLANGED PLUG VALVE w/OPERATOR NUT
4	COPPER TUBING x REQ'D. LENGTH	10	COMPANION FLANGE x F.I.P. THREAD
5	45° COPPER SWEAT COUPLING	11	PLASTIC METER BOX
6	90° COPPER SWT x SWT	12	90° BRASS ST. ELL

APPROVED:

10-20-2021

District Engineer **Date**

10/20/2021

Latest Revision Date

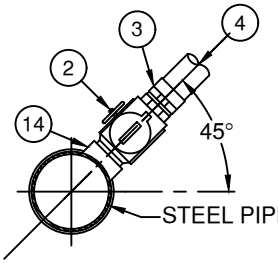
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

NOT TO SCALE

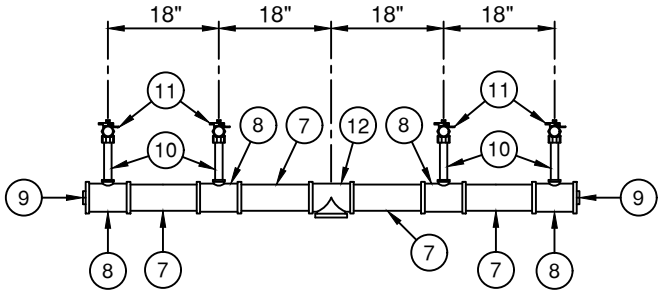
3" WATER SERVICE

DWG. NUMBER

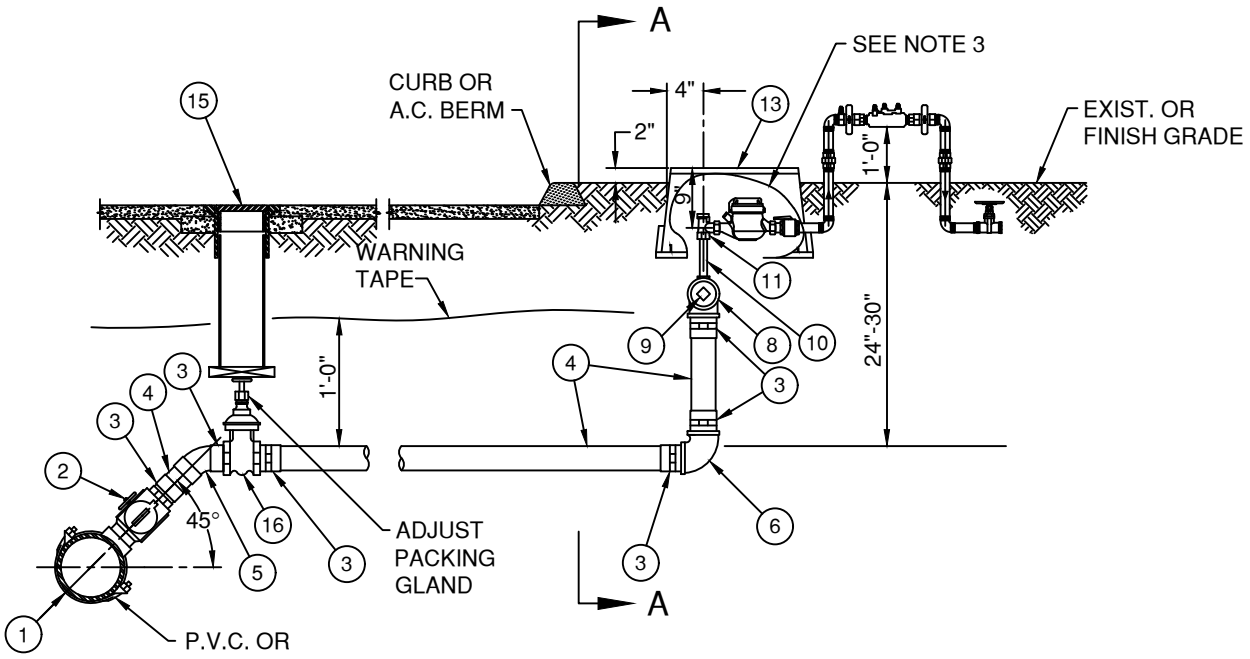
W-5



CONNECTION TO STEEL PIPE

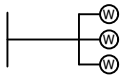


SECTION A-A



NOTE:

1. FOR THE LOCATION OF APPURTENANCES SEE STANDARD DRAWING NO. W-2
2. DISTRICT INSTALLED BACKFLOW AREA TO REMAIN CLEAR.
3. REFERENCE W-3A FOR FIRE METER CONFIGURATION.



LEGEND ON PLANS

NO.	DESCRIPTION	NO.	DESCRIPTION
1	BRONZE DOUBLE STRAP SADDLE FOR ACP & DIP, SS DOUBLE STRAP FOR PVC	9	LAT. SIZE BRASS PLUG, M.I.P. THREAD x MANIFOLD SIZE
2	LAT. SIZE MIP X FIP BRONZE CORPORATION STOP. FOR 3" APPLICATIONS USE 3" BRONZE GATE VALVE	10	6" BRASS NIPPLE x SERVICE SIZE
3	LAT. SIZE COPPER SWEAT ADAPTOR x M.I.P. THREAD	11	BRONZE ANGLE METER STOP F.I.P. x METER COUPLING
4	LAT. SIZE COPPER TUBING x REQUIRED LENGTH	12	LAT. SIZE BRASS TEE, F.I.P. x MANIFOLD SIZE
5	LAT. SIZE 45° COPPER SWEAT ELL	13	PLASTIC METER BOX
6	LAT. SIZE 90° BRASS F.I.P. x F.I.P.	14	LAT. SIZE FORGED STEEL HIGH PRESSURE 1/2 COUPLING
7	LAT. SIZE RED BRASS REQ'D LENGTH	15	VALVE WELL FRAME, ASSEMBLY, AND COVER PER W-25
8	LAT. SIZE BRASS TEE x F.I.P. THREAD (MANIFOLD SIZE x SERVICE SIZE), MIN. 1" RISER	16	LAT. SIZE BRONZE GATE VALVE

APPROVED:

10-20-2021

District Engineer **Date**

10/20/2021

Latest Revision Date

VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

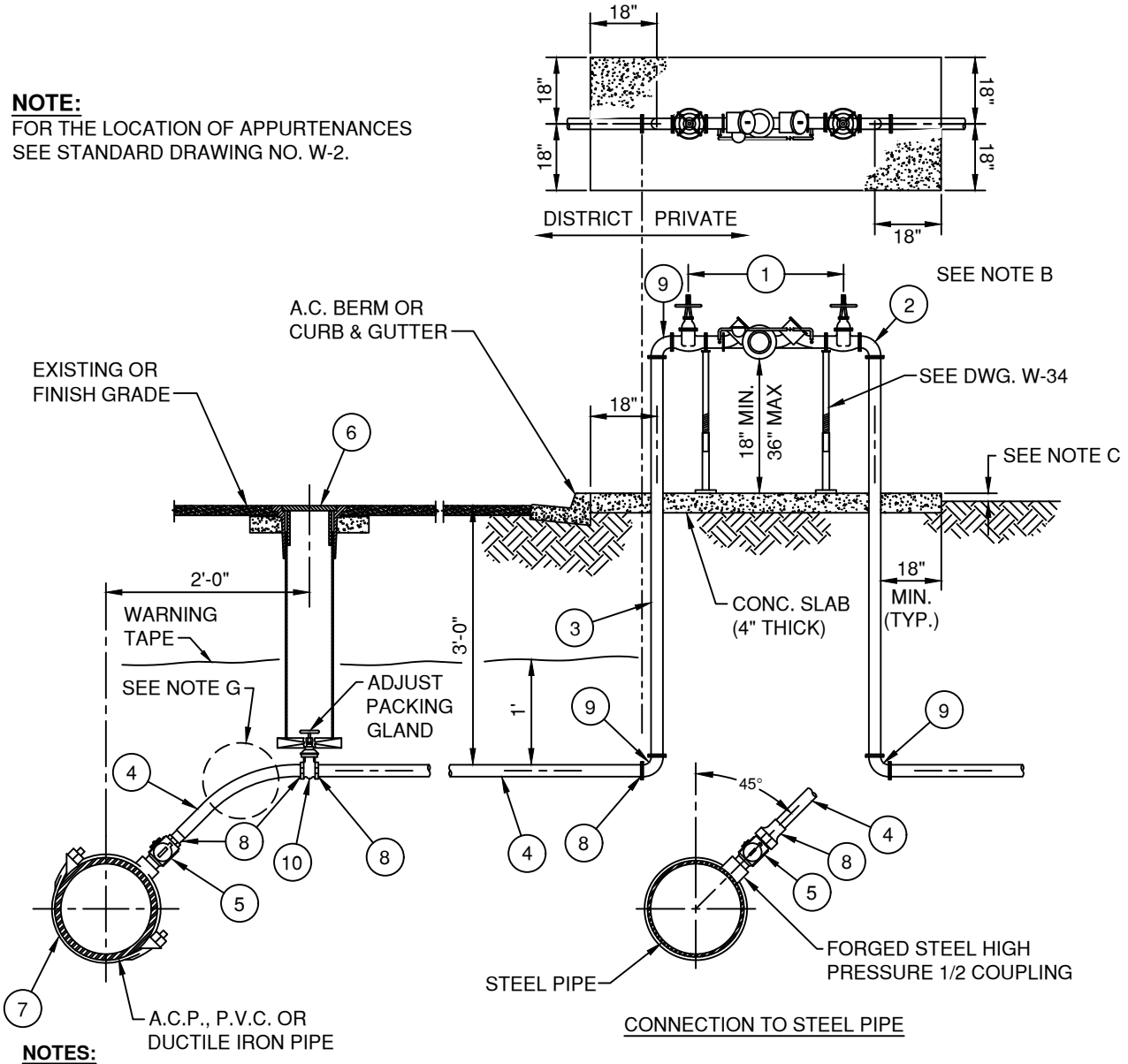
1 1/2", 2" & 3" WATER SERVICE MANIFOLD ASSEMBLY

NOT TO SCALE

DWG. NUMBER

W-6

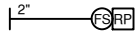
NOTE:
FOR THE LOCATION OF APPURTENANCES
SEE STANDARD DRAWING NO. W-2.



CONNECTION TO STEEL PIPE

NOTES:

A. BACKFLOW PREVENTOR ASSEMBLY SHALL BE TESTED UPON INSTALLATION BY A CERTIFIED BACKFLOW ASSEMBLY TESTER. CONTRACTOR SHALL PROVIDE THE ENGINEER WITH WRITTEN TEST RESULTS COMPLETED BY A CERTIFIED BACKFLOW TESTER PRIOR TO BACKFLOW PREVENTOR ASSEMBLY ACCEPTANCE BY THE ENGINEER.
B. ELBOW MAY BE REPLACED WITH FIRE DEPARTMENT CONNECTION AS REQUIRED BY THE FIRE DEPARTMENT.
C. CONCRETE PAD TO BE AT GRADE UNLESS INSTALLED IN UNIMPROVED AREAS WHERE IT WILL BE 2" ABOVE GRADE.
D. VALVE SUPPORTS AS REQUIRED.
E. MAKE/MODEL OF BACKFLOW MUST BE ON CURRENT STATE APPROVED LIST.
F. BACKFLOW DEVICE BASED ON DEGREE OF HAZARD (RPDA/DCDA).
G. A 90° OR 45° COPPER SWEAT ELL x LONG RADIUS MAY BE USED FOR SHALLOW INSTALLATIONS.



LEGEND ON PLANS

NO.	DESCRIPTION	NO.	DESCRIPTION
1	REDUCED PRESSURE PRINCIPLE DETECTION ASSEMBLY (RPDA) / DOUBLE CHECK DETECTOR ASSEMBLY (DCDA)	6	VALVE WELL FRAME, ASSEMBLY, AND COVER PER W-25
2	90° RED BRASS F.I.P. x F.I.P.	7	SERVICE SADDLE; MAIN SIZE x SERVICE SIZE
3	RED BRASS M.I.P. x M.I.P. x REQD LENGTH	8	COPPER SWEAT ADAPTER M.I.P. x SWT
4	TYPE K SOFT COPPER x REQD LENGTH	9	90° BRASS OR COPPER x F.I.P. x F.I.P.
5	BRONZE BALL CORPORATION STOP M.I.P. x F.I.P. (OPERATING NUT TO BE POSITIONED ON THE RIGHT SIDE)	10	BRONZE GATE VALVE W/ BRONZE HANDWHEEL F.I.P. x F.I.P. W/ STAINLESS STEEL NUT

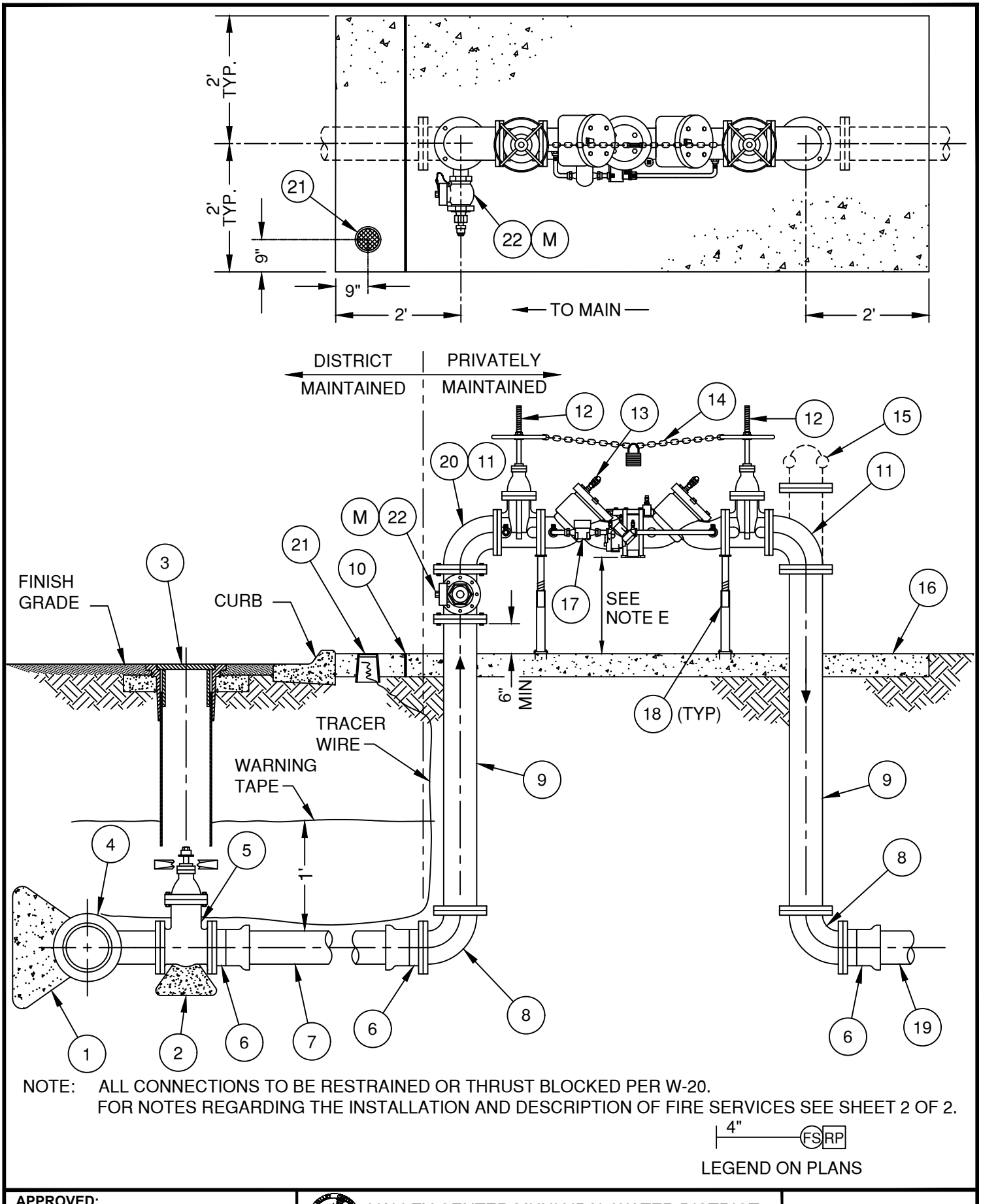
APPROVED:
10-20-2021
District Engineer **Date**
10/20/2021
Latest Revision Date

VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

1 1/2" OR 2" FIRE SERVICE

NOT TO SCALE

DWG. NUMBER
W-7



NOTE: ALL CONNECTIONS TO BE RESTRAINED OR THRUST BLOCKED PER W-20.
FOR NOTES REGARDING THE INSTALLATION AND DESCRIPTION OF FIRE SERVICES SEE SHEET 2 OF 2.

4" FS RP

LEGEND ON PLANS

APPROVED: 10-20-2021 **District Engineer** **Date** **10/20/2021** **Latest Revision Date**	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **4" AND LARGER FIRE SERVICE INSTALLATION**	NOT TO SCALE DWG. NUMBER **W-8** SHT 1 of 2

FOR DRAWING OF FIRE SERVICE INSTALLATION SEE SHEET 1 OF 2

NOTES:

A. INSTALL WARNING/IDENTIFICATION TAPE.

B. LOCATION OF FIRE SERVICES SHALL BE AS DIRECTED BY THE FIRE DEPARTMENT OF JURISDICTION. FIRE SERVICES SHOULD BE LOCATED IN SUCH A MANNER THAT WILL ALLOW THE DEVICE TO BE READILY ACCESSIBLE FOR INSPECTION, REPAIR, AND USAGE.

C. TAMPER SWITCH, AUTOMATIC RESET, CHAIN WITH KNOX LOCK, AND FIRE DEPARTMENT CONNECTION ("FDC") SHALL BE AS REQUIRED BY THE FIRE DEPARTMENT OF JURISDICTION.

D. BALL VALVE TEST COCKS SHALL BE PROVIDED AND LOCATED PER THE MANUFACTURERS RECOMMENDATIONS AND THE DISTRICT.

E. INSTALL FIRE SERVICES SO THAT THE DISTANCE BETWEEN THE BOTTOM OF THE RELIEF DIAPHRAGM AND THE CONCRETE SLAB OR FINISH GRADE IS 18" MIN. AND 36" MAX.

F. INSTALL AN ANGLE PRESSURE REDUCING VALVE IN LIEU OF THE FIRST 90° BEND WHEN SYSTEM STATIC PRESSURE EXCEEDS 175psi OR WHEN RECOMMENDED BY THE BACKFLOW MANUFACTURER.

G. ABOVE GROUND APPURTENANCE SHALL BE PAINTED AND IDENTIFIED AS CALLED FOR BY THE FIRE DEPARTMENT OF JURISDICTION.

H. ACCEPTABLE TESTING BY A DISTRICT APPROVED BACKFLOW TESTER TURNED INTO THE DISTRICT PRIOR TO FINAL ACCEPTANCE.

I. MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST AND MUST BE APPROVED BY THE FIRE DEPARTMENT OF JURISDICTION.

J. DISTRICT EASEMENT WILL BE REQUIRED FOR ACCESSIBILITY OF THE TATTLETALE METER.

K. WHEN TAPPING EXISTING MAIN, POTHOLE TO VERIFY AT MINIMUM NO JOINTS EXIST WITHIN 36" OF CONNECTION POINT.

L. SEE PREVIOUS SHEET FOR RESTRAINED CONNECTION.

M. 4" WHARF HEAD TO BE INSTALLED UPON FIRE DEPARTMENT REQUEST.

NO.	DESCRIPTION	NO.	DESCRIPTION
1	CONCRETE THRUST BLOCK, PER W-20	12	FLANGED OS&Y RESILIENT WEDGE GATE VALVE W/ HAND WHEEL AND RISING STEM
2	VALVE SUPPORT, PER W-21	13	RPDA, SEE NOTE D ABOVE
3	VALVE WELL FRAME, ASSEMBLY, AND COVER, PER W-25	14	CHAIN WITH LOCK, SEE NOTE C ABOVE
4	SIZE x SIZE TEE (FLG OUTLET)	15	FLANGED TEE WITH "FDC", SEE NOTE C ABOVE
5	FLG x FLG RESILIENT WEDGE GATE VALVE	16	CONCRETE SLAB, 4" THICK x 48" WIDE, 520-C-2500 LENGTH DETERMINED BY LENGTH OF DEVICE
6	FLG x MJ/PO ADAPTER (IF REQUIRED)	17	3/4" BYPASS, DISTRICT OWNED TATTLETALE METER IN CUBIC FEET
7	D.I. OR P.V.C.	18	ADJUSTABLE PIPE SUPPORT, PER W-34
8	FLG x FLG 90° BEND	19	DUCTILE IRON PIPE
9	FLANGED x FLANGED x REQ'D LENGTH DUCTILE IRON PIPE	20	FLANGED ANGLE PRESSURE REDUCING VALVE SEE NOTE F ABOVE
10	1/2" EXPANSION JOINT	21	CARSON 708 TRACER WIRE BOX
11	FLANGED 90° BEND, SEE NOTE F ABOVE	22	D.I. TEE REQ SIZE W/4" WHARFHEAD

APPROVED:

10.20.2021

District Engineer — Date

10/20/2021

Latest Revision Date

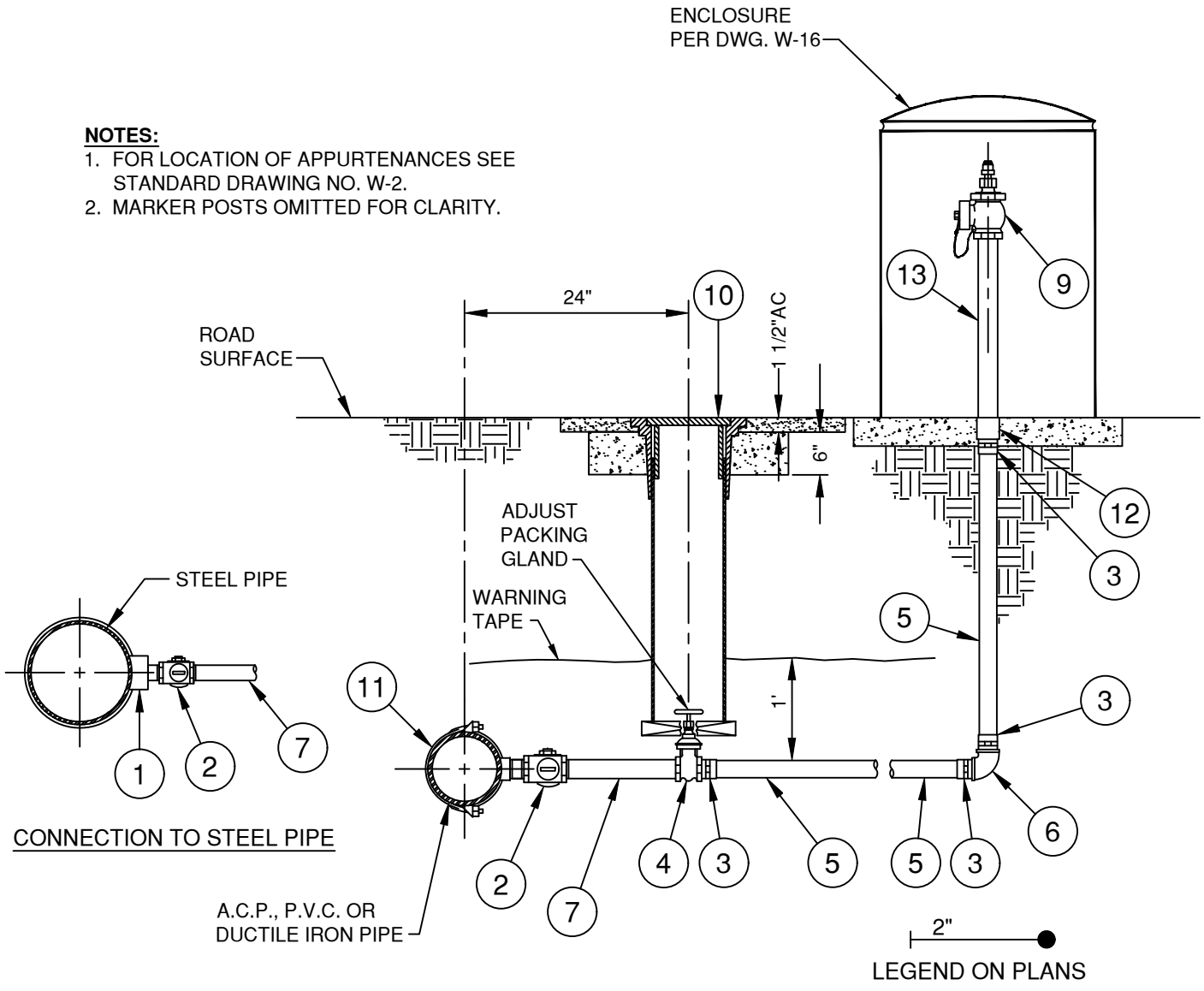
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

4" AND LARGER FIRE SERVICE INSTALLATION

NOT TO SCALE

DWG. NUMBER
W-8
SHT 2 of 2

NOTES:
1. FOR LOCATION OF APPURTENANCES SEE STANDARD DRAWING NO. W-2.
2. MARKER POSTS OMITTED FOR CLARITY.



NO.	DESCRIPTION	NO.	DESCRIPTION
1	FORGED STEEL HIGH PRESSURE 1/2 COUPLING	8	RED BRASS PIPE x REQUIRED LENGTH
2	2" BRONZE BALL CORPORATION STOP M.I.P. x F.I.P. (OPERATING NUT TO BE ON THE RIGHT SIDE)	9	2" x 2 1/2" ANGLE FIRE PLUG VALVE
3	COPPER SWEAT ADAPTOR x M.I.P. THREAD	10	VALVE WELL FRAME, ASSEMBLY AND COVER PER W-25
4	BRONZE GATE VALVE W/ BRONZE HANDWHEEL, F.I.P. x F.I.P. THREAD	11	BRONZE DOUBLE STRAP SADDLE MAIN SIZE x SERVICE SIZE
5	COPPER TUBING x REQUIRED LENGTH	12	2" BRASS COUPLING, EMBEDDED FLUSH W/PAD
6	90° BRONZE F.I.P. x F.I.P. THREAD	13	2" RED BRASS NIPPLE x 18" LONG
7	2" RED BRASS PIPE x REQUIRED LENGTH		

APPROVED:

District Engineer — Date: 3/2/2020

3/2/2020
Latest Revision Date

VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

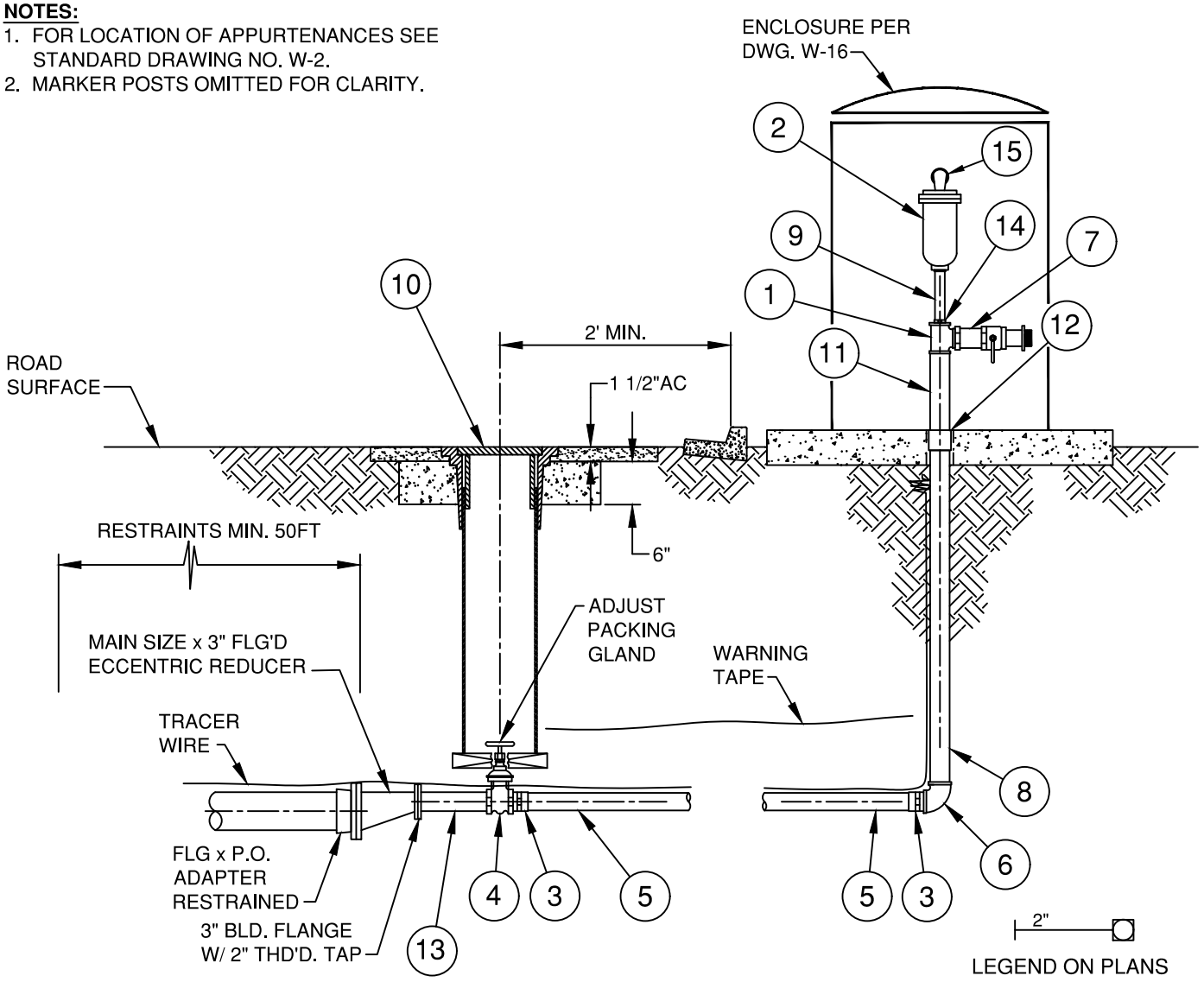
2" BLOW OFF ASSEMBLY

NOT TO SCALE

DWG. NUMBER
W-9

NOTES:

1. FOR LOCATION OF APPURTENANCES SEE STANDARD DRAWING NO. W-2.
2. MARKER POSTS OMITTED FOR CLARITY.



NO.	DESCRIPTION	NO.	DESCRIPTION
1	2" RED BRASS THREADED TEE	9	1" RED BRASS NIPPLE x 2" LONG
2	1" AIR VACUUM RELEASE VALVE	10	VALVE WELL FRAME, ASSEMBLY, AND COVER PER W-25
3	COPPER SWEAT ADAPTOR x M.I.P. THREAD	11	2" x 12" RED BRASS NIPPLE
4	BRONZE GATE VALVE W/ BRONZE HANDWHEEL, F.I.P. x F.I.P. THREAD	12	BRASS COUPLING, EMBEDDED FLUSH W/PAD
5	COPPER TUBING x REQUIRED LENGTH	13	2" x 12" RED BRASS NIPPLE
6	90° BRONZE F.I.P. x F.I.P.	14	2" x 1" BRASS BUSHING
7	2" M.I.P. x F.I.P. BALL VALVE W/ 2.5" FIRE HOSE ADAPTER	15	1" BRASS STREET ELL, 1" x 3" BRASS NIPPLE, 1" BRASS 90 W/ SS BUG SCREEN FACING DOWNWARD
8	RED BRASS PIPE x REQUIRED LENGTH		

APPROVED:

Wally Gentry 1/24/22

District Engineer — Date

1/24/22

Latest Revision Date

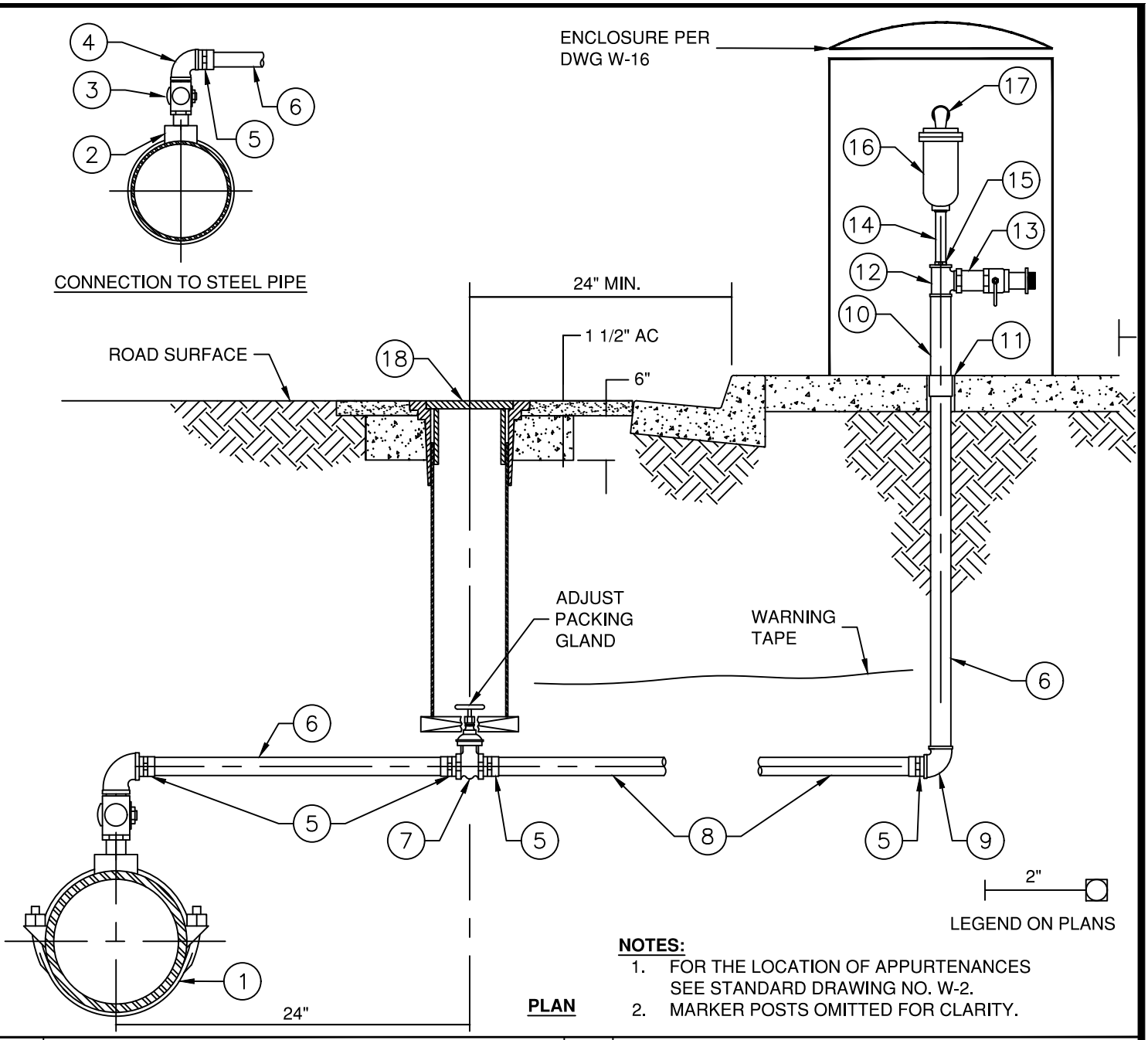
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

END OF LINE 1" AIR VACUUM & 2" BLOW OFF COMBINATION

NOT TO SCALE

DWG. NUMBER

W-10



NOTES:

1. FOR THE LOCATION OF APPURTENANCES SEE STANDARD DRAWING NO. W-2.
2. MARKER POSTS OMITTED FOR CLARITY.

NO.	DESCRIPTION	NO.	DESCRIPTION
1	BRONZE DOUBLE STRAP SADDLE FOR ACP & DIP, SS DOUBLE STRAP FOR PVC	10	2"x12" RED BRASS NIPPLE
		11	2" BRASS COUPLING, EMBEDDED FLUSH W/ PAD
2	2" HIGH PRESSURE STEEL 1/2 COUPLING	12	2" RED BRASS THREADED TEE
3	2" BRONZE CORPORATION STOP, M.I.P THREAD x M.I.P. THREAD	13	2" M.I.P. x F.I.P. BALL VALVE W/ 2.5" FIRE HOSE ADAPTER
4	2" BRONZE 90° F.I.P x F.I.P	14	1" RED BRASS NIPPLE x 2" LONG
5	2" COPPER SWEAT ADAPTOR x M.I.P THREAD	15	2"x1" BRASS BUSHING
6	2" RED BRASS TUBING x REQ. LENGTH	16	1" AIR VACUUM RELEASE VALVE
7	2" BRONZE GATE VALVE W/ BRONZE HANDWHEEL, F.I.P. x F.I.P. THREAD	17	1" BRASS STEEL ELL, 1"x3" BRASS NIPPLE,1" BRASS 90 W/ SS BUG SCREEN FACING DOWNWARD
8	2" COPPER TUBING x REQ. LENGTH	18	VALVE WELL FRAME, ASSEMBLY & COVER PER W-25
9	90° BRONZE F.I.P. x F.I.P.		

APPROVED:

Wally Gordon 1/24/22

District Engineer **Date**

1/24/22

Latest Revision Date

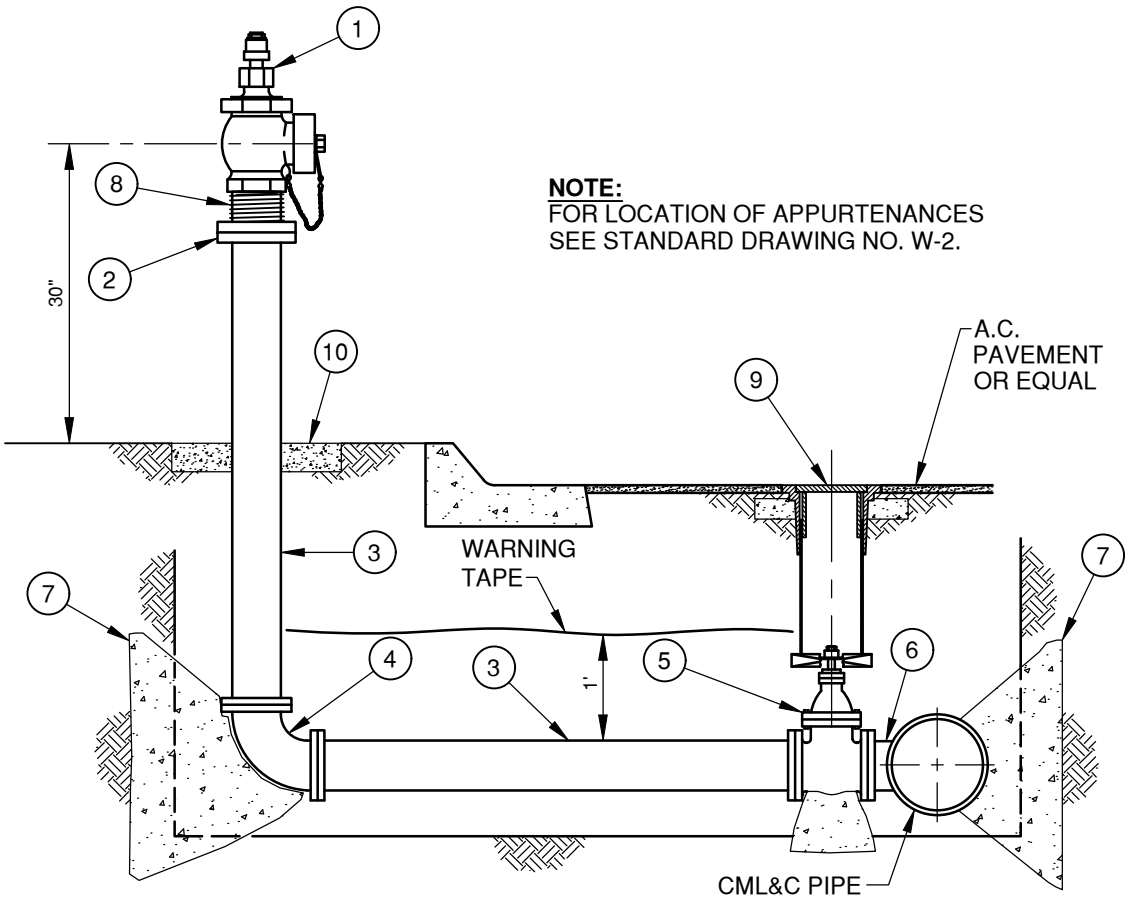
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

1" AIR VACUUM & 2" BLOW OFF COMBINATION

NOT TO SCALE

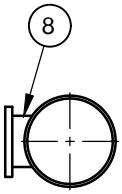
DWG. NUMBER

W-10A



NOTE:
FOR LOCATION OF APPURTENANCES
SEE STANDARD DRAWING NO. W-2.

CONNECTION TO CML&C



CONNECTION TO PVC &AC

4"

LEGEND ON PLANS

NO.	SIZE & DESCRIPTION	NO.	SIZE & DESCRIPTION
1	4" x 2-1/2" ANGLE FIRE PLUG VALVE	6	4" STEEL FLANGE OUTLET
2	4" COMPANION FLANGE	7	CONCRETE THRUST BLOCK, PER W-20
3	4" CML&C x REQUIRED LENGTH	8	MAIN SIZE x 4" C.I. TEE W/ FLG OUTLET
4	4" FLG. x FLG. 90° BEND	9	VALVE WELL FRAME, ASSEMBLY, AND COVER PER W-25
5	4" RESILIENT SEATED GATE VALVE (FLG. x FLG. OR SEE SPEC.)	10	30" x 30" x 4" CONCRETE PAD

APPROVED:
5/16/19
District Engineer Date

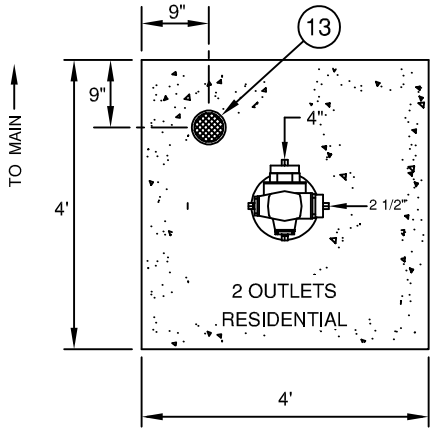
5/16/2019
Latest Revision Date

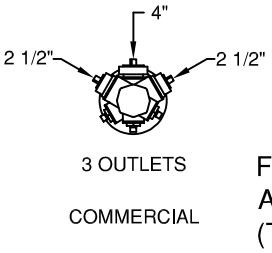
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

4" BLOW OFF ASSEMBLY

NOT TO SCALE

DWG. NUMBER
W-11



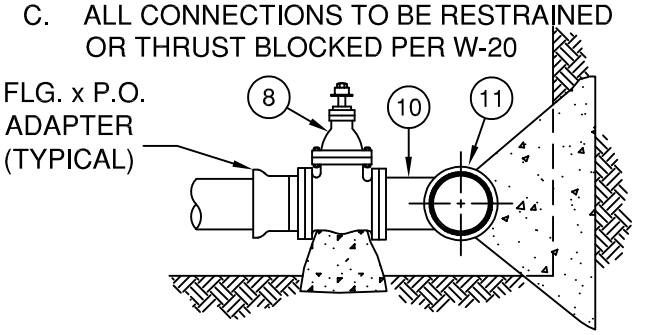


NOTES:

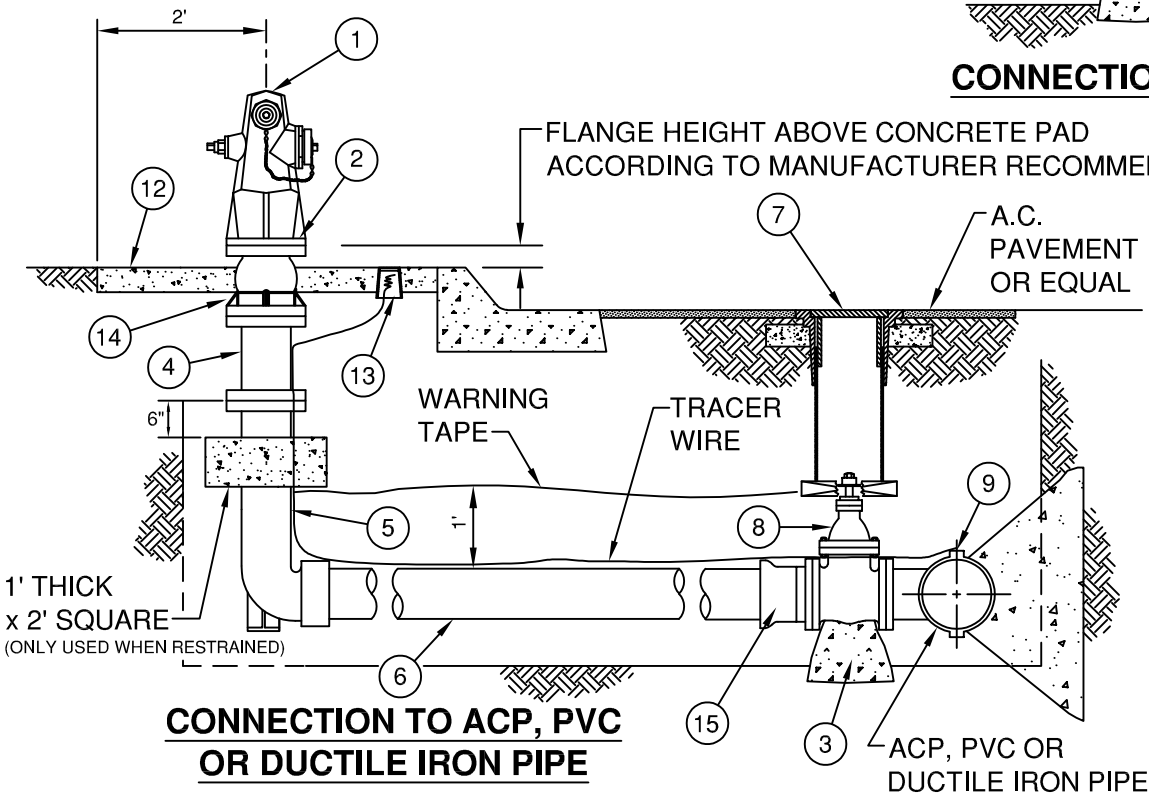
A. FOR LOCATION OF APPURTENANCES SEE STANDARD DRAWING NO. W-2.

