APACHE JUNCTION WATER UTILITIES CFD

STANDARD DETAIL DRAWINGS: W-1

2022 EDITION

Q1 REVISIONS

APACHE JUNCTION WATER UTILITIES CFD

STANDARD DETAIL DRAWINGS

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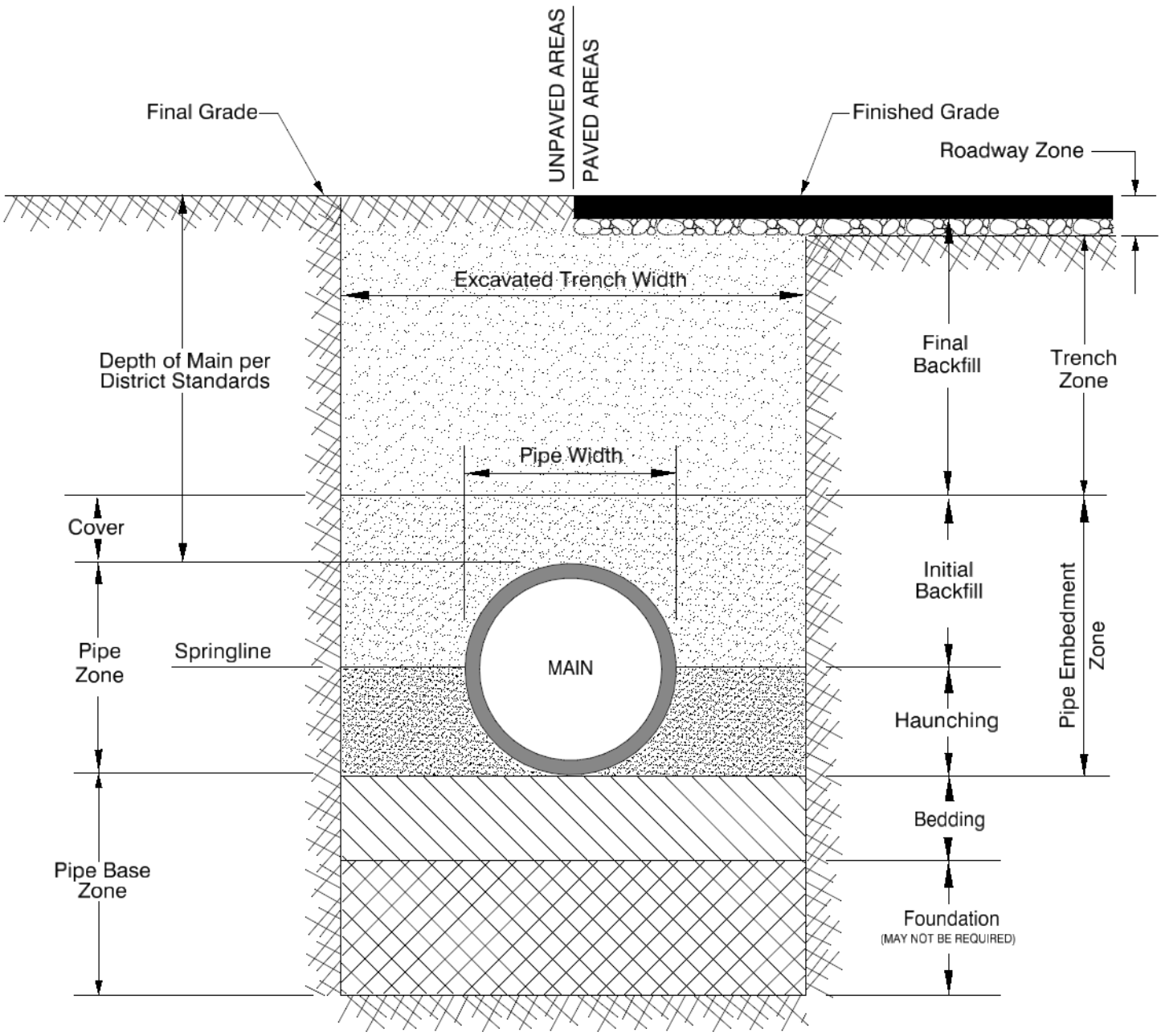

NOTES:

1. Trench Excavation (Sect. 3), Backfilling (Sect. 6), and Compaction (Sect. 11) per District Standards, or City or County Requirements, Whichever is the Higher Standard.
2. Sheeting, Shoring, Sloping, and Benching Per ANSI/ASSE A10.12, Latest Edition.
3. Bedding and Haunching Material Will Not Contain Organics, Rocks, Cobbles, Concrete, Brick or Other Construction Debris of Any Kind.
4. Pavement Replacement per the City of Apache Junction, Detail AJ-200M.

Suggested Trench Width

Nominal Pipe Size	Trench Width
6-Inch	30-Inches
8-Inch	32-Inches
12-Inch	36-Inches
16-Inch	40-Inches
24-Inch	48-Inches
30-Inch	54-Inches
36-Inch	60-Inches

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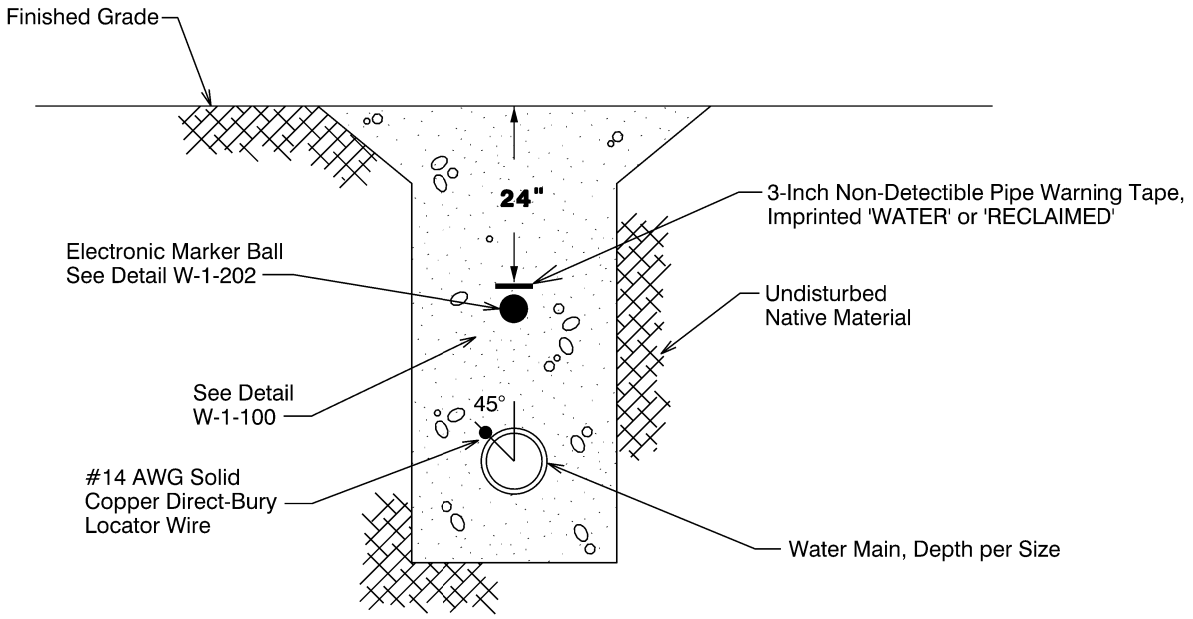
STANDARD DETAIL

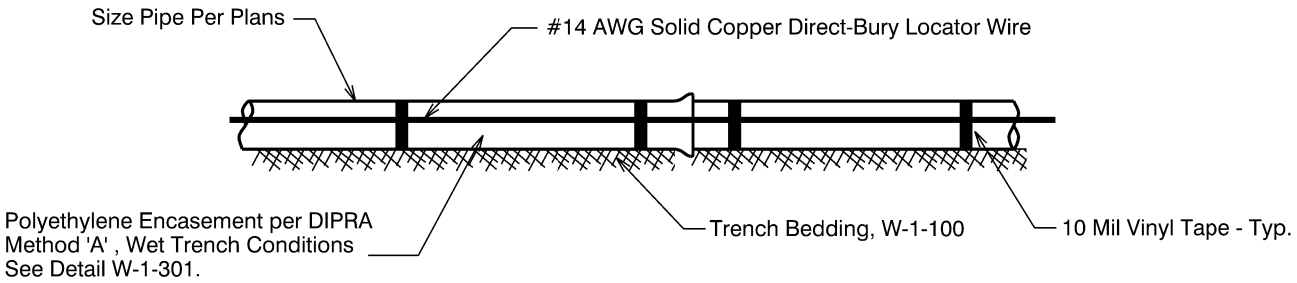
FOR THE INSTALLATION OF

TRENCH BEDDING

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	11-30-2021		W-1-100



TYPICAL WATER TRENCH DETAIL



TYPICAL PROFILE VIEW

TAPE GENERAL NOTES:

1. Use Terra Tape 3-Inch non-detectible marking tape, manufactured by Reef Industries Inc. of Houston, Texas. (1-800-231-2417)
2. The tape is blue and imprinted with 'WATER' or purple and imprinted 'RECLAIMED'.
3. INSTALLATION: The pipe warning tape will be installed over all water mains and will be buried 24-Inches below the surface over the center of the pipe. Electronic Ball Markers installed below tape. See Detail W-1-202.
   A) The backfill will be sufficiently leveled so that the tape is installed on a flat surface.
   B) The tape will be centered in the trench with the printed side up.
   C) Care will be exercised to avoid movement of the tape while the remaining backfill is moved into the trench.