B. ALL MATERIALS USED ON A 6" FIRE HYDRANT ASSEMBLY SHALL BE PER SPECIFIED WORKING PRESSURE.

C. ALL CONNECTIONS TO BE RESTRAINED OR THRUST BLOCKED PER W-20



CONNECTION TO STEEL PIPE



CONNECTION TO ACP, PVC OR DUCTILE IRON PIPE

LEGEND ON PLANS

NO.	SIZE & DESCRIPTION	NO.	SIZE & DESCRIPTION
1	6" FIRE HYDRANT, ONE PIECE BODY (8 BOLT PATTERN)	9	MAIN SIZE x 6" D.I. TEE (FLANGED OUTLET)
2	3/4" x 3" HEX. HEAD MACHINE BOLTS & NUTS TYP.	10	6" STEEL FLANGED OUTLET CML&C
3	VALVE SUPPORT, PER W-21	11	STEEL WRAPPER PLATE
4	6" x REQ. LENGTH D.I. SPOOL, 8 HOLE, NO BREAK OFF SCORE (8" MIN. LENGTH)	12	4' x 4' x 3 1/2" CONCRETE PAD
5	6" x REQ. LENGTH C.I. HYD. BURY ELL, FLG. x HUB OR FLG. x FLG. 8 HOLE	13	CARSON 708 TRACER WIRE ACCESS PORT, 4" x 8" LONG SDR SEWER PIPE W/ CAP
6	6" x REQ. LENGTH PVC CLASS 305 PIPE	14	6" AVK FLOWGUARD II CHECK VALVE (8 BOLT HOLE PATTERN)
7	VALVE WELL FRAME, ASSEMBLY, AND COVER PER W-25	15	FLG x PUSH ON ADAPTER
8	6" RESILIENT WEDGE GATE VALVE FLG. x FLG.		

APPROVED: 4/4/22

District Engineer — Date

4/4/2022

Latest Revision Date

VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

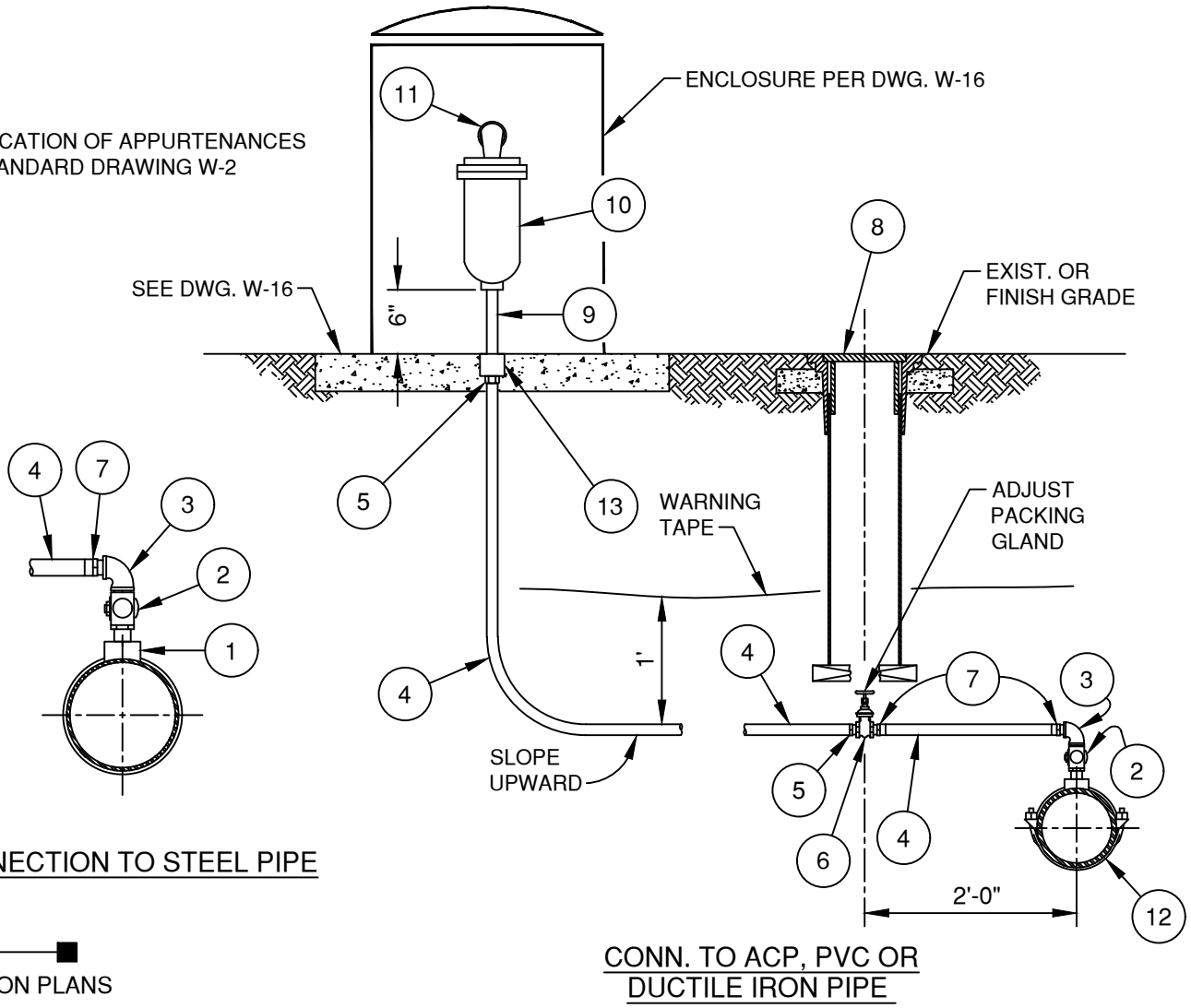
6" FIRE HYDRANT ASSEMBLY

NOT TO SCALE

DWG. NUMBER

W-12

NOTE:
A. FOR LOCATION OF APPURTENANCES SEE STANDARD DRAWING W-2



CONNECTION TO STEEL PIPE

CONN. TO ACP, PVC OR DUCTILE IRON PIPE

1"
LEGEND ON PLANS

NO.	DESCRIPTION	NO.	DESCRIPTION
1	1" HIGH PRESSURE STEEL 1/2 COUPLING	8	VALVE WELL FRAME, ASSEMBLY, AND COVER PER W-25
2	1" BRONZE CORPORATION STOP, M.I.P. THREAD x M.I.P. THREAD	9	1" RED BRASS NIPPLE x 6" LONG
3	1" BRONZE 90° F.I.P. x F.I.P.	10	1" AIR & VACUUM RELEASE VALVE
4	1" COPPER TUBING x REQ. LENGTH	11	1" BRASS STREET ELL, 1" x 3" BRASS NIPPLE, 1" BRASS 90 W/ SS BUG SCREEN FACING DOWNWARD
5	1" ADAPTER M.I.P. x COMP	12	BRONZE DOUBLE STRAP SADDLE FOR ACP & DIP, SS DOUBLE STRAP FOR PVC
6	1" BRONZE GATE VALVE x F.I.P. THREAD WITH BRONZE HANDWHEEL	13	1" BRASS COUPLING, EMBEDDED FLUSH W/PAD
7	1" ADAPTER (SWEAT x M.I.P.)		

APPROVED:

3/2/2020

District Engineer — Date

9/14/2020 — Latest Revision Date

1 — Rev. No.

VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

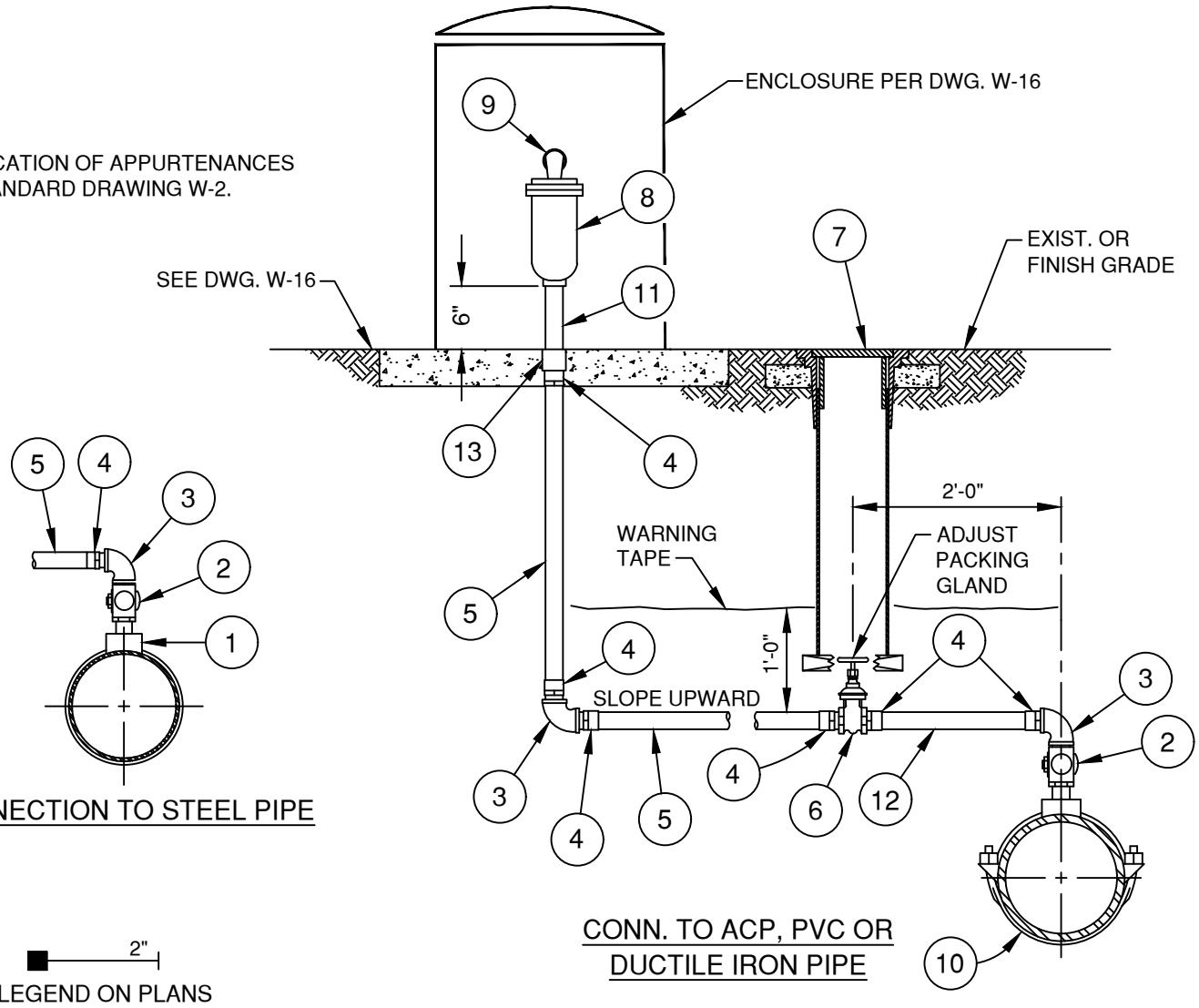
1" AIR & VACUUM RELEASE ASSEMBLY

NOT TO SCALE

DWG. NUMBER

W-13

NOTE:
FOR LOCATION OF APPURTENANCES
SEE STANDARD DRAWING W-2.



NO.	DESCRIPTION	NO.	DESCRIPTION
1	2" HIGH PRESSURE STEEL 1/2 COUPLING	8	2" AIR & VACUUM RELEASE VALVE
2	2" BRONZE CORPORATION STOP, M.I.P. THREAD x F.I.P. THREAD	9	2" BRASS STREET ELL, 2" x 4" BRASS NIPPLE, 2" BRASS 90 W/ SS BUG SCREEN FACING DOWNWARD
3	2" BRONZE 90° SWEAT ELL	10	BRONZE DOUBLE STRAP SADDLE FOR ACP & DIP, SS DOUBLE STRAP FOR PVC
4	2" COPPER SWEAT ADAPTER x M.I.P. THREAD	11	2" RED BRASS NIPPLE x 6" LONG
5	2" COPPER TUBING x REQ'D LENGTH	12	2" COPPER x REQ'D LENGTH
6	2" BRONZE GATE VALVE x F.I.P. THREAD WITH BRONZE HANDWHEEL	13	2" BRASS COUPLING, EMBEDDED FLUSH W/PAD
7	VALVE WELL FRAME, ASSEMBLY, AND COVER PER W-25	14	2" RED BRASS NIPPLE x 18" LONG

APPROVED:
3/2/2020
District Engineer — Date

9/14/2020 — 1
Latest Revision Date — Rev. No.

VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

2" AIR VACUUM RELEASE ASSEMBLY

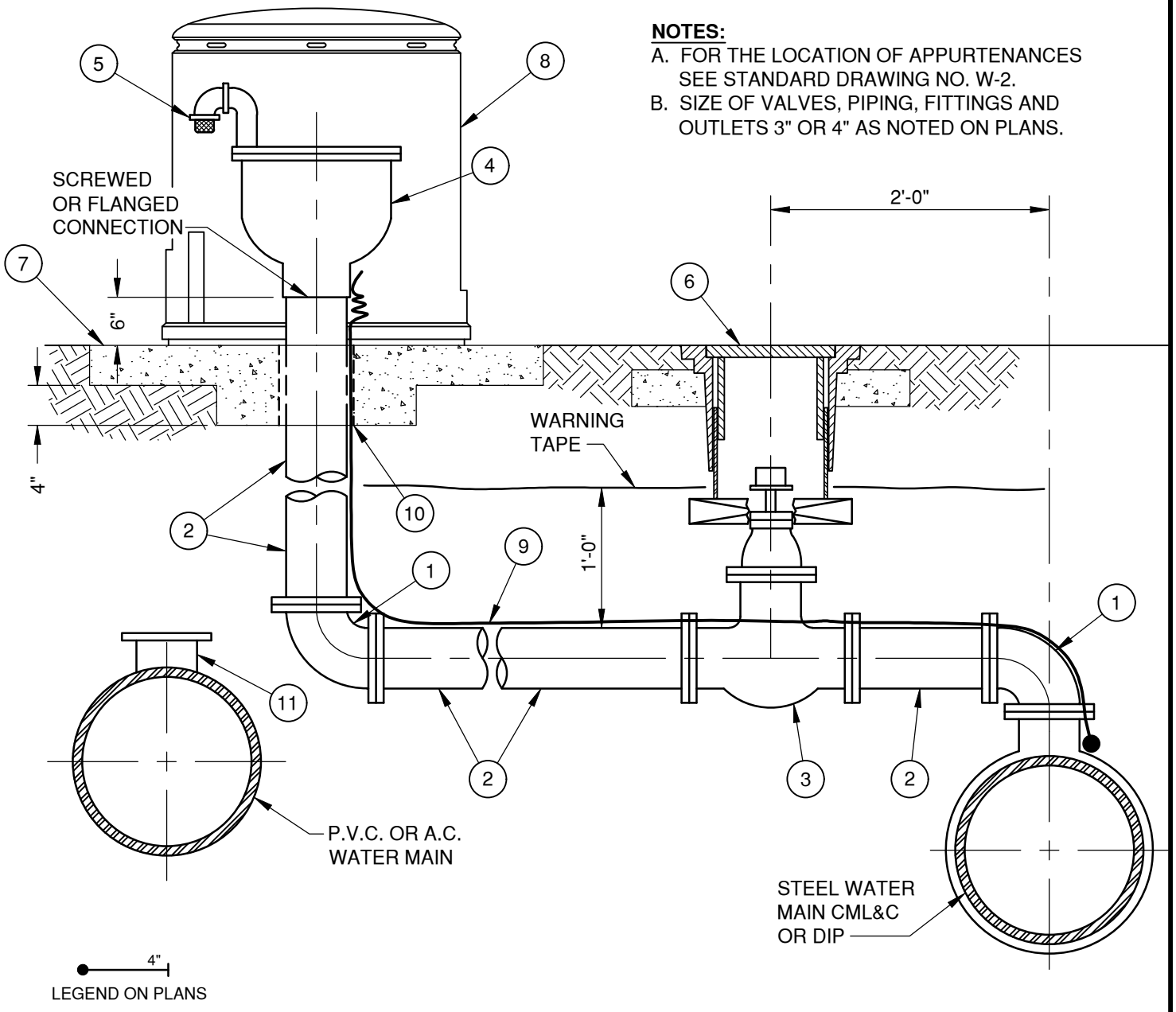
NOT TO SCALE

DWG. NUMBER
W-14

NOTES:

A. FOR THE LOCATION OF APPURTENANCES SEE STANDARD DRAWING NO. W-2.

B. SIZE OF VALVES, PIPING, FITTINGS AND OUTLETS 3" OR 4" AS NOTED ON PLANS.



NO.	DESCRIPTION	NO.	DESCRIPTION
1	90° ELL, FLANGED, STEEL CML&C OR CAST IRON CEMENT LINED	7	30" x 30" x 4" CONCRETE PAD
2	STEEL OR DUCTILE IRON PIPE, 12GA. MINIMUM	8	ENCLOSURE, SEE DWG. W-16
3	RESILIENT WEDGE GATE VALVE, FLANGED CLASS TO MATCH PIPE	9	TRACER WIRE
4	AIR & VACUUM RELIEF VALVE	10	3 1/2" OR 4 1/2" I.D. PVC SLEEVE
5	90° STREET ELLS, REQ'D. SIZE W/ SS BUG SCREEN	11	MAIN SIZE x 3" OR 4" C.I. TEE W/ FLG OUTLET
6	VALVE WELL FRAME, ASSEMBLY, AND COVER PER W-25		

APPROVED:

5/16/19

District Engineer — Date

5/16/2019

Latest Revision Date

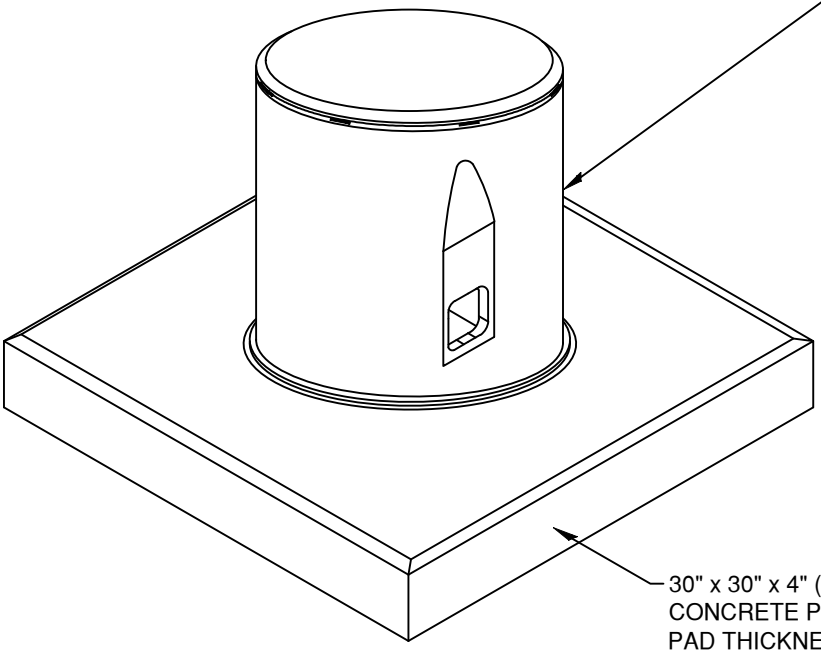
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

3" OR 4" COMBINATION AIR VALVE OR AIR & VACUUM VALVE ASSEMBLIES

NOT TO SCALE

DWG. NUMBER

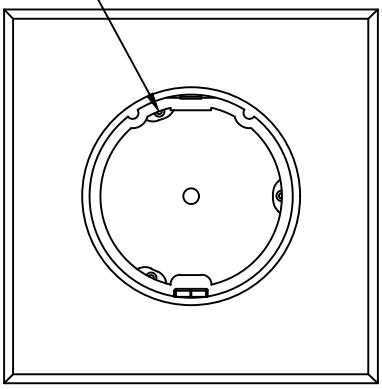
W-15



18" DIA. x 30" TALL VALVE ENCLOSURE. ENCLOSURE TO HAVE A BOLT DOWN BASE WITH REMOVABLE COVER. COVER & BASE TO BE MANUFACTURED FROM 3/16" WALL POLYETHYLENE WITH UV STABILIZERS. COVER SHALL LOCK TO BASE WITH AN INTEGRAL AUTO-LATCH AND PADLOCK HASP.

3 - 1/2" STAINLESS CONCRETE ANCHORS WITH STAINLESS FENDER WASHERS

30" x 30" x 4" (TYP.) CONCRETE PAD. PAD THICKNESS MAY VARY DEPENDING ON SLOPE. (TO BE SET LEVEL)



TOP VIEW

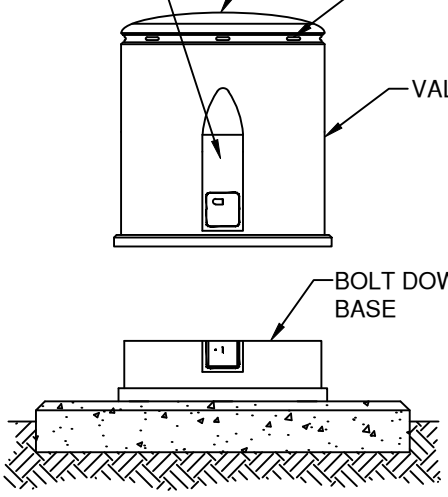
"VCMWD 760-735-4500" PERMANENTLY FIXED TO FLAT AREA

DOMED TOP

8 - 1/4" x 1 3/4" VENT SLOTS

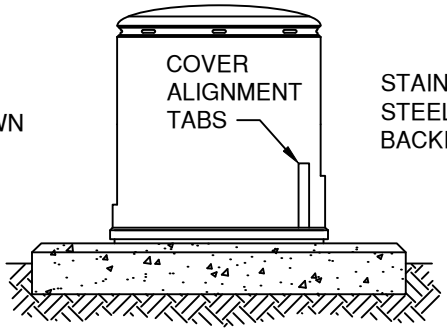
VALVE COVER

BOLT DOWN BASE



FRONT VIEW (OPENED)

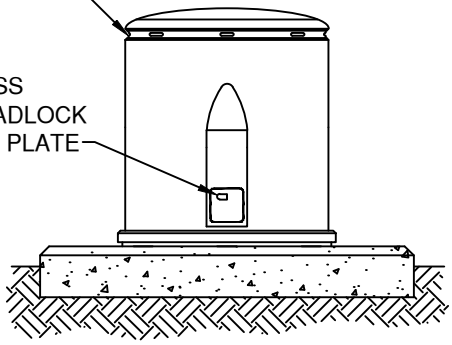
COVER ALIGNMENT TABS



SIDE VIEW

1" REFLECTOR TAPE PER COLOR CODE

STAINLESS STEEL PADLOCK BACKING PLATE

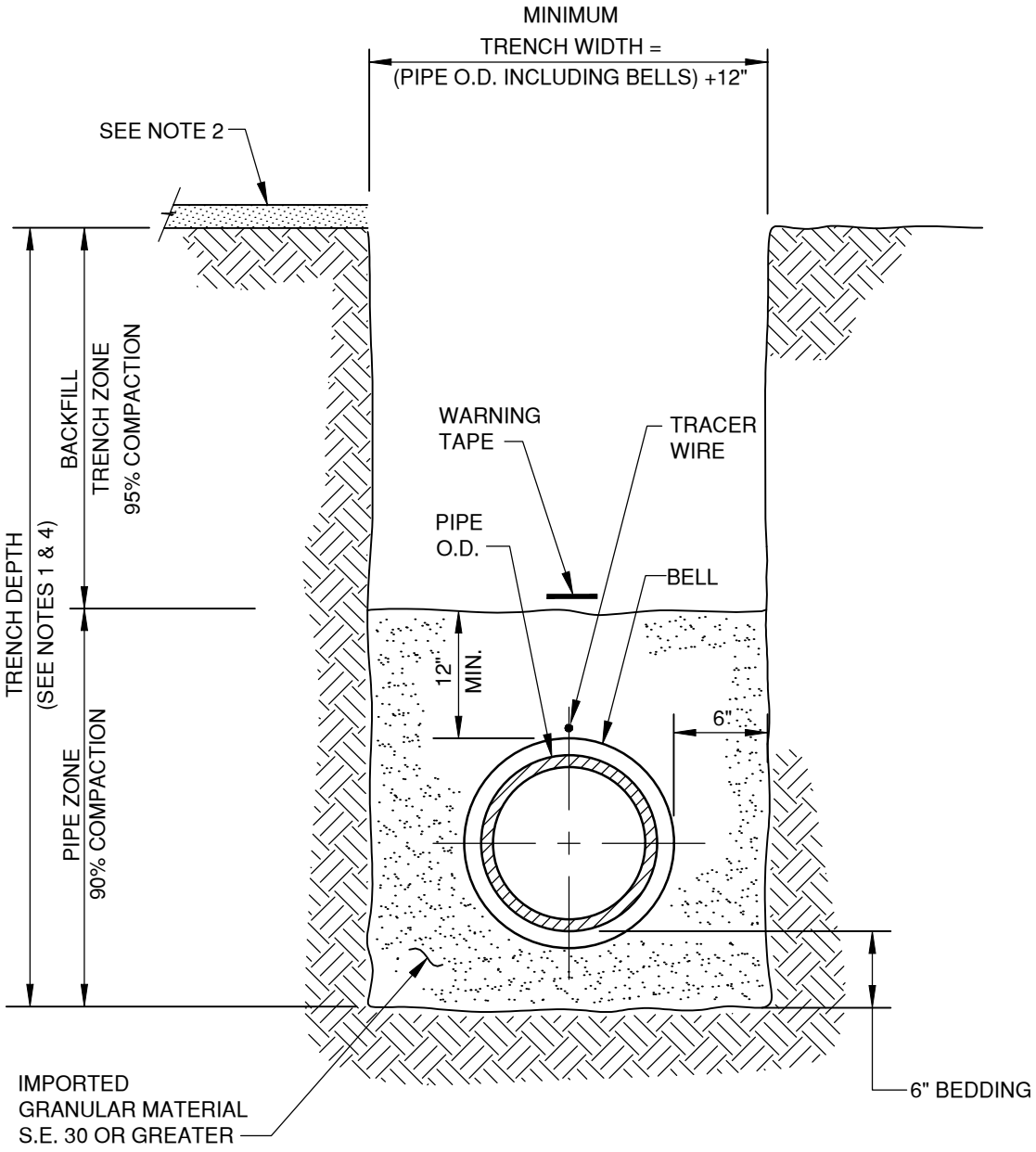


FRONT VIEW

NOTE:
FOR THE LOCATION OF APPURTENANCES SEE STANDARD DRAWING NO. W-2.

COLOR CODE:
BLUE - POTABLE
PURPLE - RECYCLED
GREEN - SEWER
YELLOW - BLOWOFF

APPROVED: Wally A. 3/2/2020 District Engineer Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **ABOVE GROUND ENCLOSURE**	NOT TO SCALE DWG. NUMBER **W-16**



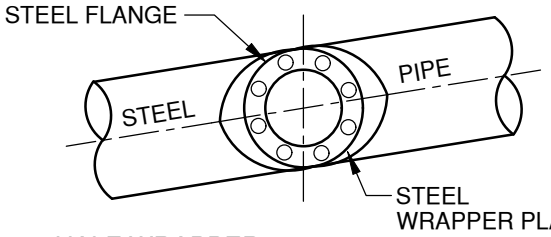
NOTES:

1. REFER TO BACKFILLING SECTION OF THE SPECIFICATIONS FOR DETAILS.
2. PAVING OR PAVEMENT REPAIR TO BE DONE IN ACCORDANCE WITH SDRSD DETAIL G-24A.
3. EXCAVATE BELL HOLES AT EACH PIPE JOINT TO PERMIT PROPER ASSEMBLY AND INSPECTION OF THE ENTIRE JOINT.
4. ON CITY, COUNTY OR STATE RIGHT OF WAYS, ITS AGENCY STANDARDS SHALL APPLY.

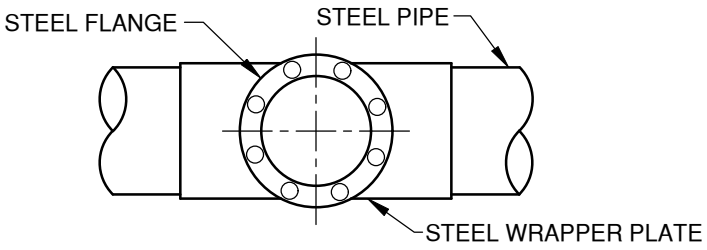
APPROVED: 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **STANDARD PIPE ZONE AND TRENCH BACKFILL**	NOT TO SCALE DWG. NUMBER **W-17**

NOTE: INSTALL FLANGE WITH TOP 2 BOLT HOLES IN THE HORIZONTAL POSITION (TYPICAL). FLANGES EQUAL TO THE WORKING PRESSURE OF NEW PIPE BEING CONSTRUCTED.

DIMENSIONS OF STEEL WRAPPER PLATES PER AWWA C208, 1/4" MIN. THICKNESS.



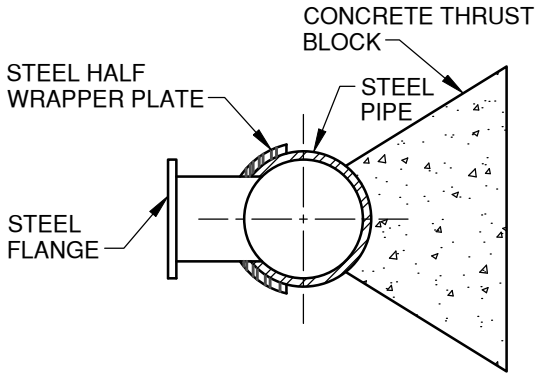
HALF WRAPPER
FRONT VIEW



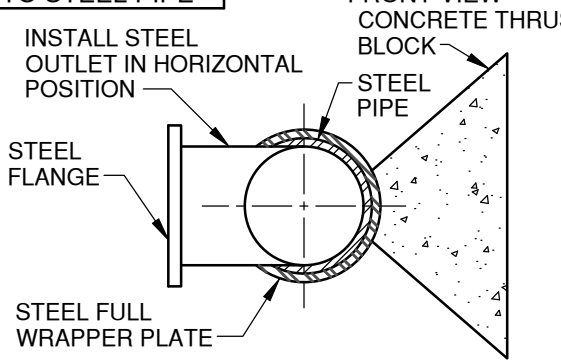
SIZE x SIZE CONNECTIONS REQUIRE A FULL WRAPPER PLATE

FULL WRAPPER
FRONT VIEW

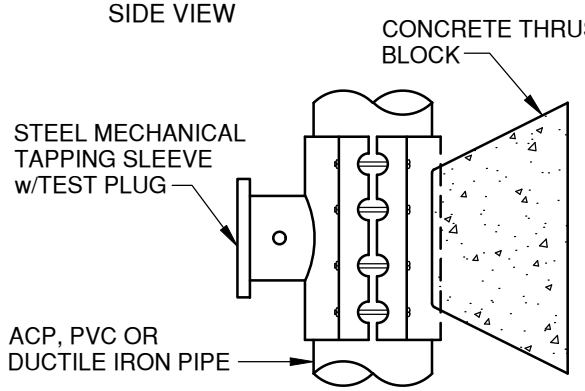
CONNECTION TO STEEL PIPE



HALF WRAPPER
SIDE VIEW

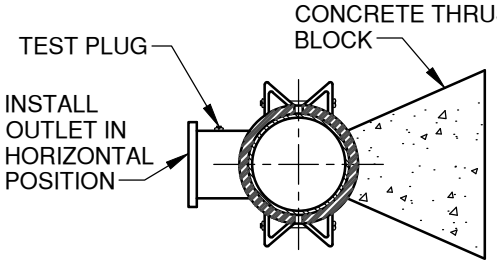


FULL WRAPPER
SIDE VIEW



TOP VIEW

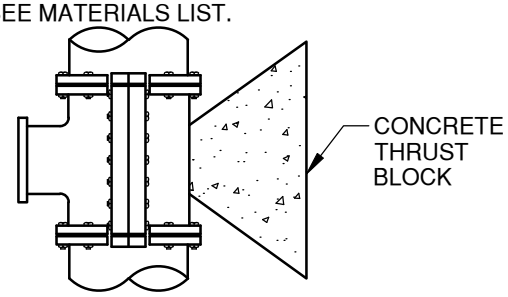
STEEL MECHANICAL TAPPING SLEEVE. SEE MATERIALS LIST.



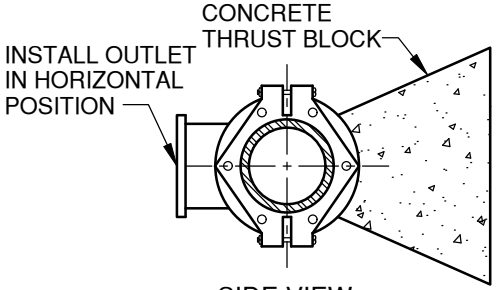
SIDE VIEW

HOT TAP CONNECTION TO ACP, PVC OR D.I. PIPE

EPOXY COATED CAST IRON MECHANICAL TAPPING SLEEVE. SEE MATERIALS LIST.



TOP VIEW



SIDE VIEW

APPROVED:
5/16/19
District Engineer — Date

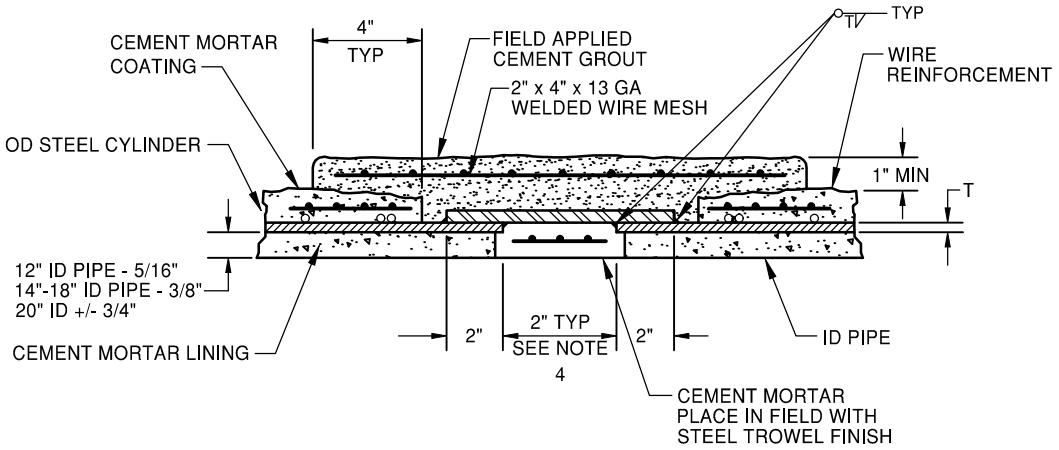
5/16/2019
Latest Revision Date

VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

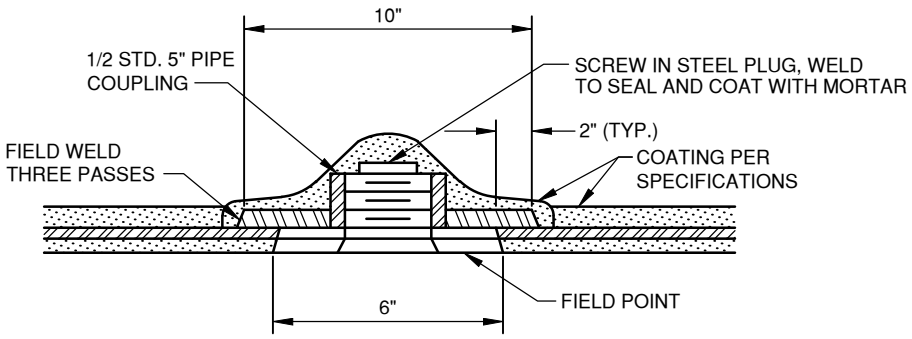
TYPICAL CONNECTION DETAILS TO STEEL AND A.C. PIPE

NOT TO SCALE

DWG. NUMBER
W-18

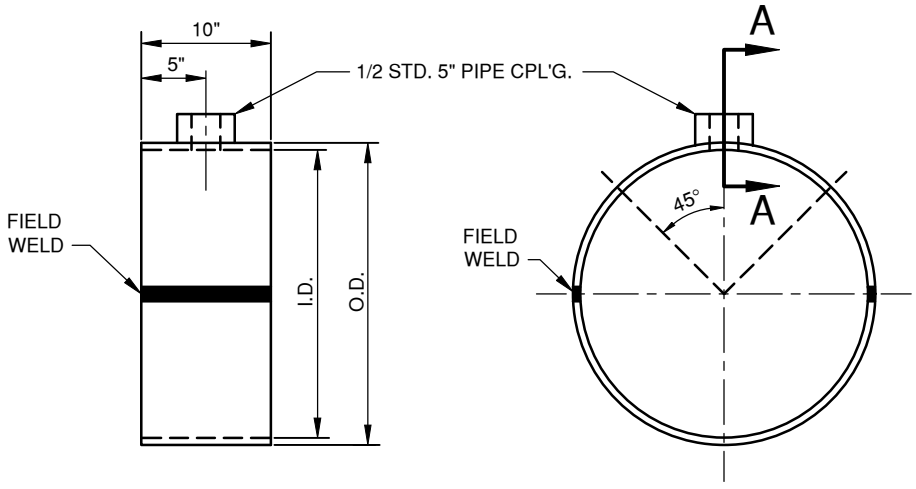


FIELD WELDED CLOSURE



SECTION A-A

ENLARGED VIEW

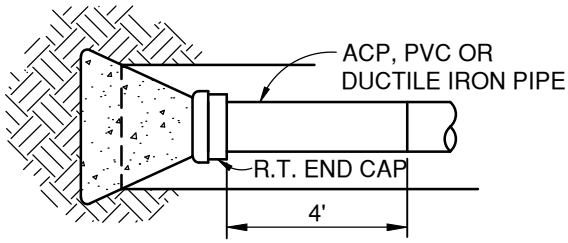


NOTES:

1. STRAP TO BE SHIPPED IN HALVES AND WELDED IN THE FIELD.
2. PLATE THICKNESS SHALL BE EQUAL TO ADJOINING STEEL PIPE EXCEPT THAT MINIMUM THICKNESS SHALL BE 3/16". WHEN PIPE I.D. EXCEEDS 14", PROVIDE TWO HANDHOLES AT 45° FROM VERTICAL.
3. TWO HANDHOLES FOR PIPE ≥ 16" DIAMETER.
4. WHERE ACCESS TO THE PIPE INTERIOR FOR MORTAR LINING IS NOT POSSIBLE, INSTALL 5" DIAMETER HANDHOLES WITH THREADED PLUG WHICH IS TO BE SEAL WELDED UPON COMPLETION OF FIELD MORTAR LINING. AT LEAST TWO HANDHOLES WILL BE REQUIRED FOR 18" DIAMETER AND LARGER PIPE.

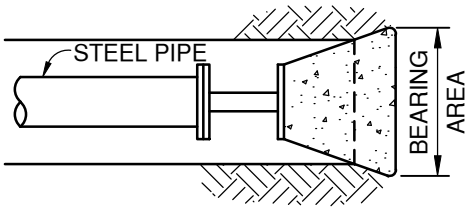
APPROVED: Wally Gray 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING	NOT TO SCALE
	BUTT STRAP CLOSURE	DWG. NUMBER **W-19**

4' PIECE INTO END CAP

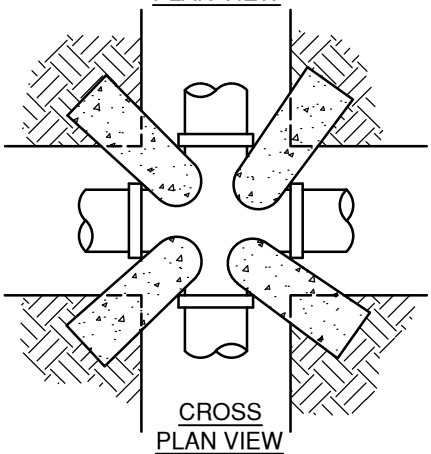


A.C. PIPE END DETAIL
PLAN VIEW

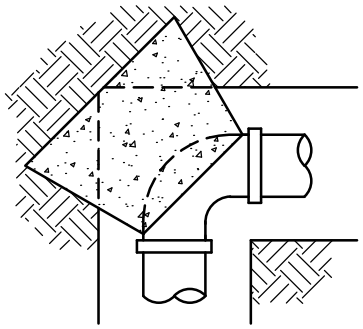
12" x 12" x 1/2" STL. PLATE
TO 3" x 12" STD. STL. GALV. PIPE
BLIND FLG. WELDED TO PIPE



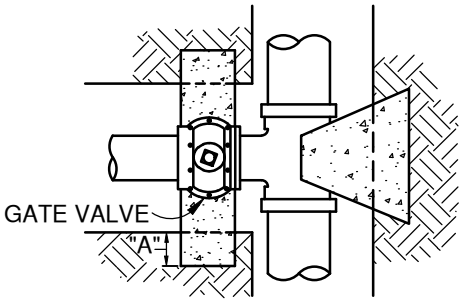
STEEL PIPE END DETAIL
PLAN VIEW



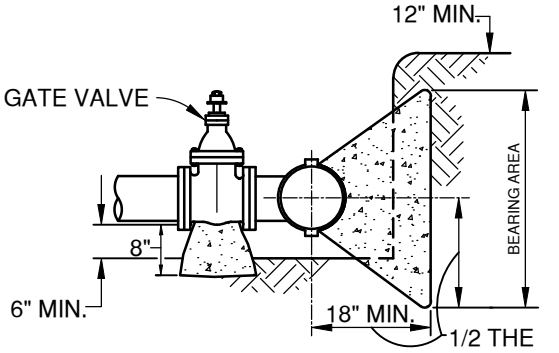
CROSS
PLAN VIEW



BEND
PLAN VIEW



TEE AND VALVE DETAIL
PLAN VIEW



TEE AND VALVE DETAIL
PROFILE VIEW

MINIMUM BEARING AREAS IN SQ.FT. FOR CLASS 150 PIPE

MAIN SIZE	TEES. P.E.	90° BEND	45° BEND	22-1/2° BEND
6"	6	8	5	3
8"	10	14	8	4
10"	17	23	13	7
12"	23	33	18	9
14"	31	44	24	12
16"	40	57	31	16
18"	52	75	40	21

FOR CLASS 165 MULTIPLY BY 1.3
FOR CLASS 235 MULTIPLY BY 1.7
FOR CLASS 305 MULTIPLY BY 2.0

NOTE:
SEE DWG NO. W-21 FOR VALVE SUPPORT DETAIL

APPROVED:
5/16/19
District Engineer Date

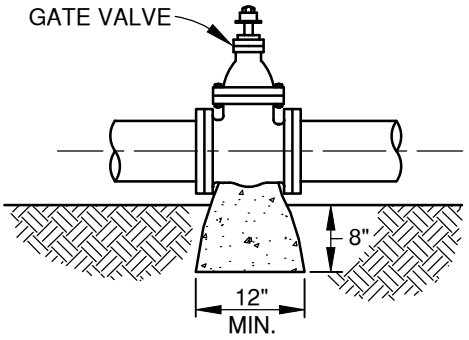
5/16/2019
Latest Revision Date

VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

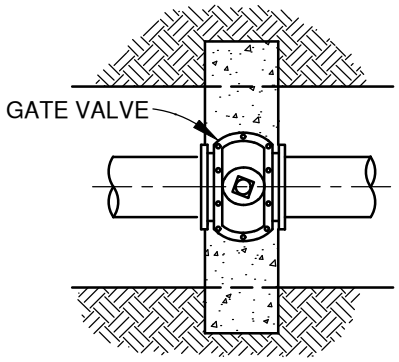
CONCRETE THRUST BLOCKS

NOT TO SCALE

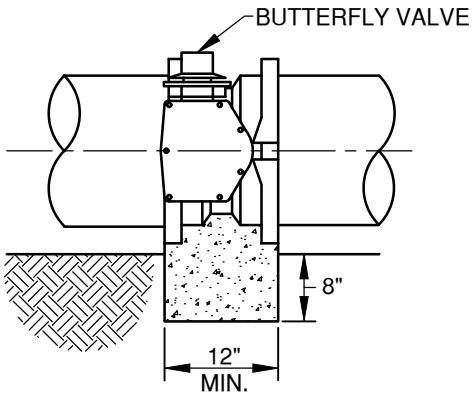
DWG. NUMBER
W-20



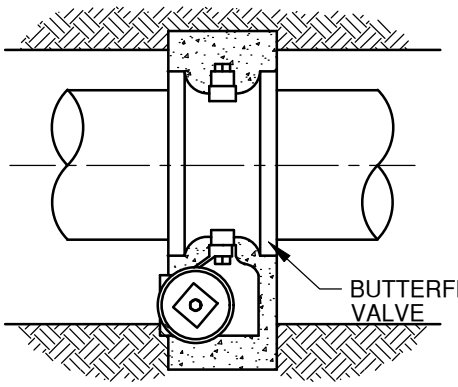
GATE VALVE - ELEVATION



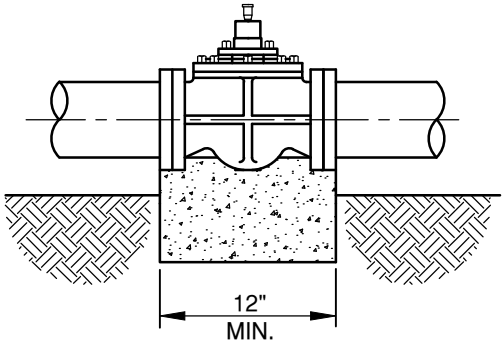
GATE VALVE - PLAN VIEW



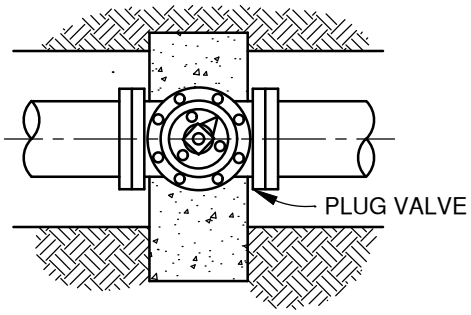
BUTTERFLY VALVE - ELEVATION



BUTTERFLY VALVE - PLAN VIEW



PLUG VALVE - ELEVATION

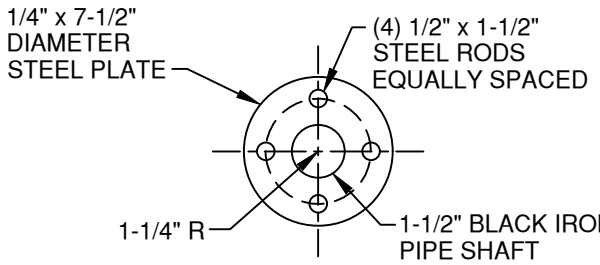


PLUG VALVE - PLAN VIEW

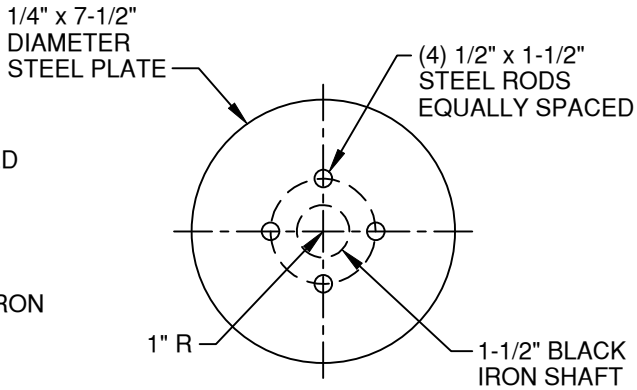
NOTES :

1. ALL VALVE SUPPORTS ARE TO BE PLACED AGAINST UNDISTURBED SOIL.
2. ALL VALVES, NUTS AND BOLTS SHALL BE COATED AND COVERED WITH VISQUEEN. (5 MIL. MIN.)