WIRE GENERAL NOTES:

1. All pipe will have #14 AWG solid copper direct-bury locator wire installed directly to the polywrap at 45 degrees from the vertical center of the pipe and will be attached using 10 Mil vinyl tape.
2. The locating wire will terminate at the top of each valve box and be capable of extending a minimum of 12-Inches above the top of the box in such a manner so as not to interfere with valve operation. See Detail W-1-201.

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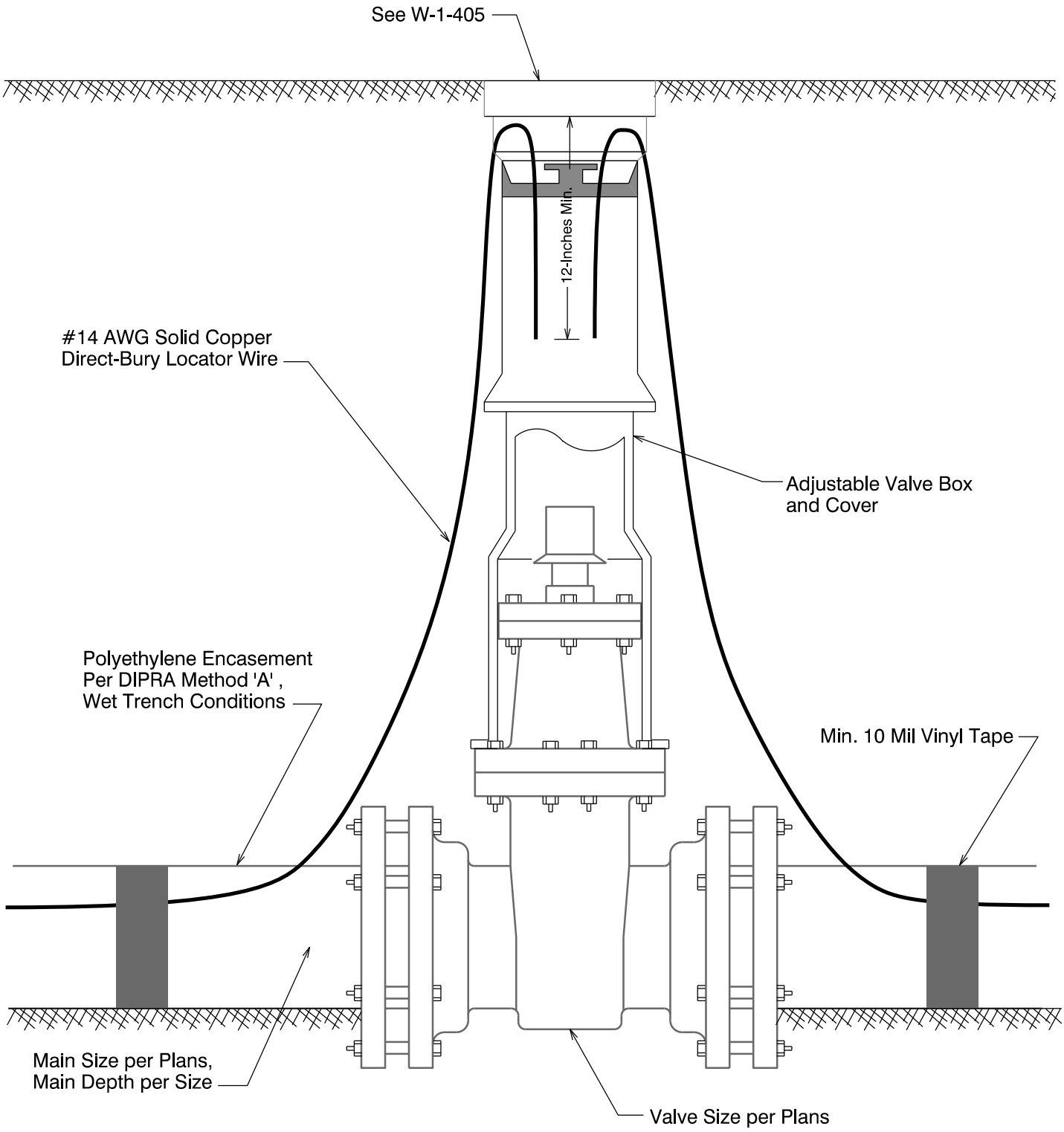
STANDARD DETAIL

FOR THE INSTALLATION OF

PIPE WARNING TAPE and LOCATOR WIRE

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-07-2021		W-1-200

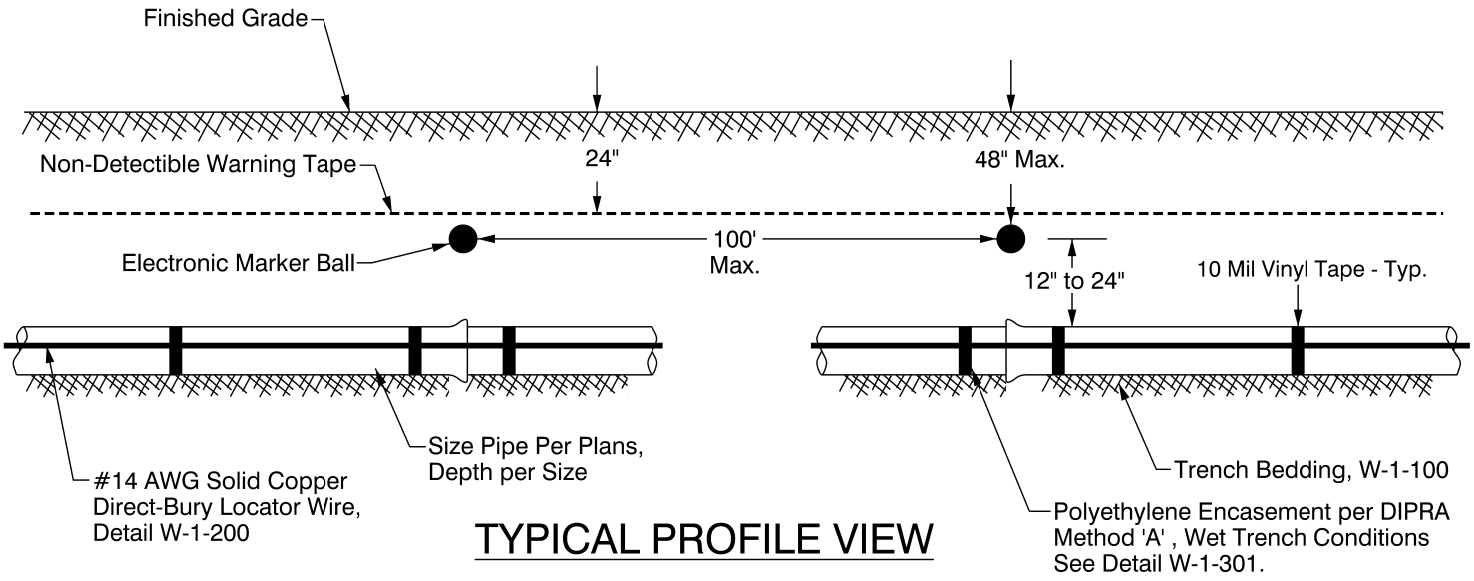


STANDARD DETAIL

FOR THE INSTALLATION OF

LOCATOR WIRE TERMINATION

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-07-2021		W-1-201



TYPICAL PROFILE VIEW

TYPICAL MARKER LOCATIONS:

1. On All Bends, Vertical and Horizontal.
2. On All Tees, Crosses, and Dead-Ends.
3. At Each End of Steel Casing.
4. At Tapping Sleeves and Repair Points.
5. On All Straight Water Main Runs, Every 100-Feet.
6. At Highway, Utility, Railroad, and Wash Crossings.
7. At Changes in Pipe Diameters.

1403-XR

SPECIFICATIONS:

1. Electronic Marker Balls Will Be Installed Directly Above the Pipe, But Below The Warning Tape.
2. Electronic Marker Ball Colors Will Be Blue For Potable Water, and Purple For Reclaimed Water.
3. For Large Diameter Mains Installed At A Depth Greater Than 5-Feet From Finished Grade, The Electronic Marker Ball Will Be Set At A Maximum Depth of 4-Feet From Final Grade.
4. Potable Water Marker Frequency is 145.7 kHz.
5. Reclaimed Water Marker Frequency is 66.3 kHz.
6. Passive Electronic Marker Ball, Manufactured By 3M, Model 1403-XR, 4-Inch, Self-Leveling, Blue.
7. Passive Electronic Marker Ball, Manufactured By 3M, Model 1408-XR, 4-Inch, Self-Leveling, Purple.