APPROVED: Wally Gale 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **CONCRETE VALVE SUPPORTS FOR IN-LINE VALVES**	NOT TO SCALE DWG. NUMBER **W-21**

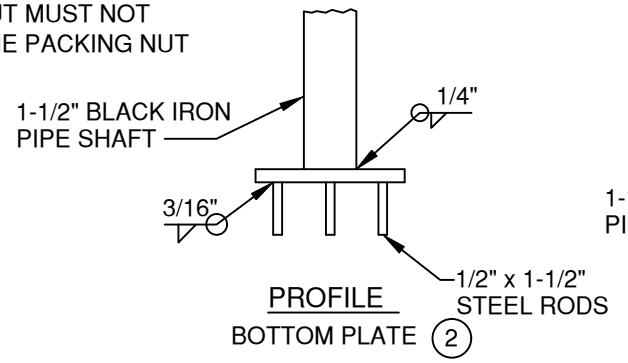


PLAN

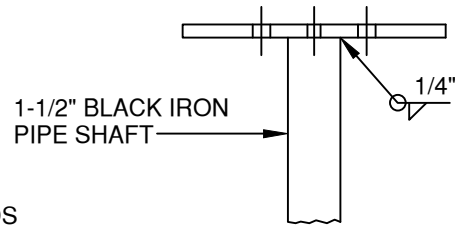


PLAN

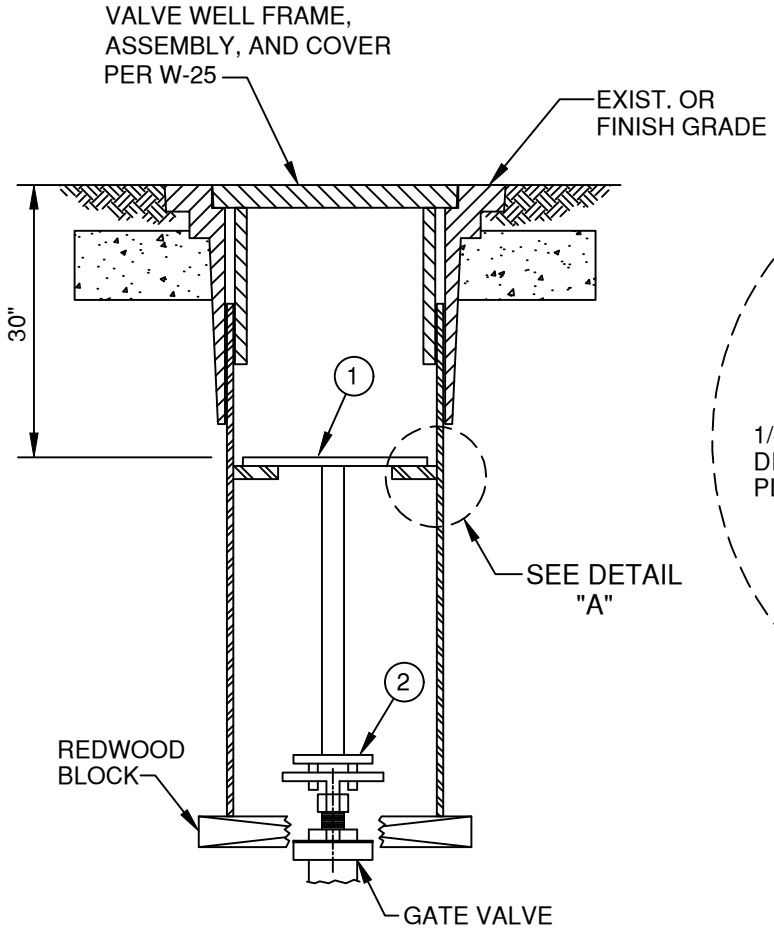
PATTERN OF STEEL RODS MUST FIT SNUG IN HAND WHEEL BUT MUST NOT TOUCH THE PACKING NUT

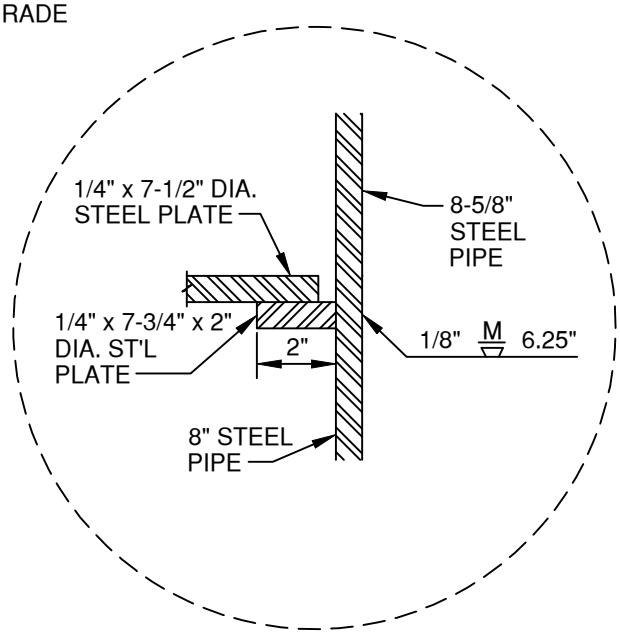


PROFILE
BOTTOM PLATE (2)



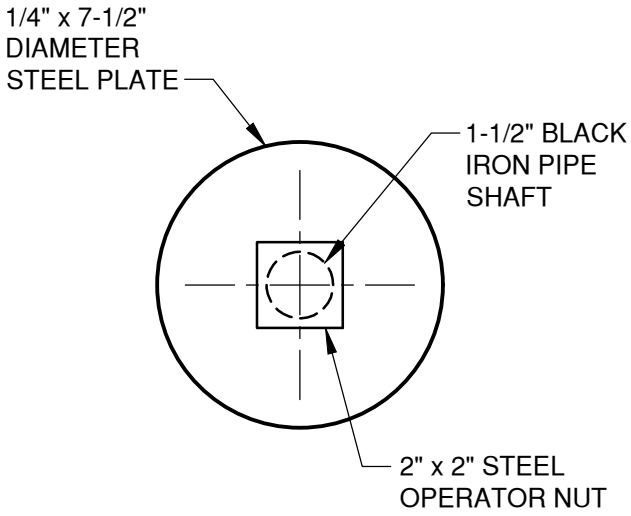
PROFILE
TOP PLATE (1)



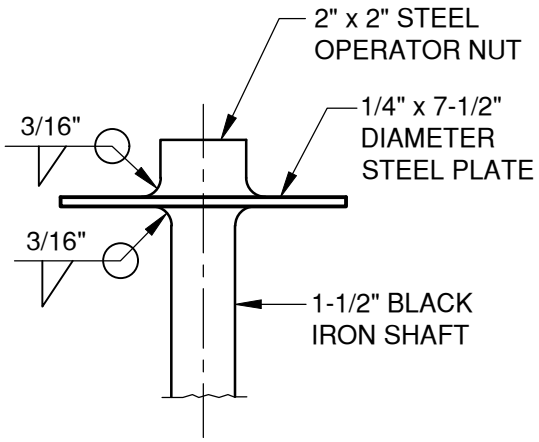


DETAIL "A"

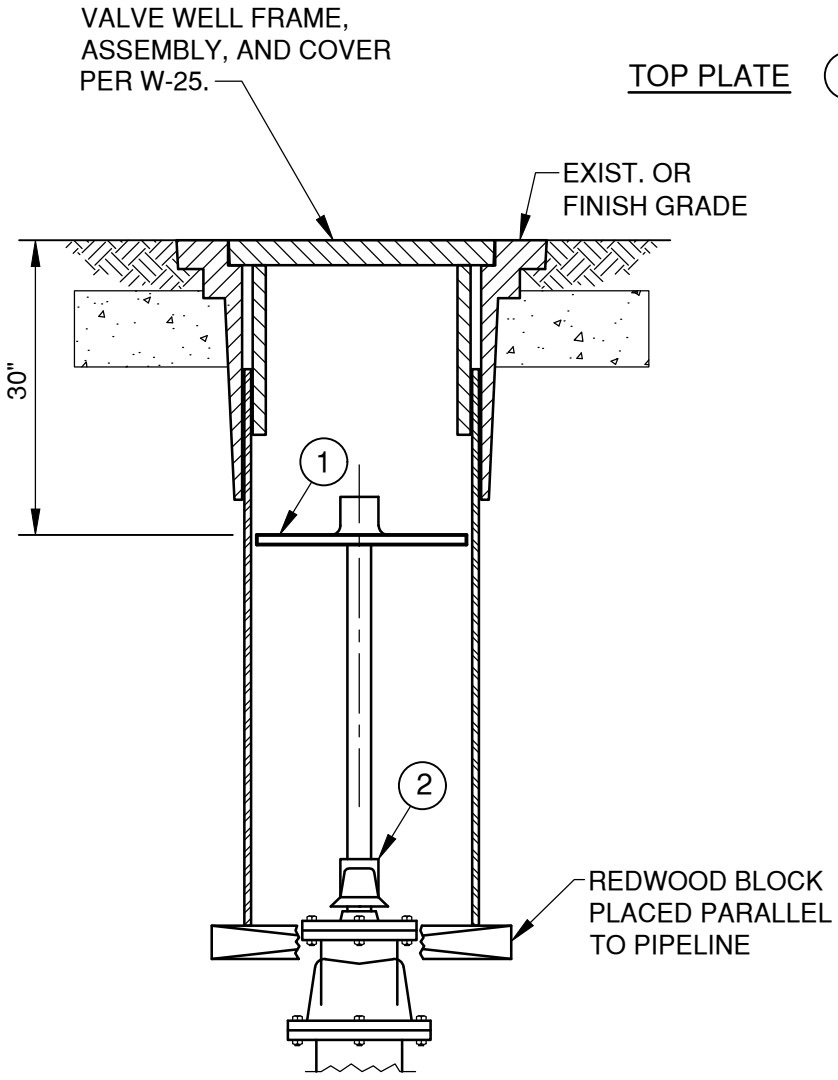
APPROVED: Wally Pozla 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **VALVE STEM EXTENSION GATE VALVES 3" OR SMALLER**	NOT TO SCALE DWG. NUMBER **W-23**



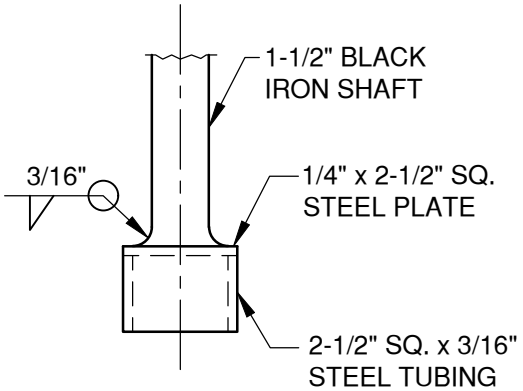
PLAN



PROFILE

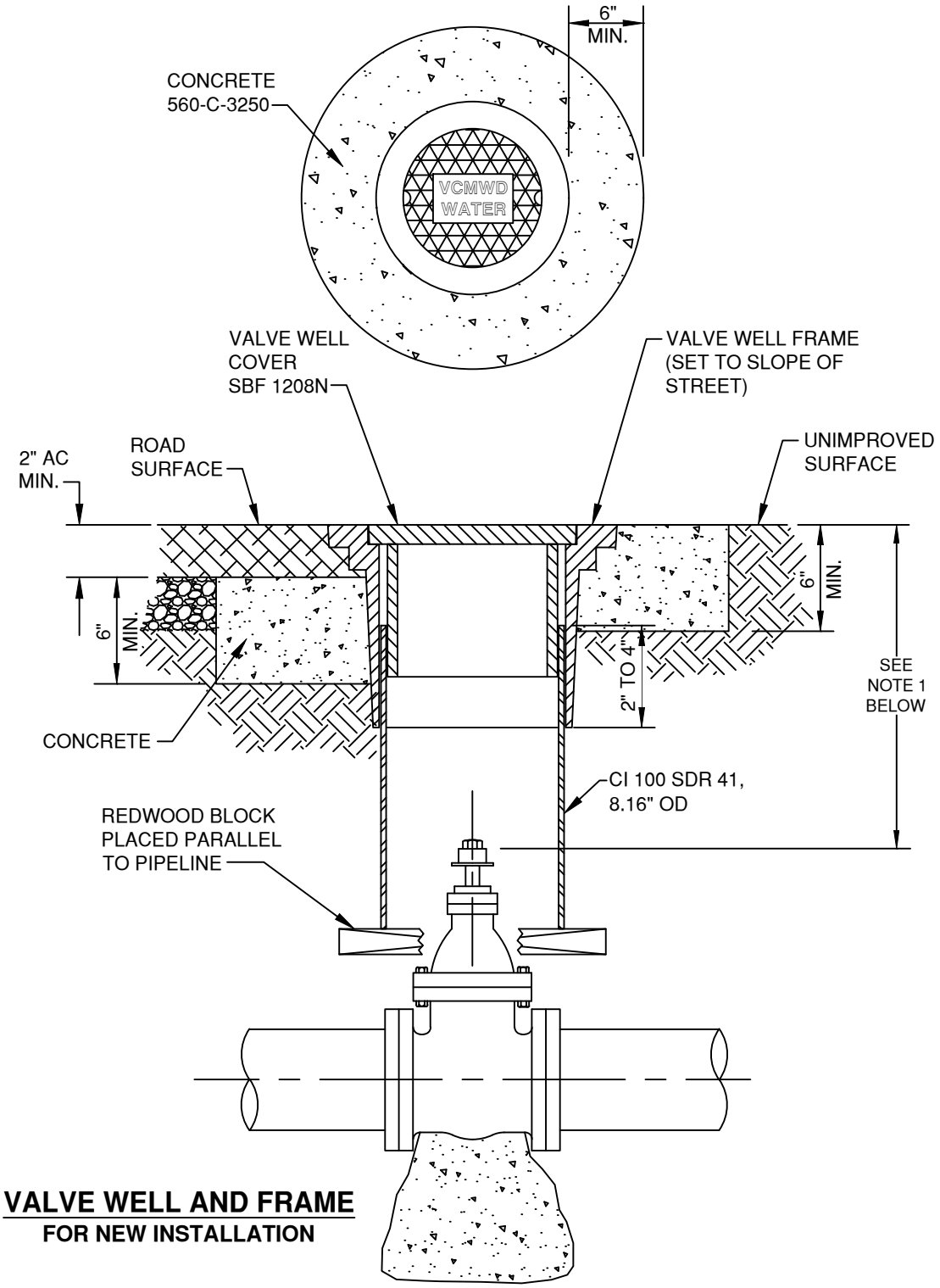


TOP PLATE (1)



VALVE OPERATOR (2)

APPROVED: Wally Reed 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **VALVE STEM EXTENSION GATE VALVES 4" AND LARGER**	NOT TO SCALE DWG. NUMBER **W-24**



VALVE WELL AND FRAME
FOR NEW INSTALLATION

NOTES:

1. PROVIDE VALVE KEY EXTENSION WHERE THIS DIMENSION EXCEEDS 72".
2. THE SURFACE OF THE VALVE WELL COVER SHALL MATCH THE STREET CROSS SLOPE AND PROFILE.
3. SEE STANDARD DRAWING W-23 AND W-24 FOR VALVE WELL EXTENSION WHEN REQUIRED.
4. RAISE VALVE LID(S) TO FINISHED SURFACE AFTER FINAL PAVING IS COMPLETE.
5. LID TO SAY "VCMWD SEWER" IF USED FOR LPS-7.

VALVE CAN LID PAINT COLORS

MAIN LINE VALVES	B.O.'s & F.H.'s	A.V.	FIRE SERVICE VALVES	BYPASS VALVES	MANIFOLD ASSEMBLY
RED	YELLOW	WHITE	BLUE	BLUE	BLUE

CLOSED VALVES = PAINTED "X"

APPROVED:

3/2/2020

District Engineer — Date

3/2/2020

Latest Revision Date

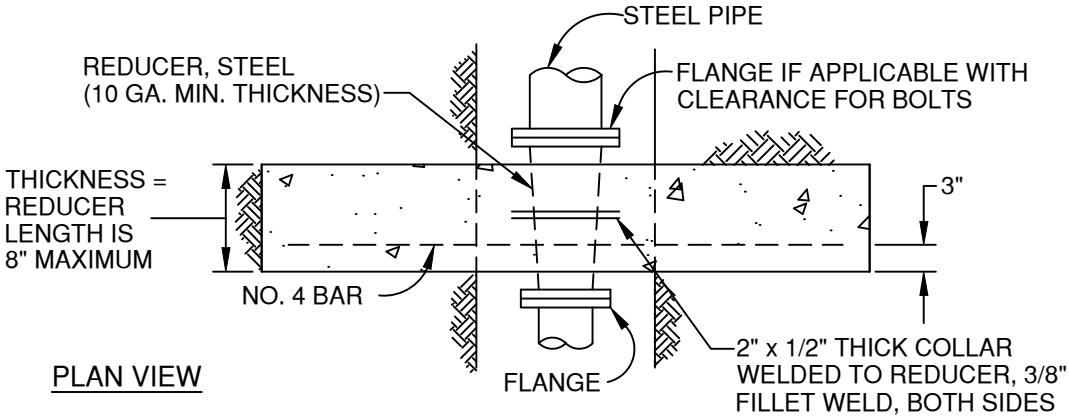
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

VALVE WELL CAP AND CAN INSTALLATION

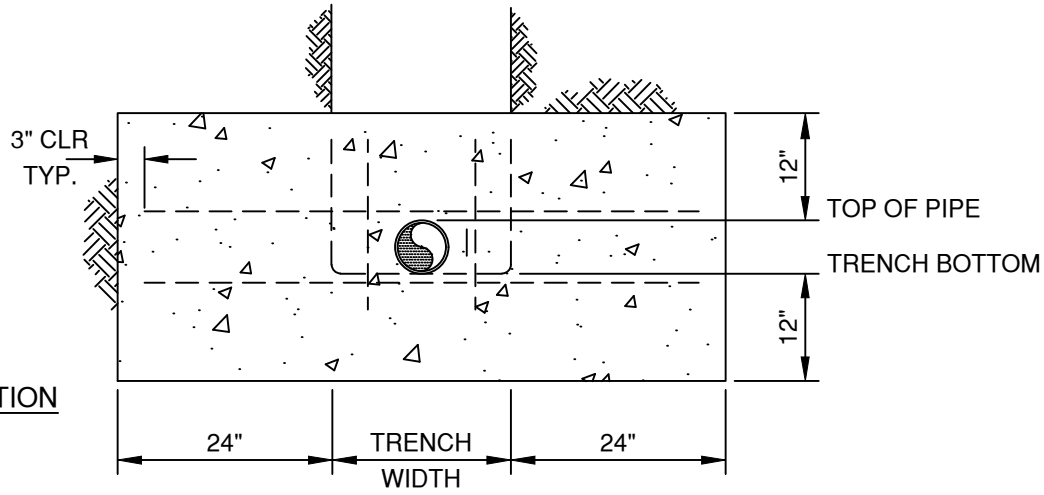
NOT TO SCALE

DWG. NUMBER

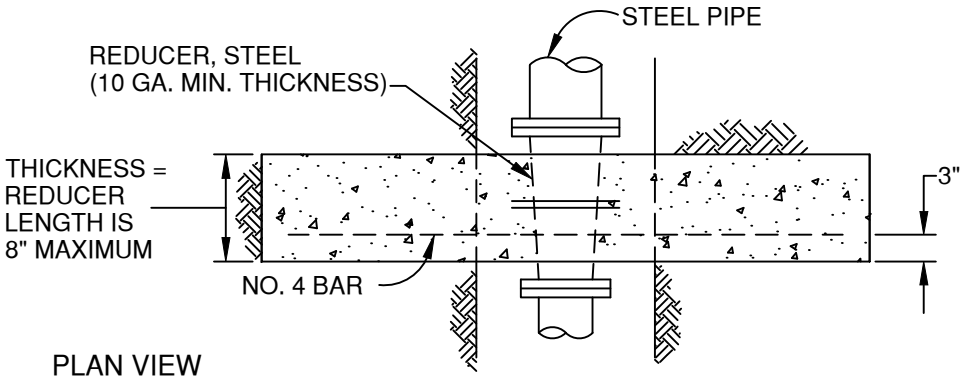
W-25



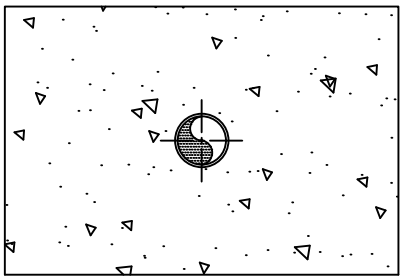
PLAN VIEW



ELEVATION

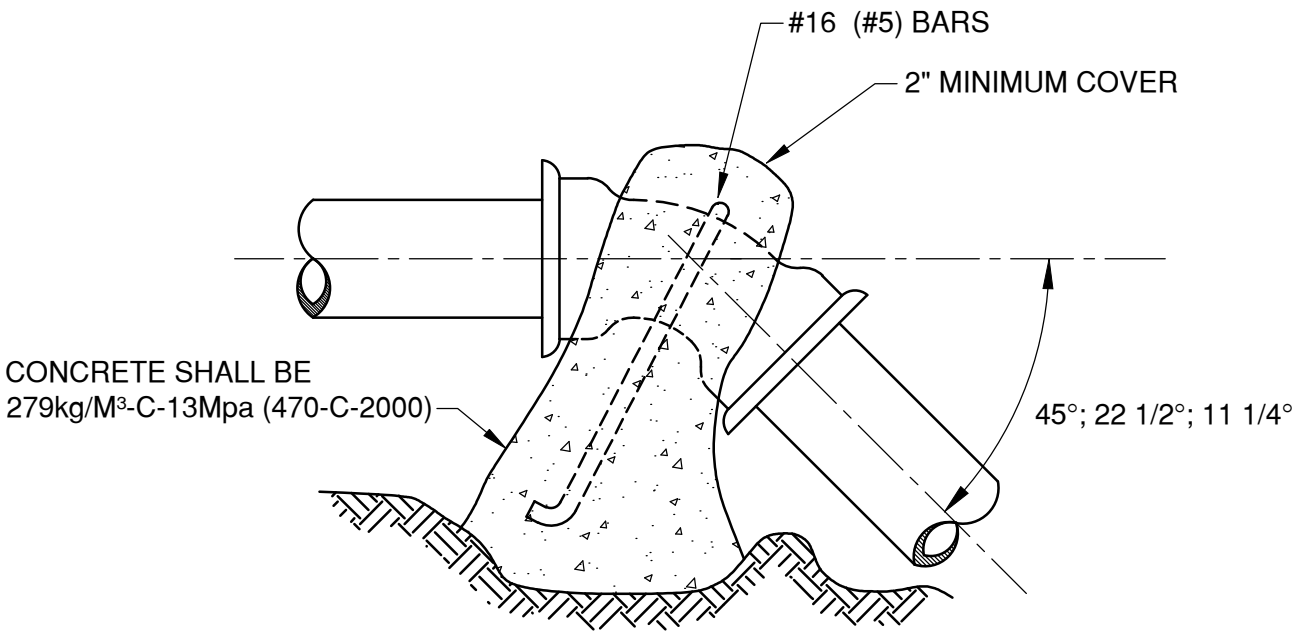


PLAN VIEW



ELEVATION

APPROVED: Wally Pacheco 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **ANCHOR BLOCK DETAILS FOR IN LINE REDUCERS (16" PIPE MAX.)**	NOT TO SCALE DWG. NUMBER **W-26**



PIPE NOMINAL DIA.	CUBIC FT. OF CONCRETE REQUIRED PER 100 P.S.I. PRESSURE *		
	45°	22 1/2°	11 1/4°
4	7	4	2
6	15	8	4
8	27	14	7
10	* *	21	11
12	* *	* *	16

* INCREASE VOLUMES SHOWN IN PROPORTION TO PRESSURES EXISTING WHEN PRESSURE TESTING PIPELINE.

* * SPECIAL DESIGN REQUIRED.

APPROVED:

5/16/19

District Engineer Date

5/16/2019

Latest Revision Date

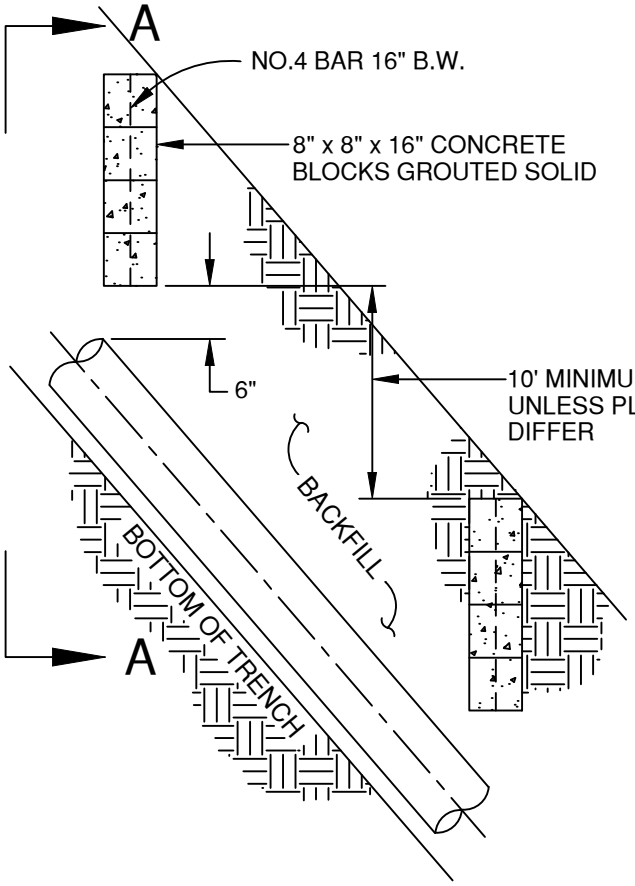
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

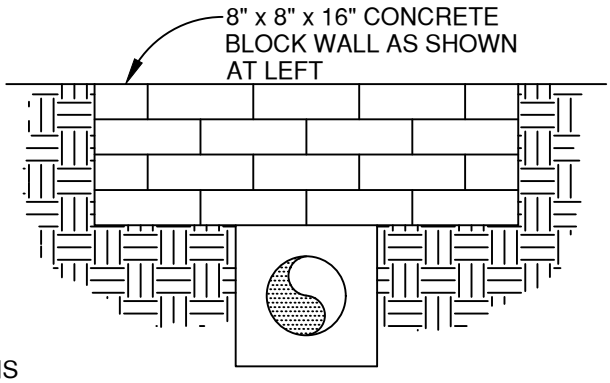
VERTICAL ANCHOR BLOCK

NOT TO SCALE

DWG. NUMBER

W-27

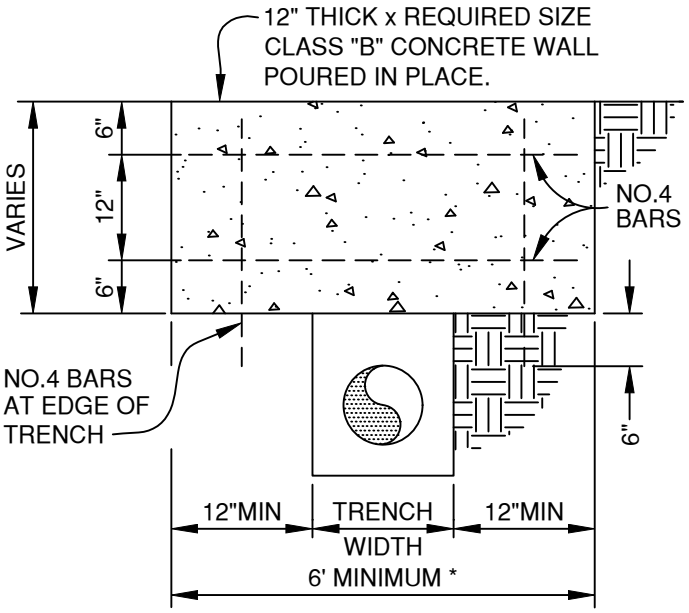




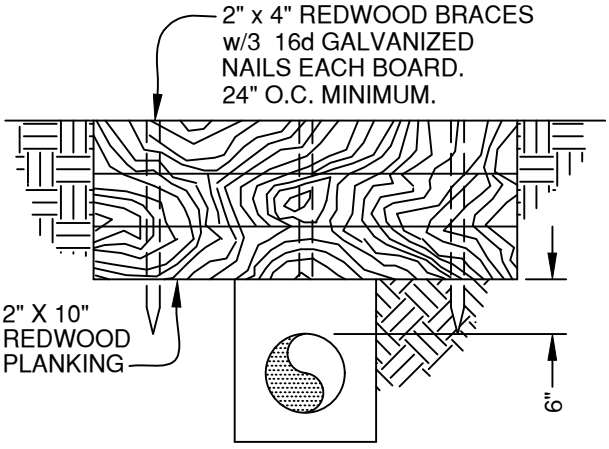
TYPE "A"

NOTE: SLOPES BETWEEN 15% & 30% SHALL BE PROTECTED WITH HAY, SEED AND DIAGONAL DITCHES AT 50' INTERVALS. SLOPES IN EXCESS OF 30% WILL REQUIRE CUT-OFF WALLS IN ADDITION TO HAY AND SEED.

* CUT-OFF WALLS TO BE KEYED 12" MINIMUM INTO UNDISTURBED SOIL. EASEMENT ROADS IN EXCESS OF 13% SHALL RECEIVE 2" A.C. PAVEMENT.



TYPE "B"



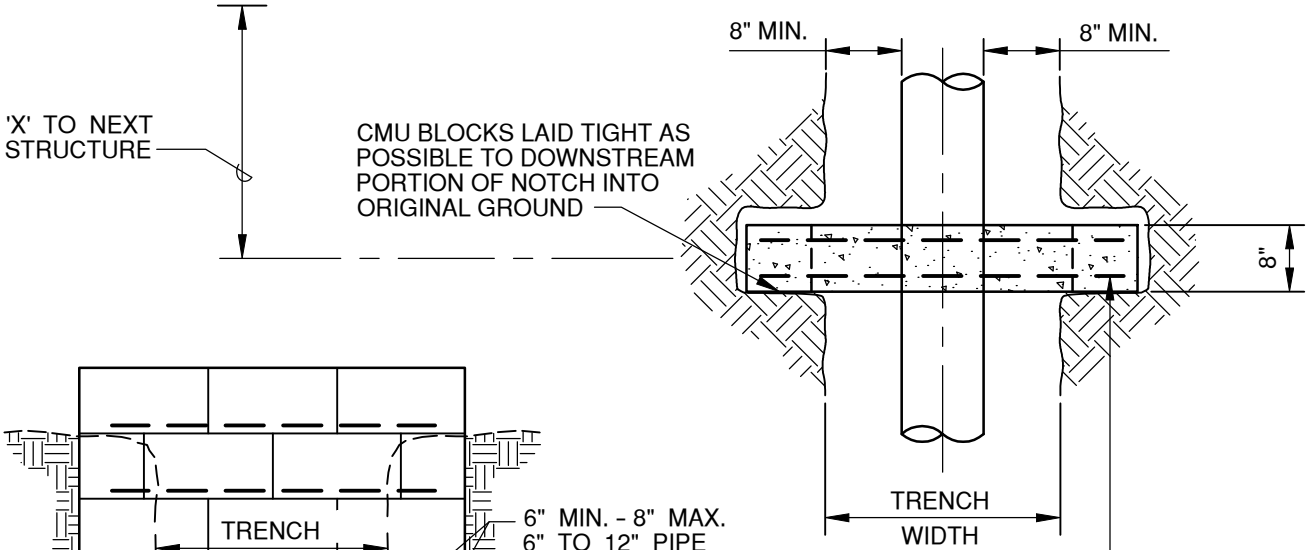
TYPE "C"

SECTION A-A

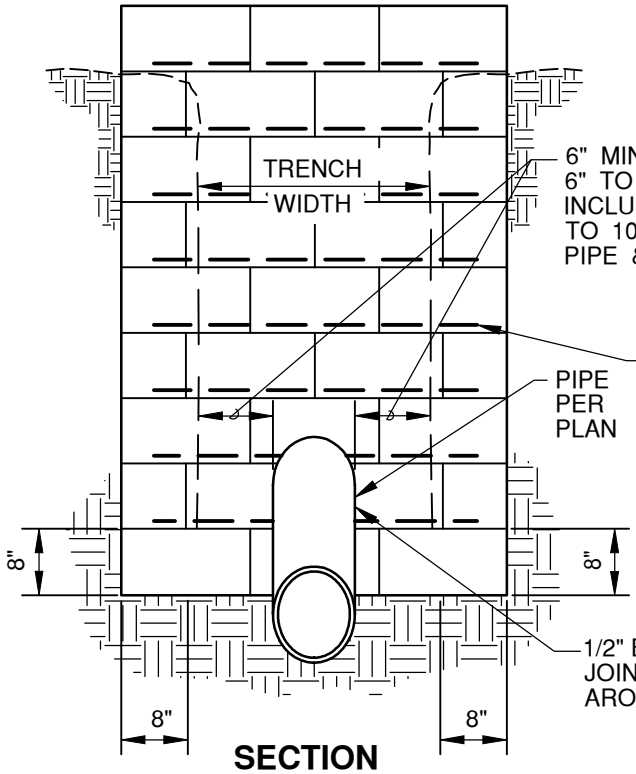
NOTE:

1. WIDTH DIMENSIONS SHOWN ON TYPE "B" CUT-OFF WALL TYPICAL TO ALL INSTALLATIONS.

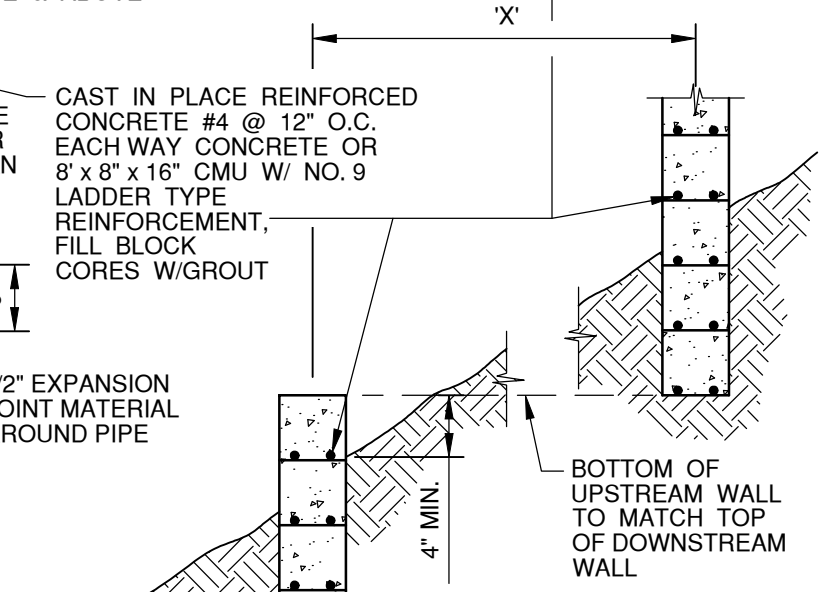
APPROVED: Wally Pyle 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **SLOPE PROTECTION FOR GRADES OF 30% OR LARGER**	NOT TO SCALE DWG. NUMBER **W-28**



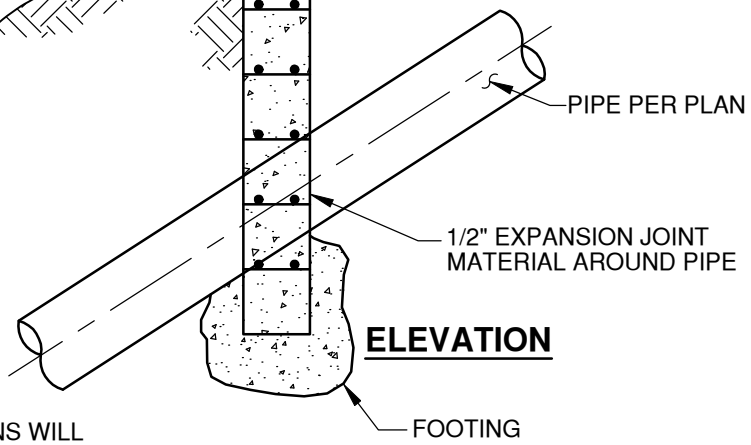
PLAN



SECTION



PIPE SLOPE	'X'-MAX DISTANCE
15-20%	45'
20-25%	35'
25-30%	30'
30-40%	20'
>40%	CONSULT DISTRICT



ELEVATION

NOTES:

1. PIPE ANCHORS REQUIRED ON ALL SLOPES OF 15% OR GREATER.
2. ANCHOR SHALL EXTEND 8" MIN. INTO NATURAL UNDISTURBED SOIL.
3. CONCRETE SHALL BE 450-C-2000
4. ANCHORS FOR TRAPEZOIDAL TRENCH SECTIONS WILL CONFORM TO TRENCH CROSS SECTION AND EXTEND 8" MIN. IN TO UNDISTURBED SOIL.

APPROVED:

Wally Gale 5/16/19

District Engineer Date

5/16/2019

Latest Revision Date

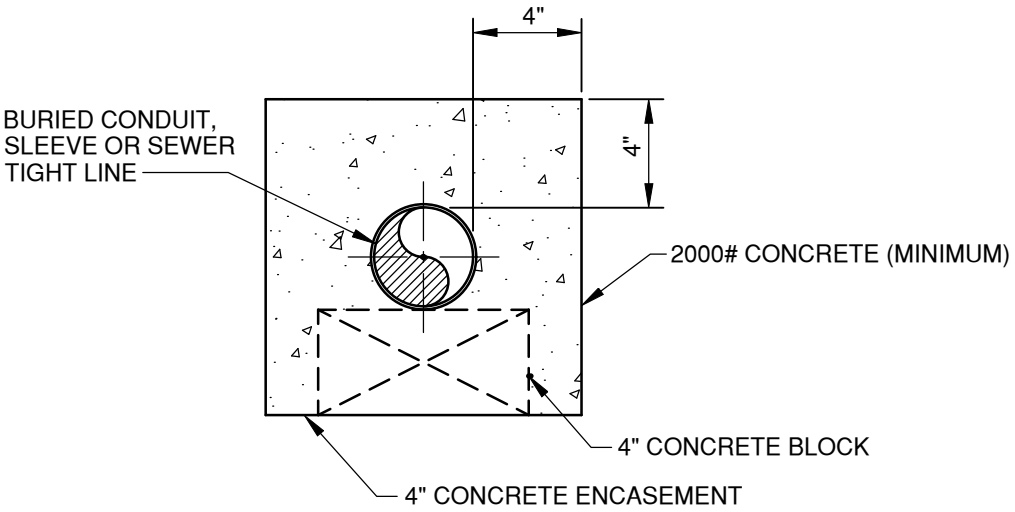
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

STANDARD CUTOFF WALL

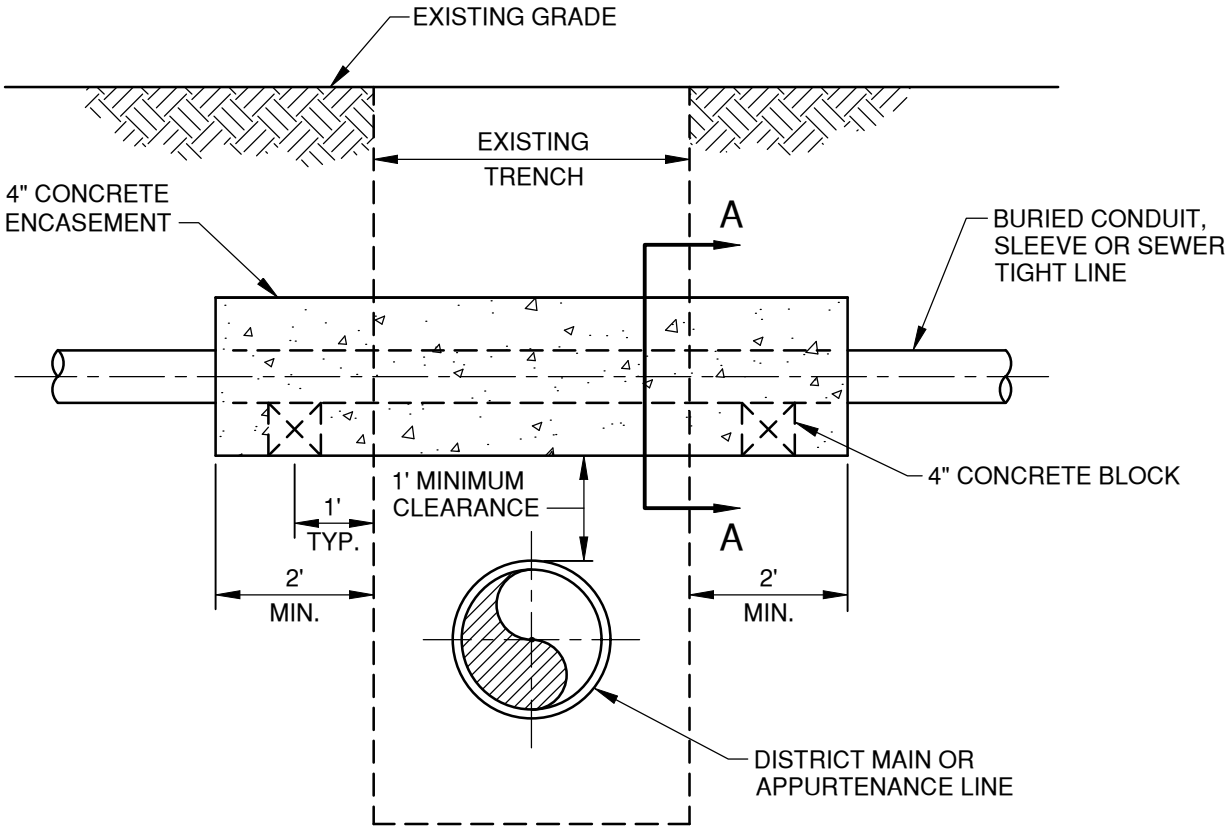
NOT TO SCALE

DWG. NUMBER

W-29



SECTION A-A

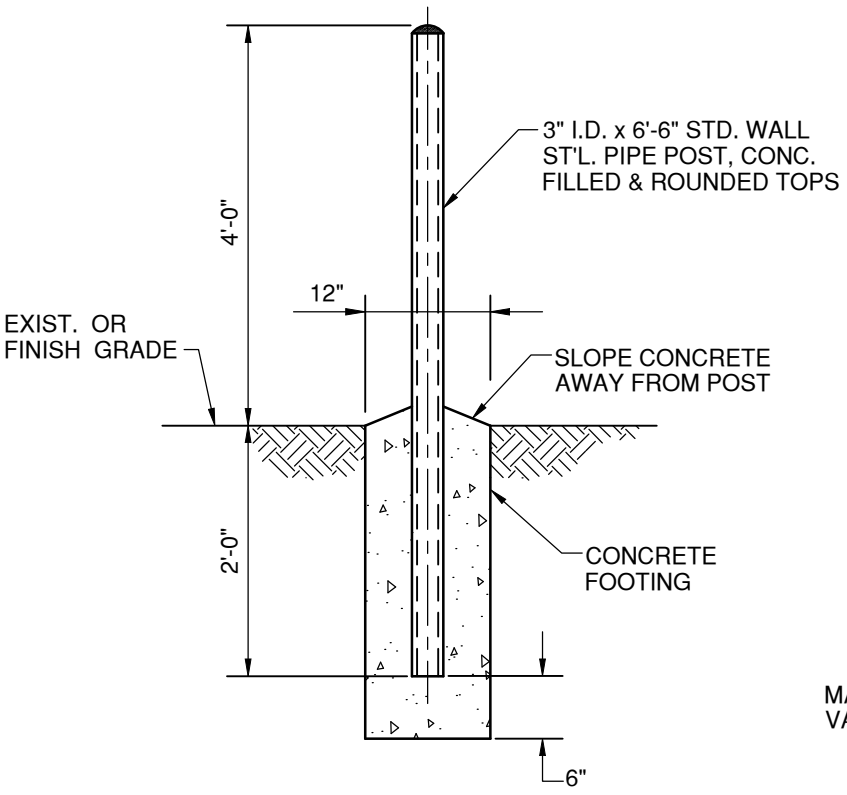


TYPICAL SECTION

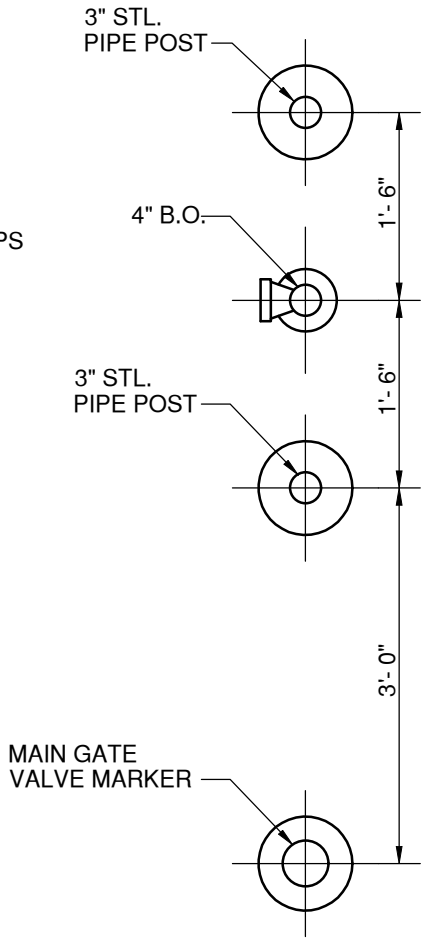
NOTES :

1. AN ENCROACHMENT PERMIT MUST BE OBTAINED FROM THE DISTRICT PRIOR TO CONSTRUCTION OVER DISTRICT FACILITIES.
2. 2 SACK SLURRY BACKFILL MAY BE SUBSTITUTED FOR CONCRETE ENCASEMENT.

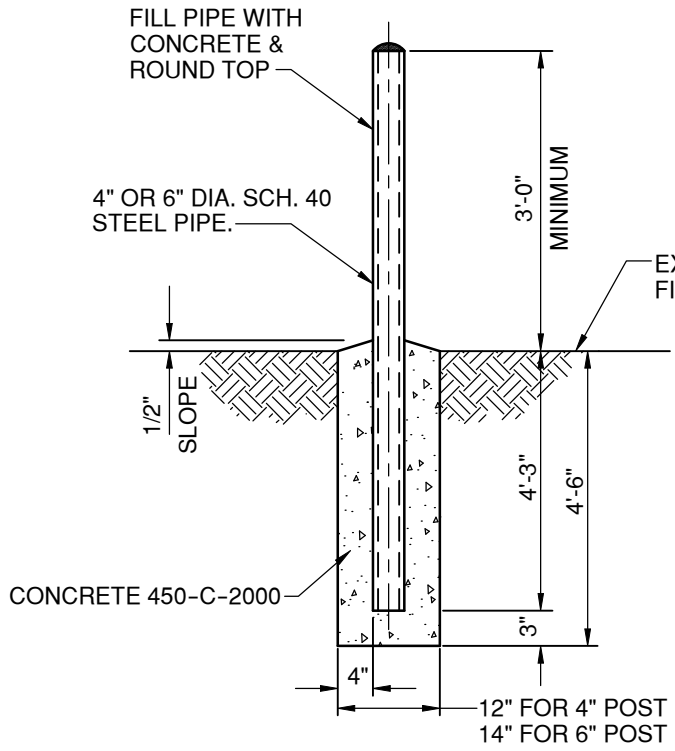
APPROVED: Wally Pacl 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **CONCRETE ENCASEMENT DETAIL FOR U.G. ELECT., TEL., & SEWER TIGHT LINES OVER DISTRICT MAINS & APPURTENANCES**	NOT TO SCALE DWG. NUMBER **W-30**



MARKER POST INSTALLATION



PLAN

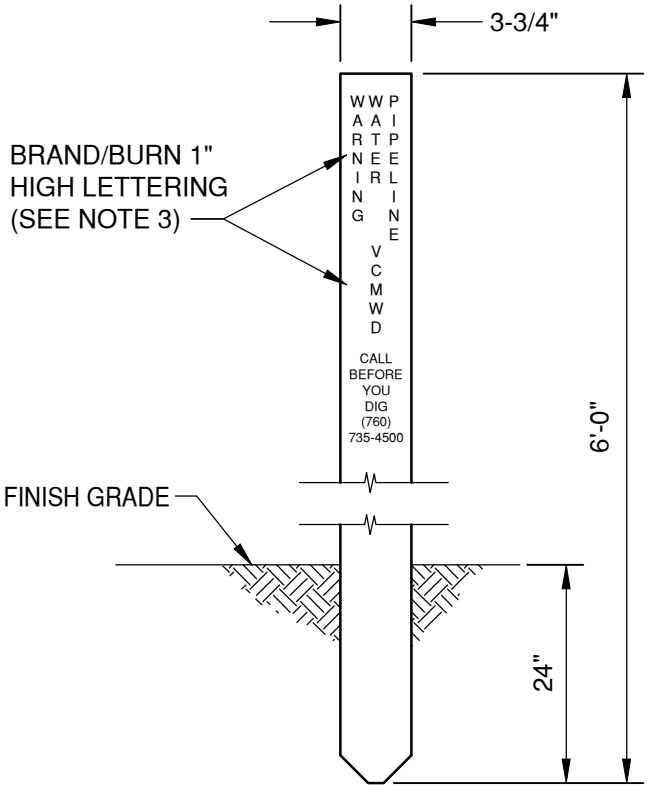


NOTES:

1. LOCATION SHALL BE AS SHOWN ON PLAN VIEW OR AS DIRECTED IN THE FIELD BY DISTRICT ENGINEER.
2. 4" DIA. POSTS SHALL BE APPROVED BY DISTRICT ENGINEER. FOR SPEED GREATER THAN 30 MPH, 6" DIA. POSTS SHALL BE USED.
3. MINIMUM OF TWO MARKER POSTS REQUIRED FOR EACH VALVE INSTALLED.
4. MARKER POSTS AND GUARD POSTS SHALL NOT BE INSTALLED WITHIN COUNTY RIGHT OF WAY.

GUARD POST INSTALLATION

APPROVED: 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **GUARD & MARKER POST INSTALLATION**	NOT TO SCALE DWG. NUMBER **W-31**



MARKER POSTS

POST SHALL BE INSTALLED A MAXIMUM
OF 200' APART OR IN LINE OF SITE

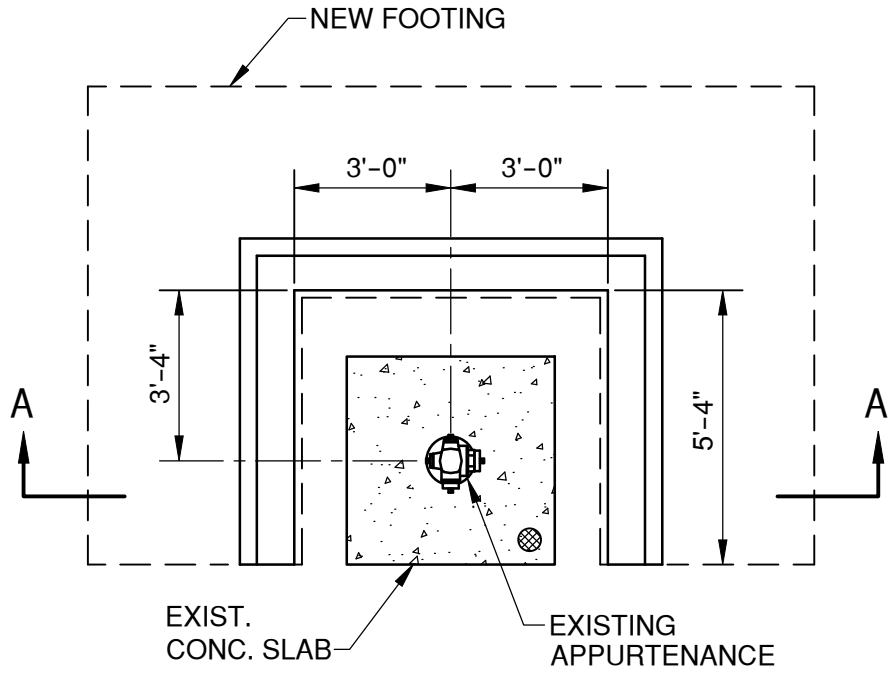
COLOR	MARKER POSTS USED FOR:
BLUE	POTABLE WATER MAINS
GREEN	SEWER MAINS
PURPLE	RECYCLED WATER MAINS
WHITE	GENERAL USE
YELLOW	ELECTRICAL UTILITIES

UTILITY MARKER COLORS

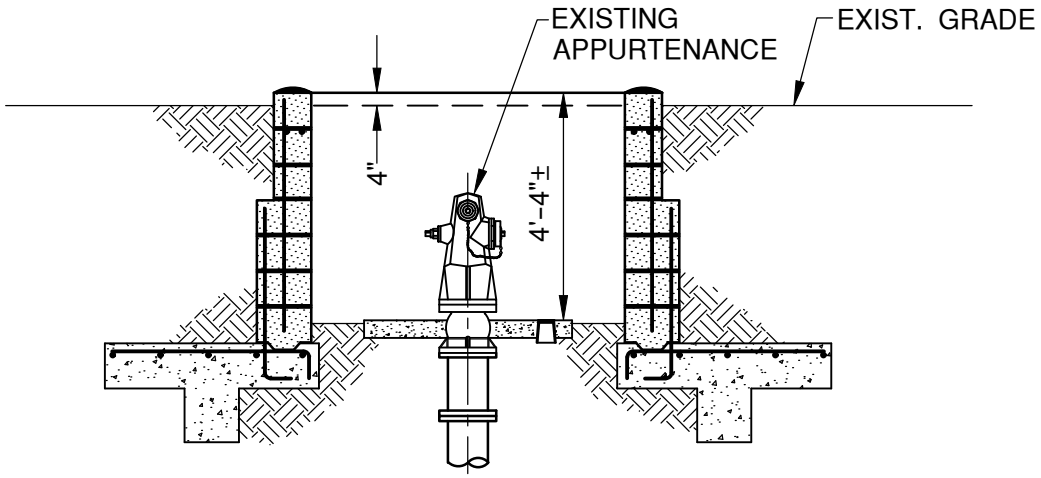
NOTES:

1. EASEMENT/UTILITY MARKER POST SHALL BE INSTALLED WHERE CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
2. EASEMENT/UTILITY MARKER POST SHALL BE INSTALLED ALONG THE CENTERLINE OF THE PIPELINE.
3. MARKER SHALL INCORPORATE 1" HIGH LETTERING BRANDED/BURNED INTO PADDLE. LETTERING SHALL INCLUDE THE AGENCY OF JURISDICTION ALONG WITH THE UTILITY IDENTIFIED. THE COLOR OF THE PADDLE SHALL BE AS SHOWN ABOVE.

APPROVED: 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **UTILITY MARKER POST INSTALLATION**	NOT TO SCALE DWG. NUMBER **W-32**



PLAN

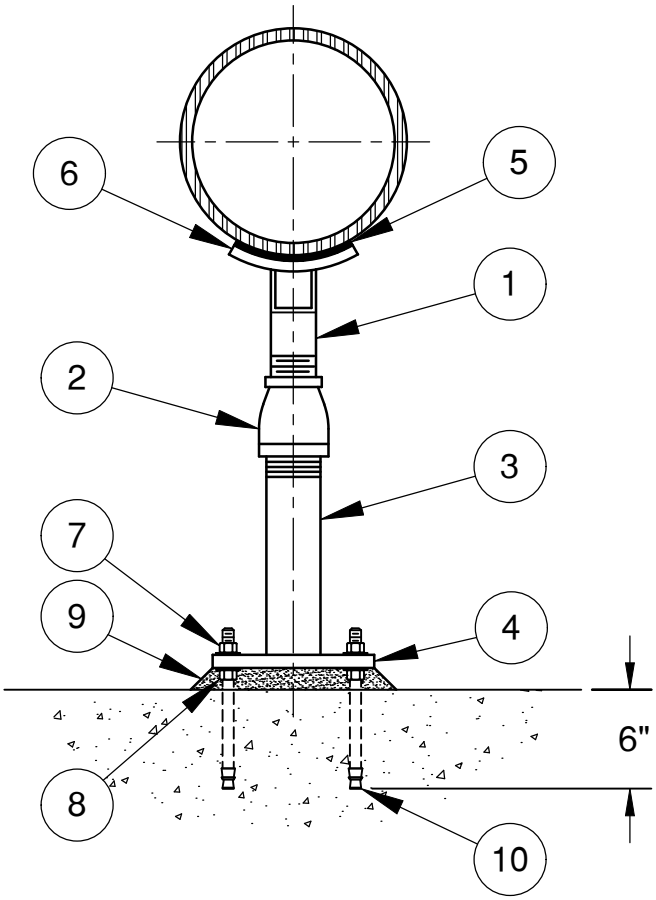


SECTION A-A

NOTES:

1. SEE SDRSD C-4, C-7 AND C-8 FOR ADDITIONAL DETAILS AND NOTES.
2. MASONRY BLOCK TYPE 1 SHALL CONFORM TO ASTM C90. SIZE SHALL BE 16" x 8" x 8" AND 16" x 12" x 8". UNITS SHALL BE SLUMP BLOCK. COLOR SHALL BE ADOBE.
3. FOR WALLS LESS THAN 30" IN HEIGHT, 16" x 8" x 8" STACKABLE BLOCKS MAY BE USED WITH DISTRICT ENGINEER APPROVAL.

APPROVED: Wally Gale 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **APPURTENANCE RETAINING WALL**	NOT TO SCALE DWG. NUMBER **W-33**



ELEVATION

NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO PURCHASE AND FABRICATION.
2. PAINT PER DISTRICT SPECIFICATIONS AFTER FABRICATION.

NO.	DESCRIPTION	NO.	DESCRIPTION
1	2 1/2" GALVANIZED STEEL PIPE	6	SADDLE TYPE PIPE SUPPORT
2	ADJUSTABLE THREADED COLLAR, GALVANIZED	7	STAINLESS STEEL 316 NUT AND WASHER (4 REQUIRED)
3	3" GALVANIZED STEEL PIPE, WELDED TO BASE	8	STAINLESS STEEL 316 LEVELING NUT AND WASHER (4 REQUIRED)
4	9" x 9" x 1/2" GALVANIZED STEEL BASE PLATE w/4 BOLT HOLES	9	1" THICK MIN. NON-SHRINK GROUT
5	1/4" THICK NEOPRENE LINER	10	1/2" DIA. STAINLESS STEEL 316 ANCHOR BOLT (4 REQUIRED)

APPROVED:

5/16/19

District Engineer — Date

5/16/2019

Latest Revision Date

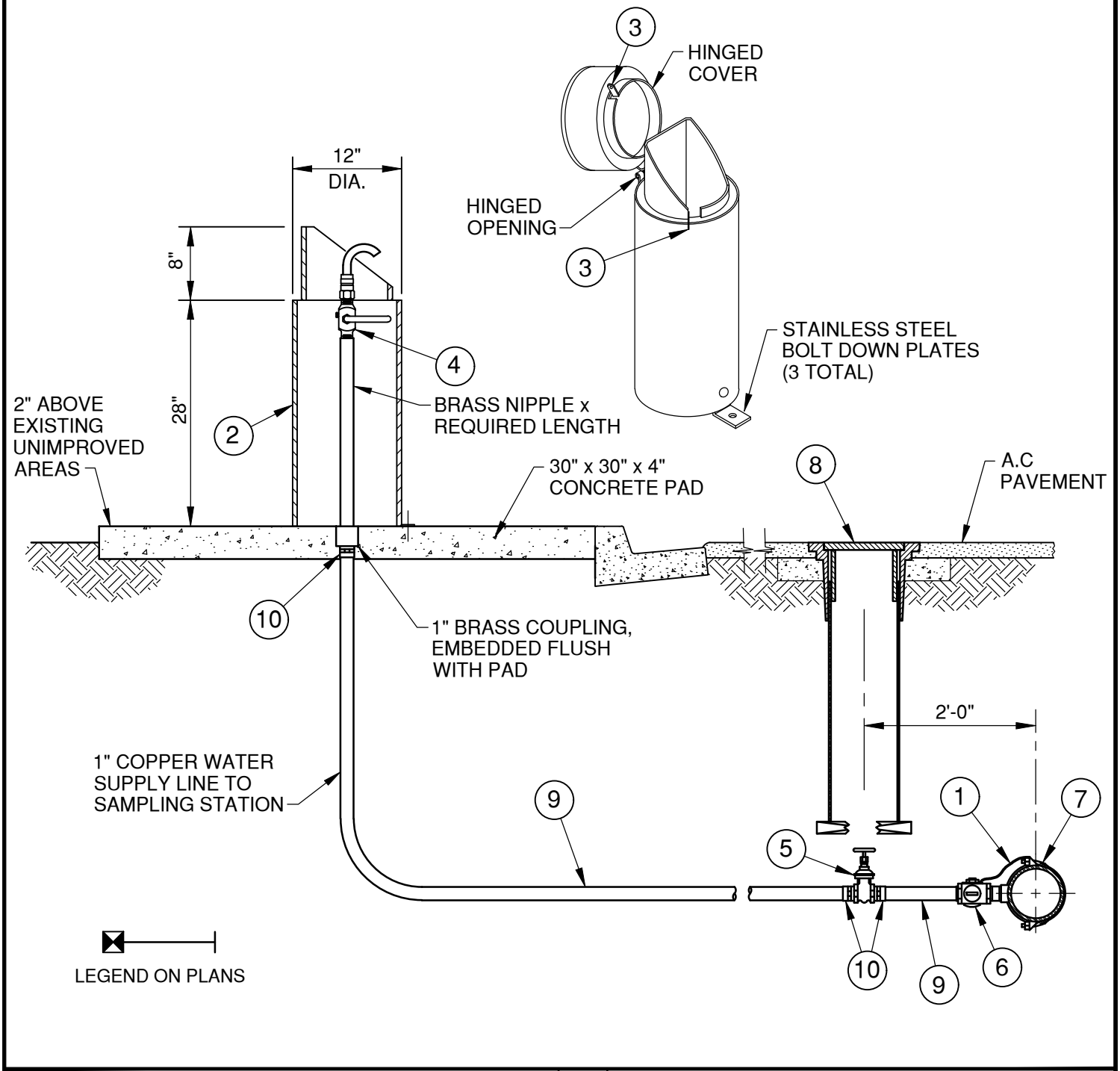
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

ADJUSTABLE PIPE SUPPORT DETAIL

NOT TO SCALE

DWG. NUMBER

W-34



NO.	DESCRIPTION	NO.	DESCRIPTION
1	TRACER WIRE, MECHANICALLY BONDED TO CORP. STOP	6	1" BRONZE BALL CORP. STOP M.I.P. x COMP (OPERATING NUT TO BE ON THE RIGHT SIDE)
2	ARMOLITE POLYETHYLENE ENCLOSURE WITH HINGED COVER (W/ GRANITE FINISH)	7	1" BRONZE DOUBLE STRAP SADDLE FOR ACP & DIP, SS DOUBLE STRAP FOR PVC
3	PADLOCK HASP	8	VALVE WELL FRAME, ASSEMBLY, AND COVER, PER W-25
4	BALL VALVE, 1/2" x 3/8", 400 P.S.I.	9	1" COPPER TUBING x REQ. LENGTH
5	1" BRONZE GATE VALVE w/BRONZE HANDWHEEL, F.I.P. x F.I.P. THREAD	10	1" COPPER COMP ADAPTER x M.I.P. THREAD

APPROVED:

5/16/19

District Engineer — Date

5/16/2019

Latest Revision Date

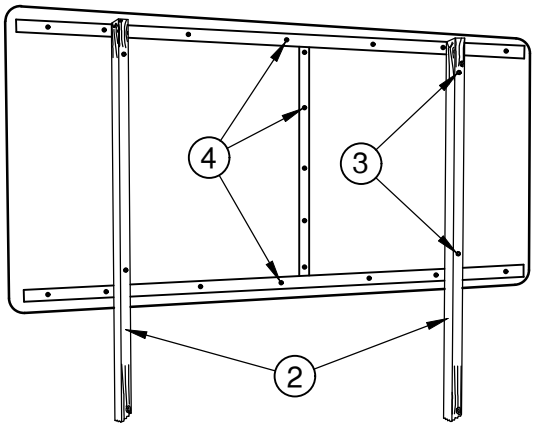
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

WATER QUALITY SAMPLING STATION

NOT TO SCALE

DWG. NUMBER

W-35



BACK OF SIGN

SAMPLE SIGN

NO.	DESCRIPTION	NO.	DESCRIPTION
1	48" x 96" ALUMINUM PROJECT SIGN W/REFLECTIVE BACK & NON REFLECTIVE BLUE TEXT	3	BOLT SIGN TO POSTS (MIN. 2 PER POST)
2	4" x 4" x 12' REDWOOD POSTS, PRESSURE TREATED	4	ATTACH METAL STIFFENERS TO BACK OF SIGN

APPROVED: 5/16/19
District Engineer Date

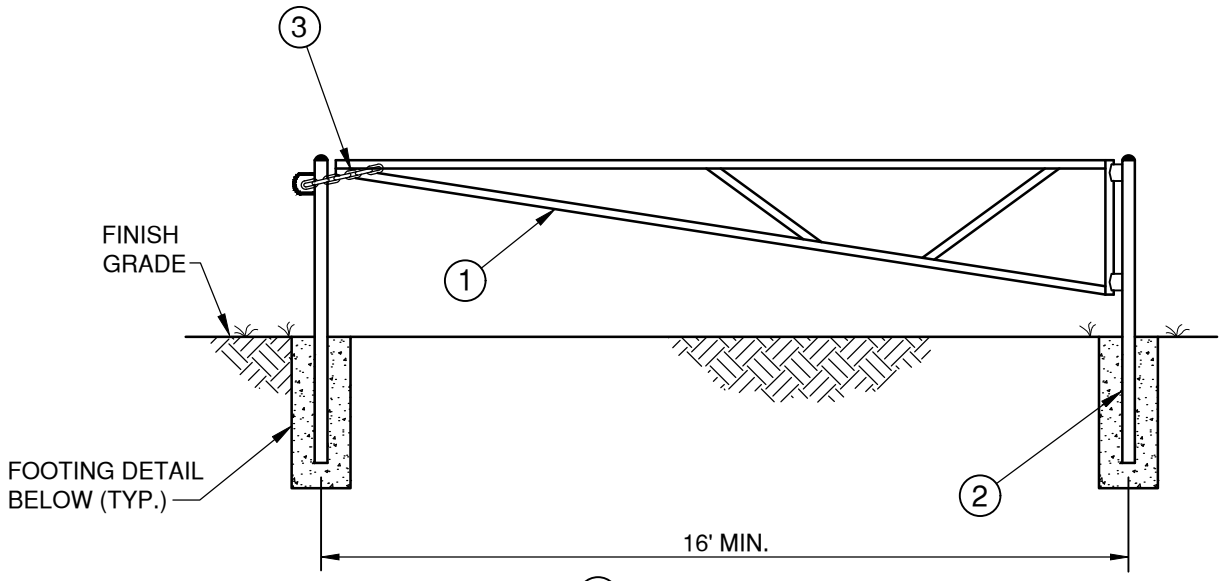
5/16/2019
Latest Revision Date

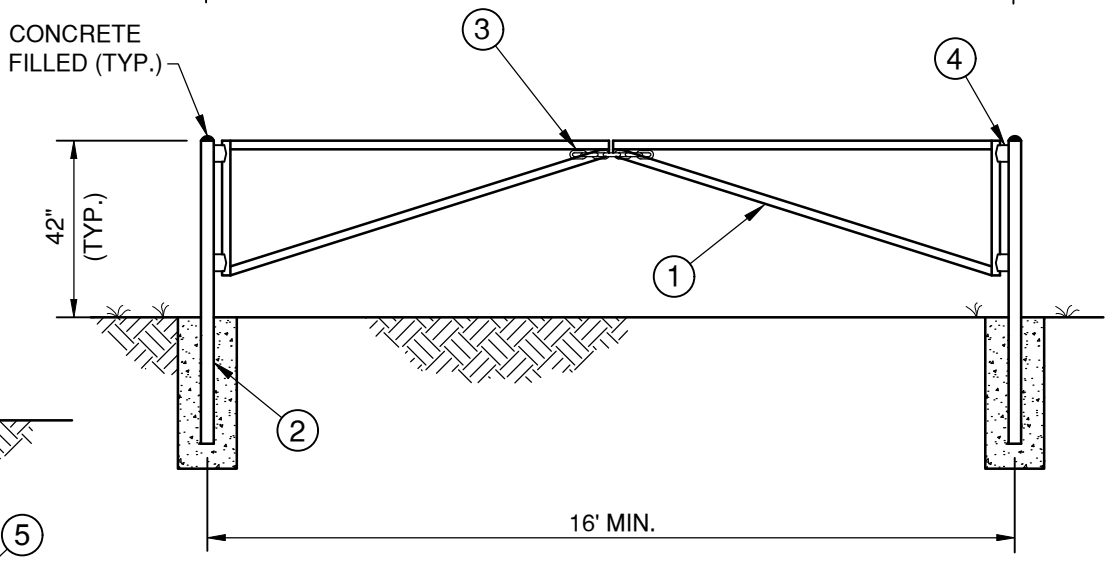
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

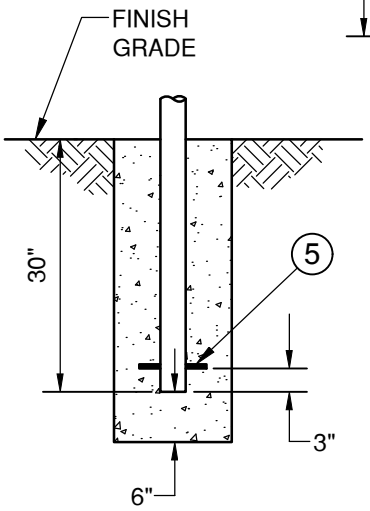
NOT TO SCALE

PROJECT INFORMATION SIGN

DWG. NUMBER
W-36







NOTES:

A. DISTRICT LOCK AND PROPERTY OWNER'S LOCK CHAINED TOGETHER.
B. DISTRICT MUST HAVE ACCESS AT ALL TIMES.

NO.	DESCRIPTION	NO.	DESCRIPTION
1	2" STEEL PIPE OR SQUARE STOCK SCH. 20 OR 40	4	HINGES MUST OPERATE FREELY
2	3" STEEL POST	5	1/2" REBAR THROUGH POST
3	CHAIN WITH DISTRICT & PROPERTY OWNER'S LOCK	6	NOT USED

APPROVED:

5/16/19

District Engineer — Date

5/16/2019

Latest Revision Date

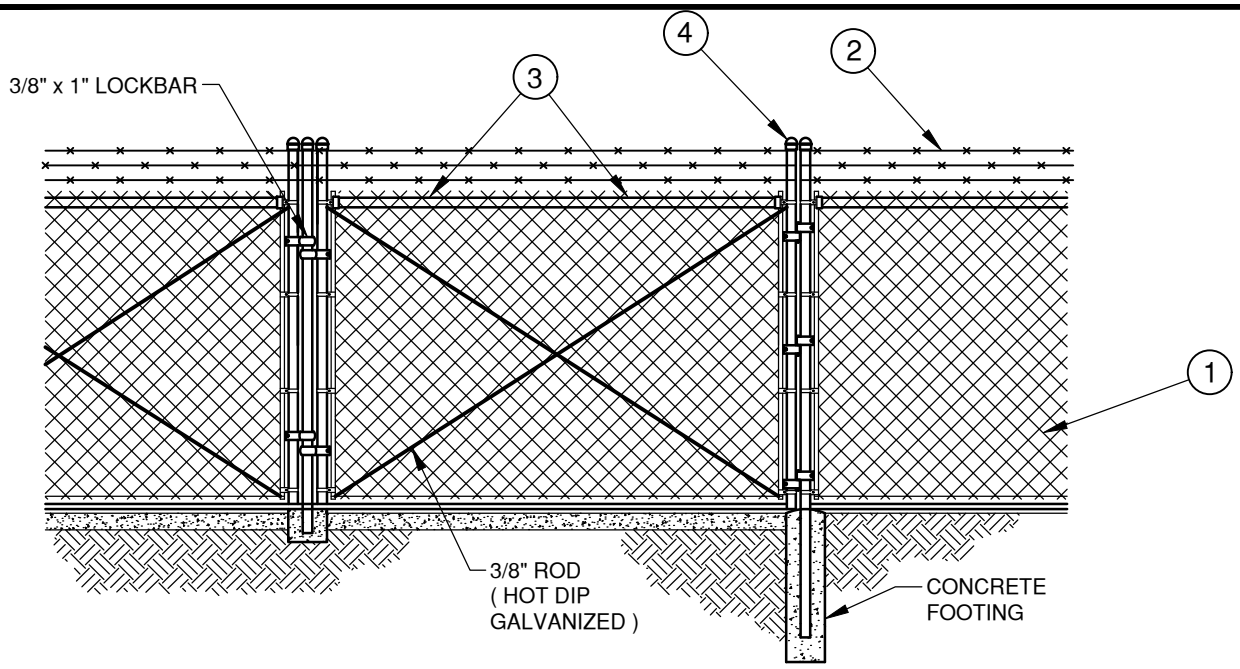
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

TYPICAL PIPE GATE

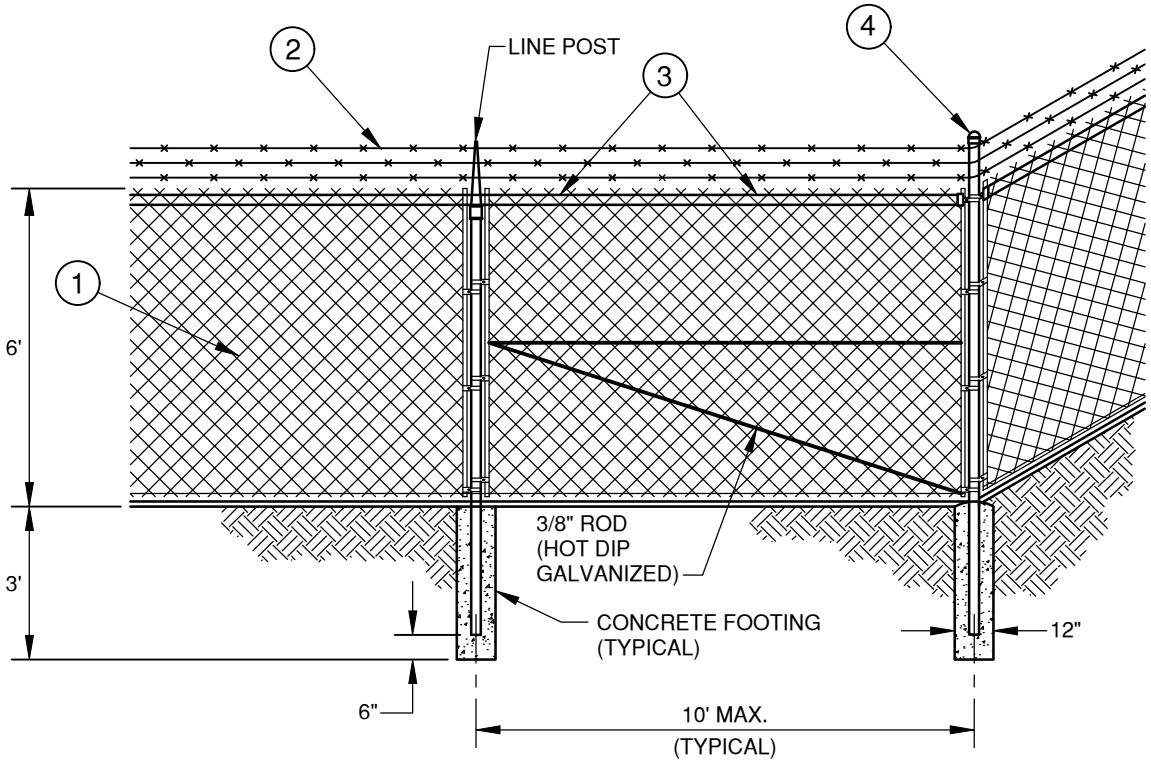
NOT TO SCALE

DWG. NUMBER

W-37



GATE



NO.	DESCRIPTION	NO.	DESCRIPTION
1	CHAIN LINK FABRIC 9 GAUGE	3	SCHEDULE 20, 2 3/8" GALV POST
2	BARBED WIRE, HT. MIN. 7', (4PT 12 GAUGE)	4	SCHEDULE 20, 2 7/8" GALV POST

APPROVED:

5/16/19

District Engineer — Date

5/16/2019

Latest Revision Date

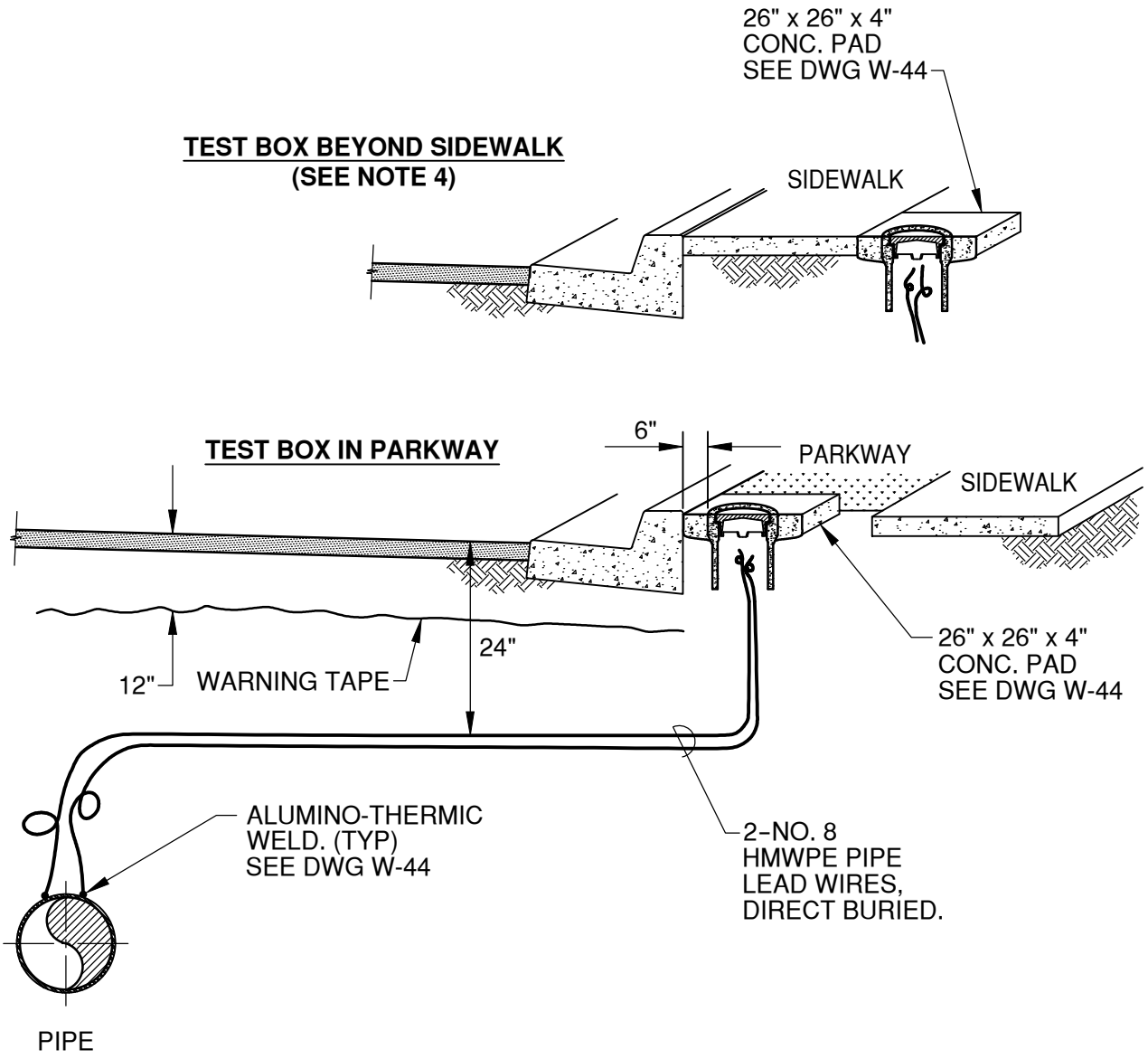
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

NOT TO SCALE

CHAIN LINK FENCE DETAILS

DWG. NUMBER

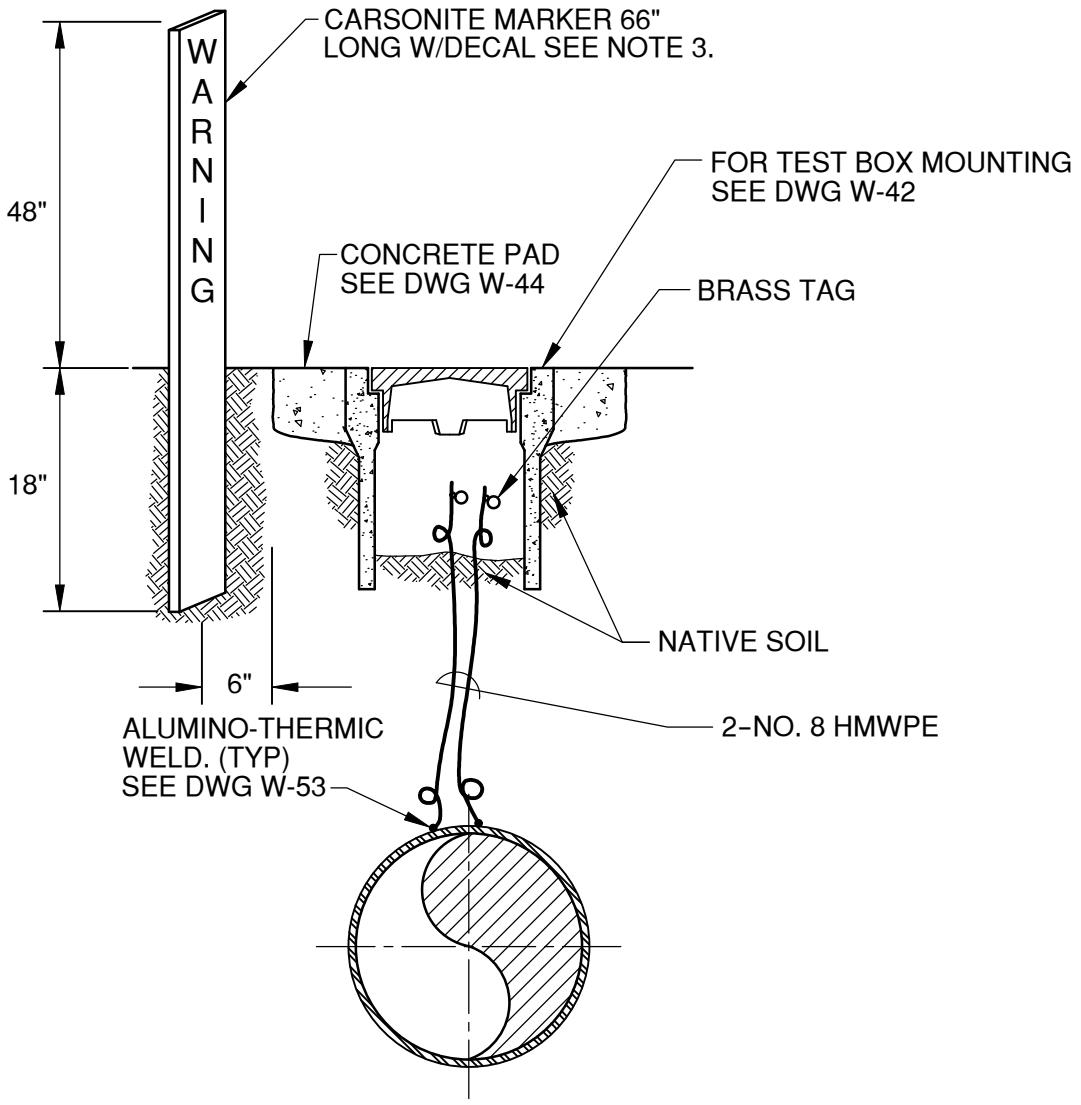
W-38



NOTES:

1. PROVIDE 18" SLACK WIRE AT WELD AND COILED IN TEST BOX.
2. WIRE TRENCH SHALL BE 24" DEEP MIN. PLACE 3" OF SAND OR D.G. BEDDING IN TRENCH BEFORE PLACING WIRES. COVER WIRES WITH 6" OF SAND OR D.G. COMPACT WIRE TRENCH FILL PER VCMWD STANDARD.
3. USE 6" WIDE, 4 MIL THICK INERT PLASTIC TAPE PRINTED WITH "CAUTION: CATHODIC PROTECTION CABLE BELOW". PLACE 12" BELOW GRADE.
4. TEST BOX TO BE PLACED BEHIND CURB IN SIDEWALK, BEYOND EDGE OF SIDEWALK, OR IN PLANTER AS SHOWN PER ENGINEER'S DIRECTION. IF NO CURB EXISTS, LOCATE TEST BOX JUST OFF PAVED SURFACE. IN UNPAVED AREAS OR PARKING LOTS, LOCATE TEST BOX OVER PIPE BUT NOT DIRECTLY IN PARKING SPACE. (SEE DWG W-40)

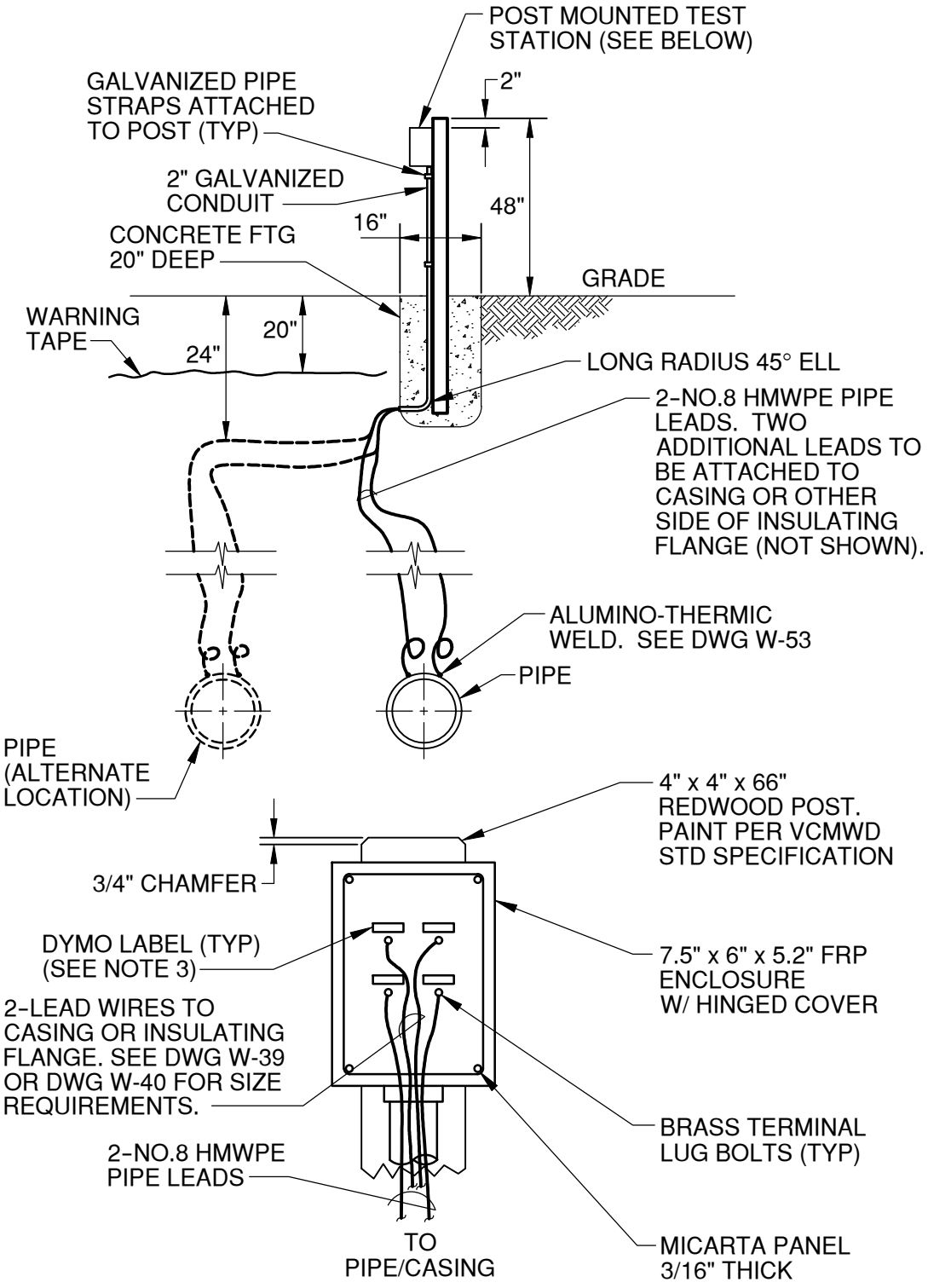
APPROVED: Wally Gale 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **2 - WIRE TEST STATION (PAVED STREET)**	NOT TO SCALE DWG. NUMBER **W-39**



NOTES:

1. PROVIDE 18" SLACK WIRE AT WELD AND COILED IN TEST BOX.
2. WIRE TRENCH SHALL BE 24" DEEP MIN. PLACE 3" OF SAND OR D.G. BEDDING IN TRENCH BEFORE PLACING WIRES. COVER WIRES WITH 6" OF SAND OR D.G. COMPACT WIRE TRENCH FILL PER VCMWD STANDARD.
3. USE 6" WIDE, 4 MIL THICK INERT PLASTIC TAPE PRINTED WITH "CAUTION: CATHODIC PROTECTION CABLE BELOW". PLACE 12" BELOW GRADE.
4. TEST BOX TO BE PLACED BEHIND CURB IN SIDEWALK, BEYOND EDGE OF SIDEWALK, OR IN PLANTER AS SHOWN PER ENGINEER'S DIRECTION. IF NO CURB EXISTS, LOCATE TEST BOX JUST OFF PAVED SURFACE. IN UNPAVED AREAS OR PARKING LOTS, LOCATE TEST BOX OVER PIPE BUT NOT DIRECTLY IN PARKING SPACE.
5. PLACE TEST STATION DIRECTLY OVER PIPE IF POSSIBLE.
6. CARSONITE MODEL R-845, YELLOW WITH BLACK CHARACTERS WITH "VALLEY CENTER MUNICIPAL WATER DISTRICT, UNDERGROUND CABLES, WARNING, BEFORE DIGGING CALL (760) 735-4500."