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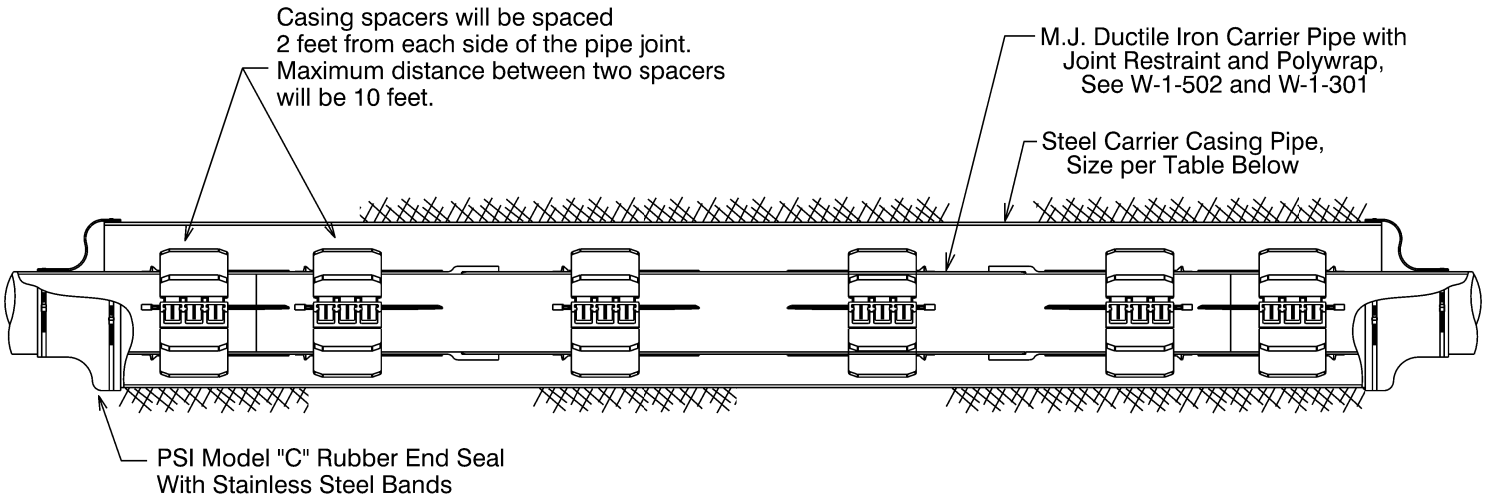
STANDARD DETAIL

FOR THE INSTALLATION OF

ELECTRONIC MARKER BALL

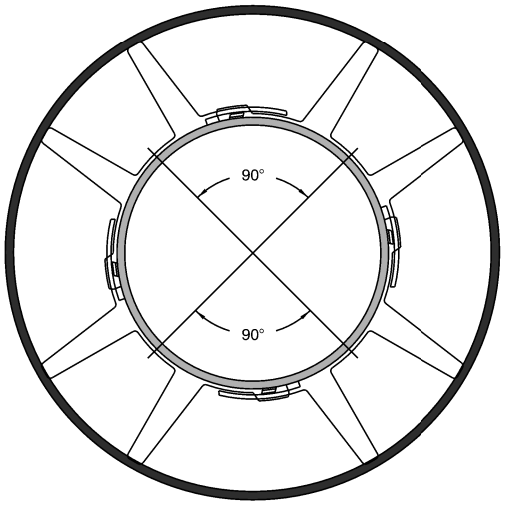
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	02/10/2022		W-1-202



CROSS SECTION

NOTES:

1. Casing Spacers Will Be The PSI Ranger II Casing Spacers as Manufactured By Pipeline Seal and Insulator, Inc., of Houston, Texas.
2. After Insertion Of The Carrier Pipe Into The Casing, The Ends Of The Casing Will Be Closed By Installing 1/8 Inch Thick Synthetic Rubber End Seals Equal To The PSI Model "C" End Seal As Manufactured By Pipeline Seal And Insulator, Inc., of Houston, Texas.
3. The Carrier Pipe Will Be Restrained and Polywrapped Prior To The Skid Installation And Insertion Into The Carrier Casing.
4. Steel Carrier Casing Will Meet The Requirements of ASTM A139, Grade B, Whose Minimum Yield Strength is 35,000 Kilopounds per Square Inch and Whose Minimum Tensile Strength is 60,000 Kilopounds per Square Inch (Ksi).
5. Spacers Are Shown For Illustrative Purposes Only. Approved Spacers Will Be Installed According To Manufacturer's Specifications.
6. Steel Carrier Casing Pipe Will Meet AWWA C200, for Seamless Steel Pipe, 6-Inches and Larger.



SECTION CUT

PIPE SIZE	OD M.J. BELL	CASING SIZE	CASING SIZE ID	CASING SCHEDULE	WALL THICKNESS	SKID SIZE
6"	6" - 11.12"	16"	15.25"	STD.	.375	*x4x12
8"	8" - 13.37"	18"	17.25"	STD.	.375	*x4x12
12"	12" - 17.94"	22"	21.25"	STD.	.375	*x4x12
16"	16" - 22.56"	28"	27.25"	STD.	.375	*x4x12
20"	20" - 27.08"	32"	31.25"	STD.	.375	*x4x12
24"	24" - 31.58"	36"	35.25"	STD.	.375	*x4x12
30"	30" - 39.12"	48"	47.25"	STD.	.375	*x4x12
36"	36" - 46.00"	54"	53.25"	STD.	.375	*x4x12
48"	48" - 60.00"	66"	65.25"	STD.	.375	*x4x12

*Thickness Of Skid To Extend A Minimum of ½-Inch Above The O.D. Of The Pipe Bell or Gland.

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STANDARD DETAIL

FOR THE INSTALLATION OF

WATER MAIN ENCASEMENT

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-07-2021		W-1-300

TUBE SIZE REQUIRED												
PIPE DIAMETER (INCHES)	4	6	8	10	12	14	16	20	24	30	36	42
MIN. FLAT TUBE WIDTH (INCHES)	14	16	20	24	27	30	34	41	54	67	81	81

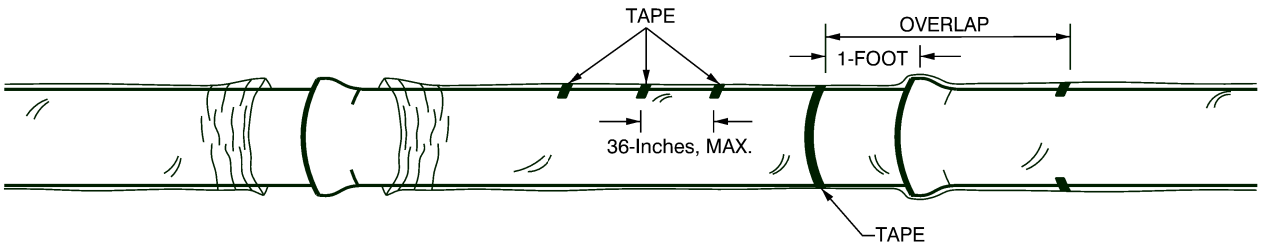
THE FOLLOWING METHOD DESCRIBES THE PROCEDURE FOR INSTALLING POLYETHYLENE:

1. CUT THE POLYETHYLENE TUBE TO LENGTH APPROXIMATELY TWO FEET LONGER THAN THE LENGTH OF THE PIPE SECTION, SLIP THE TUBE AROUND THE PIPE, CENTERING IT TO PROVIDE A ONE-FOOT OVERLAP ON EACH ADJACENT PIPE SECTION, AND BUNCHING IT ACCORDION FASHION LENGTHWISE UNTIL IT CLEARS THE PIPE END.

2. LOWER THE PIPE INTO THE TRENCH AND MAKE THE PIPE JOINT WITH THE PRECEDING SECTION OF PIPE. A SHALLOW BELL HOLE MUST BE MADE AT THE JOINTS TO FACILITATE INSTALLATION OF THE POLYETHYLENE TUBE.

3. AFTER ASSEMBLING THE PIPE JOINT, MAKE THE OVERLAP OF THE POLYETHYLENE TUBE, PULL THE BUNCHED POLYETHYLENE FROM THE PRECEDING LENGTH OF PIPE, SLIP IT OVER THE END OF THE NEW LENGTH OF PIPE AND SECURE IT IN PLACE. THEN SLIP THE END OF THE POLYETHYLENE FROM THE NEW PIPE SECTION OVER THE END OF THE PRECEDING LENGTH OF PIPE, SECURE THE OVERLAP IN PLACE, TAKE UP THE SLACK WIDTH TO MAKE IT SNUG, BUT NOT TOO TIGHT, FIT ALONG THIS BARREL OF PIPE, SECURING THE FOLD AT QUARTER POINTS.

4. REPAIR ANY RIPS, PUNCTURES, OR OTHER DAMAGE TO THE POLYETHYLENE WITH ADHESIVE TAPE OR WITH SHORT LENGTH OF THE POLYETHYLENE TUBE CUT OPEN, WRAPPED AROUND THE PIPE, AND SECURED IN PLACE. PROCEED WITH INSTALLATION OF THE NEXT SECTION OF PIPE IN THE SAME MANNER.



PIPE-SHAPED APPURTENANCES:

1. BENDS, REDUCERS, OFFSETS AND OTHER PIPE-SHAPED APPURTENANCES SHALL BE COVERED IN THE SAME MANNER AS THE PIPE.

JUNCTIONS BETWEEN WRAPPED AND UNWRAPPED PIPE:

1. WHERE POLYETHYLENE WRAPPED PIPE JOINS A PIPE WHICH IS NOT WRAPPED, EXTEND THE POLYETHYLENE TUBE TO COVER THE UNWRAPPED PIPE A DISTANCE OF AT LEAST TWO FEET.

2. SECURE THE END WITH 3 CIRCUMFERENTIAL TURNS OF POLYWRAP TAPE.

ODD-SHAPED APPURTENANCES:

1. VALVES, TEES, CROSSES AND OTHER ODD-SHAPED PIECES WHICH CANNOT BE WRAPPED PRACTICALLY IN A TUBE SHALL BE WRAPPED WITH A FLAT SHEET OR SPLIT LENGTH OF POLYETHYLENE TUBE. THE SHEET SHALL BE PASSED UNDER THE APPURTENANCE AND BROUGHT UP AROUND THE BODY.

2. SEAMS WILL BE MADE BY BRINGING THE EDGES TOGETHER, FOLDING OVER TWICE, AND TAPING DOWN.

3. SLACK WIDTH AND OVERLAPS AT JOINTS WILL BE HANDLED AS DESCRIBED ABOVE.

4. TAPE POLYETHYLENE SECURELY IN PLACE AT VALVE STEM AND OTHER PENETRATIONS.

BACKFILL FOR POLYETHYLENE WRAPPED PIPE:

1. BACKFILL MATERIAL SHALL BE THE SAME AS SPECIFIED FOR PIPE WITHOUT POLYETHYLENE WRAPPING. SPECIAL CARE SHOULD BE TAKEN TO PREVENT DAMAGE TO THE POLYETHYLENE WRAPPING WHEN PLACING BACKFILL. BACKFILL MATERIAL SHOULD BE FREE OF CINDERS, REFUSE, BOULDERS, ROCKS, STONES OR OTHER MATERIAL THAT COULD DAMAGE THE POLYETHYLENE.

MATERIAL SPECIFICATIONS:

MEETS OR EXCEEDS AWWA/ANSI/ASTM C-105/A21.5/D4976 SPECIFICATIONS FOR LINEAR LOW-DENSITY POLYETHYLENE FILM, HAVE A MINIMUM 8 MIL THICKNESS, AND BE MADE FROM VIRGIN POLYETHYLENE ONLY. TUBE COLOR = BLUE. COMES IN 200 AND 400 FOOT ROLLS. PERFORATIONS EVERY 20-FEET, FOR 18-FOOT PIPE LENGTHS; PERFORATIONS EVERY 22-FEET, FOR 20-FOOT PIPE LENGTHS, MANUFACTURED BY CHRISTY'S, ANAHEIM, CA.

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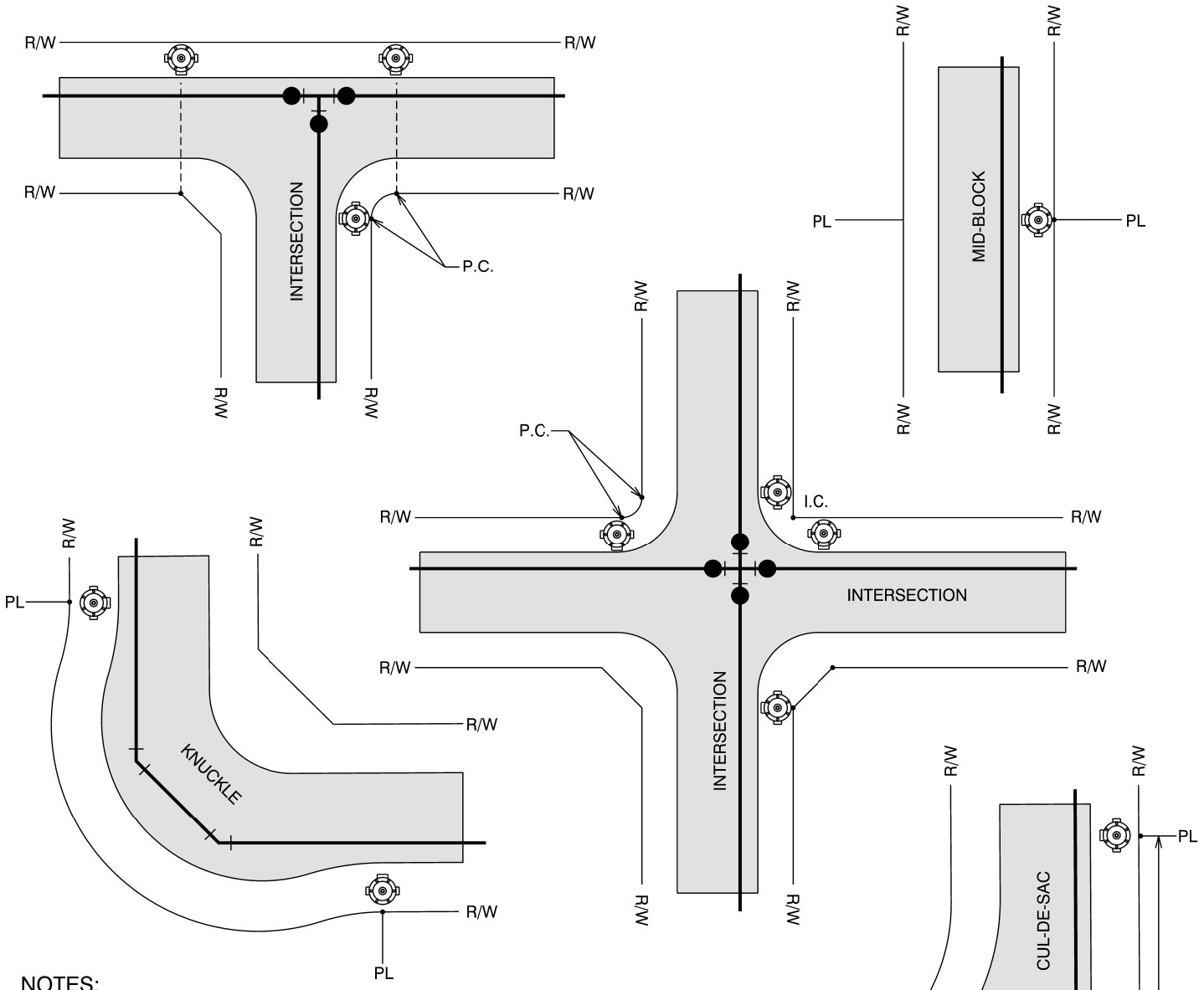
STANDARD DETAIL

FOR THE INSTALLATION OF

POLYETHYLENE ENCASEMENT FOR DUCTILE IRON WATER MAINS

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-13-2021		W-1-301



NOTES:

1. Fire Hydrants Will be Located on the Same Side as the Water Main.
2. Water Main Locations per Plans Under the Asphalt of Residential Streets.
3. The Maximum Distance From a Hydrant to the End of a Dead-End Street Will Not Exceed 200 Feet*. Fire Hydrant Spacing per Section 5.
4. Fire Hydrant Installations per Details W-1-600, W-1-601, and W-1-604.
5. Raised Fire Hydrant Pavement Markers per Detail W-1-602.
6. Valves Will Be Located on Each Branch of Water Main Intersections. See Details W-1-407 and W-1-408.
7. Tees and Crosses Will be Flanged When Connected Directly to Valves. See Details W-1-407 and W-1-408.
8. Maximum Valve Spacing in Residential Areas is 800 Feet. For Industrial and Commercial Districts, the Maximum Valve Spacing is 500 Feet.
9. One Valve is Required on Each Side of a Major Crossing, Such as a Canal, Freeway, Railroad, Channel, or Box Culvert.
10. Valve Installations or Abandonments per Details W-1-401 Through W-1-408.

- Pavement

- Gate Valve Location

P.C. - Point Of Curve

R/W - Right-Of-Way Boundary

I.C. - The Intersection Corner of Right-Of-Way Lines

- Fire Hydrant Location

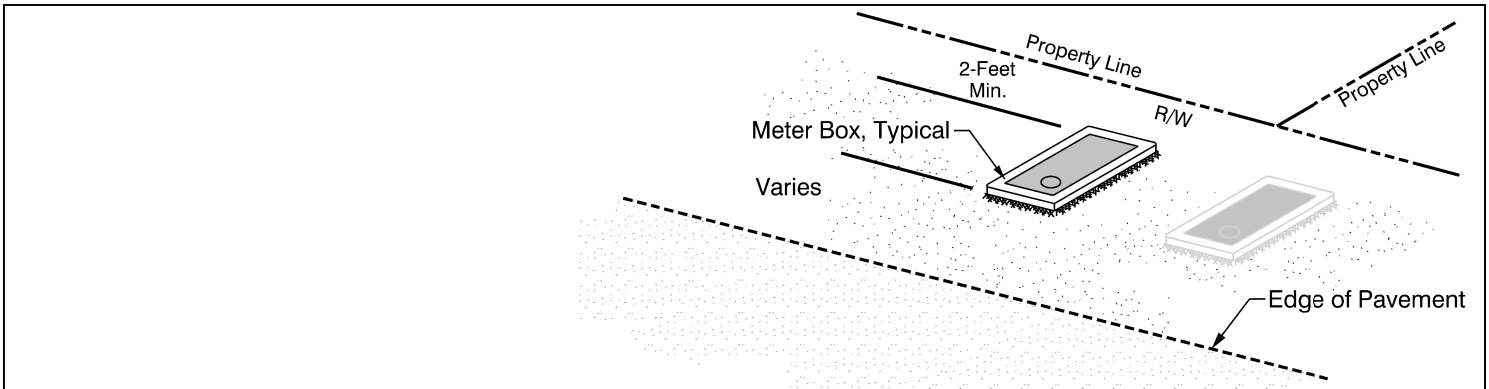
*2018 IFC, Appendix C, Section C102.1(d)