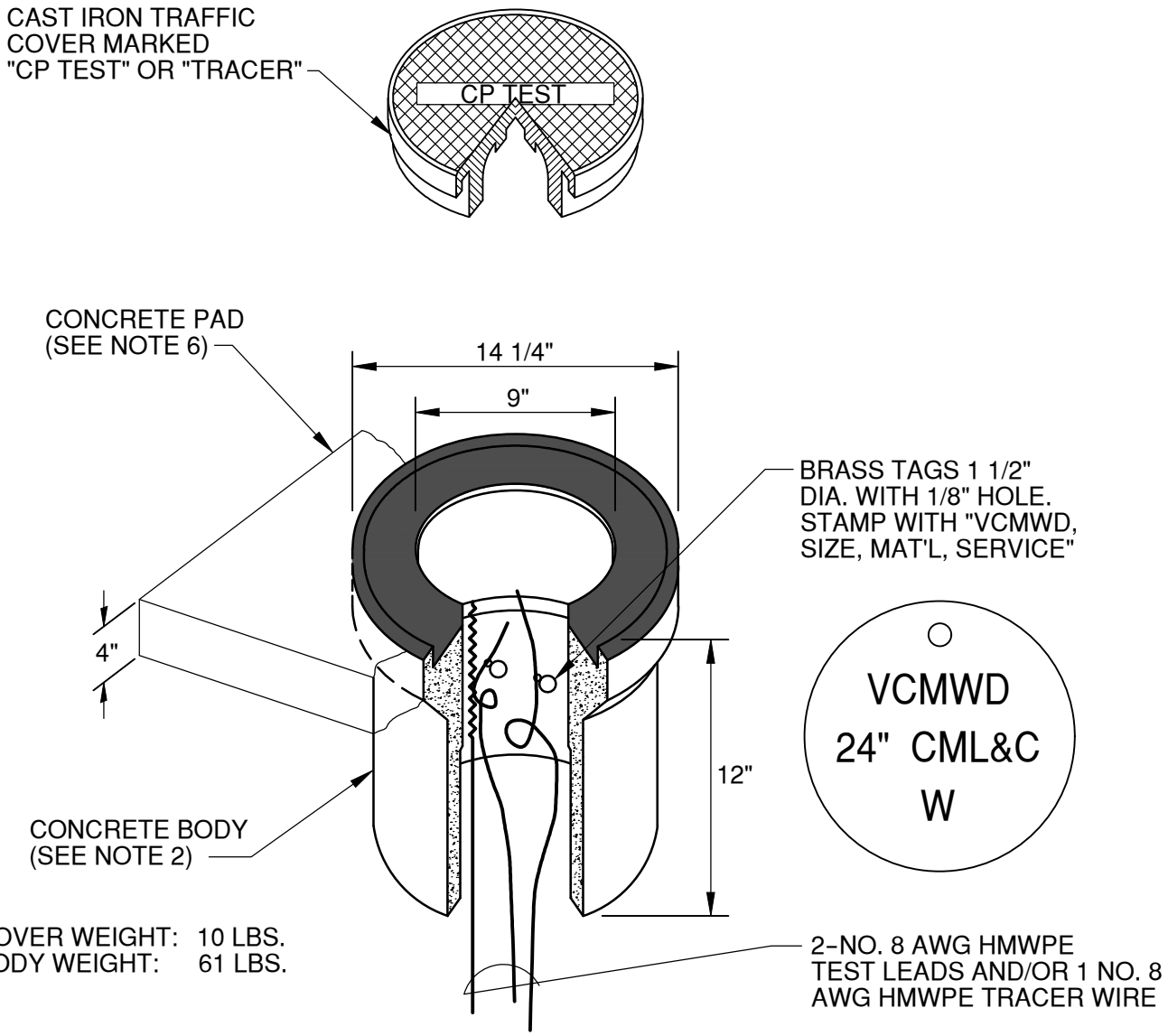
APPROVED: Wally Pacheco 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **2 - WIRE TEST STATION (UNPAVED AREA)**	NOT TO SCALE DWG. NUMBER **W-40**



NOTES:

1. INSTALL TEST STATION OVER PIPE IF POSSIBLE. OFFSET POST AS NECESSARY TO PLACE IN PROTECTED AREA AND PUT OF TRAFFIC LANES, BUT NOT OUTSIDE RIGHT OF WAY.
2. FOUR-WIRE TEST STATION SHOWN IS APPLICABLE TO CASING AND INSULATING FLANGE TEST STATIONS (SEE W-43 AND W-45). TWO WIRE TEST STATIONS SIMILAR.
3. EACH WIRE SHALL BE IDENTIFIED WITH A DYMO LABEL AFFIXED TO THE MICARTA PANEL. LABEL WILL IDENTIFY VCMWD, SIZE, MAT'L AND SERVICE (I.E. VCMWD, 14", CML&C, W)

APPROVED: Wally Pacl 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **2 OR 4 - WIRE TEST STATION**	NOT TO SCALE DWG. NUMBER **W-41**



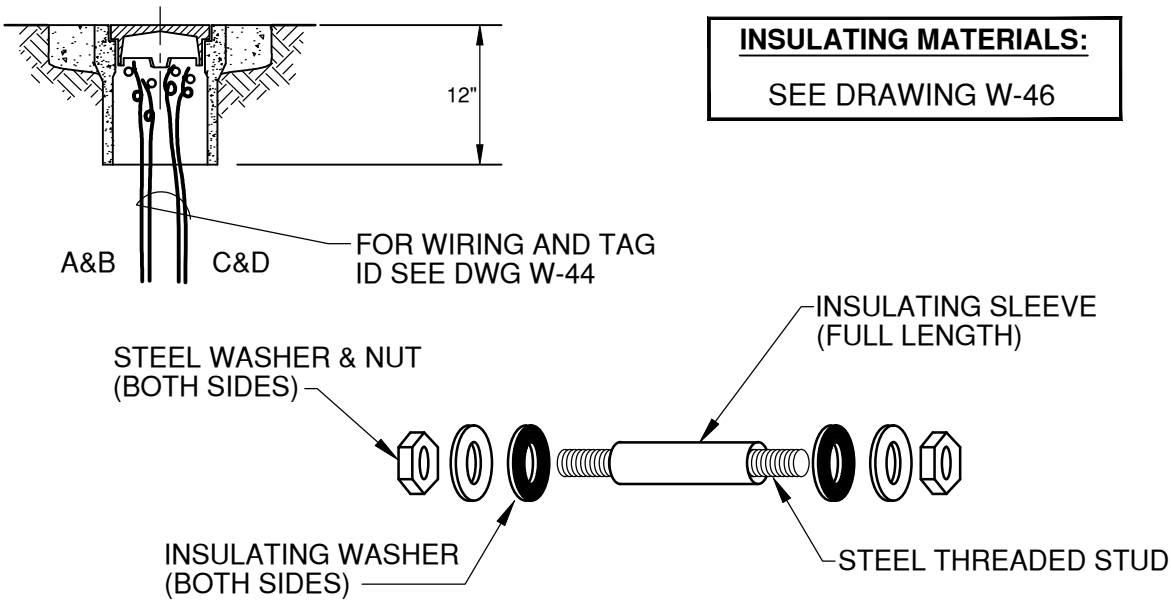
NOTES:

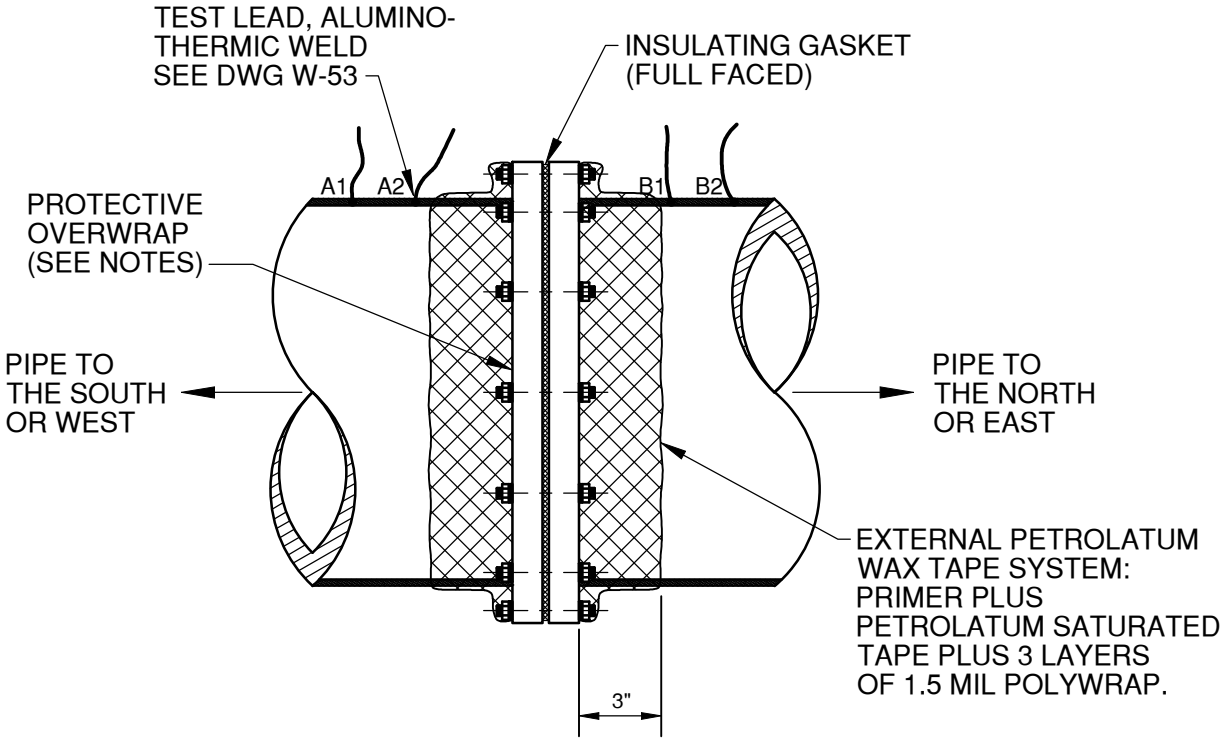
1. SEE DWG W-39 FOR PLACEMENT OF TEST BOX ON PAVED STREETS AND W-40 FOR PLACEMENT IN UNPAVED AREAS.
2. CONCRETE BODY, RATED FOR OCCASIONAL VEHICLE TRAFFIC.
3. ALL WIRES SHALL HAVE 24" MIN. SLACK IN BOX.
4. BOTTOM OF TEST BOX SHALL BE NATIVE SOIL. DO NOT PLACE ROCK, GRAVEL OR SAND IN TEST BOX.
5. FIRMLY STAMP BRASS TAGS (1 1/2" DIA WITH 1/16" DIA. HOLE) "VCMWD, SIZE AND SERVICE" (EXAMPLE: VCMWD, 24" W). USE 1/4" HIGH CHARACTERS. SECURELY ATTACH BRASS TAGS TO TEST LEADS WITH BARE NO. 14 COPPER WIRE.
6. PROVIDE 26" x 26" x 4" THICK CONCRETE PAD AROUND TEST BOXES AT UNPAVED SITES. CONCRETE SHALL BE 560-C-3250.

APPROVED: Wally Pacl 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **AT GRADE TEST BOX**	NOT TO SCALE DWG. NUMBER **W-42**

INSULATING MATERIALS:

SEE DRAWING W-46

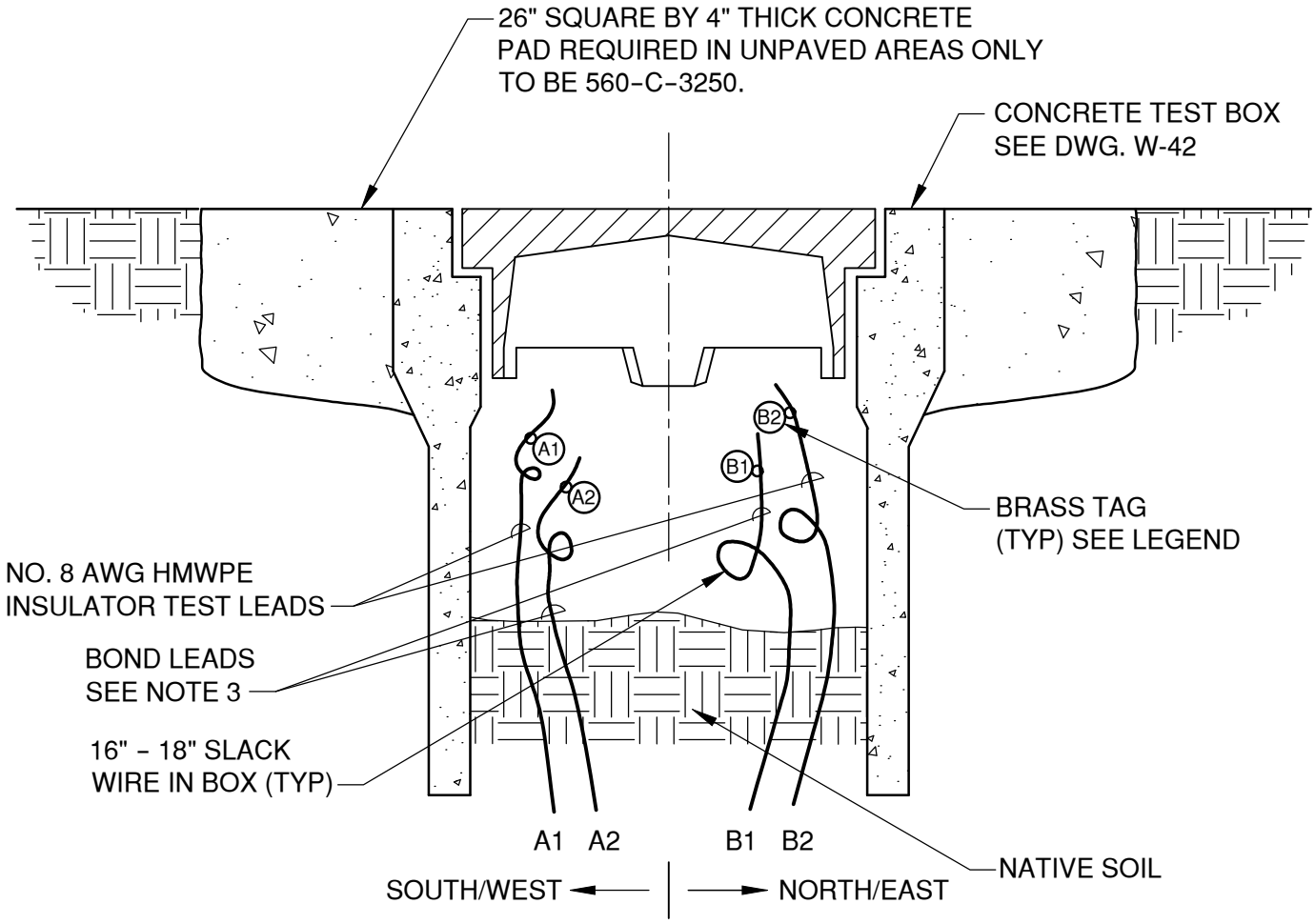




NOTES:

1. CARE SHALL BE TAKEN WHEN BACKFILLING TRENCH TO PREVENT DAMAGE TO WAX TAPE SYSTEM.
2. FLANGES 18" AND LARGER SHALL BE OVERWRAPPED WITH 10 MIL TAPE (2 LAYERS 50% OVERLAP) TO PROTECT WAX TAPE DURING BACKFILLING.
3. FLANGES LESS THAN 18" REQUIRE NO PIPE TAPE PROTECTIVE OVERWRAP.
4. NO TEST LEADS OR TEST STATIONS ARE REQUIRED AT BLOW-OFF INSULATORS.

APPROVED: Wally Gale 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING	NOT TO SCALE
	BURIED INSULATING FLANGE	DWG. NUMBER **W-43**



BRASS TAG LEGEND

WIRE	SIZE	ID STAMP
A1	NO. 8	"VCMWD, SIZE, MAT'L, SERVICE, SO. OR WT"
A2	SEE NOTE 3	"VCMWD, SIZE, MAT'L, SERVICE, SO. OR WT"
B1	SEE NOTE 3	"VCMWD, SIZE, MAT'L, SERVICE, SO. OR ET"
B2	NO. 8	"VCMWD, SIZE, MAT'L, SERVICE, SO. OR ET"

EXAMPLE: "VCMWD 42" W-ET"

NOTES:

1. SEE DWG. W-39 FOR PLACEMENT OF TEST BOX.
2. SEE DWG. W-42 FOR MOUNTING AND BRASS ID TAG REQUIREMENTS.
3. SECOND WIRE (A2 & B1) ON EACH SIDE OF INSULATOR IS SIZED FOR POSSIBLE FUTURE BOND AS FOLLOWS:

WIRE	PIPE DIA	SIZE
A1 & B1	LESS THAN 12"	NO. 6 AWG HMWPE
	12" TO 18"	NO. 4 AWG HMWPE
	GREATER THAN 18"	NO. 2 AWG HMWPE

APPROVED:
5/16/19
District Engineer Date

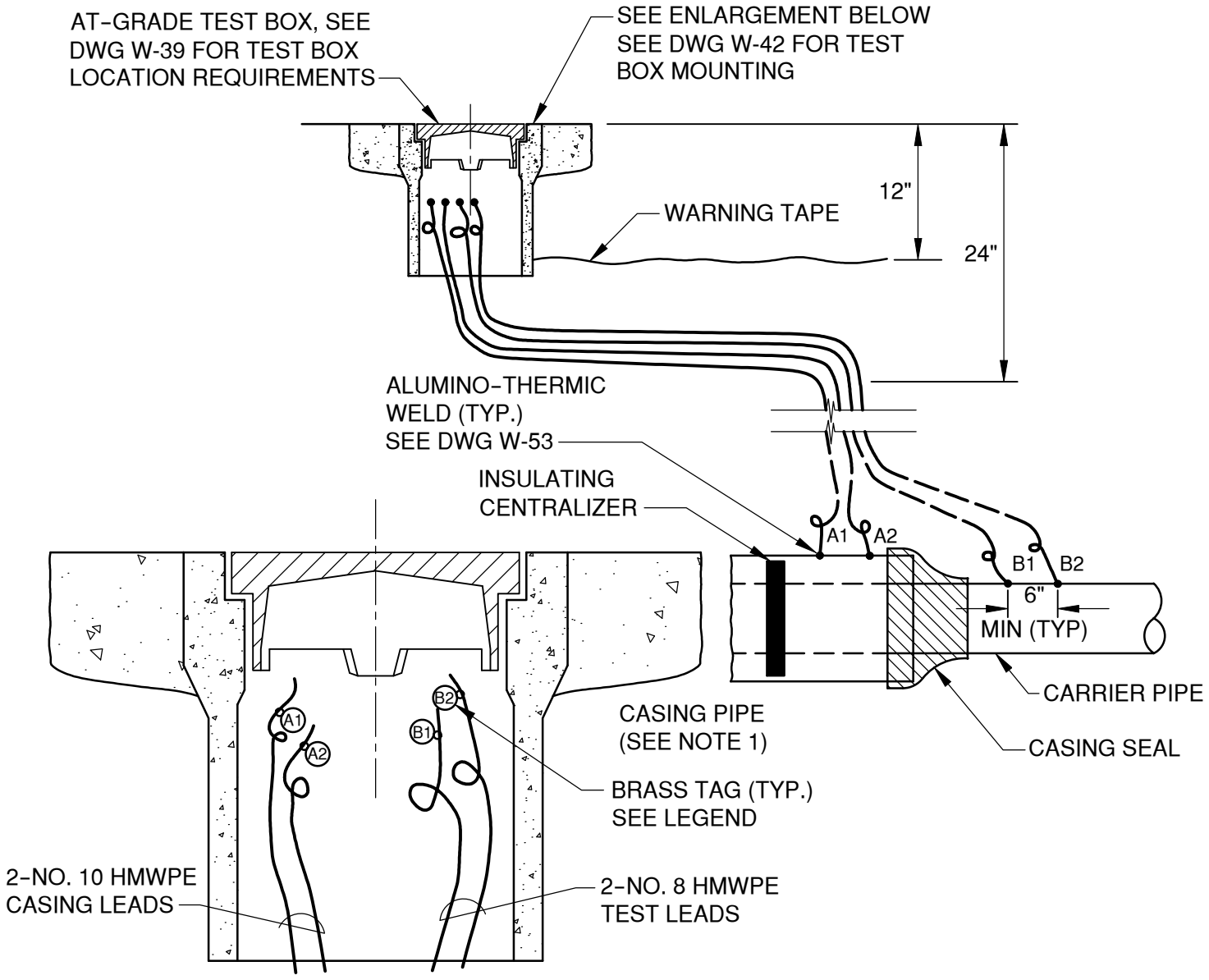
5/16/2019
Latest Revision Date

VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

BURIED INSULATING FLANGE AT - GRADE TEST STATION

NOT TO SCALE

DWG. NUMBER
W-44



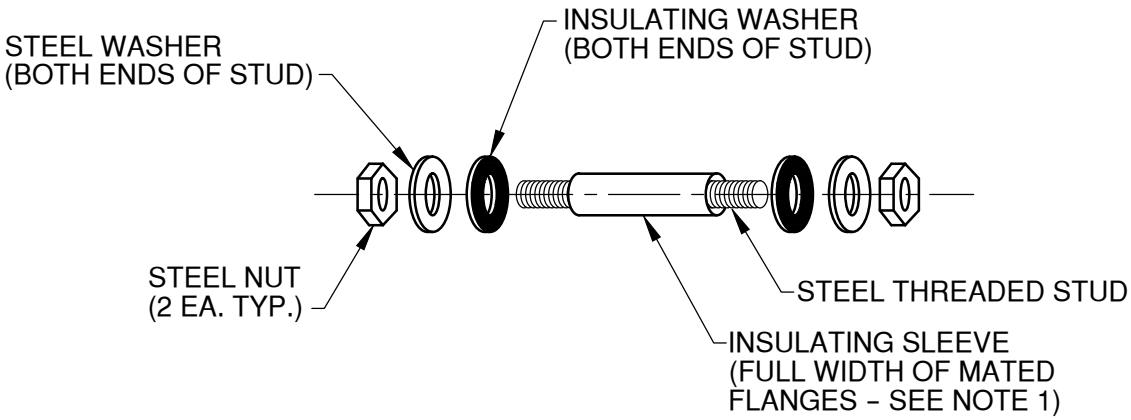
BRASS TAG LEGEND

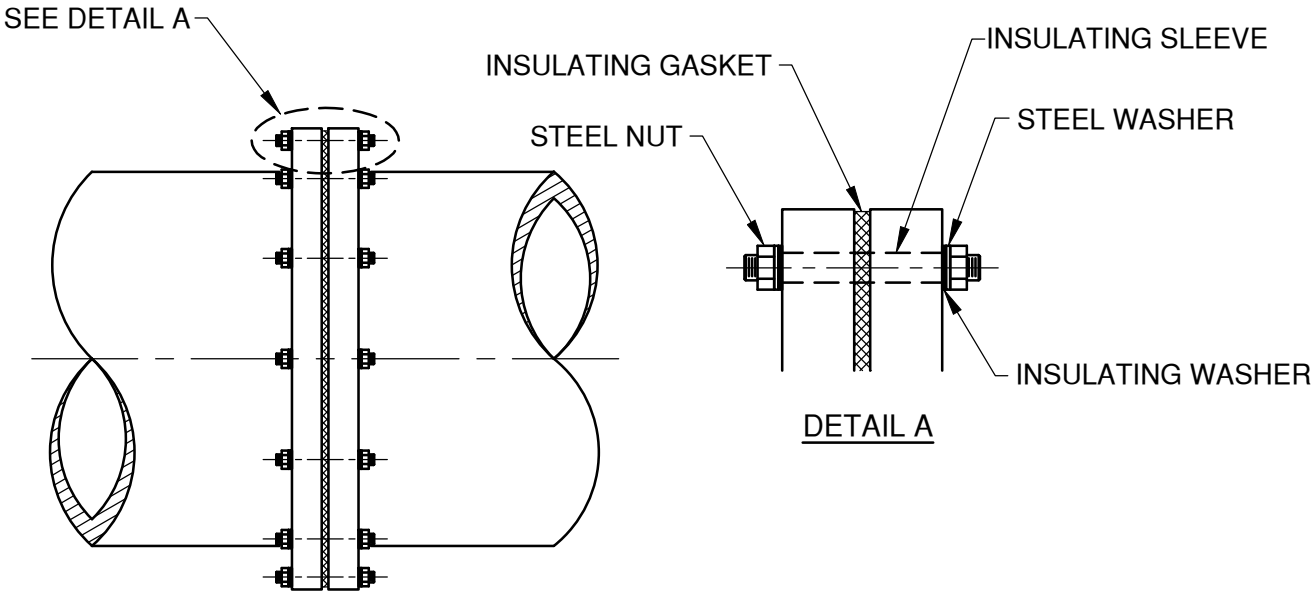
WIRE	SIZE	ID STAMP
A1	NO. 10	CASING
A2	NO. 10	CASING
B1	NO. 8	VCMWD, SIZE, SERVICE
B2	NO. 8	VCMWD, SIZE, SERVICE

NOTES:

1. ELECTRICAL/METALLIC INSULATION BETWEEN THE CASING AND THE CARRIER PIPE IS REQUIRED.
2. PROVIDE 18" SLACK LOOP IN EACH WIRE AT PIPE/CASING WELD AND IN TEST BOX.

APPROVED: 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING	NOT TO SCALE
	4 - WIRE CASING TEST STATION	DWG. NUMBER **W-45**

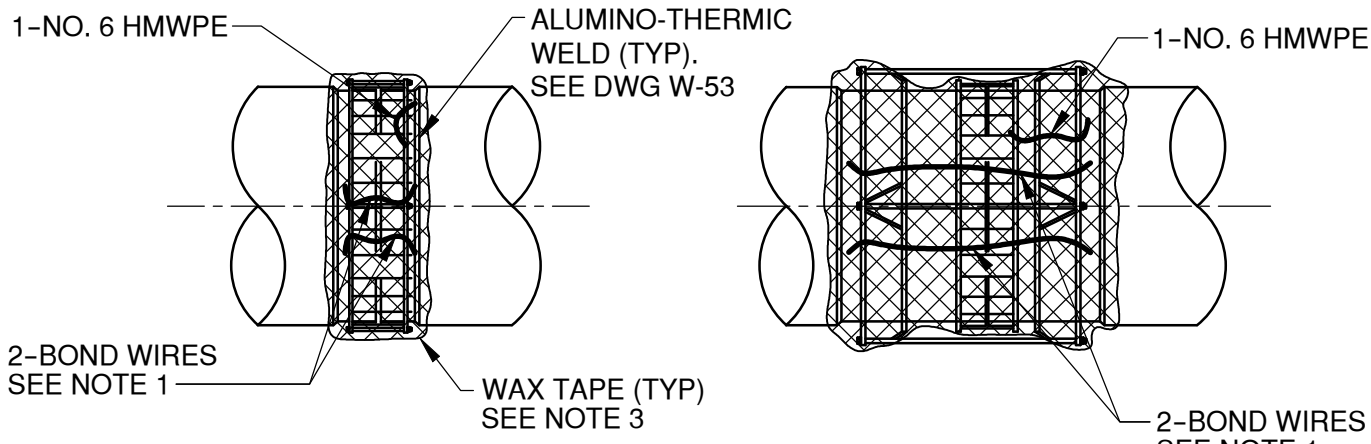




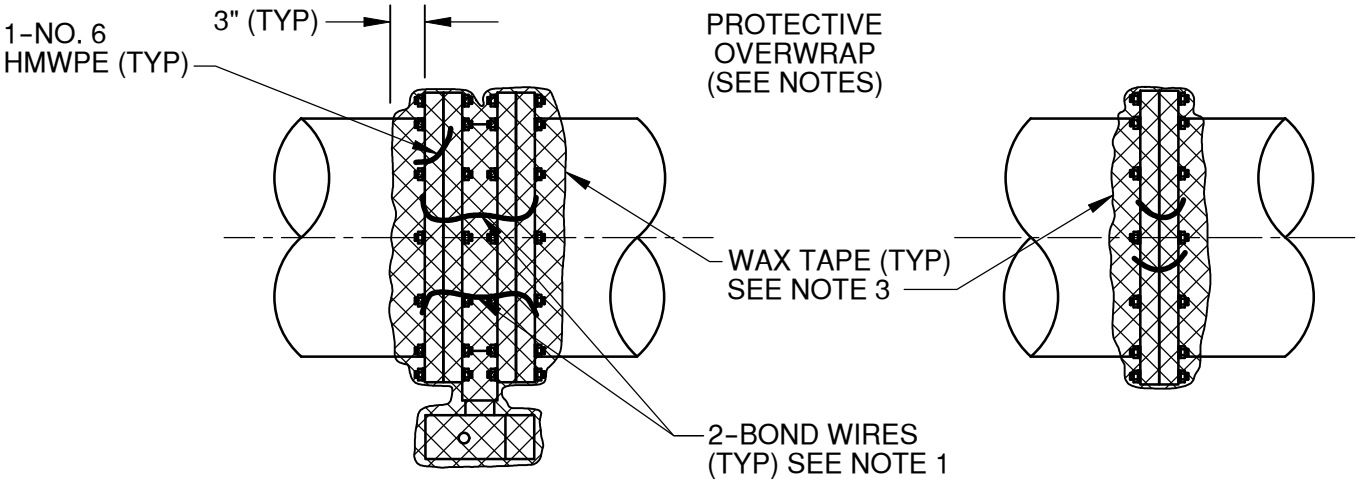
NOTES:

1. USE HALF WIDTH SLEEVES AT THREADED FLANGE BOLTS. (I.E. AT BFV BASE AND BONNET)
2. INSULATING MATERIALS:
   - GASKET - 16" OR GREATER - TYPE "E" FULLFACED PHENOLIC WITH RECTANGULAR NITRILE OR VITON O-RING SEAL.
   - LESS THAN 16" - TYPE "E" FULLFACED NEOPRENE FACED PHENOLIC.
   - SLEEVE - 1/32" THICK, FULL LENGTH TUBE, LAMINATED G-10 GLASS
   - WASHER - 1/8" THICK LAMINATED G-10 GLASS SHEET.
3. ALIGN FLANGE PROPERLY AND FOLLOW GASKET MANUFACTURER BOLT TIGHTENING SEQUENCE INSTRUCTIONS.
4. DO NOT PAINT OUTER SURFACE OF FLANGE WITH METALLIC PIGMENTED OR CONDUCTIVE PAINTS.
5. TEST MATED FLANGE WITH INSULATION CHECKER. THE FLANGE WILL BE ACCEPTED IF THERE IS NO INDICATION OF FULL OR PARTIAL SHORT.

APPROVED: Wally Gaul 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **ABOVE - GRADE INSULATING FLANGE**	NOT TO SCALE DWG. NUMBER **W-46**



COUPLING



VALVE **FLANGE**

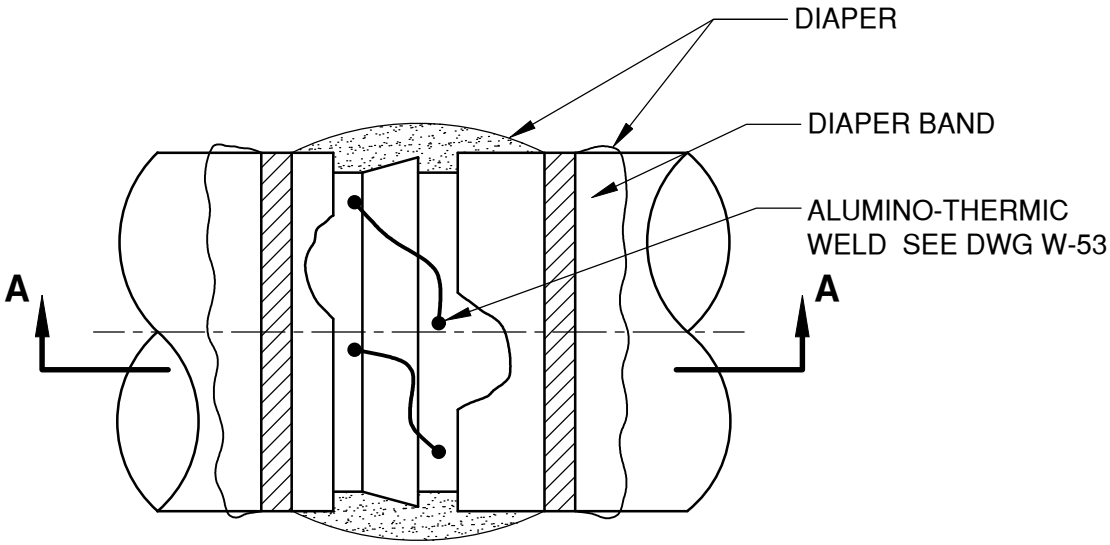
NOTES:

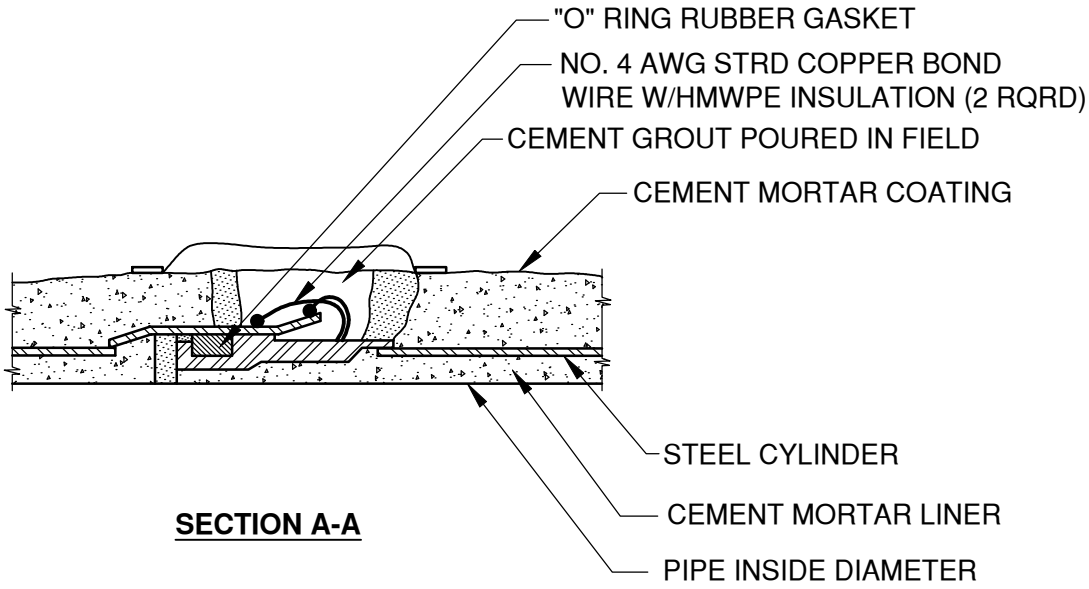
1. BOND WIRE SIZE:

PIPE DIA	**SIZE**
LESS THAN 12"	NO. 6 AWG HMWPE
12" THRU 18"	NO. 4 AWG HMWPE
GREATER THAN 18"	NO. 2 AWG HMWPE

2. WIRES CAN BE WELDED DIRECTLY TO PIPE OR FLANGE. JUMPER FROM PIPE TO VALVE OR FOLLOWER IS NO. 6 HMWPE.
3. ALL NON-MORTAR COATED SURFACES SHALL BE WRAPPED WITH WAX TAPE. INDIVIDUALLY WRAP ALL RODS, BOLTS & IRREGULAR SURFACES.
4. INSTALL BOND WIRES BEFORE WAX TAPE.
5. CARE SHALL BE TAKEN WHEN BACKFILLING TRENCH TO PREVENT DAMAGE TO WAX TAPE SYSTEM.
6. FLANGES (ONLY) 18" AND LARGER SHALL BE OVERWRAPPED WITH 10 MIL PIPE TAPE (2 LAYERS 50% OVERLAP) TO PROTECT WAX TAPE DURING BACKFILLING.
7. FLANGES LESS THAN 18" REQUIRE NO PIPE TAPE PROTECTIVE OVERWRAP.

APPROVED: Wally Gale 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING	NOT TO SCALE
	MECHANICAL JOINT BOND	DWG. NUMBER **W-47**



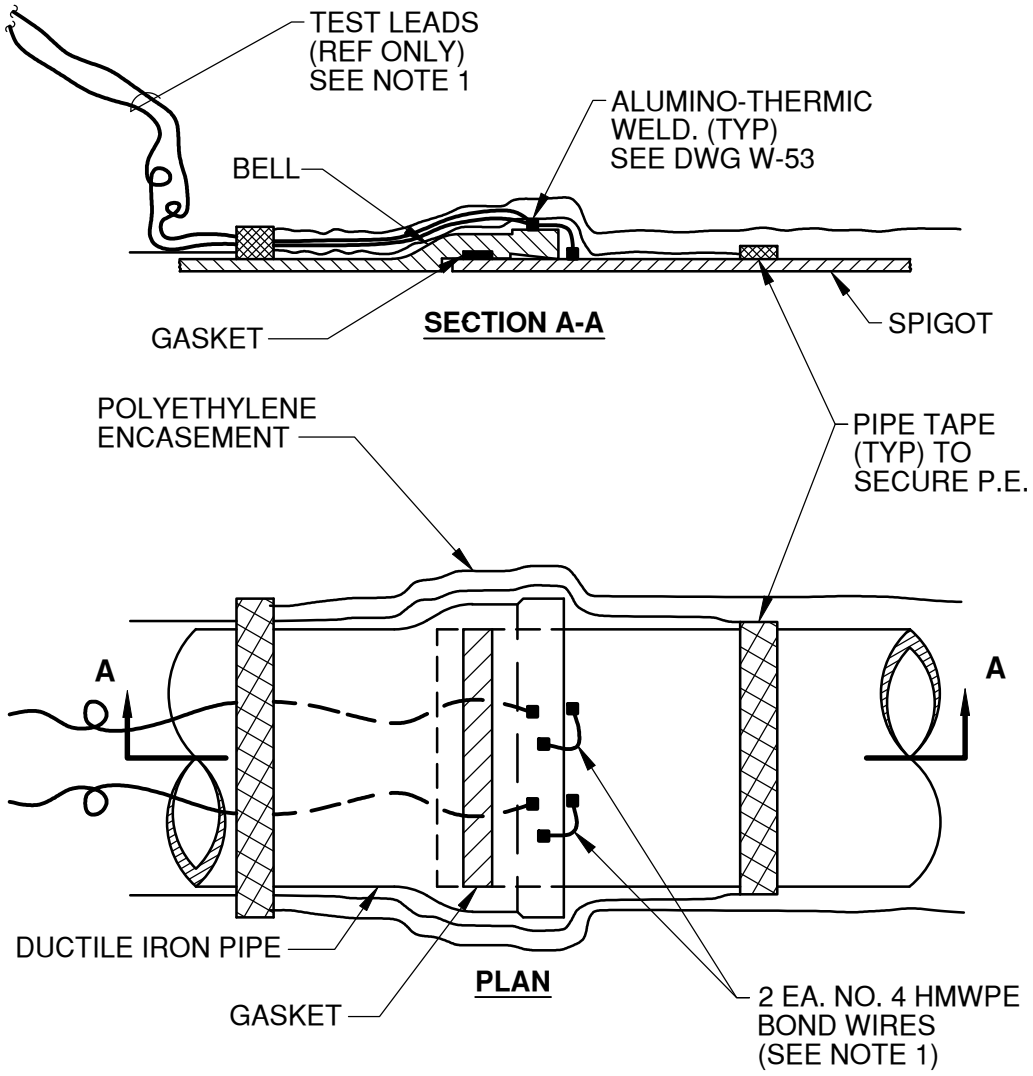


SECTION A-A

NOTES:

1. 2 BOND WIRES PER JOINT. SEE DWG W-46 FOR WIRE SIZE.
2. CHIP OUT MORTAR ONLY AS NECESSARY TO ALLOW WELD MOLD TO SET FLUSH ON CYLINDER OR BELL.
3. BOND WIRES TO BE AS SHORT AS PRACTICAL BUT NOT LESS THAN 6 INCHES.

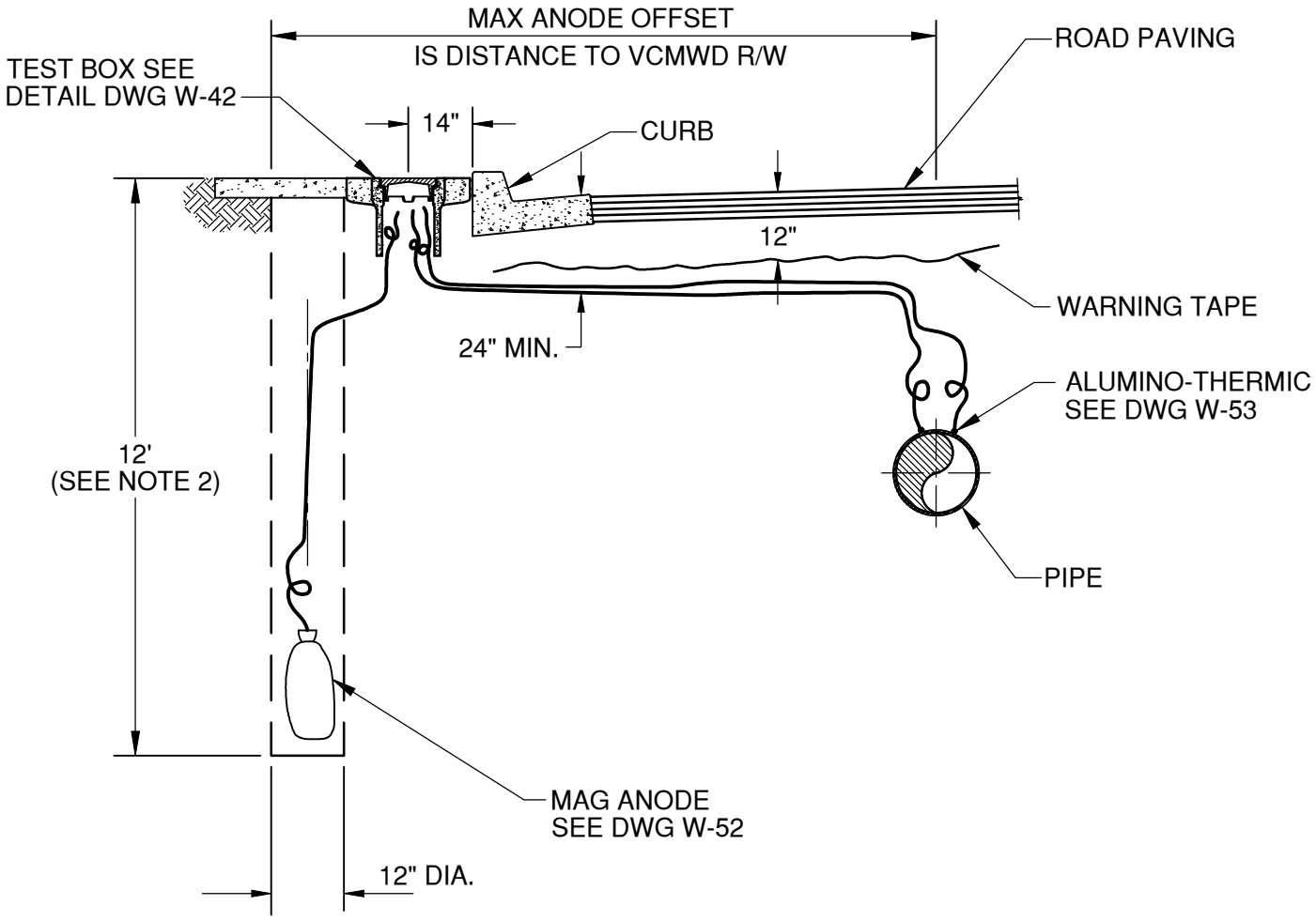
APPROVED: Wally Gale 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **CML&C STEEL PIPE JOINT BOND (WIRE JUMPER)**	NOT TO SCALE DWG. NUMBER **W-48**



NOTES:

1. INSTALL BONDS AND TEST LEADS ONLY WHEN DIRECTED BY THE ENGINEER.
2. BOND WIRES SHALL BE OF MINIMUM LENGTH (6" MAX LENGTH) AND LAID FLUSH AGAINST PIPE AND UNDER P.E. ENCASEMENT.
3. TEST ALL WELDS BEFORE BACKFILLING. SEE DWG W-53.
4. WELDS ON BELL MUST BE MADE IN AN AREA BETWEEN THE END OF THE PIPE AND THE JOINT GASKET.
5. COAT WELDS PER DWG W-53.