STANDARD DETAIL

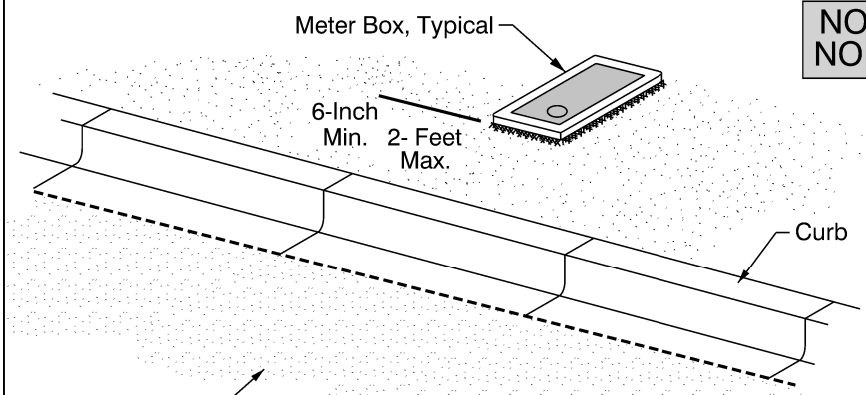
FOR THE INSTALLATION OF

GATE VALVE and FIRE HYDRANT LOCATIONS

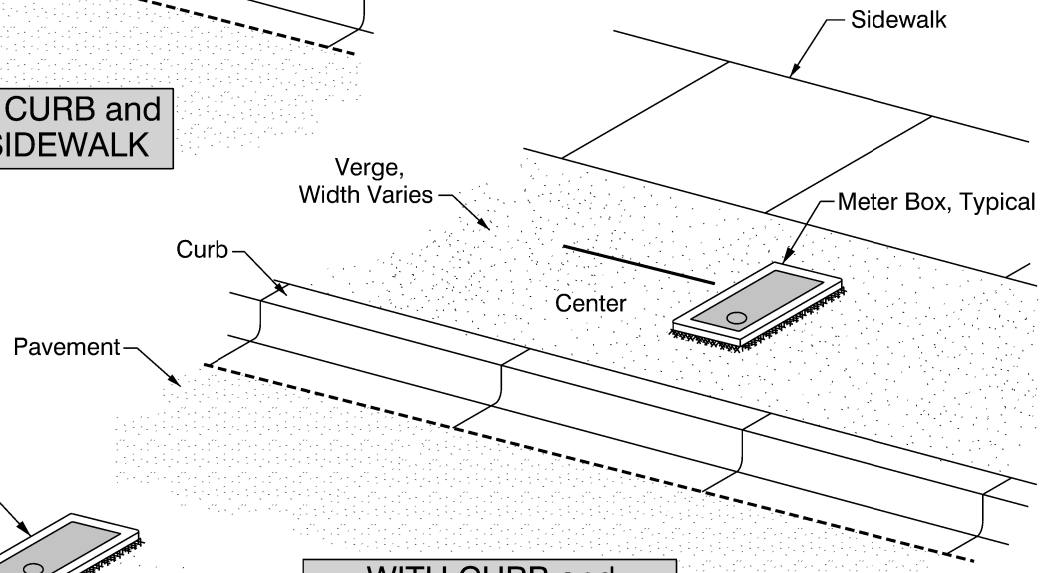
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-07-2021		W-1-400



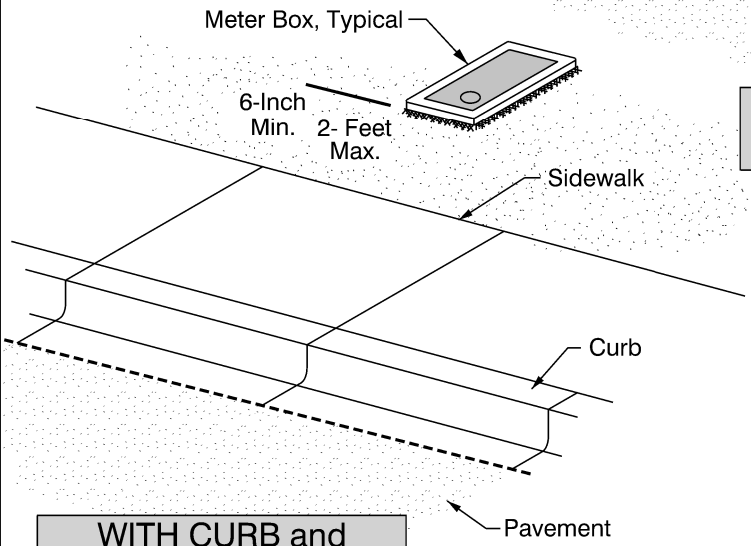
NO CURB and NO SIDEWALK



WITH CURB and NO SIDEWALK



WITH CURB and DETACHED SIDEWALK



WITH CURB and ATTACHED SIDEWALK

NOTES:

1. Meter Boxes Are Not To Be Installed In Driveways, Sidewalks, or Paved Roads.
2. Multiple Boxes Will Be Installed A Minimum of 12-Inches Between Boxes.
3. Meter Boxes Will Be Installed 2-Feet From The Back Of Berm, Curb, Or Sidewalk. Centered in a Verge.

See Detail W-1-800

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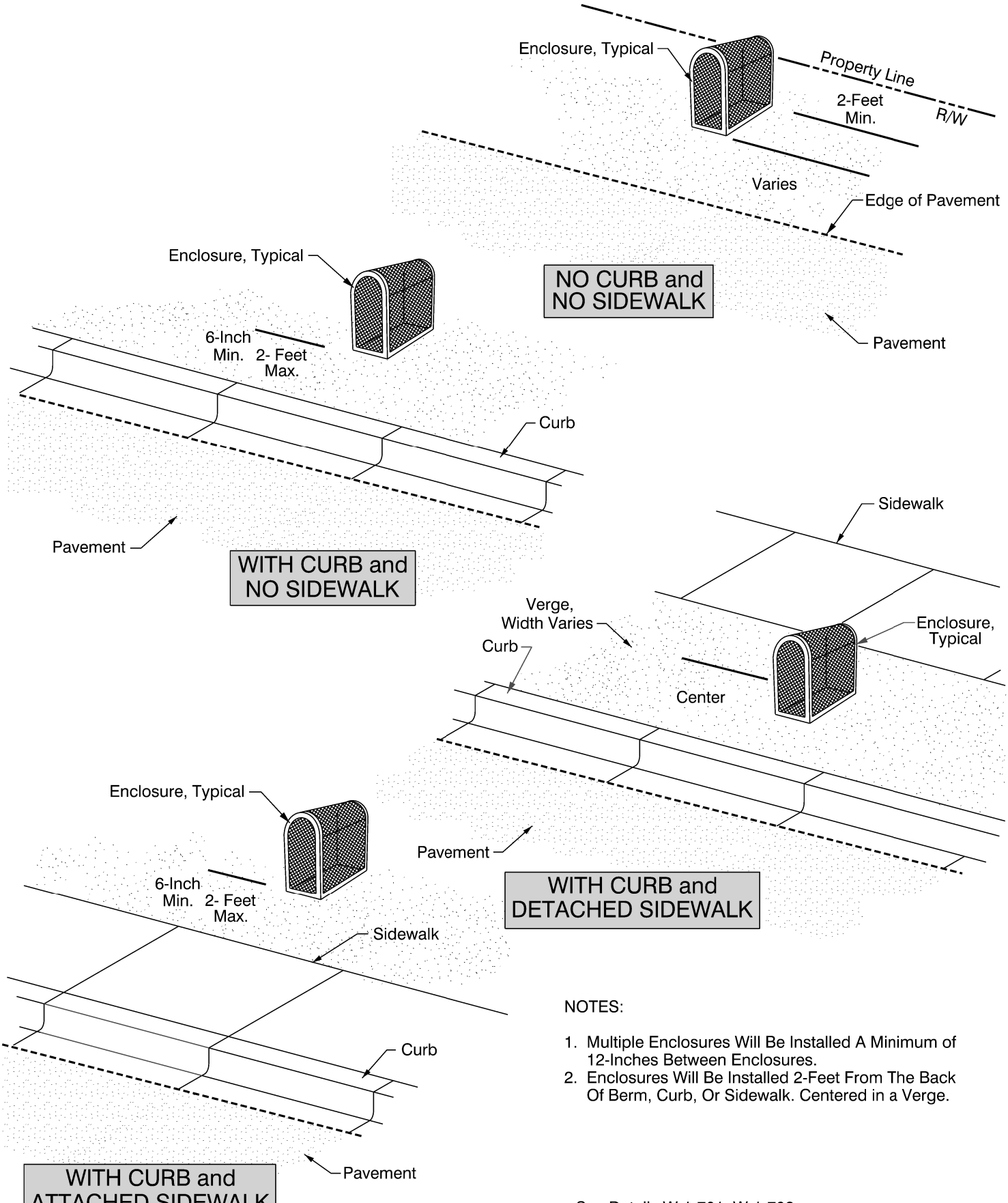
STANDARD DETAIL

FOR THE INSTALLATION OF

METER BOX LOCATIONS

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	01/27/2022		W-1-400-2



NOTES:

1. Multiple Enclosures Will Be Installed A Minimum of 12-Inches Between Enclosures.
2. Enclosures Will Be Installed 2-Feet From The Back Of Berm, Curb, Or Sidewalk. Centered in a Verge.

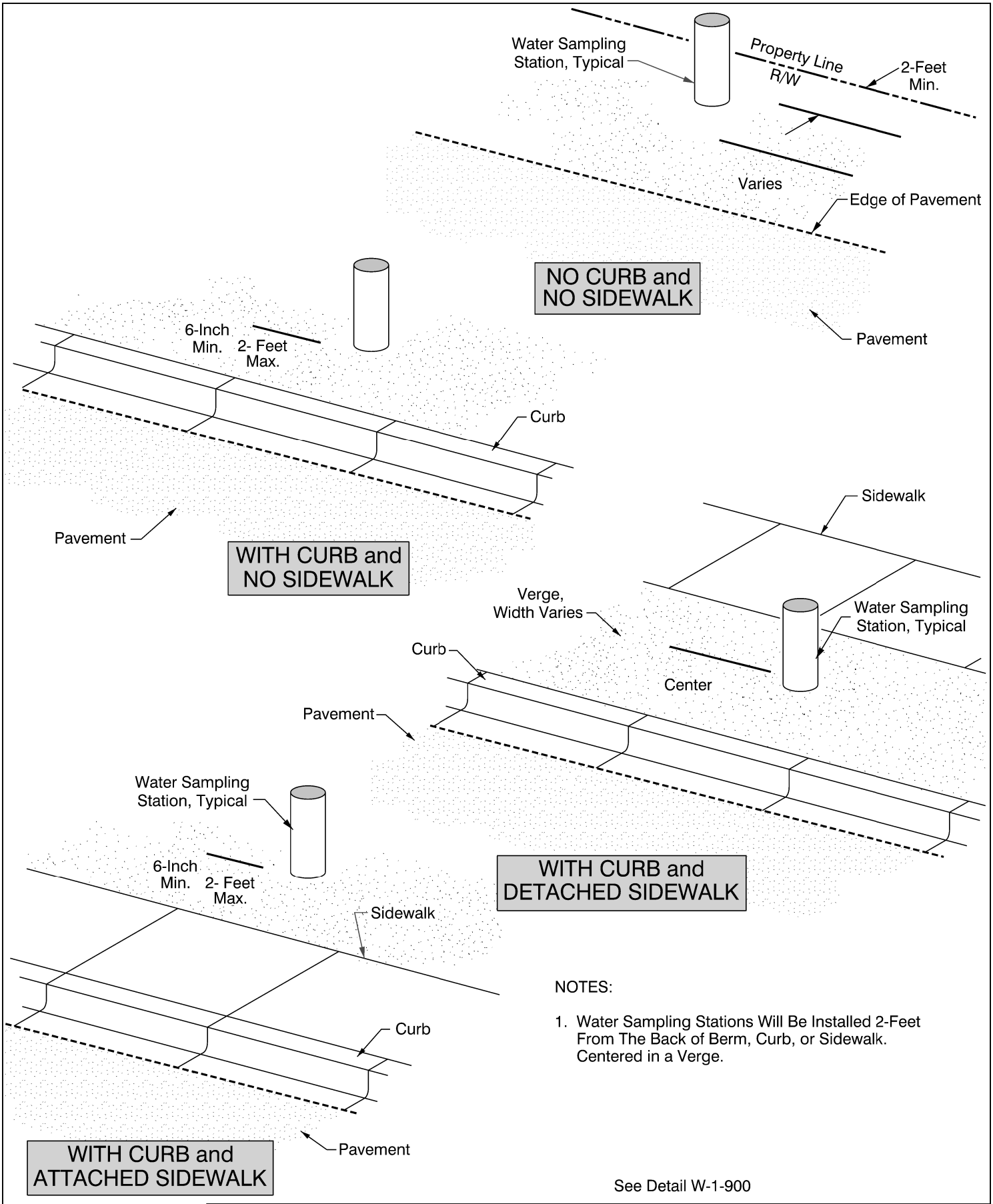
See Details W-1-701, W-1-702

STANDARD DETAIL

FOR THE INSTALLATION OF

AIR/VACUUM and PRESSURE RELIEF VALVE
ENCLOSURE LOCATIONS

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	01/27/2022		W-1-400-3



NOTES:

1. Water Sampling Stations Will Be Installed 2-Feet From The Back of Berm, Curb, or Sidewalk. Centered in a Verge.

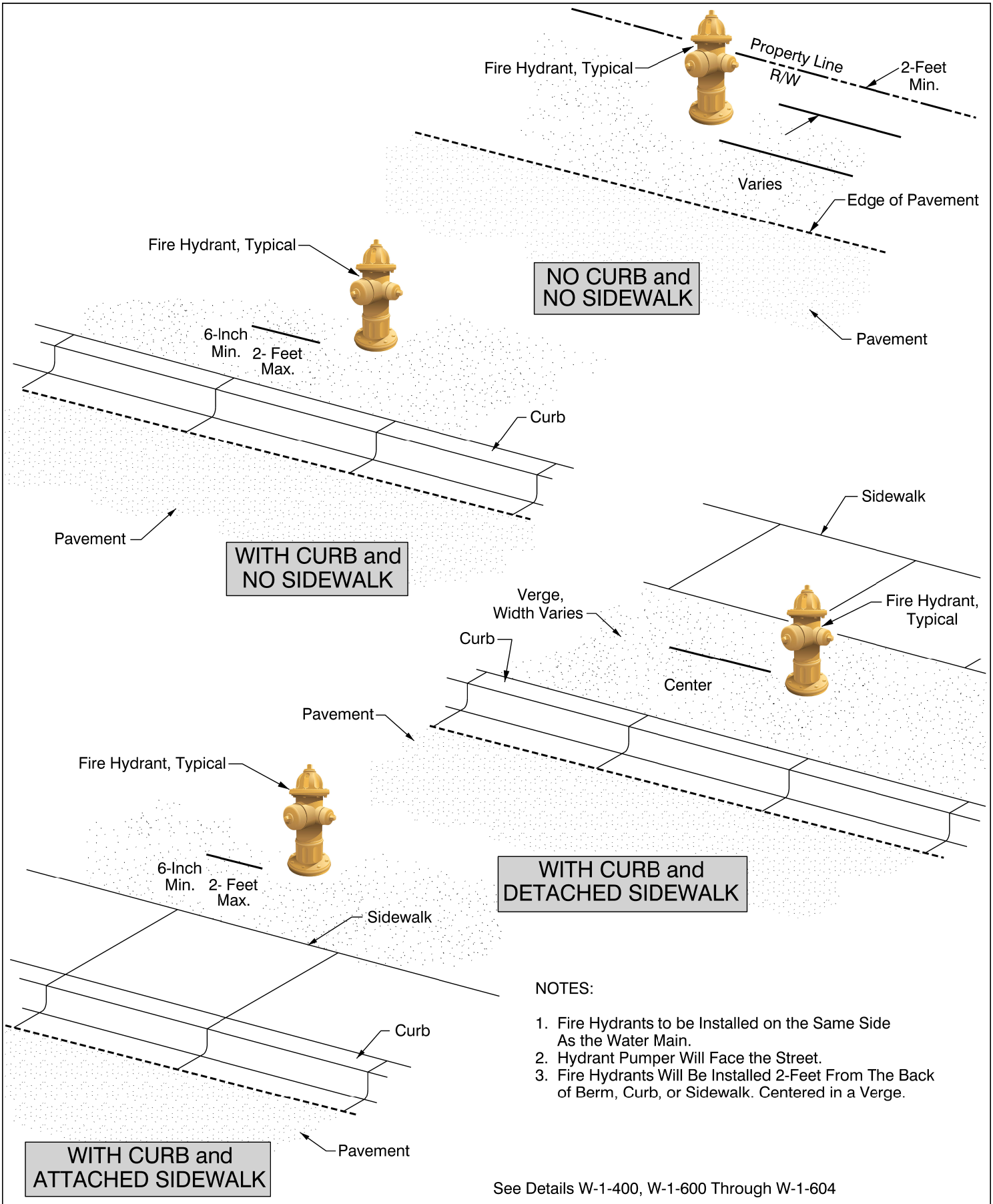
See Detail W-1-900

STANDARD DETAIL

FOR THE INSTALLATION OF

WATER SAMPLING STATION LOCATIONS

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	01/27/2022		W-1-400-4



NOTES:

1. Fire Hydrants to be Installed on the Same Side As the Water Main.
2. Hydrant Pumper Will Face the Street.
3. Fire Hydrants Will Be Installed 2-Feet From The Back of Berm, Curb, or Sidewalk. Centered in a Verge.