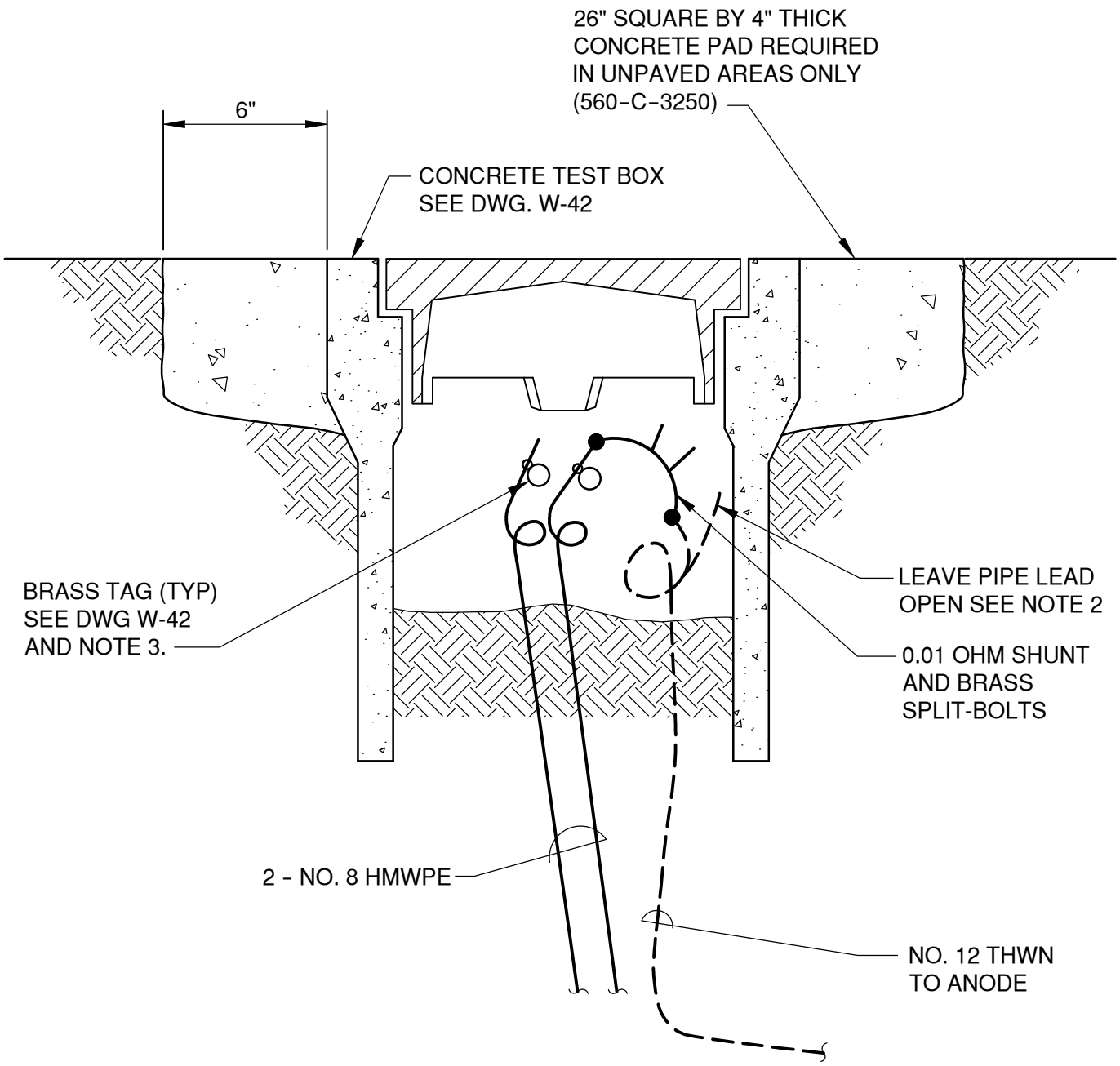
APPROVED: 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **DIP JOINT BONDING AND TEST LEAD CONNECTIONS**	NOT TO SCALE DWG. NUMBER **W-49**



NOTES:

1. HORIZONTAL DISTANCES OFF PIPE SHALL BE MAXIMUM WITHIN VCMWD RIGHT-OF-WAY OR AS INDICATED ON PLAN DRAWINGS. DO NOT INSTALL ANODE SUCH THAT A FOREIGN METALLIC PIPELINE EXISTS BETWEEN ANODE AND PIPE.
2. DEPTH IS 12' UNLESS OTHERWISE INDICATED.
3. RELATIVE POSITION OF ANODE, PIPE AND TEST BOX CAN VARY FROM POSITION SHOWN. SEE CP DRAWINGS OR ENGINEER FOR SPECIFIC INSTALLATION REQUIREMENTS.
4. CATHODIC PROTECTION PLAN MUST BE TURNED INTO THE DISTRICT FOR REVIEW AND APPROVAL.

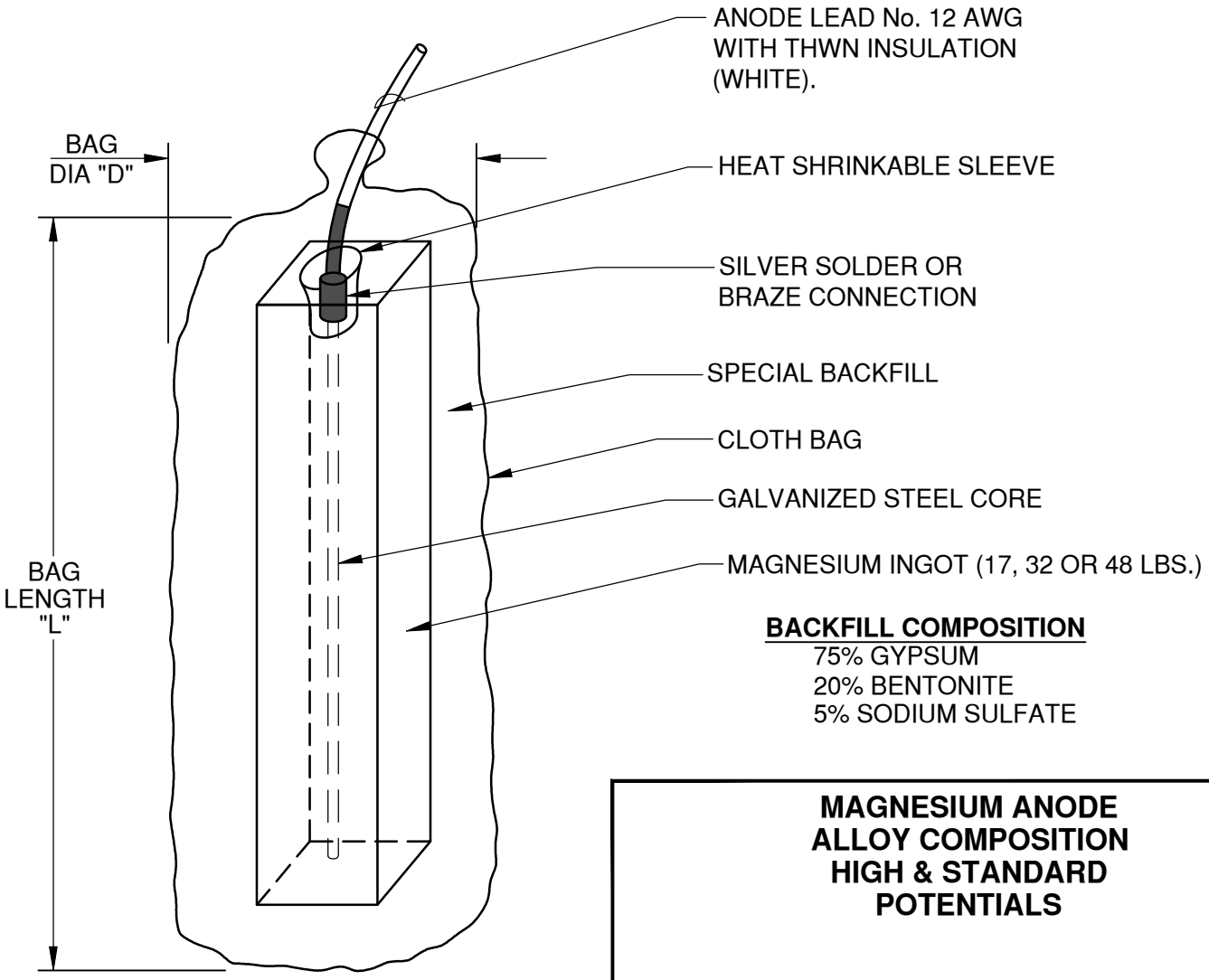
APPROVED: 5/16/19 District Engineer — Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **SINGLE ANODE INSTALLATION**	NOT TO SCALE DWG. NUMBER **W-50**



NOTES:

1. INSTALL TEST BOX AS SHOWN ON DWG W-39 AND W-42.
2. CONTRACTOR TO PLACE ALL CONNECTION HARDWARE (SHUNTS AND SPLIT BOLTS) IN TEST BOX, BUT MAKE UP TEST LEAD-TO-SHUNT CONNECTION ONLY. ATTACH SPLIT BOLT TO OTHER END OF SHUNT, BUT LEAVE ANODE LEAD OPEN. FINAL CONNECTION TO BE MADE AT SYSTEM ACTIVATION.
3. ANODE LEADS ARE NOT TAGGED.

APPROVED: Wally Pacheco 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **SINGLE ANODE TEST STATION WIRING**	NOT TO SCALE DWG. NUMBER **W-51**



BACKFILL COMPOSITION

75% GYPSUM
20% BENTONITE
5% SODIUM SULFATE

NOTE:
USE HIGH OR STD POTENTIAL ANODE ALLOY AND INGOT WEIGHT AS DIRECTED BY ENGINEER OR AS INDICATED IN THE DESIGN DRAWINGS.

INGOT WT	"D"	"L"	TOTAL WT
17	6-1/2	29	45
32	8-1/2	28	70
48	7-1/2	38	105

NOTE:
1. APPROX DIMENSIONS AND WEIGHTS IN INCHES AND POUNDS.

MAGNESIUM ANODE ALLOY COMPOSITION HIGH & STANDARD POTENTIALS

Element	HIGH POTENTIAL Weight %	STANDARD POTENTIAL Weight %
Al	.01 Max	5.3 to 6.7
Mn	0.05 to 1.3	0.15 to 0.30
Zn	0.002 Max	2.5 to 3.5
Cu	0.02 Max	0.02 Max
Ni	0.001 Max	0.002 Max
Fe	0.025 Max	0.003 Max
Si	0.002 Max	0.10 Max
Other	0.05 each Max and 0.3 Total Max	0.05 each Max and 0.3 Total Max
Mg	Balance	Balance

APPROVED:
5/16/19
District Engineer Date
5/16/2019
Latest Revision Date

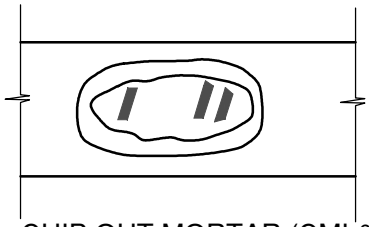
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

PREPACKAGED MAGNESIUM ANODE

NOT TO SCALE

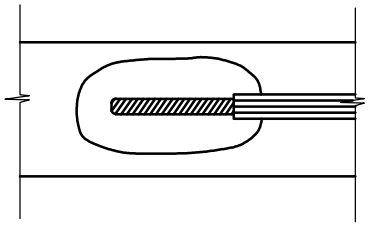
DWG. NUMBER
W-52

STEP 1



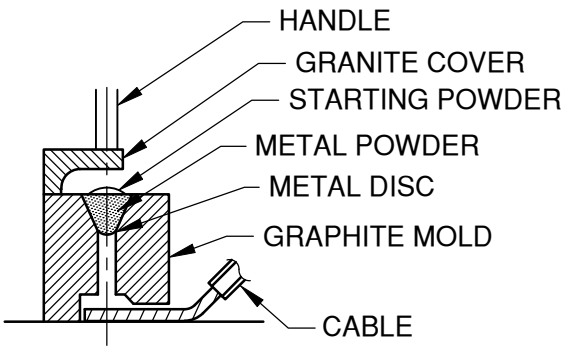
CHIP OUT MORTAR (CML&C) AND/OR FILE SURFACE TO BRIGHT METAL AND CLEAN

STEP 2



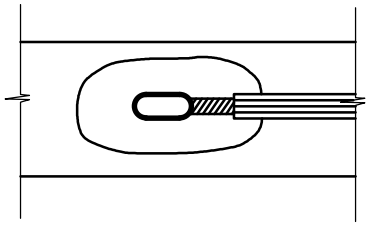
STRIP INSULATION FROM WIRE

STEP 3



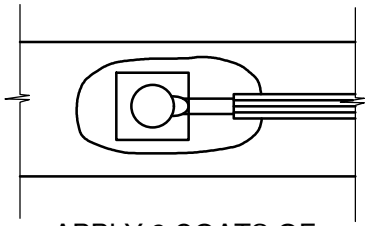
HOLD WELDER FIRMLY WITH OPENING AWAY FROM OPERATOR AND IGNITE STARTING POWDER

STEP 4



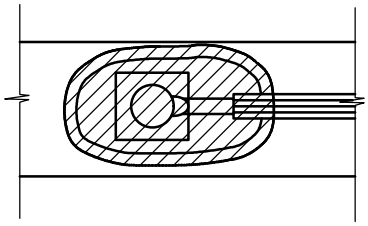
REMOVE SLAG FROM CONNECTION

STEP 5



APPLY 2 COATS OF PRIMER AND COVER CONNECTION WITH A PREFORMED WELD CAP

STEP 6



COAT AREA WITH BITUMEN. PATCH MORTAR. SEE NOTE 5.

NOTES:

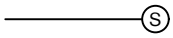
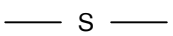
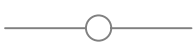
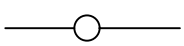
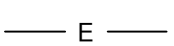
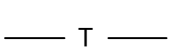
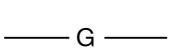
1. WELDER SHOWN IS FOR HORIZONTAL SURFACES. FOR VERTICAL SURFACES SIDE WELDER IS REQUIRED.
2. ALL WIRE WELDS SHALL BE 3 INCHES APART, MINIMUM.
3. STANDARD WELD CARTRIDGES SHALL BE USED FOR DUCTILE IRON AND STEEL SURFACE. FOR CAST IRON, USE XF-19 ALLOY OR EQUIVALENT.
4. TEST ALL WELDS BY STRIKING WITH 2 LB. HAMMER.
5. ALL EXPOSED METAL (STRUCTURE, WIRE & WELD) SHALL BE COVERED WITH 2 COATS OF PRIMER AND AN ELASTOMETRIC WELD CAP.
6. APPLY GENEROUS COAT OF BITUMEN OVER WELD CAP AND EXPOSED METAL AREA UP TO EDGE OF MORTAR (CML&C) OR 3" BEYOND WELD CAP (DIP).
7. PATCH MORTAR COATING WITH QUICK SETTING MORTAR (CML&C).

APPROVED: 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING	NOT TO SCALE
	ALUMINO - THERMIC WELD	DWG. NUMBER **W-53**

Standard Sewer Drawings
Table of Contents
OCTOBER 2021

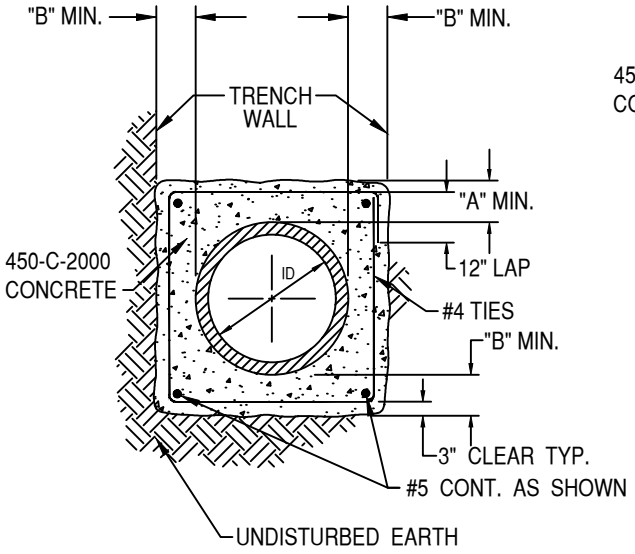
Gravity Sewer Drawings — Latest Revision

STANDARD LEGEND

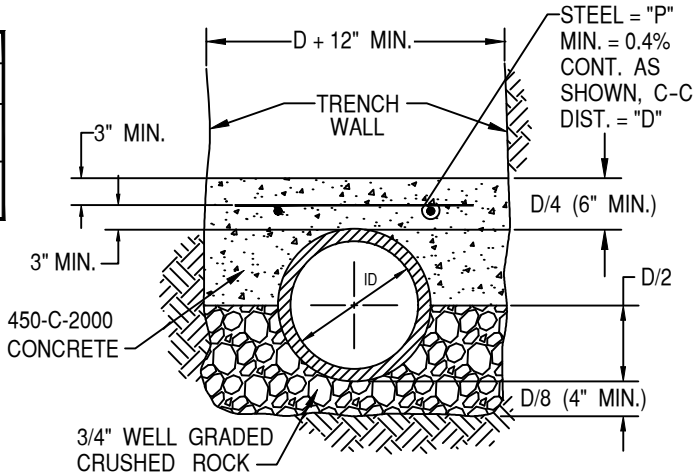
	EXISTING SEWER SERVICE		SEWER SERVICE
	EXISTING SEWER MAIN		SEWER MAIN
	EXISTING FORCE MAIN		FORCE MAIN
	EXISTING SEWER MANHOLE		SEWER MANHOLE
	ELECTRICAL		EDGE OF PAVEMENT
	ELECTRICAL OVERHEAD		WATER DISTRICT BOUNDARY
	TELEPHONE		GAS LINE
	POWER POLE		STORM DRAIN OR CULVERT

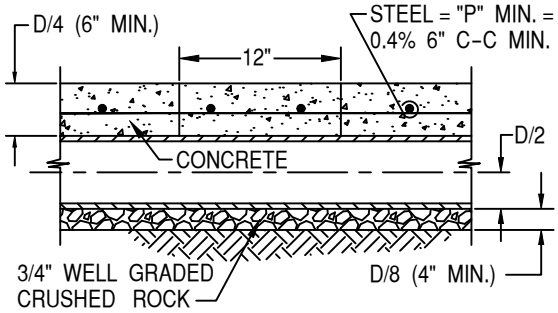
APPROVED:  3/2/2020 District Engineer Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **STANDARD SYMBOLS FOR SEWER CONSTRUCTION DRAWINGS**	NOT TO SCALE DWG. NUMBER **S-1**

DIMEN-SIONS	PIPE I.D.										
	6"	8"	10"	12"	14"	16"	18"	21"	24"	27"	30"
"A"	6"	6"	6"	6"	6"	6"	6"	6"	6"	7"	8"
"B"	6"	6"	6"	6"	6"	6"	6"	6"	6"	7"	8"

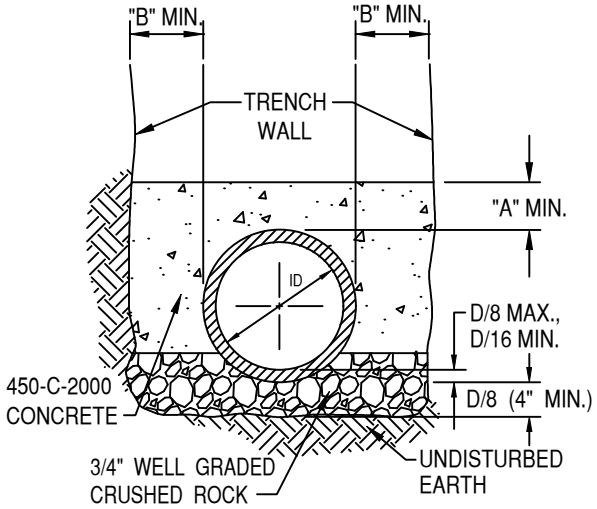


CONCRETE ENCASEMENT NO. 1

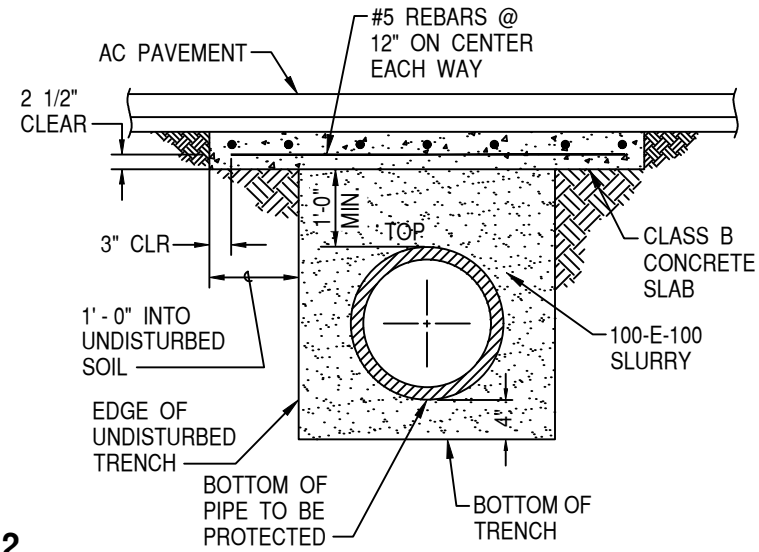




REINFORCED CONCRETE CAP CLASS "AA"



CONCRETE ENCASEMENT NO. 2



CONCRETE CAP-CLASS "A"

NOTES:

1. CONCRETE ENCASEMENT AND CAPS SHALL BE INSTALLED AS REQUIRED BY THE SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.
2. ALL CONCRETE SHALL BE CLASS 560-3250 CONCRETE.
3. USE CONCRETE ENCASEMENT NO. 2 UNLESS OTHERWISE APPROVED BY THE ENGINEER OR SHOWN ON THE CONTRACT DRAWINGS.
4. BASED ON 1.25 FACTOR OF SAFETY REFER N.C.P.I. MANUAL, SOIL WT. 130 LB/CU. FT DEPTHS OVER 30' MAY BE CALCULATED FROM MARSTON'S FORMULA. X DENOTES DISTANCE AT WHICH TRENCH WIDTH MAY BE INCREASED WITHOUT ADDING TO THE WEIGHT ON THE PIPE.
5. "P" = RATIO OF AREA OF STEEL TO AREA OF CONCRETE PER LINEAR FOOT (D/4 OR 4" x 12" CONCRETE AREA).
6. CONCRETE CAN BE POURED AGAINST TRENCH WALL (OPTIONAL)
7. BEDDING CONDITIONS ARE AS FOLLOWS:
   A. BEDDING CLASS SHALL BE EQUAL OR EXCEED THAT GIVEN IN THE APPLICABLE TABLES PER STANDARD DRAWING S-8.
   B. CLASS "A" SHALL BE USED FOR SEWERS WHEREVER DEPTH OF COVER IS LESS THAN 4'.
   C. CONSOLIDATED BACKFILL BEDDING BY FLOODING IS NOT PERMITTED.
   D. DEPTHS OF COVER GREATER THAN 20' REQUIRE A SOIL INVESTIGATION AND ANALYSIS BY THE ENGINEER.
8. TWO APPROVED FLEXIBLE COUPLINGS SHALL BE USED AT EACH END OF SEWER PIPE ENCASEMENTS.

APPROVED:

3/2/2020

District Engineer — Date

3/2/2020

Latest Revision Date

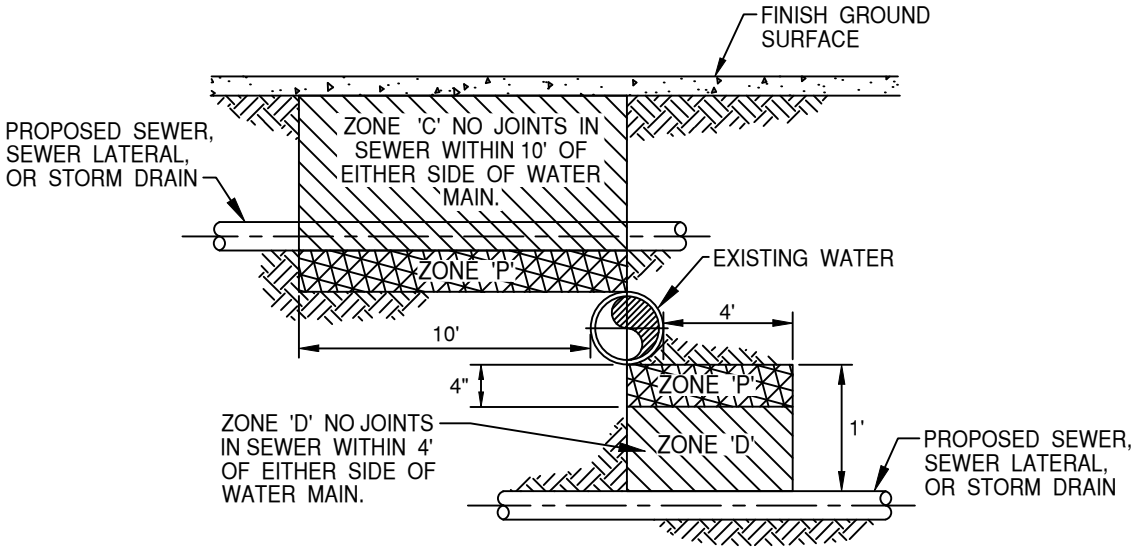
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

NOT TO SCALE

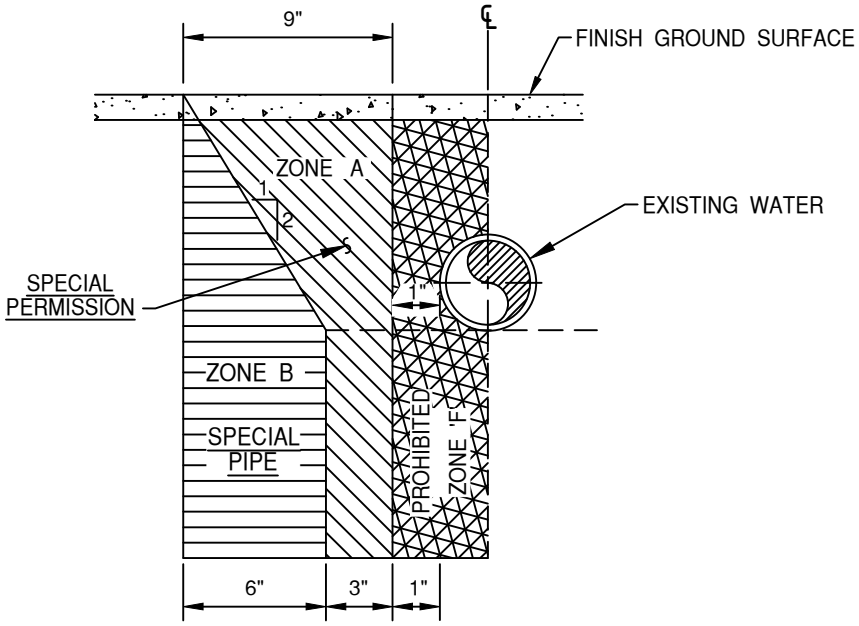
CONCRETE ENCASEMENT

DWG. NUMBER

S-2



CROSSING (PERPENDICULAR) CONDITION



PARALLEL CONDITION

NOTES:

ZONE "A" NO SEWER SHALL BE CONSTRUCTED WITHOUT SPECIAL APPROVAL FROM STATE DEPARTMENT OF HEALTH SERVICES.

ZONE "B" SEWER SHALL BE CONSTRUCTED OF EXTRA STRENGTH VITRIFIED CLAY PIPE WITH COMPRESSION JOINTS , POLYVINYL CHLORIDE PLASTIC PIPE WITH RUBBER RING JOINTS (PER ASTM D 3034), OR DUCTILE IRON PIPE WITH COMPRESSION JOINTS.

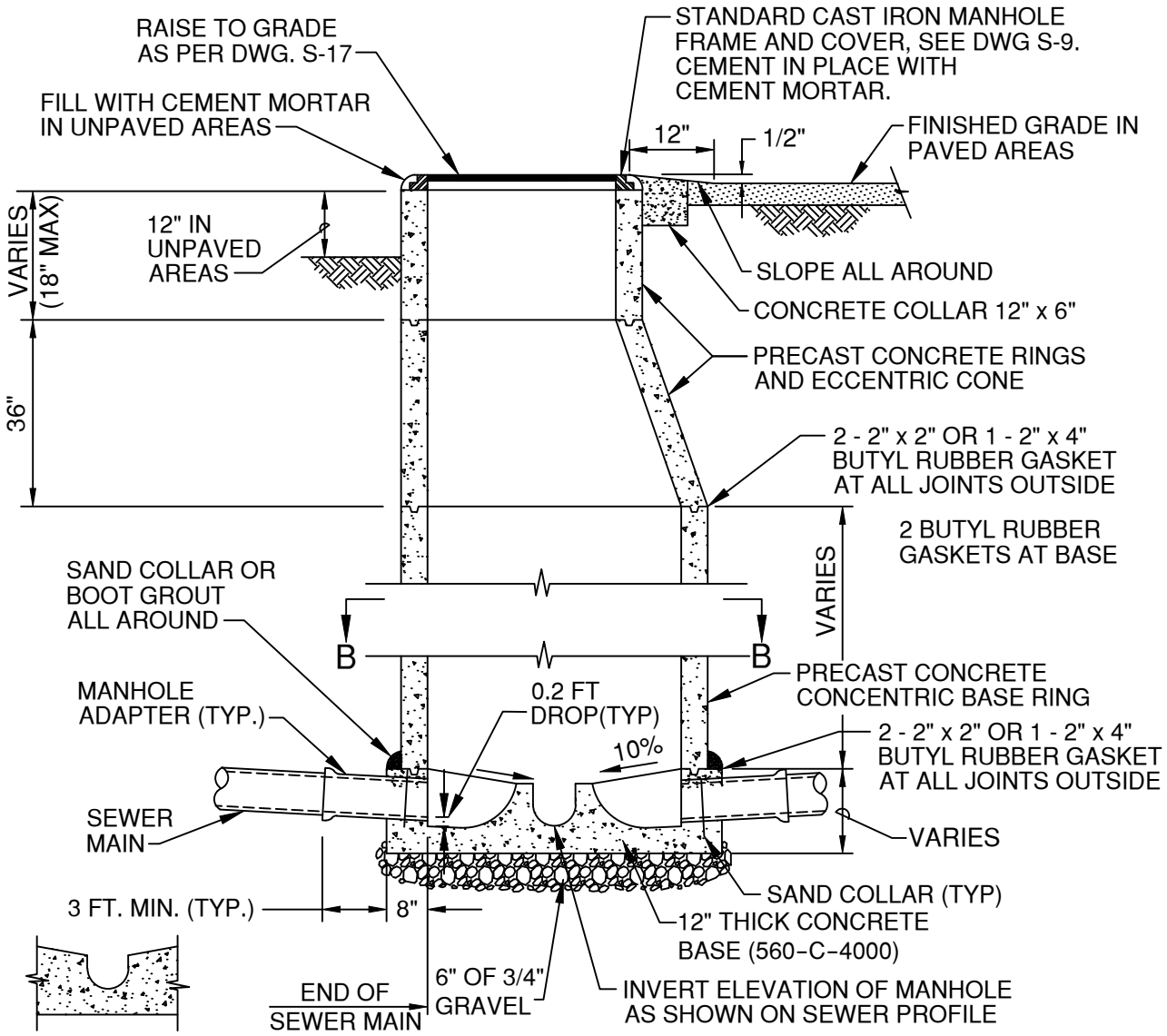
ZONE "C" & "D" SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH APPROVED COATING AND MECHANICAL JOINTS OR CONTINUOUS SECTION OF CLASS 200 (DR14 PER AWWA C-900) POLYVINYL CHLORIDE PLASTIC PIPE CENTERED OVER PIPE BEING CROSSED.

ZONE "P" NO SEWER LINE CONSTRUCTION ALLOWED.

1. UPON APPROVAL FROM DISTRICT ENGINEER HDPE FUSION WELDED PIPE MAY BE USED AS A CASING WHEN MINIMUM JOINT DISTANCE CAN NOT BE MET.

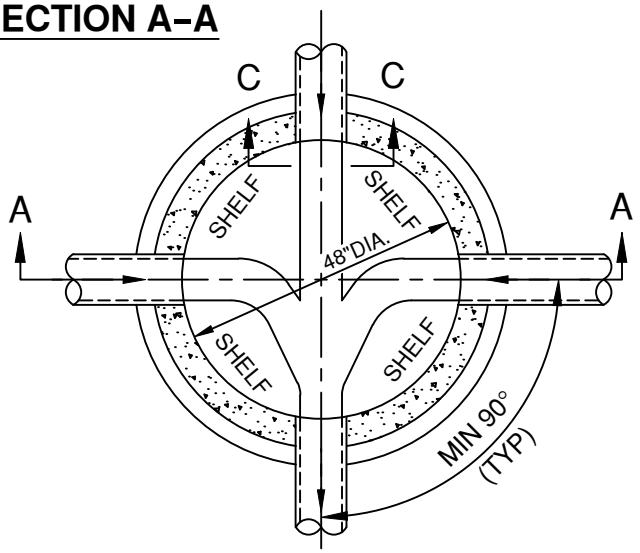
2. ANY SEPARATION LESS THAN 10 FT REQUIRES COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH AND DISTRICT APPROVAL.

APPROVED: 3/2/2020 District Engineer Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **PIPELINE SEPARATION REQUIREMENTS**	NOT TO SCALE DWG. NUMBER **S-3**



SECTION C-C

SECTION A-A



SECTION B-B

LEGEND ON PLAN

NOTES:

1. CONCRETE TO BE 560-C-4000.
2. ALL JOINTS SHALL BE FILLED WITH BUTYL RUBBER GASKET.
3. ALL PRECAST COMPONENTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C-478, LATEST EDITION.
4. JOINTS INTERIOR SHALL BE PATCHED WITH MORTAR AND EXTERIOR JOINTS WRAPPED W/BUTYL WRAP.
5. VERTICAL WALL OF CONE SHALL BE UPSTREAM SIDE OF MANHOLE.
6. NO MANHOLE STEPS ALLOWED.
7. EXTERIOR OF MANHOLE TO BE WATERPROOFED.
8. IF RIM ELEV. TO DOWNSTREAM INVERT ELEV. IS GREATER THAN 12 FEET, USE S-5.

APPROVED:

3/2/2020

District Engineer — Date

3/2/2020

Latest Revision Date

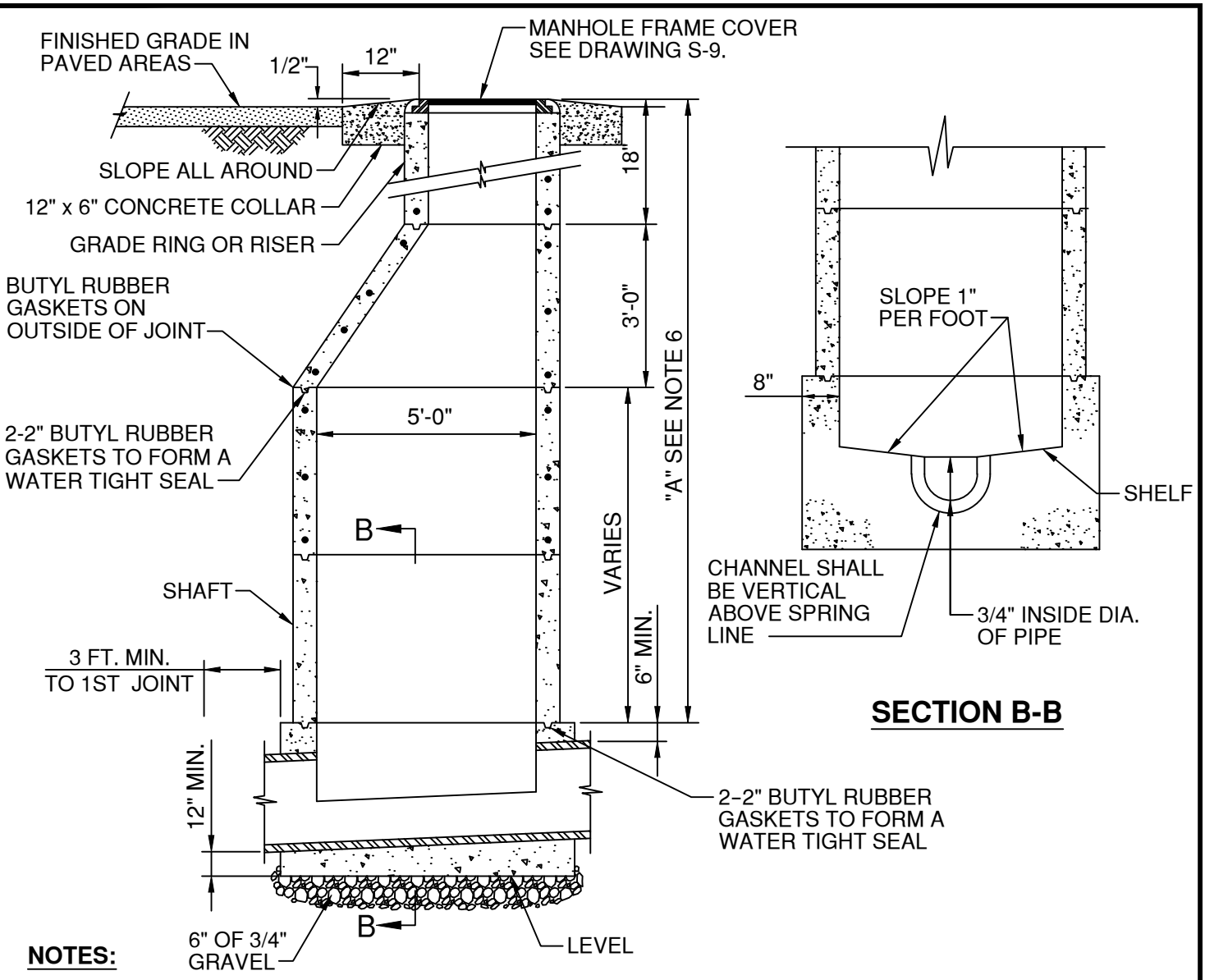
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

NOT TO SCALE

STANDARD PRECAST CONCRETE MANHOLE (4' DIA.)

DWG. NUMBER

S-4



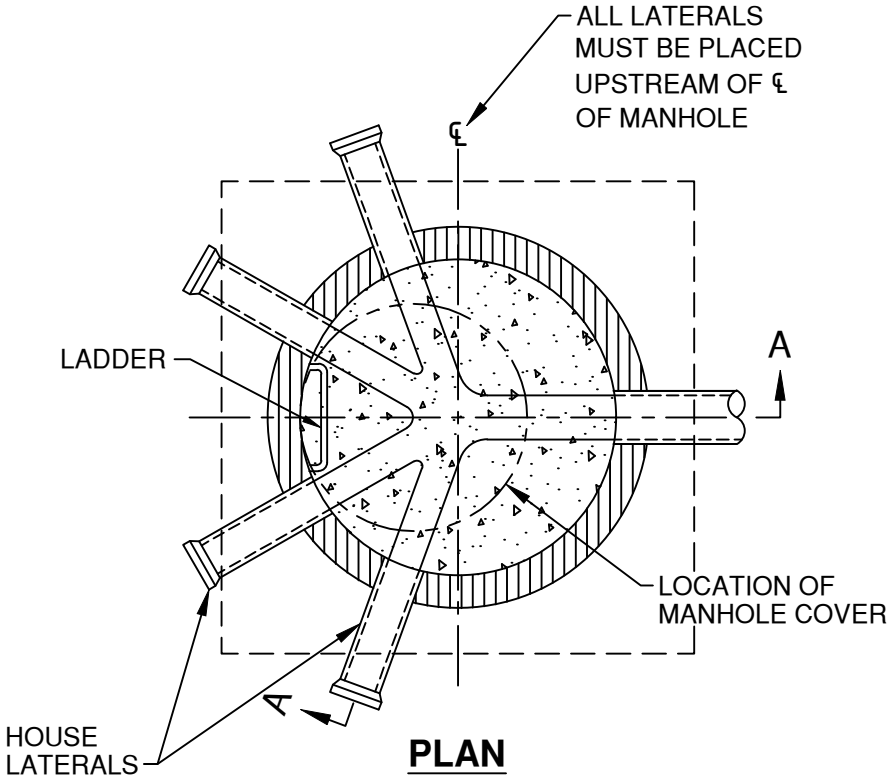
SECTION B-B

NOTES:

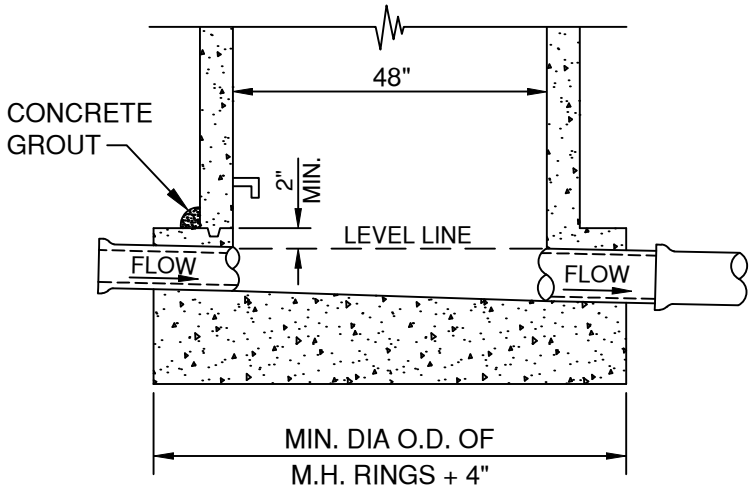
1. MANHOLE FRAME SHALL BE SET IN CLASS "C" MORTAR.
2. ALL PRECAST COMPONENTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C-478.
3. VERTICAL WALL OF CONE SHALL BE ON THE UPSTREAM SIDE OF THE MANHOLE.
4. CONCRETE BASE SHALL BE 560-C-4000.
5. MH ADAPTORS SHALL BE PROVIDED FOR ALL MH CONNECTIONS.
6. PRECAST SECTIONS SHALL BE USED WITHIN DIMENSION "A" AS REQUIRED, IN ORDER OF PREFERENCE LISTED:
   A. CONE (NOTCHED FOR PIPE IF DIMENSION "A" IS LESS THAN 3').
   B. 6" TO 18" OF 3' DIAMETER GRADE RINGS / AND / OR RISERS.
   C. 5' DIAMETER SHAFT VARIABLE HEIGHT.
7. ALL PATCHING WITHIN MANHOLE BASE SHALL BE EPOXY MORTAR.
8. PRIOR APPROVAL OF PRECAST BASE IS REQUIRED BY THE DISTRICT ENGINEER.
9. MAXIMUM ALLOWABLE CHANGE OF DIRECTION AT MH = 45°.
10. PROVIDE SPECIFIC DETAIL FOR REVIEW AND APPROVAL BY DISTRICT ENGINEER FOR MH'S WITH MORE THAN ONE INLET OR OUTLET, 18" OR LARGER.
11. EXTERIOR WALLS TO BE WATERPROOFED.

LEGEND ON PLAN

APPROVED: Wally A. 3/2/2020 District Engineer Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **STANDARD PRECAST CONCRETE MANHOLE (5' DIA.)**	NOT TO SCALE DWG. NUMBER **S-5**



PLAN



SECTION A–A

NOTES:

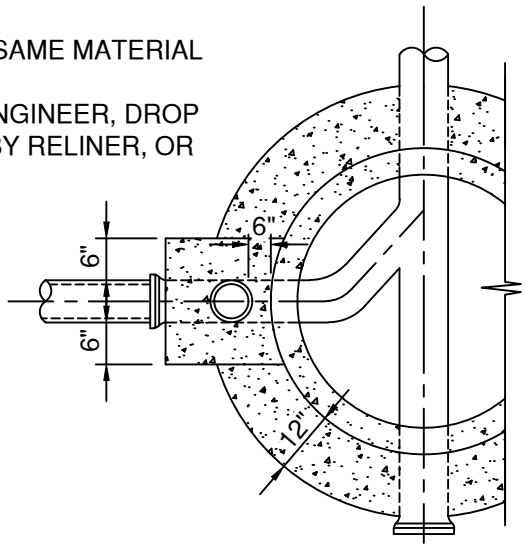
1. REFER TO STANDARD DRAWINGS OF MANHOLES FOR DETAILS PERTAINING TO MANHOLES ONLY.
2. THE TOP 1/2 DIAMETER OF THE PIPE IS TO BE BROKEN OUT TO A NEAT LINE. BROKEN EDGES SHALL BE PLASTERED SMOOTH WITH CEMENT MORTAR.
3. THE MAXIMUM NUMBER OF LATERALS INTO A TERMINUS MANHOLE SHALL BE LIMITED TO FOUR.
4. TERMINUS MANHOLES WITH HOUSE LATERALS ARE NOT TO BE USED EXCEPT WITH SPECIAL WRITTEN APPROVAL BY DISTRICT ENGINEER.