See Details W-1-400, W-1-600 Through W-1-604

AJWD

STANDARD DETAIL

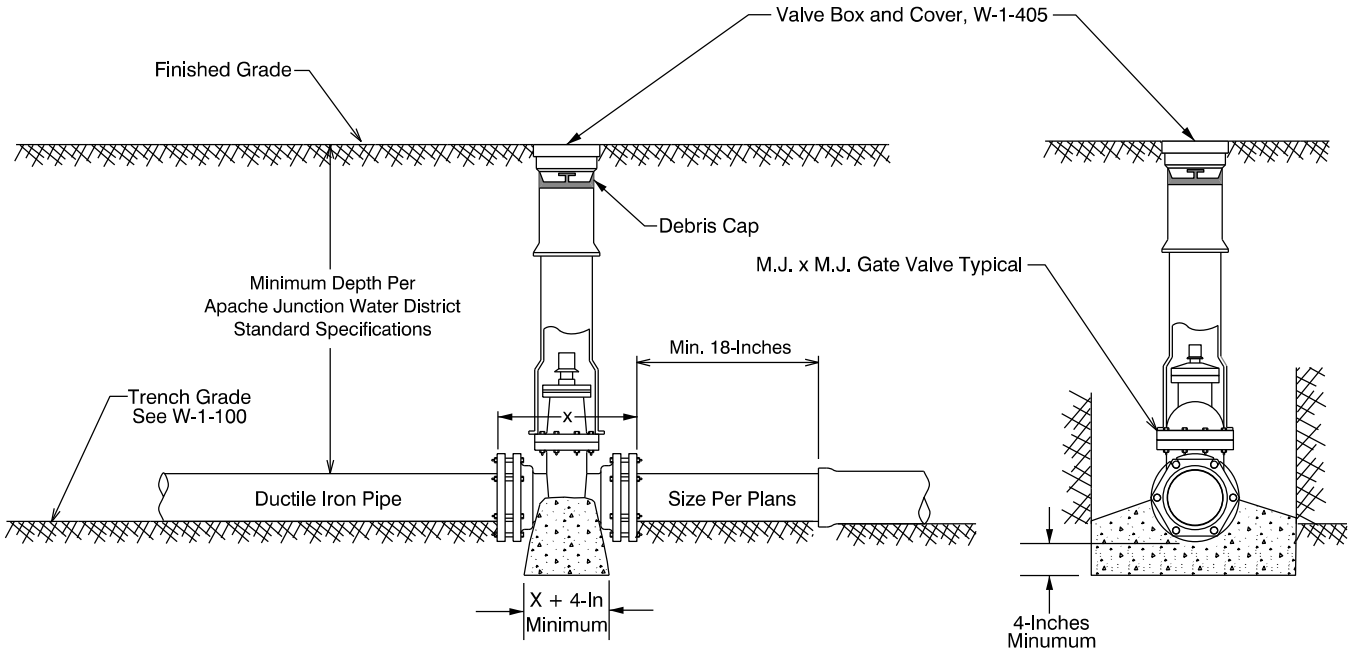
FOR THE INSTALLATION OF

FIRE HYDRANT LOCATIONS

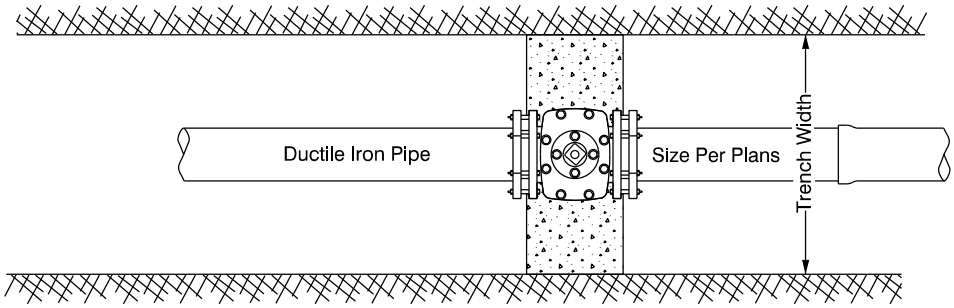
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	01/27/2022		W-1-400-5

FOR 6-INCH THROUGH 16-INCH GATE VALVES

Mueller Resilient Wedge Gate Valves
Catalog Number A-2361-20
ANSI/AWWA C509 Compliant



Form as Required to Keep Clear of Joints and Bolts



Valve operator extensions are required on all valves when the operating nut is over 5-feet below finished grade. Extensions will bring the operating nut within 24 to 36-inches of the top of the valve box. Extensions will be steel with a centering collar and 2-inch operating nut as manufactured by Pipeline Products, Part No. SX-906. Length as required.

All concrete to be Class "C", which is defined as concrete whose minimum compressive strength at 14 days reaches 1600 psi and at 28 days reaches 2000 psi. per MAG Section 725, Table 725-1. Slabs to be formed and poured prior to valve installation.

VALVE SIZE	APPROX. OVERALL VALVE HEIGHT	X (MJ)	X (FLG)	X (MJxFLG)
6-Inch	1' - 11"	10"	10.5"	11.06"
8-Inch	2' - 4"	10.5"	11.5"	12.09"
12-Inch	3' - 3"	12"	14"	14.5"
16-Inch	4' - 1"	19.75"	16.06"	17.91"

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STANDARD DETAIL

FOR THE INSTALLATION OF

VERTICAL GATE VALVES 6-INCH THROUGH 16-INCH

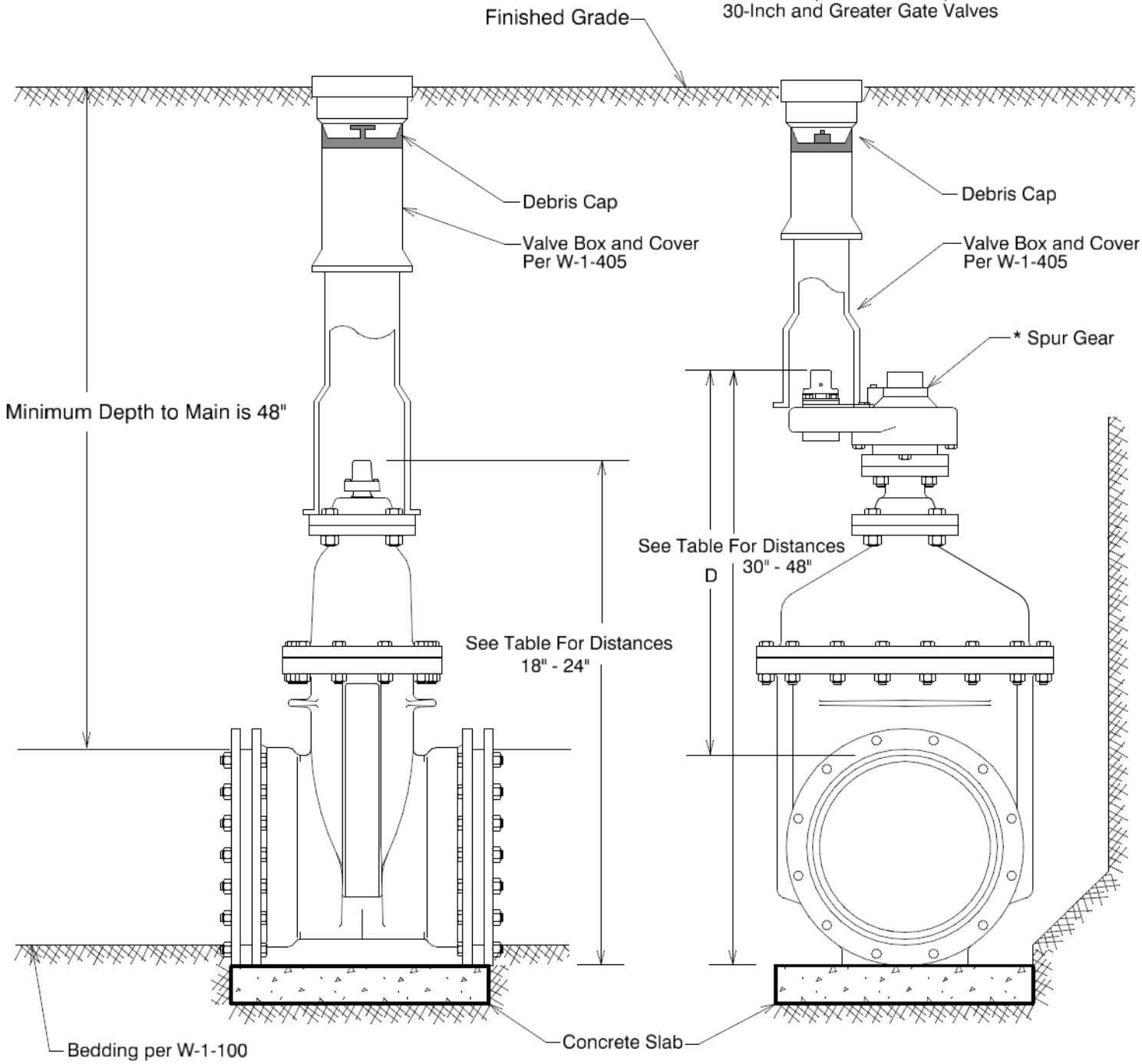
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-07-2021		W-1-401

Valve operator extensions are required on all valves when the operating nut is over 5-feet below finished grade. Extensions will bring the operating nut within 24 to 36-inches of the top of the valve box. Extensions will be steel with a centering collar and 2-inch operating nut as manufactured by Pipeline Products, Part No. SX-906. Length as required.

All concrete slabs to be Class "C", which is defined as concrete whose minimum compressive strength at 14 days reaches 1600 psi and at 28 days reaches 2000 psi. per MAG Section 725, Table 725-1. Slabs to be formed and poured prior to valve installation.