LEGEND ON PLAN

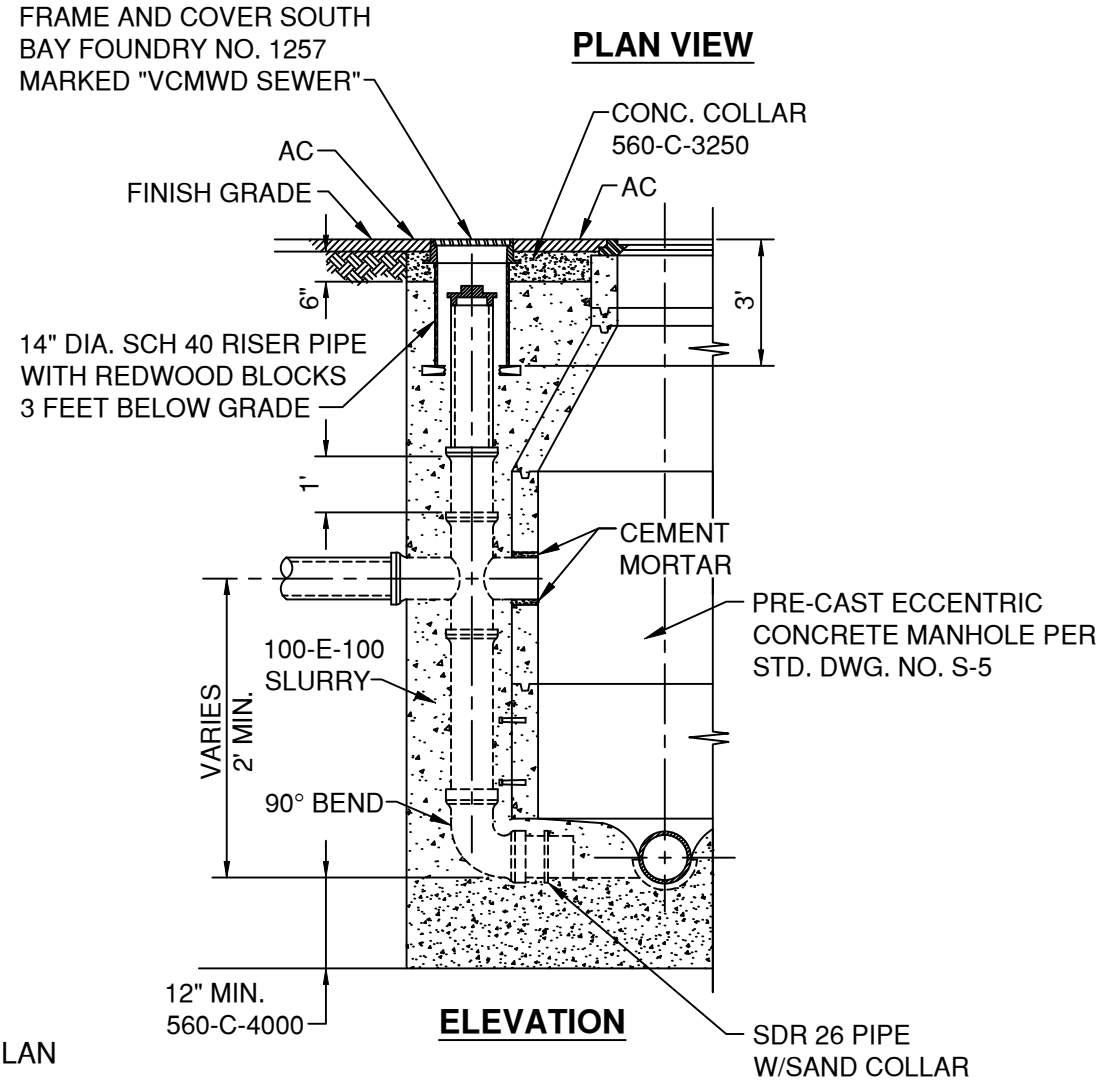
APPROVED: Wally A. M 3/2/2020 District Engineer Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **TERMINUS MANHOLE**	NOT TO SCALE DWG. NUMBER **S-6**

NOTES:

1. ALL PIPES AND FITTINGS SHALL BE SAME MATERIAL AS MAIN LINE.
2. UPON APPROVAL FROM DISTRICT ENGINEER, DROP MANHOLE MAY BE INTERNAL TYPE BY RELINER, OR EQUAL.



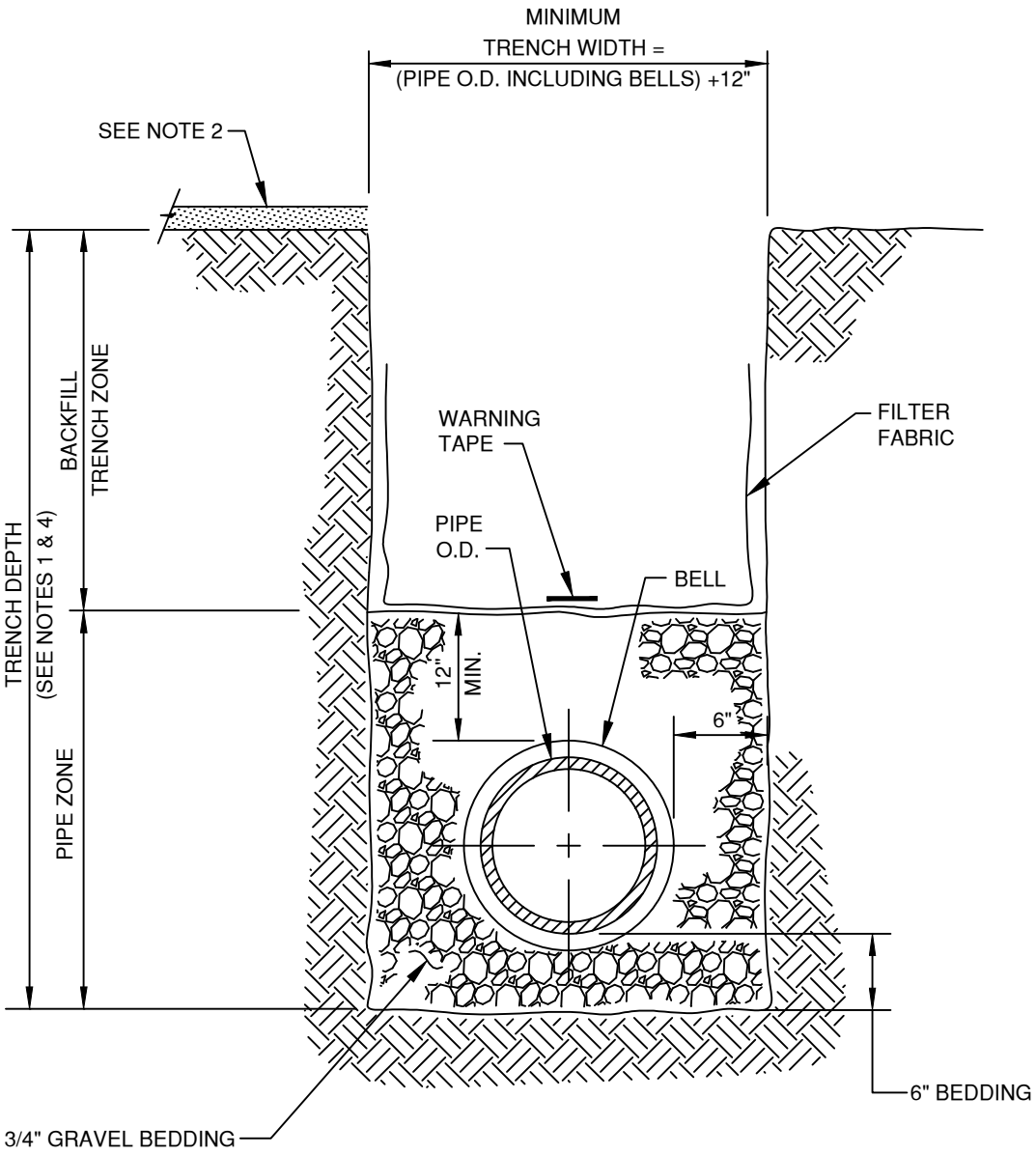
PLAN VIEW



ELEVATION

LEGEND ON PLAN

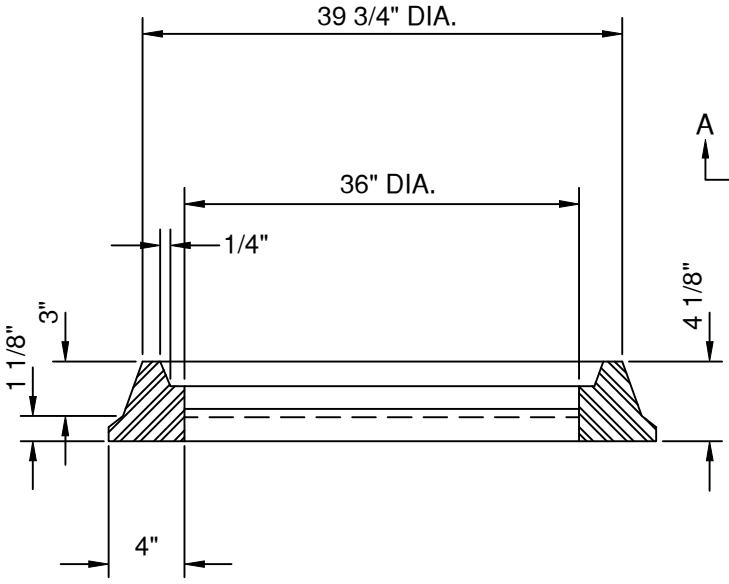
APPROVED: Wally Gaul 3/2/2020 District Engineer Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **STANDARD PRECAST CONCRETE DROP MANHOLE**	NOT TO SCALE DWG. NUMBER **S-7**

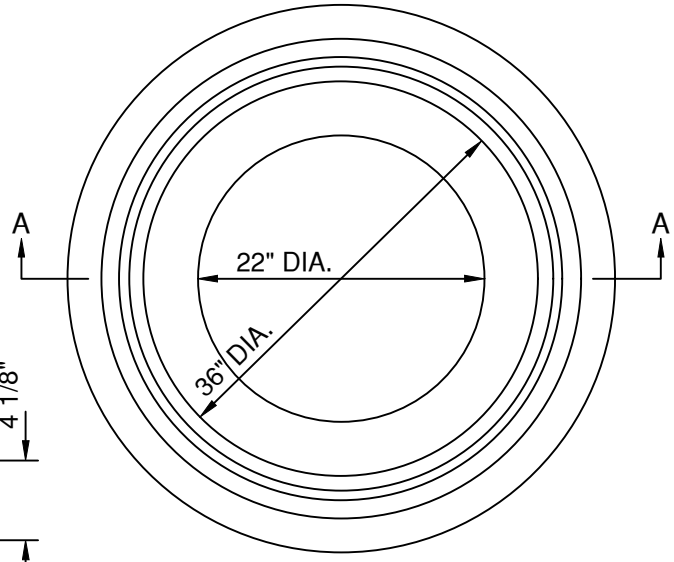


NOTES:

1. REFER TO BACKFILLING SECTION OF THE SPECIFICATIONS FOR DETAILS.
2. PAVING OR PAVEMENT REPAIR TO BE DONE IN ACCORDANCE WITH SDRSD G-24A.
3. EXCAVATE BELL HOLES AT EACH PIPE JOINT TO PERMIT PROPER ASSEMBLY AND INSPECTION OF THE ENTIRE JOINT.
4. ON CITY, COUNTY OR STATE RIGHT OF WAYS, ITS AGENCY STANDARDS SHALL APPLY.

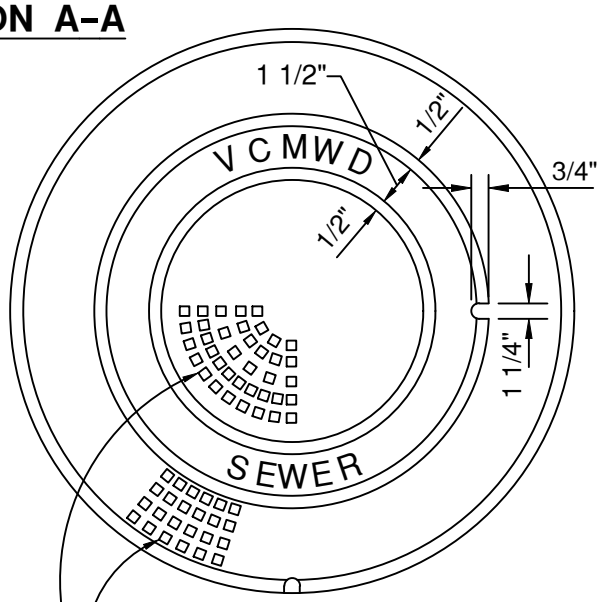
APPROVED: Wally A. 3/2/2020 District Engineer Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **STANDARD PIPE ZONE AND TRENCH BACKFILL**	NOT TO SCALE DWG. NUMBER **S-8**

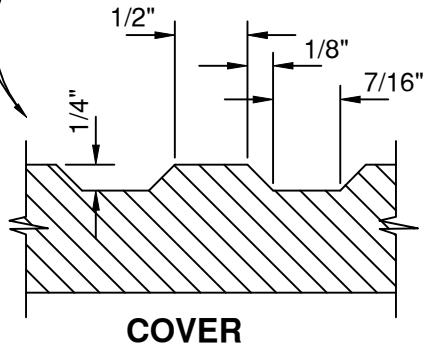




FRAME

SECTION A–A



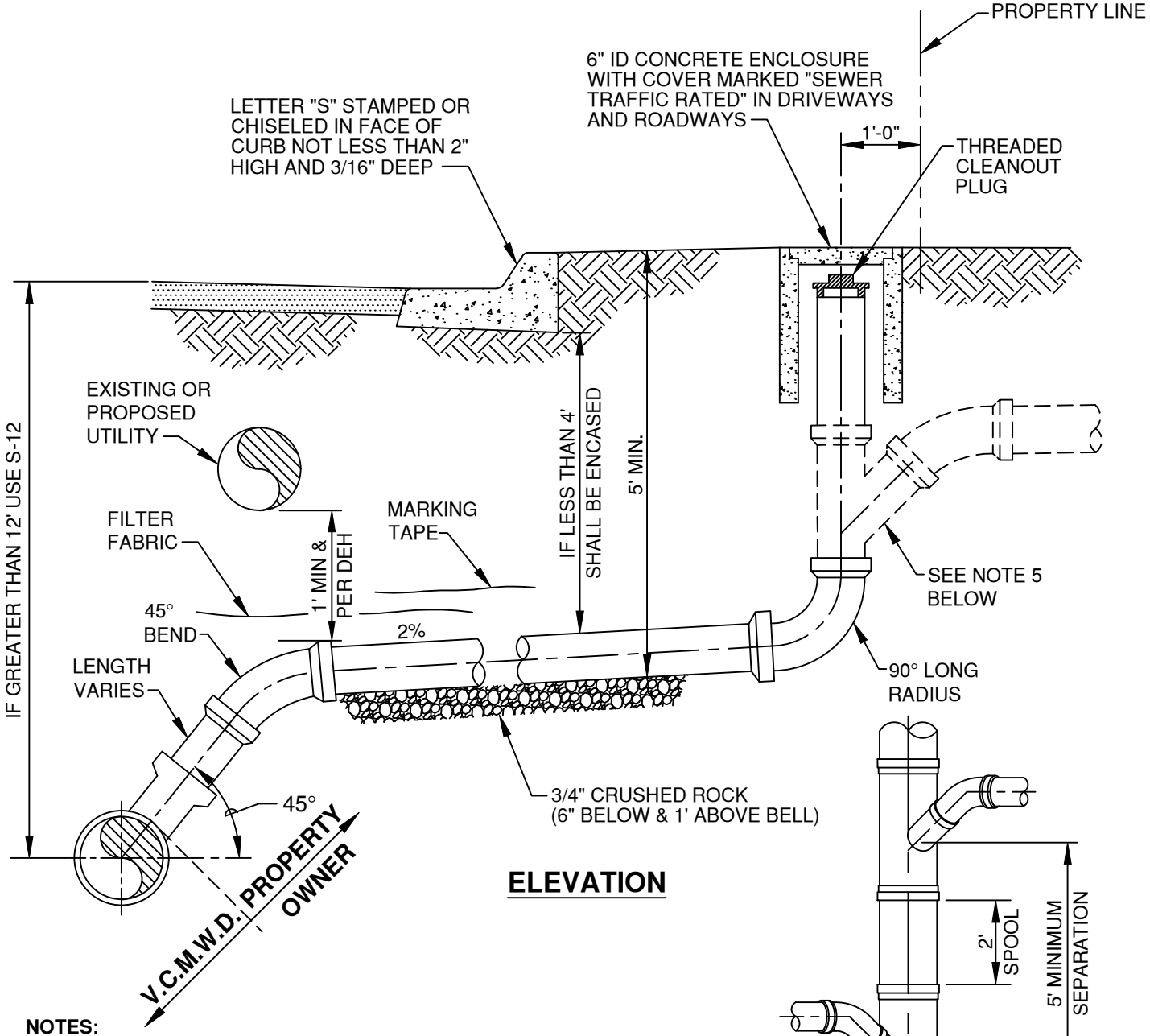


COVER

NOTE:

1. LOCKING FRAMES AND COVERS ARE REQUIRED IN REMOTE AREAS OR AS DETERMINED BY THE DISTRICT ENGINEER.

APPROVED: Wally Gale 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **36" MANHOLE FRAME AND TWO CONCENTRIC COVERS**	NOT TO SCALE DWG. NUMBER **S-9**



ELEVATION

PLAN

DETAIL SHOWING THE MANNER OF CONNECTING OPPOSITE LATERALS TO A SEWER MAIN. TWO CONNECTIONS SHALL NOT BE MADE IN THE SAME LENGTH OF PIPE.

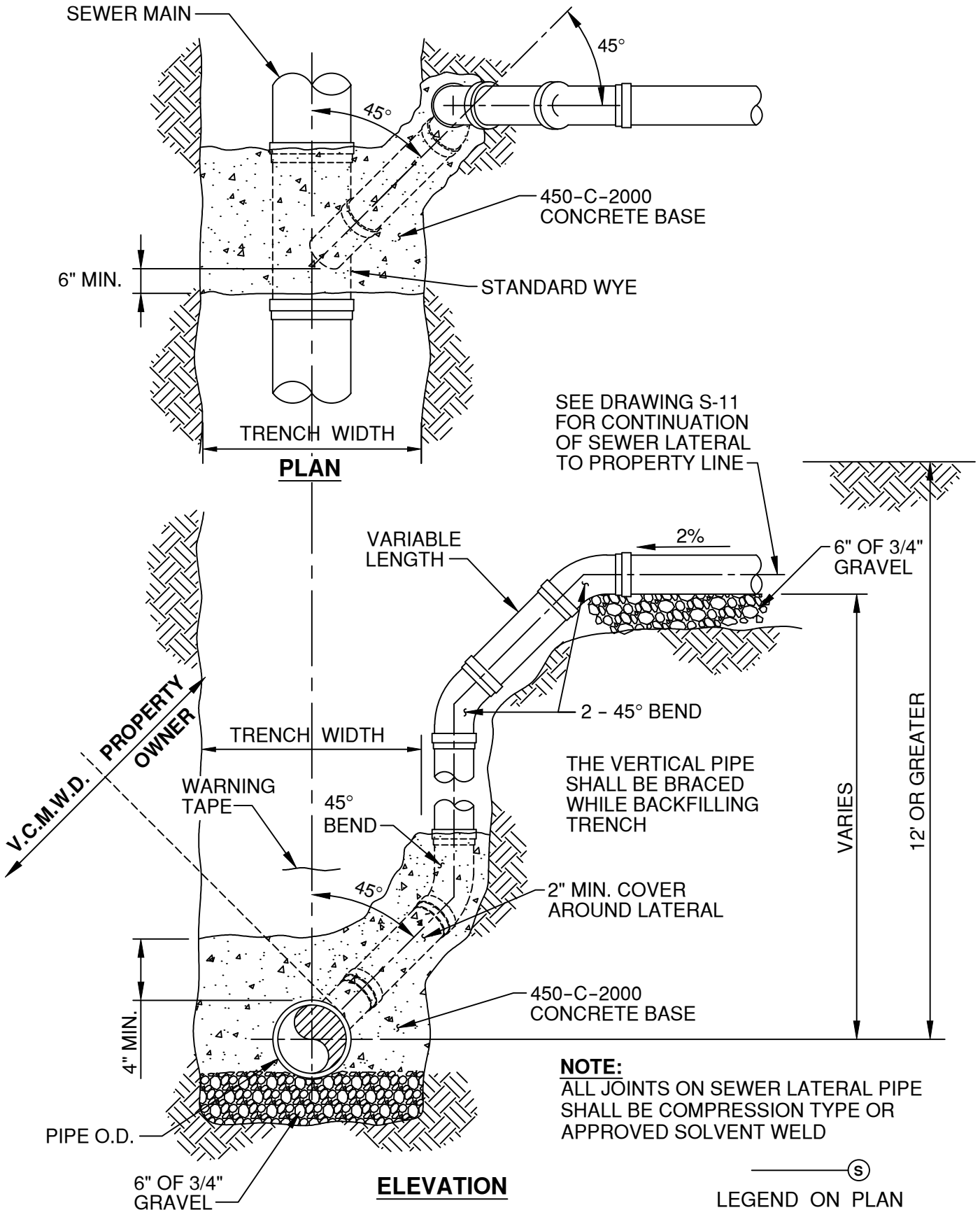
NOTES:

1. IN NO CASE SHALL A LATERAL CONNECT TO THE SEWER MAIN DIRECTLY ON TOP OF THE PIPE.
2. SEWER LATERAL SHALL MAINTAIN 2% SLOPE FROM PL TO DROP TO MAIN. DROP TO MAIN WILL VARY AS NEEDED, 1.2' MIN.
3. ALL JOINTS ON SEWER LATERAL PIPE SHALL BE COMPRESSION TYPE OR APPROVED SOLVENT WELD.
4. LATERAL INSTALLATION ON EXISTING MAINS SHALL FOLLOW S-13.
5. WYE CONNECTION TO BE INSTALLED BY PRIVATE PLUMBER AFTER AIR TEST HAS BEEN COMPLETED. CONNECTION TO BE INSPECTED BY THE DISTRICT.
6. SEWER LATERAL INFORMATION SHALL BE PROVIDED IN SEWER LATERAL TABLE.

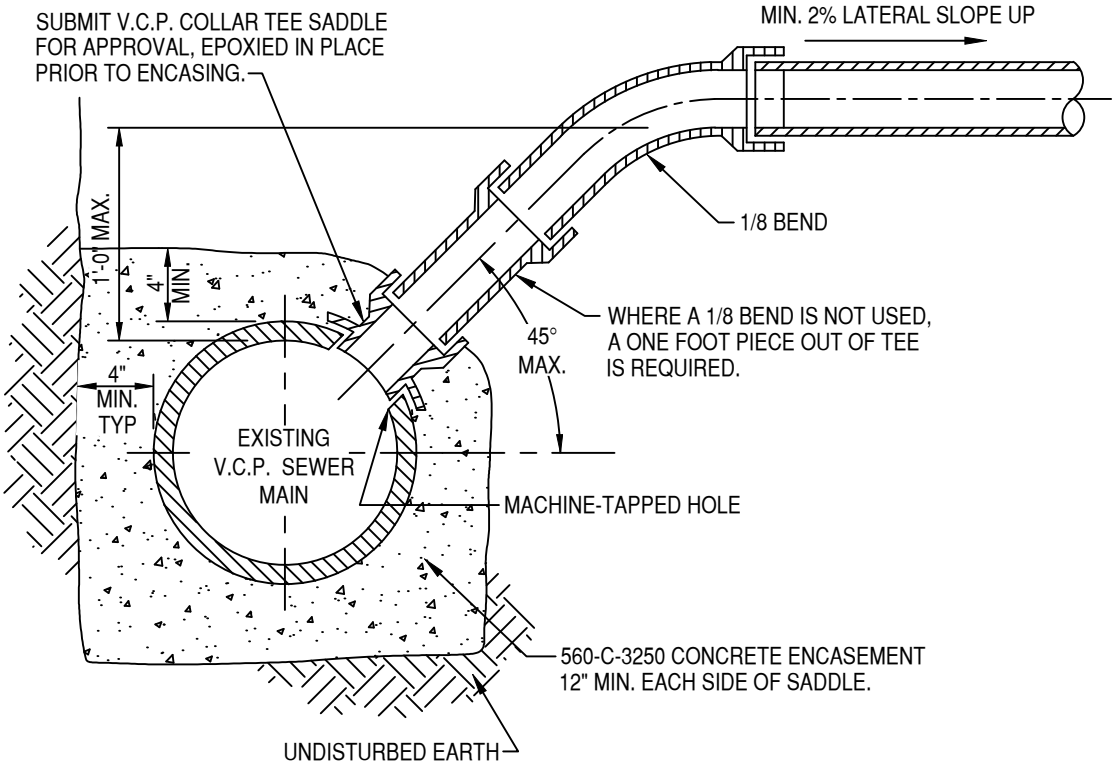
(S)

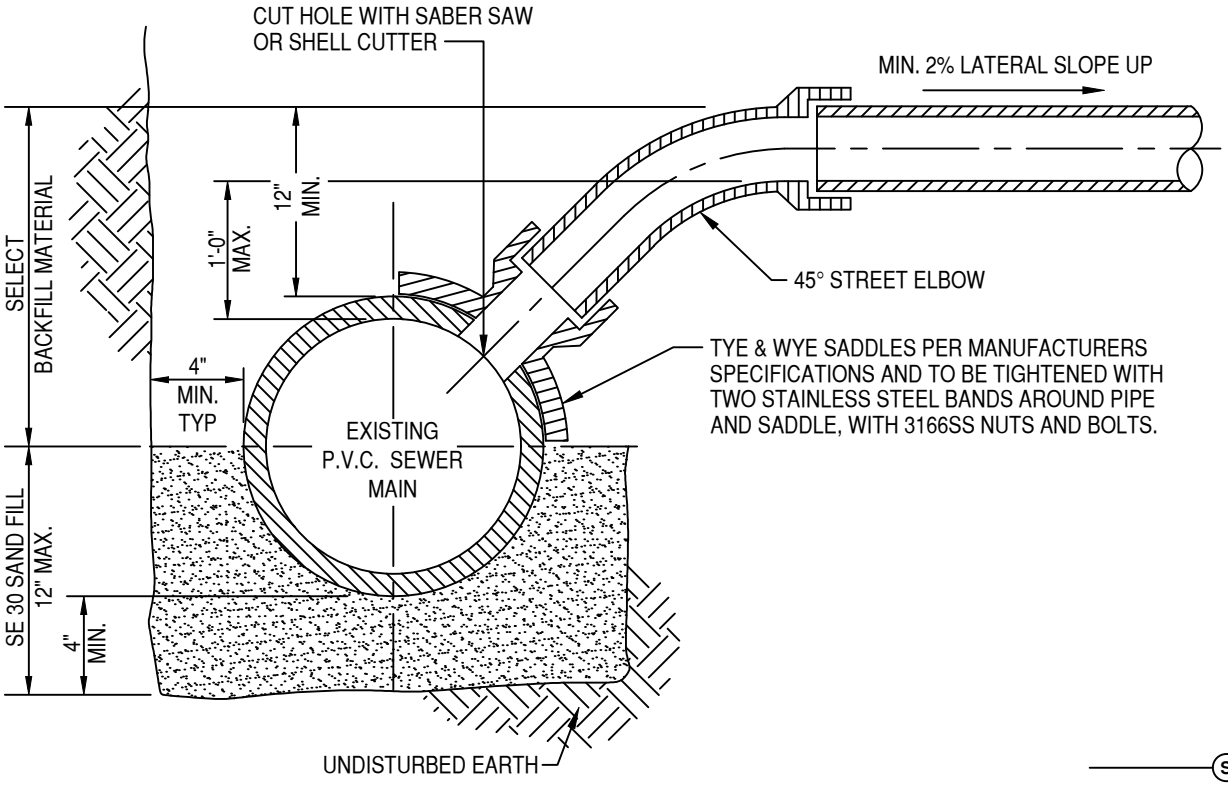
LEGEND ON PLAN

APPROVED: Wally A. 3/2/2020 District Engineer Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **NEW INSTALLATION PVC SEWER LATERAL**	NOT TO SCALE DWG. NUMBER **S-11**



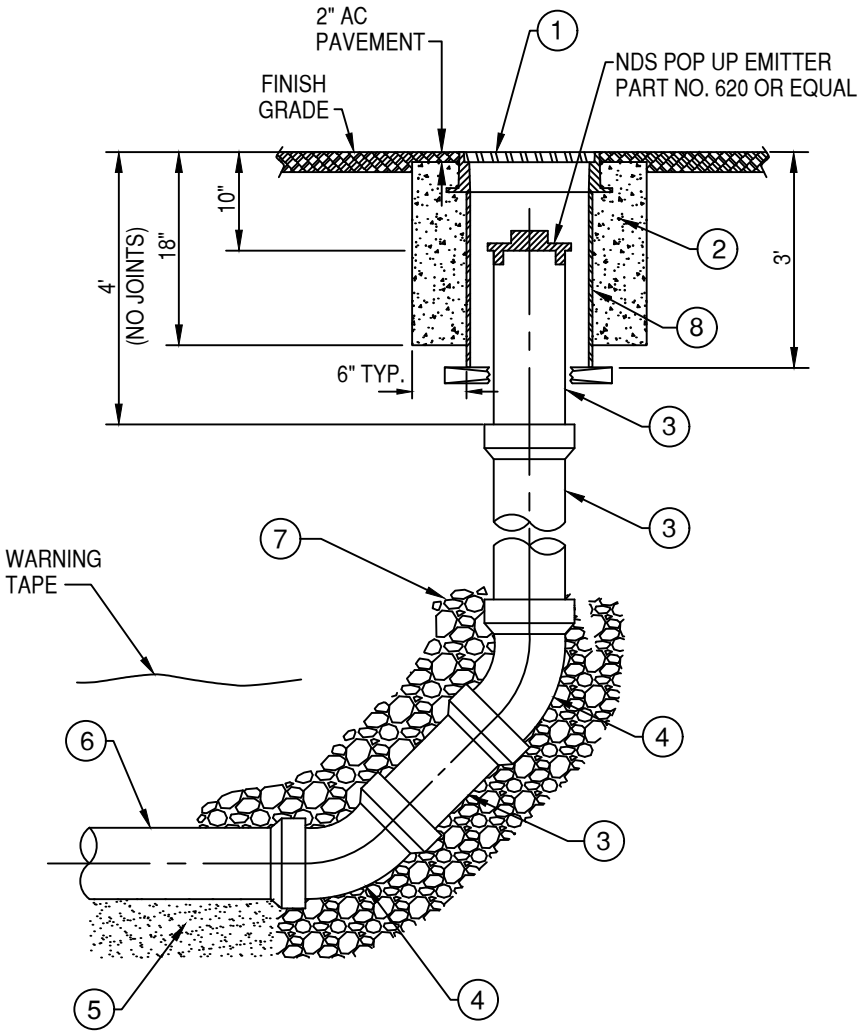
APPROVED: Wally A. 3/2/2020 District Engineer Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **DEEP CUT SEWER LATERAL**	NOT TO SCALE DWG. NUMBER **S-12**





Ⓢ
LEGEND ON PLAN

APPROVED: Wally Gale 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING	NOT TO SCALE
	SEWER LATERAL CUT IN	DWG. NUMBER **S-13**



NOTES:

1. CLEANOUTS TO BE INSTALLED AT THE END OF MAINS WHERE INDICATED ON THE PLANS.
2. CLEANOUT PIPE TO BE SAME MATERIAL AND SIZE AS SEWER MAIN.
3. BACKFILL TO TOP OF 45° BEND WITH 3/4" CRUSHED ROCK.

(CO)
LEGEND ON PLAN

NO.	DESCRIPTION	NO.	DESCRIPTION
1	SBF 1257 CLEANOUT BOX COVER MARKED "VCMWD SEWER"	5	SE 30 SAND PIPE BEDDING
2	CONCRETE RING, 3250 PSI	6	SEWER MAIN
3	SIZE x REQUIRED LENGTH PVC PIPE	7	3/4" CRUSHED ROCK (SEE NOTE 3)
4	45° ELBOW	8	14" DIA. SCH 40 RISER PIPE, WITH REDWOOD BLOCKS

APPROVED:
11.20.2021
District Engineer **Date**

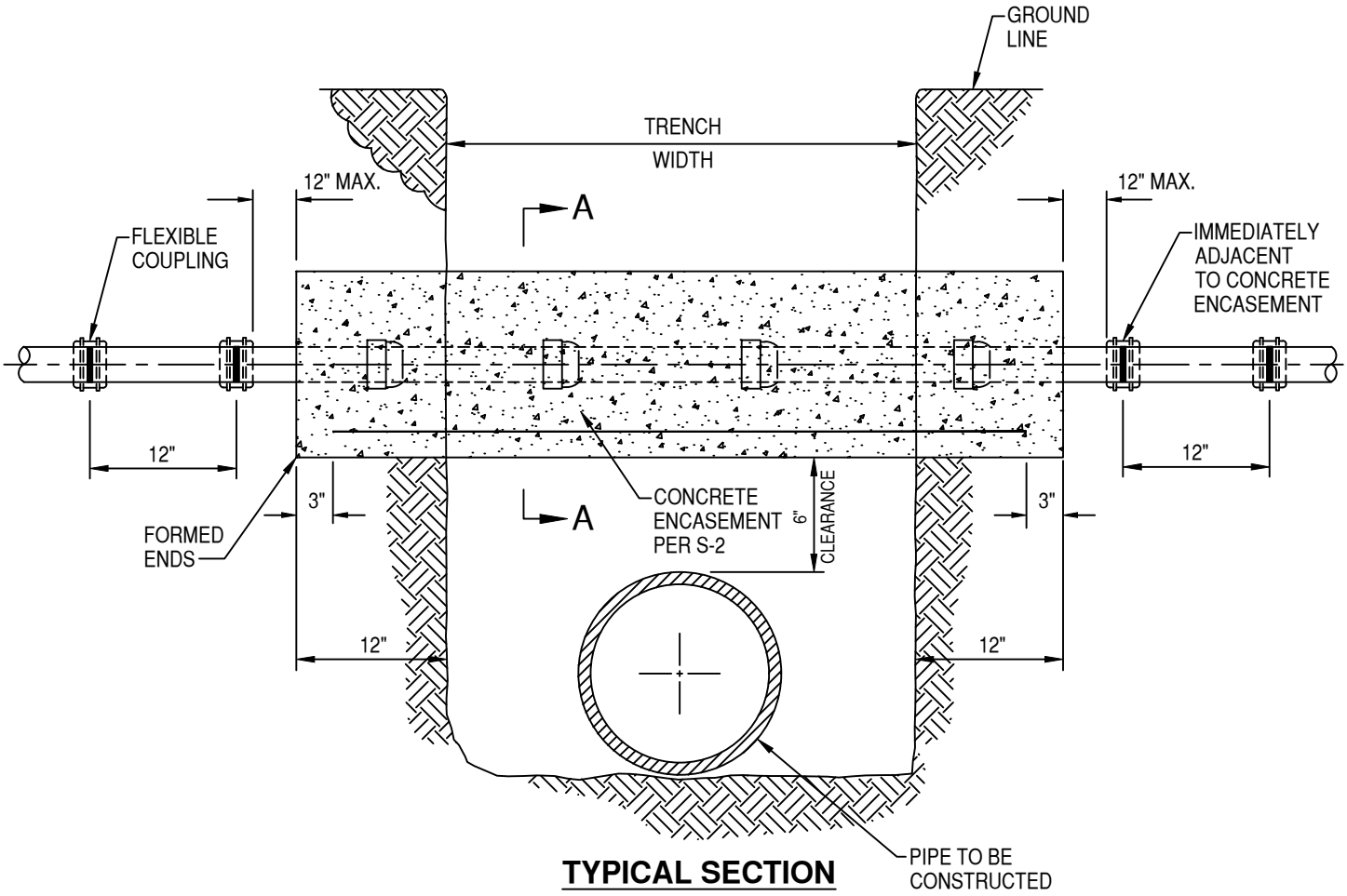
10/20/2021
Latest Revision Date

VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

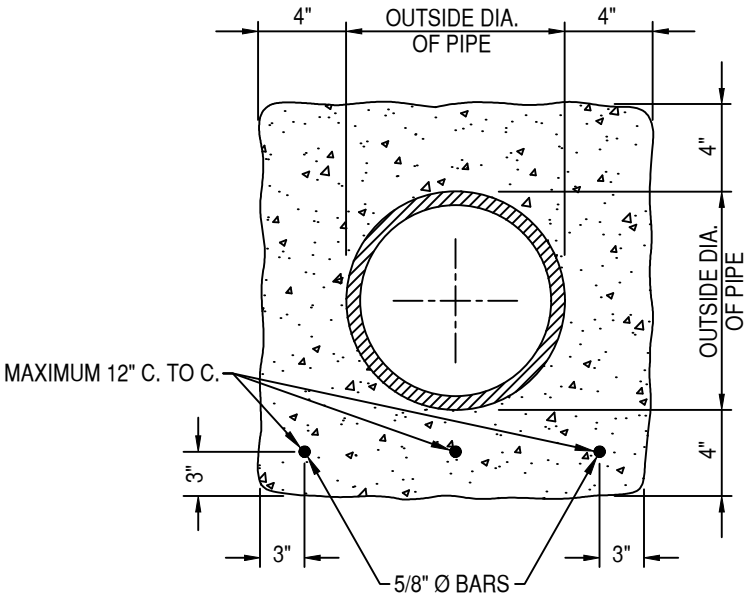
NOT TO SCALE

SEWER CLEANOUT

DWG. NUMBER
S-14

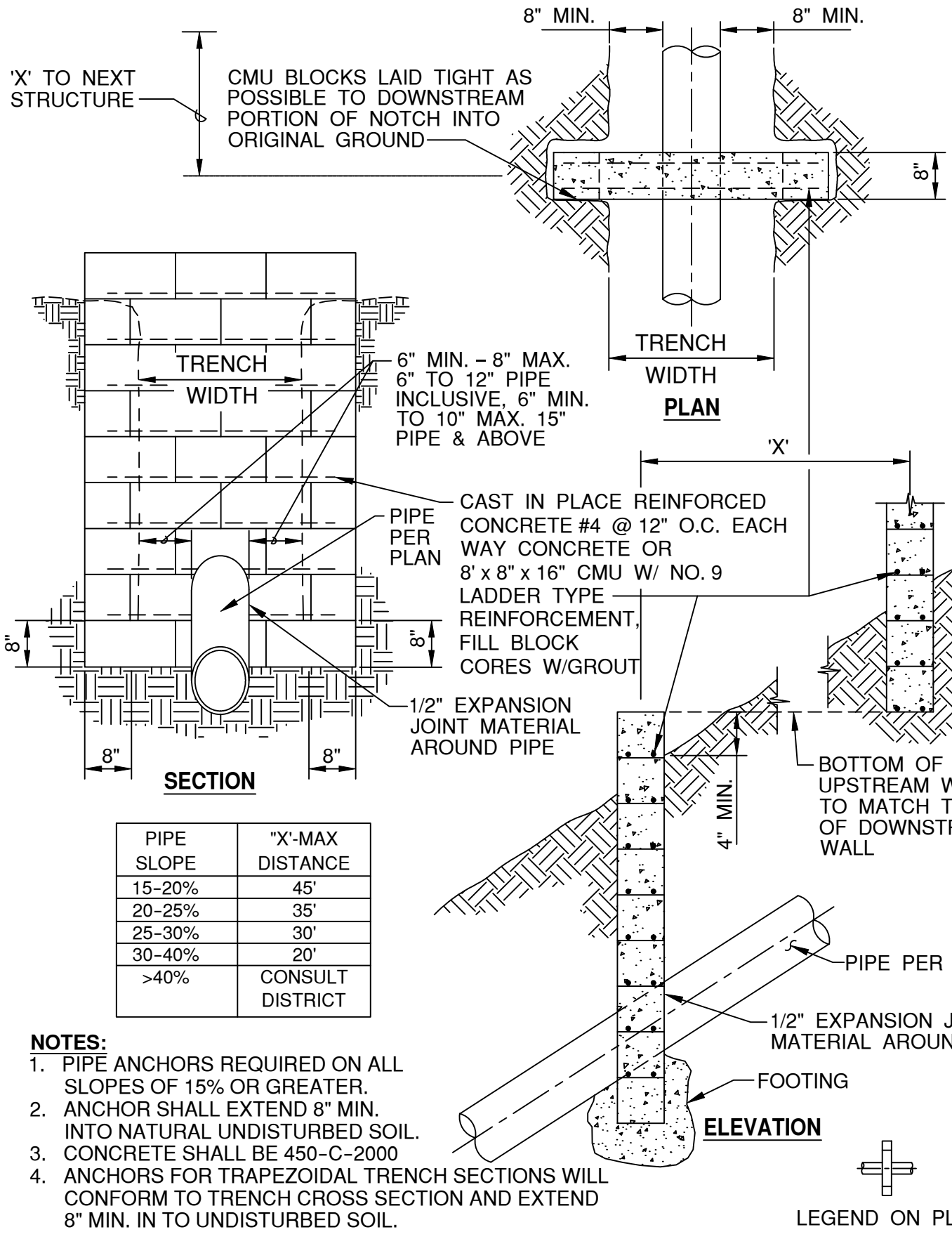


TYPICAL SECTION



SECTION A-A

APPROVED: Wally Pyle 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **SUPPORT FOR UNDERCUT**	NOT TO SCALE DWG. NUMBER **S-15**



PIPE SLOPE	"X'-MAX DISTANCE
15-20%	45'
20-25%	35'
25-30%	30'
30-40%	20'
>40%	CONSULT DISTRICT

NOTES:

1. PIPE ANCHORS REQUIRED ON ALL SLOPES OF 15% OR GREATER.
2. ANCHOR SHALL EXTEND 8" MIN. INTO NATURAL UNDISTURBED SOIL.
3. CONCRETE SHALL BE 450-C-2000
4. ANCHORS FOR TRAPEZOIDAL TRENCH SECTIONS WILL CONFORM TO TRENCH CROSS SECTION AND EXTEND 8" MIN. IN TO UNDISTURBED SOIL.

APPROVED:

5/16/19

District Engineer — Date

5/16/2019

Latest Revision Date

VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

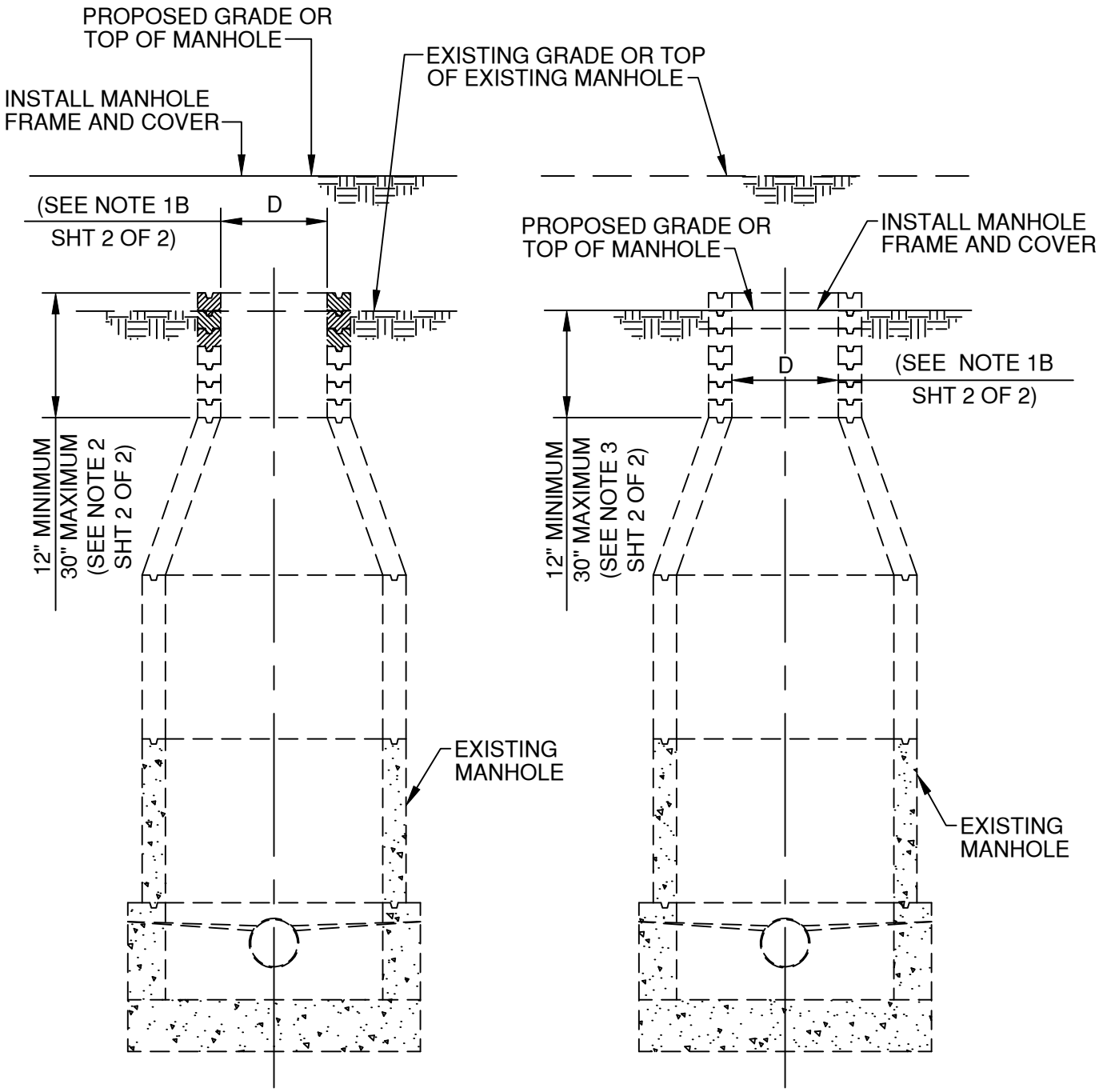
STANDARD CUTOFF WALL (ANCHOR)

NOT TO SCALE

DWG. NUMBER

S-16

SEE SHT 2 OF 2 FOR SEWER MANHOLE ADJUSTMENT NOTES



RAISING EXISTING PRECAST CONCRETE SEWER MANHOLES

LOWERING EXISTING PRECAST CONCRETE SEWER MANHOLES

PRECAST CONCRETE SEWER MANHOLES

APPROVED: Wally A. M. 3/2/2020 District Engineer Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **SEWER MANHOLE ADJUSTMENT**	NOT TO SCALE DWG. NUMBER **S-17** SHT 1 of 2

NOTES:

1. GENERAL
   A. DIMENSION "D" SHALL BE THE SAME AS THE SIZE OF MANHOLE FRAME AND COVER TO BE USED.
   B. THE CONTRACTOR MAY REUSE THE EXISTING MANHOLE FRAME AND COVER, UNLESS DAMAGED BY HIM DURING HIS CONSTRUCTION OPERATIONS OR WHEN OTHERWISE INDICATED ON THE PROJECT PLANS. ITEMS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED WITH IDENTICAL NEW ITEMS AT NO EXPENSE TO THE AGENCY.

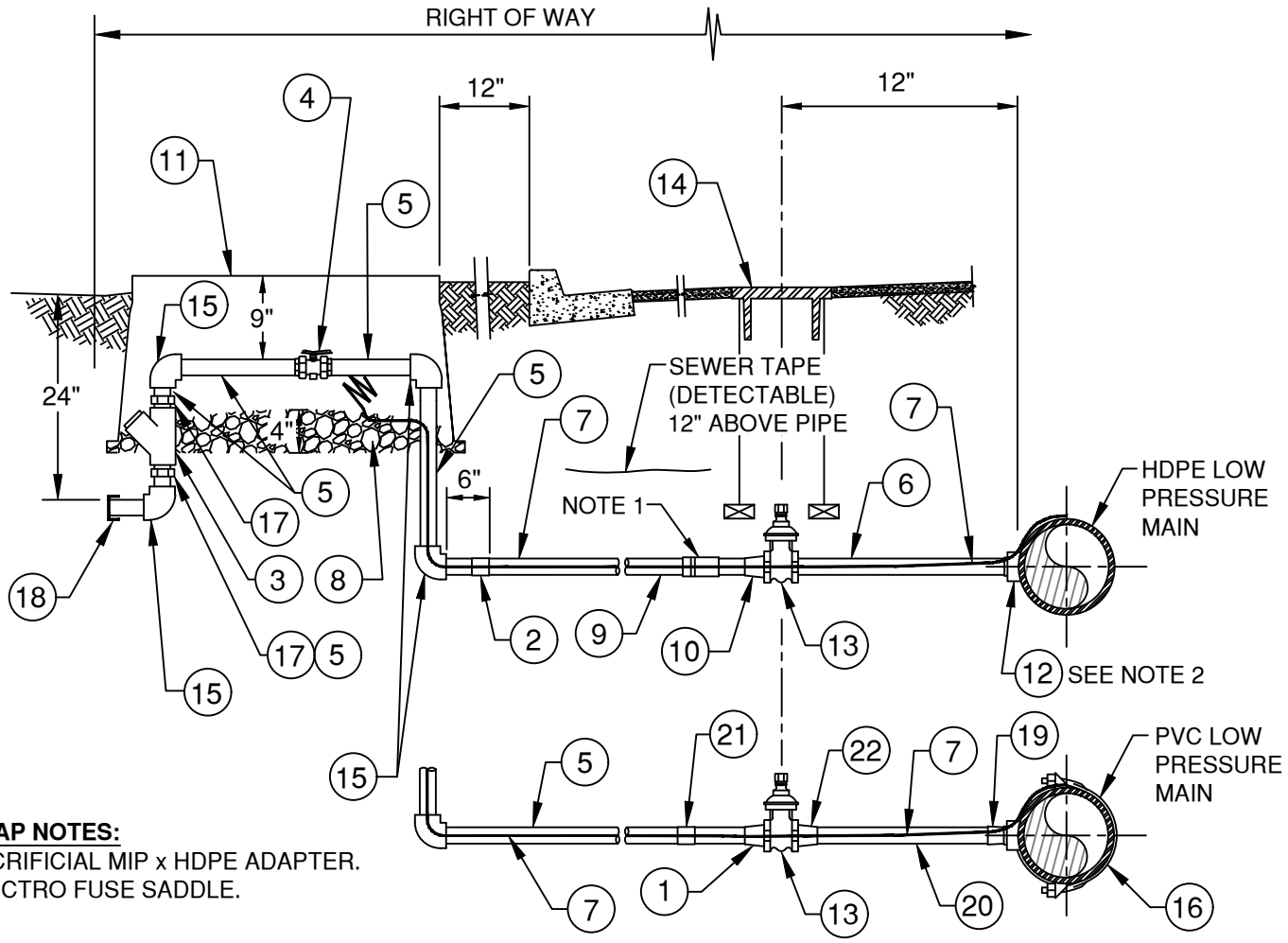
2. RAISING EXISTING PRECAST CONCRETE SEWER MANHOLES
   A. PRECAST CONCRETE MANHOLES TO BE RAISED LESS THAN 3 INCHES MAY BE RAISED BY APPLYING CLASS "D" MORTAR TO THE TOP OF THE EXISTING MANHOLE, PROVIDING THE TOTAL HEIGHT OF MORTAR, EXISTING AND NEWLY APPLIED DOES NOT EXCEED 3 INCHES.
   B. WHERE THE PRECAST CONCRETE MANHOLE IS TO BE RAISED 3 INCHES OR MORE, OR WHERE THE TOTAL HEIGHT OF MORTAR, EXISTING AND NEWLY APPLIED WOULD EXCEED 3 INCHES, GRADE RINGS SHALL BE UTILIZED. CLASS "D" MORTAR MAY BE USED FOR FINAL ADJUSTMENT, BUT NOT MORE THAN 3 INCHES IN HEIGHT. WHERE RAISING THE MANHOLE WOULD RESULT IN THE UPPER SEGMENT OF THE SHAFT BEING MORE THAN 30 INCHES IN HEIGHT, REMOVE THE REDUCER AND THE UPPER SEGMENT OF THE SHAFT. INSTALL ADDITIONAL RINGS OR PIPE TO THE LOWER SEGMENT OF THE SHAFT AND REINSTALL THE REDUCER AND GRADE RINGS AS REQUIRED.
   C. RAISE MANHOLE FRAME(S) AFTER FINAL PAVING HAS BEEN COMPLETED.

3. LOWERING EXISTING PRECAST CONCRETE SEWER MANHOLES
   A. REMOVE SUFFICIENT GRADE RINGS TO LOWER THE MANHOLES AS REQUIRED. APPLY CLASS "D" MORTAR TO A HEIGHT NOT EXCEEDING 3 INCHES FOR ADJUSTMENT TO FINAL GRADE.
   B. WHERE REMOVAL OF GRADE RINGS WOULD RESULT IN THE UPPER SEGMENT OF THE SHAFT BEING LESS THAN 12 INCHES IN HEIGHT, REMOVE THE REDUCER AND SUFFICIENT SECTIONS OF THE LOWER SEGMENT OF THE SHAFT AND REINSTALL ANY NECESSARY SEGMENT OF THE LOWER SHAFT, THE REDUCER, AND THE GRADE RINGS TO CONFORM TO THE REQUIREMENTS OF THIS PLAN.
   C. EXISTING GRADE RINGS NEED NOT BE REMOVED IF EXISTING MORTAR IS REMOVED AND AT LEAST 1 1/2 INCHES OF MORTAR MAY BE PLACED ON TOP OF THE EXISTING GRADE RINGS TO RESEAT THE FRAME.

APPROVED: Willy A. 3/2/2020 District Engineer Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **SEWER MANHOLE ADJUSTMENT NOTES**	NOT TO SCALE DWG. NUMBER **S-17** SHT 2 of 2

Standard Sewer Drawings
Table of Contents
MARCH 2020

Low Pressure Sewer Drawings — Latest Revision



HOT TAP NOTES:

1. SACRIFICIAL MIP x HDPE ADAPTER.
2. ELECTRO FUSE SADDLE.

NO.	SIZE & DESCRIPTION	MATERIAL DESCRIPTION
1	2" FUSED HDPE x 1-1/2" PVC REDUCER	POLY-CAM SERIES 737 (OMIT INTERNAL SS BEND)
2	1-1/2" HDPE/PVC TRANSITION COUPLING	POLY-CAM SERIES 737 (OMIT INTERNAL SS BEND)
3	1-1/2" F.I.P. VERTICAL BALL CHECK VALVE	SCH. 80
4	1-1/2" TRUE UNION BALL VALVE	SCH. 80 PVC
5	1-1/2" PVC PIPE	ASTM D1785, SCH. 80
6	2" HDPE	
7	SOLID TONER WIRE ATTACHED TO PIPE	12 GAUGE COPPER
8	3/4" ROCK	
9	1-1/2" HDPE PIPE	
10	2" x 1-1/2" HDPE REDUCER	
11	CARSON 1730 GREEN BOX, MARKED SEWER	ASTM D2464, SCH. 80
12	2" FUSED OUTLET	
13	2" HDPE BALL VALVE	INTEGRIFUSE NITRILE (NBR), PE100 BALL VALVE
14	VALVE CAN W/SEWER ON LID	SEE VCMWD STD DWG W-25
15	1-1/2" PVC 90° SLIP ELBOW	ASTM D2464, SCH. 80
16	2" SADDLE	TWO PIECE BOLTED WITH O-RING, SCH. 80
17	1 1/2" x 2" SLIP ADAPTER	ASTM D2464/D2467, SCH. 80
18	1-1/2" SLIP CAP	ASTM D2467, SCH. 80
19	2" M.I.P. x SLIP COUPLING	ASTM D2464/D2467, SCH. 80
20	2" PVC	ASTM D1785, SCH. 80
21	2" SLIP COUPLING	ASTM D2464, SCH. 80
22	2" FUSED x PVC ADAPTER	POLY-CAM SERIES 737 (OMIT INTERNAL SS BEND)

APPROVED:

3/2/2020

District Engineer — Date

3/2/2020

Latest Revision Date

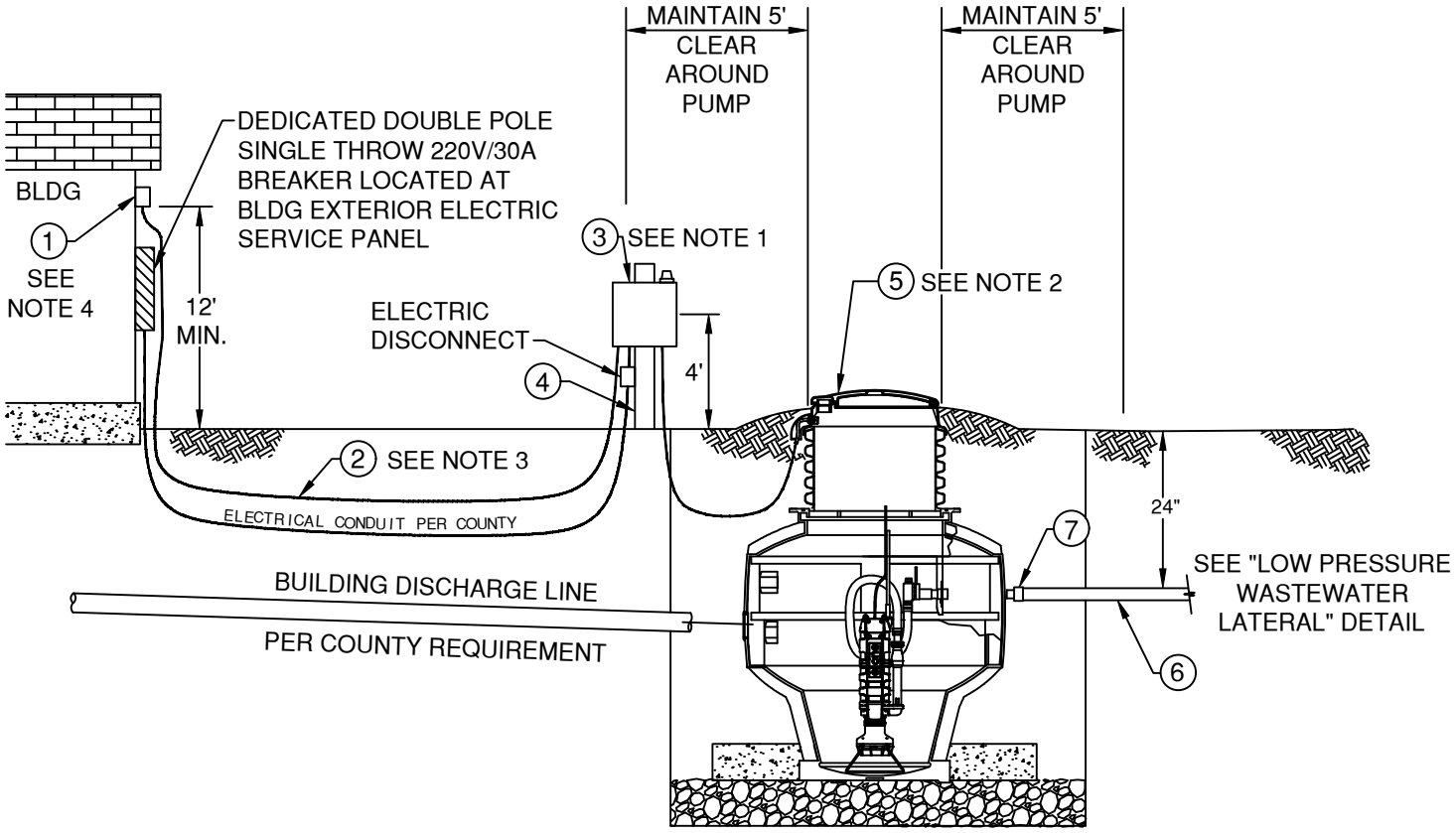
VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

LOW PRESSURE WASTEWATER LATERAL

NOT TO SCALE

DWG. NUMBER

LPS-1



NOTES:

1. CONTROL PANEL MUST BE VISIBLE FROM THE GRINDER PUMP.
2. GRINDER PUMP MUST BE AT LEAST 10' FROM THE BUILDING. GRINDER PUMP TO BE MAINTAINED BY DISTRICT.
3. MAINTAIN 4" CLEARANCE FROM ELECTRIC CONDUIT. DISTRICT TO INSTALL ETHERNET WIRE.
4. PLACEMENT TO BE DETERMINED BY VCMWD. RADIO AND POWER OVER ETHERNET TO BE MAINTAINED BY DISTRICT. REMOTE SENSORY UNIT TO BE MOUNTED INSIDE RESIDENCE.
5. A HYDROSTATIC TEST WILL BE CONDUCTED FROM THE TANK TO THE LATERAL.

NO.	SIZE & DESCRIPTION	MATERIAL DESCRIPTION
1	RADIO	VCMWD SUPPLIED
2	1" CONDUIT WITH PULL ROPE	
3	CONTROL PANEL	
4	4" x 4" POST TREATED	OR EQUAL
5	GRINDER PUMP	E-ONE (SIZE DETERMINED BY DISTRICT)
6	1-1/2" PVC PIPE	ASTM D1785, SCH. 80
7	1-1/2" SLIP x 1-1/4" FIP REDUCER	ASTM D2464/D2467, SCH. 80

APPROVED:

3/2/2020

District Engineer — Date

3/2/2020

Latest Revision Date

VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

ON-SITE GRINDER PUMP RESIDENTIAL

NOT TO SCALE

DWG. NUMBER

LPS-2

APPROVED:

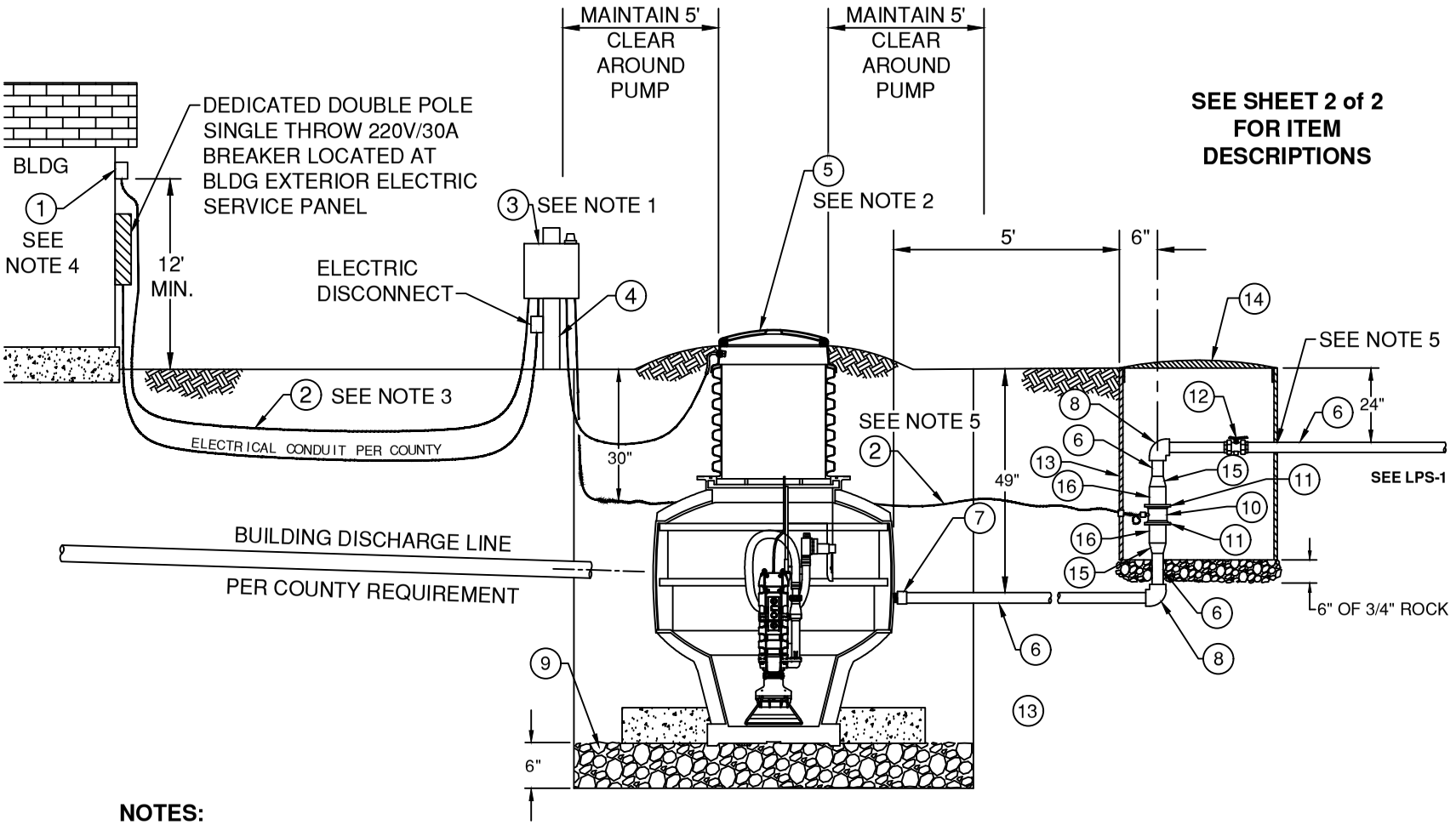
District Engineer

Date 3/2/2020

Latest Revision Date

VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

ON-SITE GRINDER PUMP COMMERCIAL



NOTES:

1. CONTROL PANEL MUST BE VISIBLE FROM THE GRINDER PUMP.
2. GRINDER PUMP MUST BE AT LEAST 10' FROM THE BUILDING. GRINDER PUMP TO BE MAINTAINED BY DISTRICT.
3. MAINTAIN 4" CLEARANCE FROM ELECTRIC CONDUIT. DISTRICT TO INSTALL ETHERNET WIRE.
4. PLACEMENT TO BE DETERMINED BY VCMWD. RADIO AND POWER OVER ETHERNET TO BE MAINTAINED BY DISTRICT.
5. CONDUIT FOR POWER TO FLOW METER AND 1-1/2" DISCHARGE LINE. CORE THRU STACKABLE RISER, (ITEM 14), WITH CONDUIT AND 1-1/2" DISCHARGE LINE, ADD RTV/SILICONE BETWEEN AND AROUND CORE OPENING AND CONDUIT.

NOT TO SCALE

DWG. NUMBER
LPS-3
SHT 1 of 2

NO.	SIZE & DESCRIPTION	MATERIAL DESCRIPTION
1	RADIO	VCMWD SUPPLIED
2	1" CONDUIT WITH PULL ROPE	
3	CONTROL PANEL	
4	4" x 4" POST TREATED	OR EQUAL
5	GRINDER PUMP	E-ONE (SIZE DETERMINED BY DISTRICT)
6	1-1/2" PVC PIPE	ASTM D1785, SCH. 80
7	1-1/4" MIP x 1-1/2" SLIP REDUCER	ASTM D2464/D2467, SCH. 80
8	1-1/2" PVC 90° SLIP ELBOW	ASTM D2464, SCH. 80
9	3/4" ROCK	
10	2" FLOW METER	MCCROMETER
11	1-1/2" PVC FLANGE ADAPTER x SLIP	SCH. 80
12	1-1/2" TRUNION BALL VALVE SOC x SOC	SCH. 80
13	24" SEPTIC STACKABLE RISER	PVC, POLYLOK
14	24" SEPTIC STACKABLE RISER LID	PVC, POLYLOK
15	2" x 1-1/2" PVC REDUCER	SCH. 80
16	2" x 6" LONG, PVC PIPE	ASTM D1785, SCH. 80

SEE SHEET 1 of 2
FOR LAYOUT
OF ITEMS

APPROVED:

3/2/2020

District Engineer — Date

3/2/2020

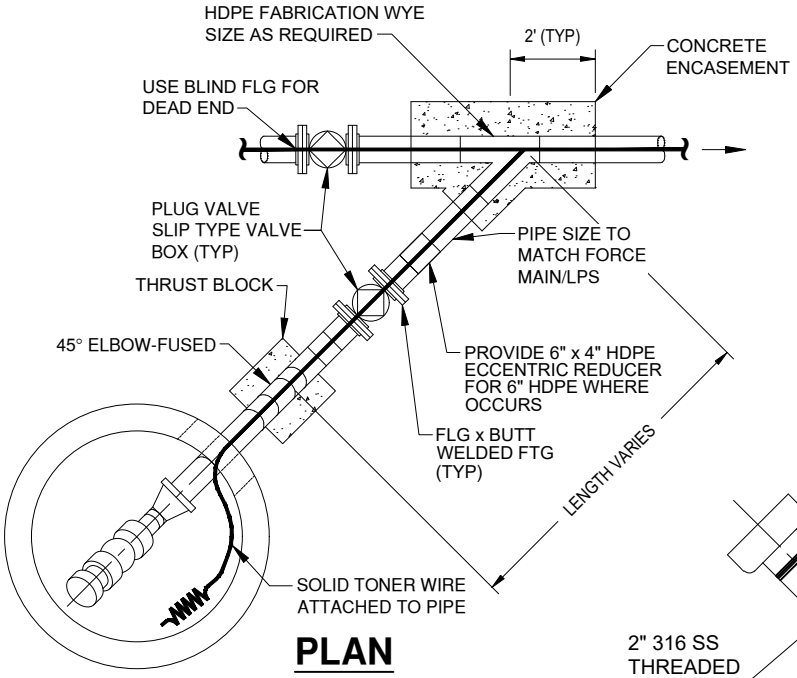
Latest Revision Date

VALLEY CENTER MUNICIPAL WATER DISTRICT
STANDARD DRAWING

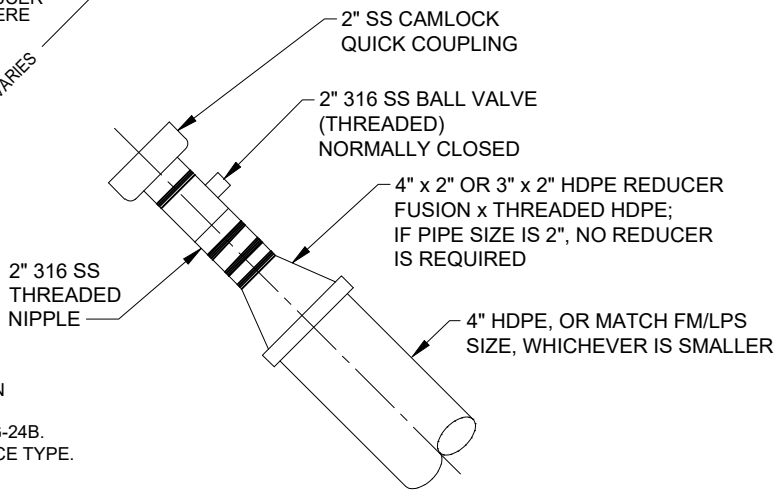
ON-SITE GRINDER PUMP COMMERCIAL

NOT TO SCALE

DWG. NUMBER
LPS-3
SHT 2 of 2



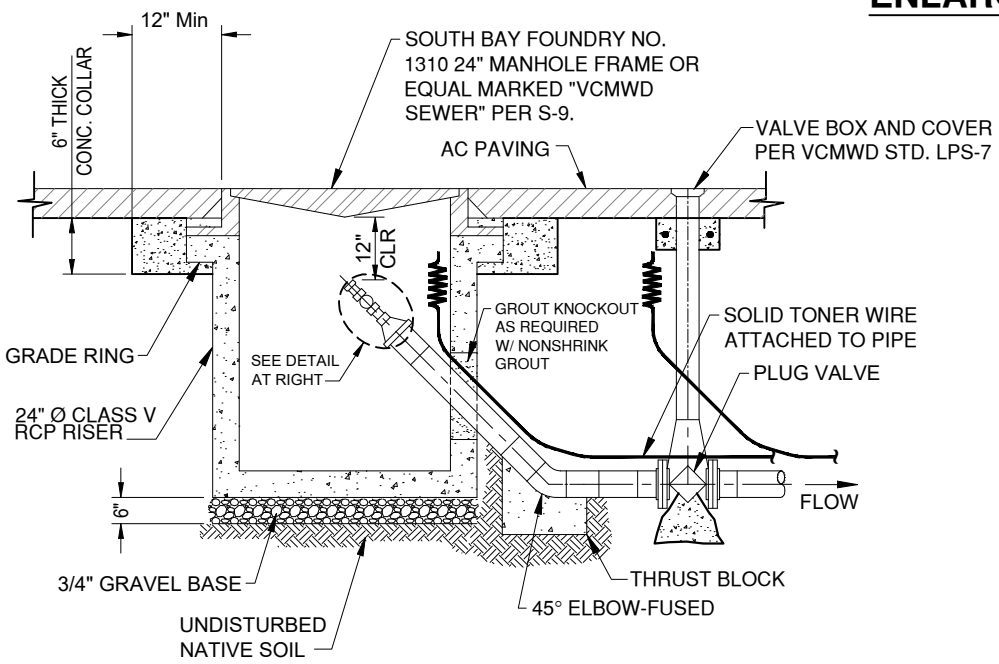
PLAN



ENLARGEMENT DETAIL

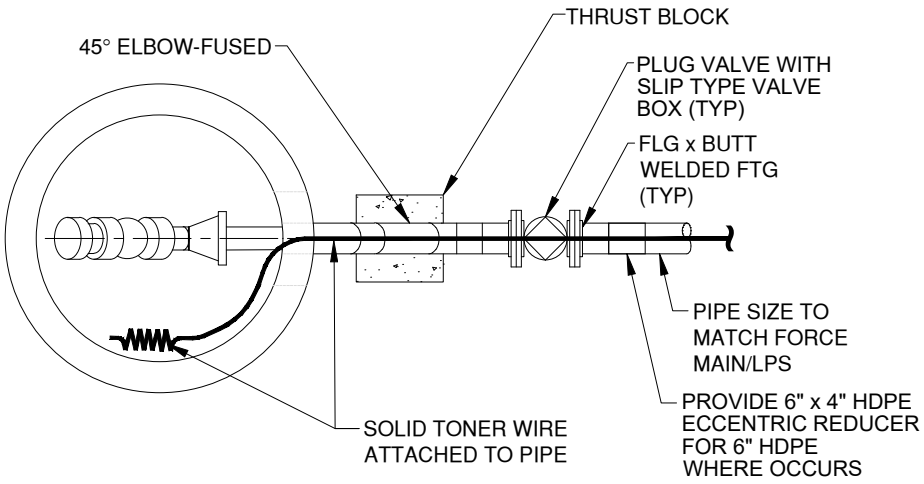
NOTE:

1. HDPE PIPE 4-INCH AND LARGER, USE HDPE FLANGE ADAPTERS, WHERE FLANGE CONNECTIONS OCCUR.
2. HDPE PIPE 3-INCH AND SMALLER, USE HDPE THREADED UNIONS IN PLACE OF FLANGES.
3. TRENCH RESURFACING SHALL CONFORM TO SDRSD, G-24A AND G-24B. THE FINAL SURFACE TREATMENT SHALL MATCH EXISTING SURFACE TYPE.



SECTION

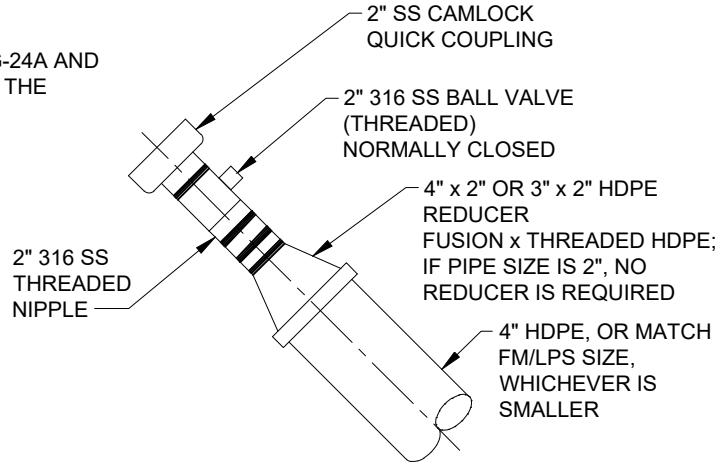
APPROVED: Wally A. 3/2/2020 District Engineer — Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **LOW PRESSURE CLEANOUT**	NOT TO SCALE DWG. NUMBER **LPS-4**



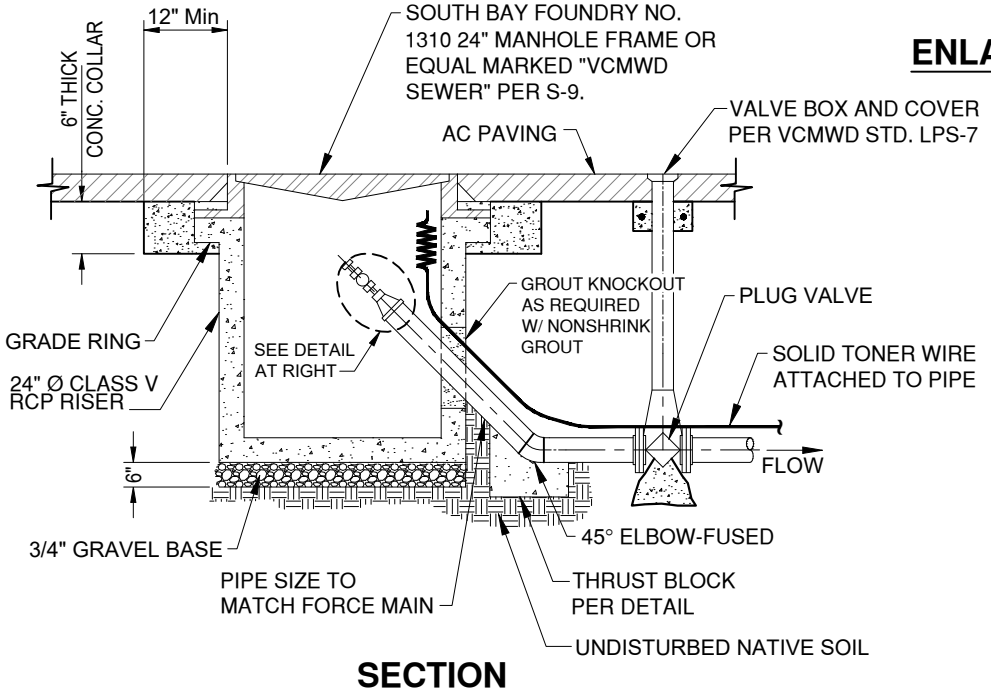
PLAN

NOTE:

1. TRENCH RESURFACING SHALL CONFORM TO SDRSD G-24A AND G24B. THE FINAL SURFACE TREATMENT SHALL MATCH THE EXISTING SURFACE TYPE.

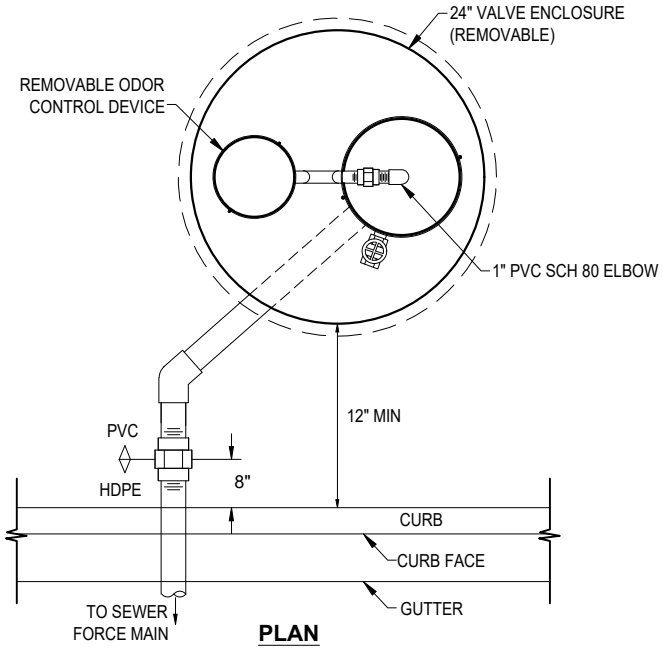


ENLARGEMENT DETAIL

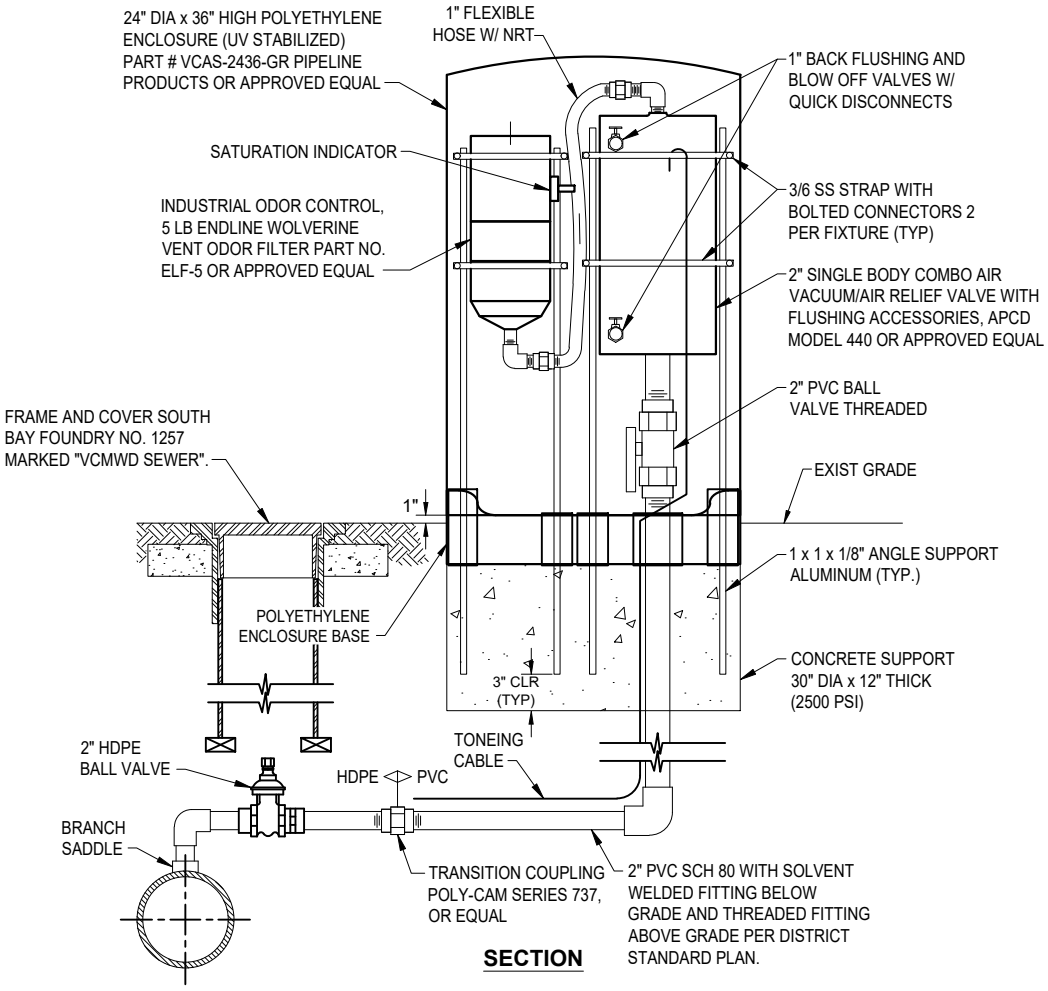


SECTION

APPROVED: Wally Gentry 3/2/2020 District Engineer Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **LOW PRESSURE TERMINUS CLEANOUT**	NOT TO SCALE DWG. NUMBER **LPS-5**

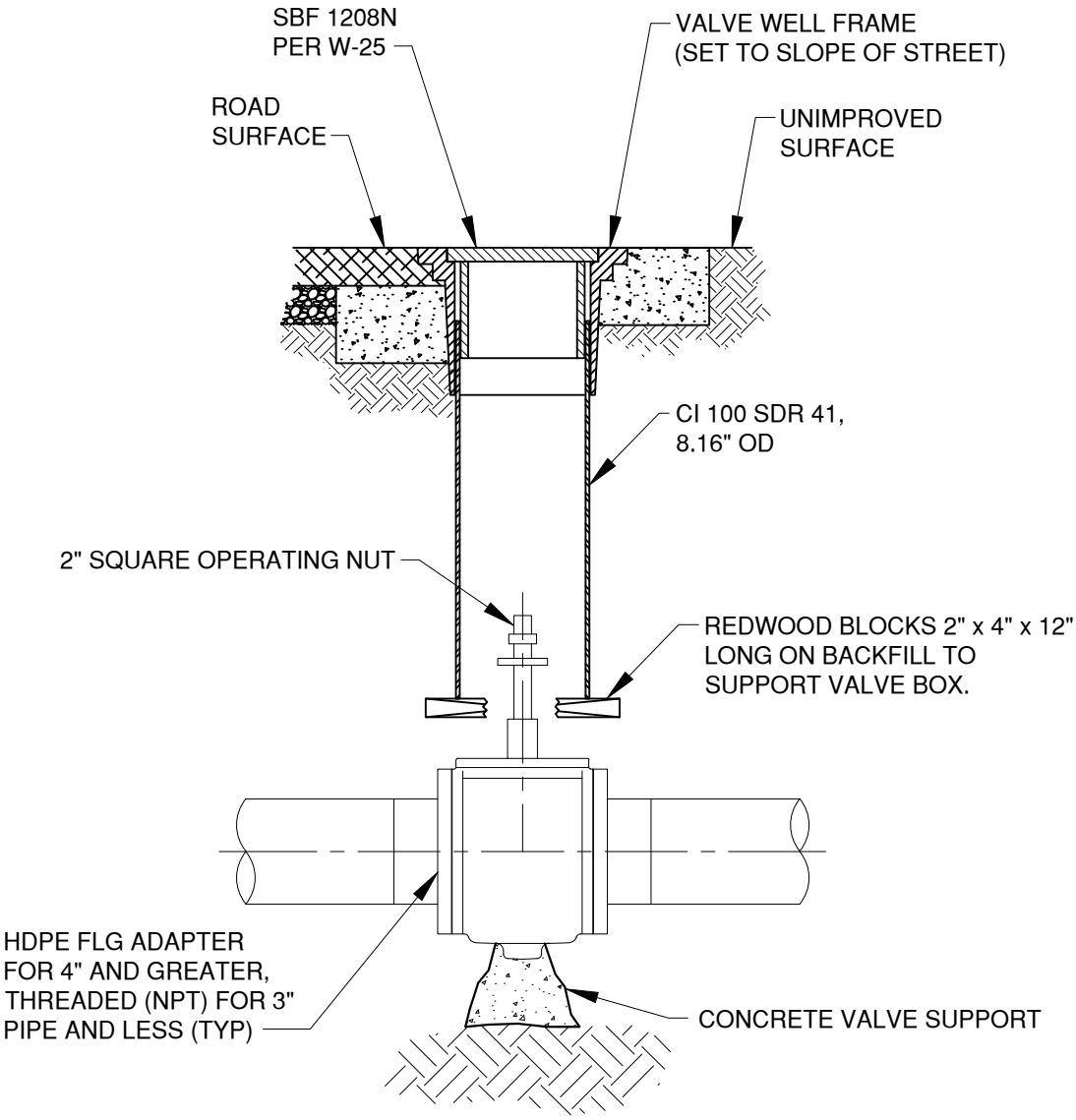


PLAN

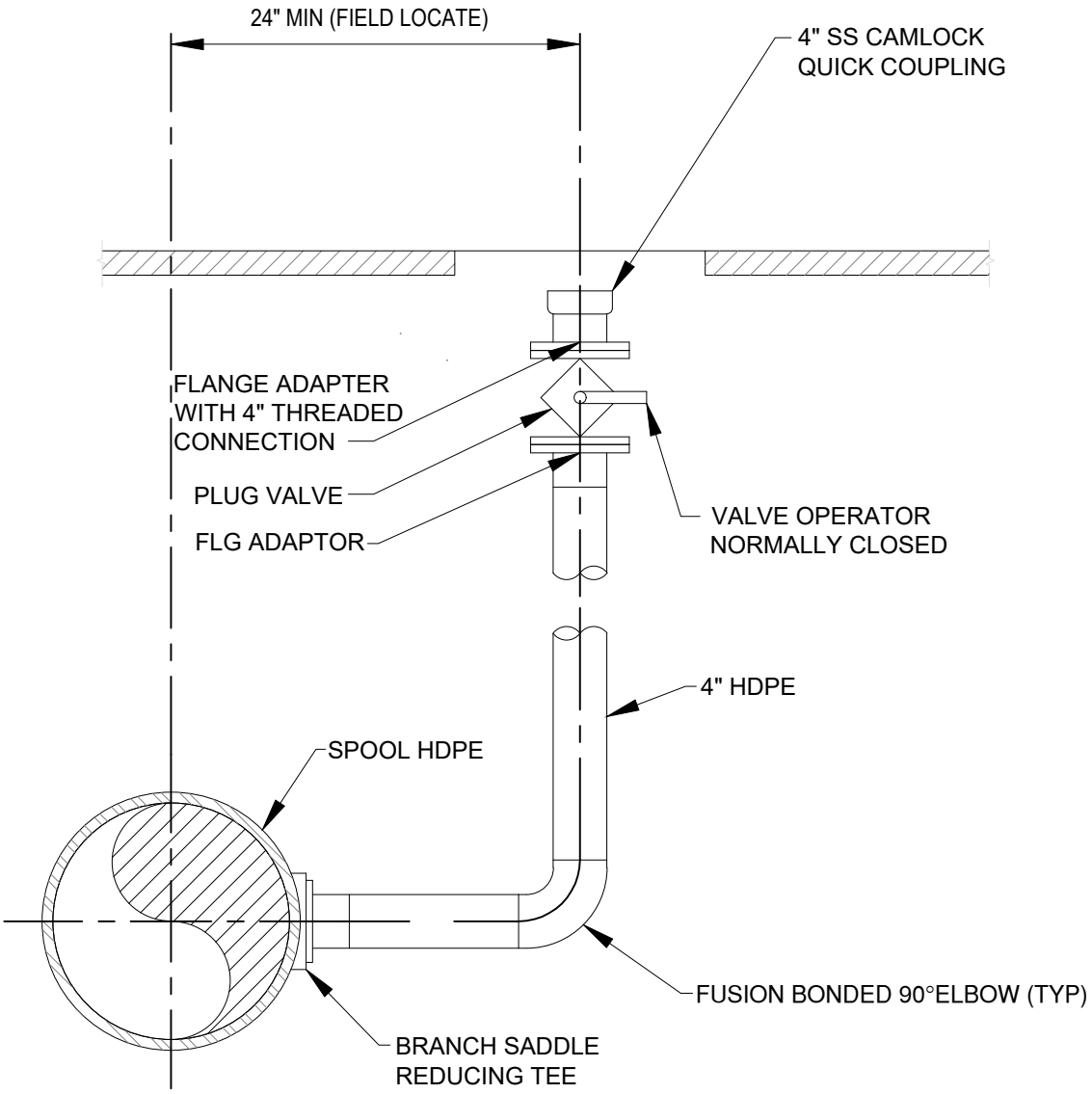


SECTION

APPROVED: Wally A. M 3/2/2020 District Engineer Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **LOW PRESSURE COMBINATION AIR VALVE**	NOT TO SCALE DWG. NUMBER **LPS-6**



APPROVED: Wally A. M 3/2/2020 District Engineer Date 3/2/2020 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **IN-LINE PLUG VALVE**	NOT TO SCALE DWG. NUMBER **LPS-7**



NOTES:

1. IN ROADWAYS USE 17 x 30 TRAFFIC RATED BOX MARKED "SEWER". IN NON TRAVELED APPLICATIONS, USE CARSON 1730 METER BOX, GREEN IN COLOR, MARKED "SEWER".

2. SDRSD WV-02 SHALL TAKE PRECEDENCE FOR THE COVER IN THE PAVEMENT.

3. SIZE SHALL BE 4" OR MATCH FM/LPS, WHICH EVER IS SMALLER.

4. HDPE PIPE 4" AND LARGER, USE HDPE FLANGE ADAPTERS, WHERE FLANGE CONNECTIONS OCCUR. ALL FLANGE ADAPTERS SHALL BE STAINLESS STEEL.

5. HDPE PIPE 3" AND SMALLER, USE HDPE THREADED UNIONS IN PLACE OF FLANGES.

APPROVED: Wally Gale 5/16/19 District Engineer Date 5/16/2019 Latest Revision Date	VALLEY CENTER MUNICIPAL WATER DISTRICT STANDARD DRAWING **LOW PRESSURE BLOWOFF**	NOT TO SCALE DWG. NUMBER **LPS-8**