VALVE SIZE	APPROX. OVERALL VALVE HEIGHT	D
18-Inch	4' - 9"	2' - 8"
20-Inch	5' - 2"	2' - 11"
24-Inch	5' -10"	3' - 2"
30-Inch*	7' - 6"	4' - 3"
36-Inch*	8' -10"	5' - 0"
42-Inch*	10' - 4"	5 - 11"
48-Inch*	11' - 8"	6' - 7"

* Use of a Spur Gear is Required for 30-Inch and Greater Gate Valves



STANDARD DETAIL

FOR THE INSTALLATION OF

18-INCH and LARGER VERTICAL RESILIENT WEDGE MECHANICAL JOINT GATE VALVES W/O BYPASS

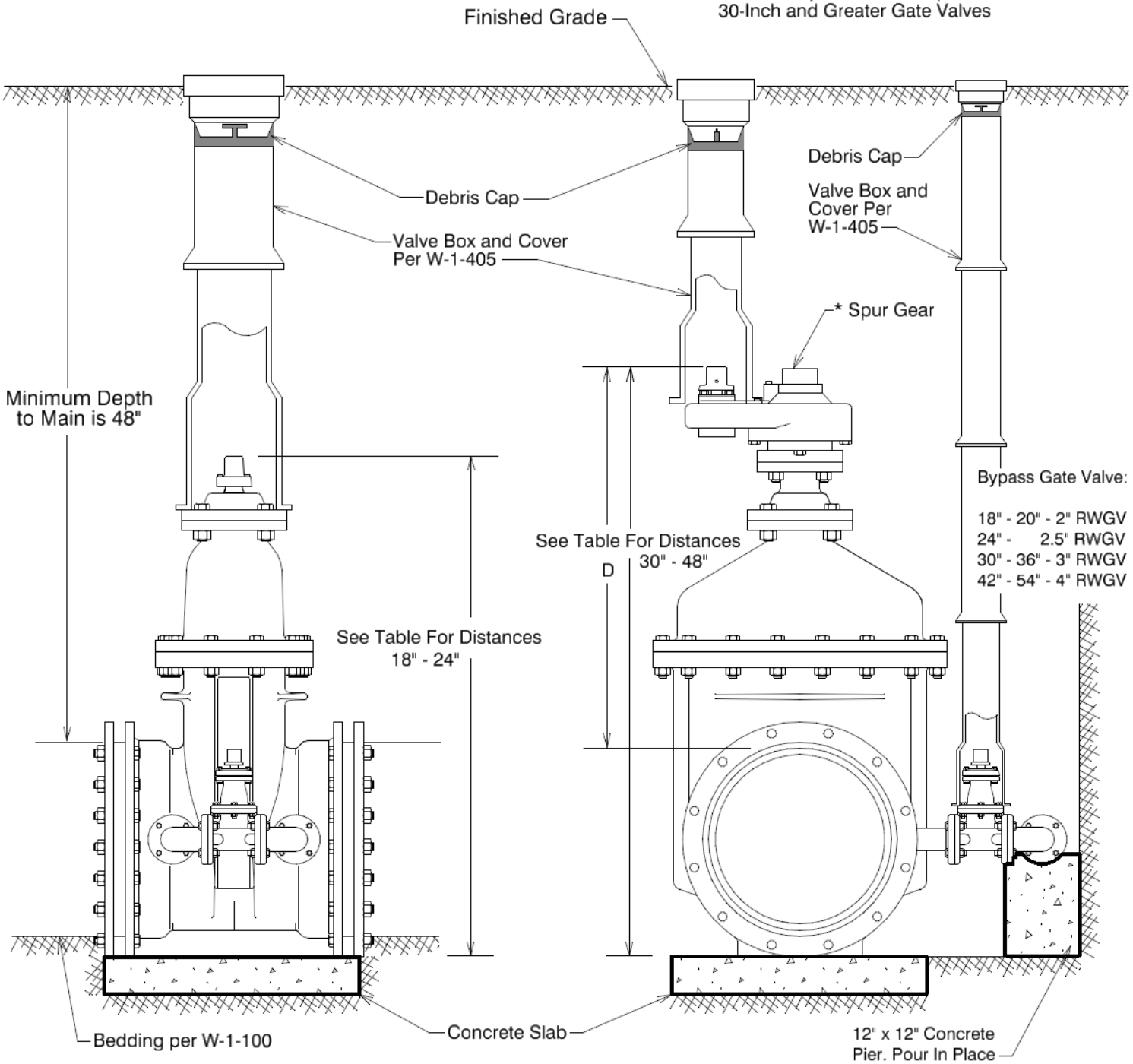
DRAWN BY:	APPROVED BY:	DATE:	REVISED:	
CB	ML	12-09-2021		W-1-401-2

Valve operator extensions are required on all valves when the operating nut is over 5-feet below finished grade. Extensions will bring the operating nut within 24 to 36-inches of the top of the valve box. Extensions will be steel with a centering collar and 2-inch operating nut as manufactured by Pipeline Products, Part No. SX-906. Length as required.

All concrete slabs to be Class "C", which is defined as concrete whose minimum compressive strength at 14 days reaches 1600 psi and at 28 days reaches 2000 psi. per MAG Section 725, Table 725-1. Slabs to be formed and poured prior to valve installation.

VALVE SIZE	APPROX. OVERALL VALVE HEIGHT	D
18-Inch	4' - 9"	2' - 8"
20-Inch	5' - 2"	2' - 11"
24-Inch	5' -10"	3' - 2"
30-Inch*	7' - 6"	4' - 3"
36-Inch*	8' -10"	5' - 0"
42-Inch*	10' - 4"	5 - 11"
48-Inch*	11' - 8"	6' - 7"

* Use of a Spur Gear is Required for 30-Inch and Greater Gate Valves

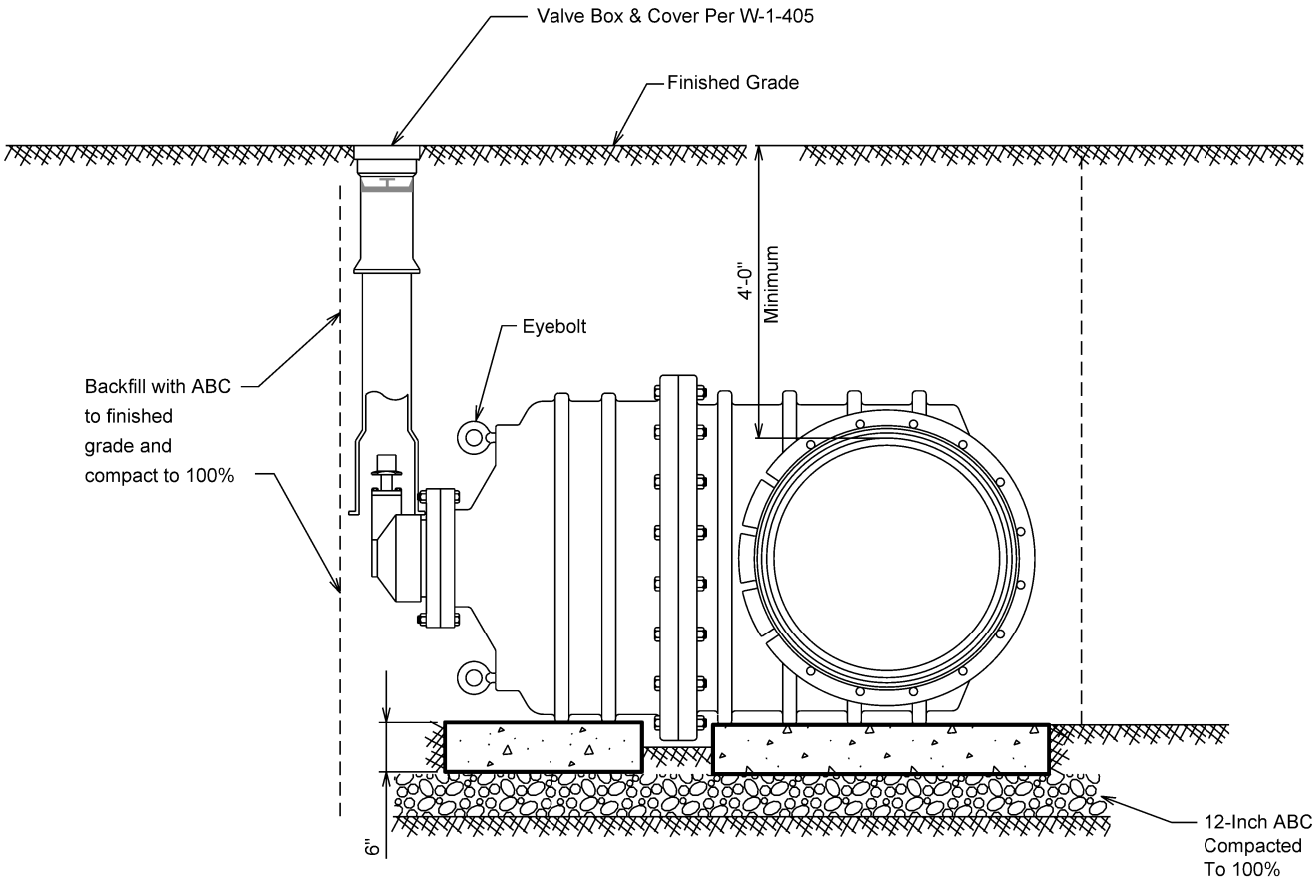


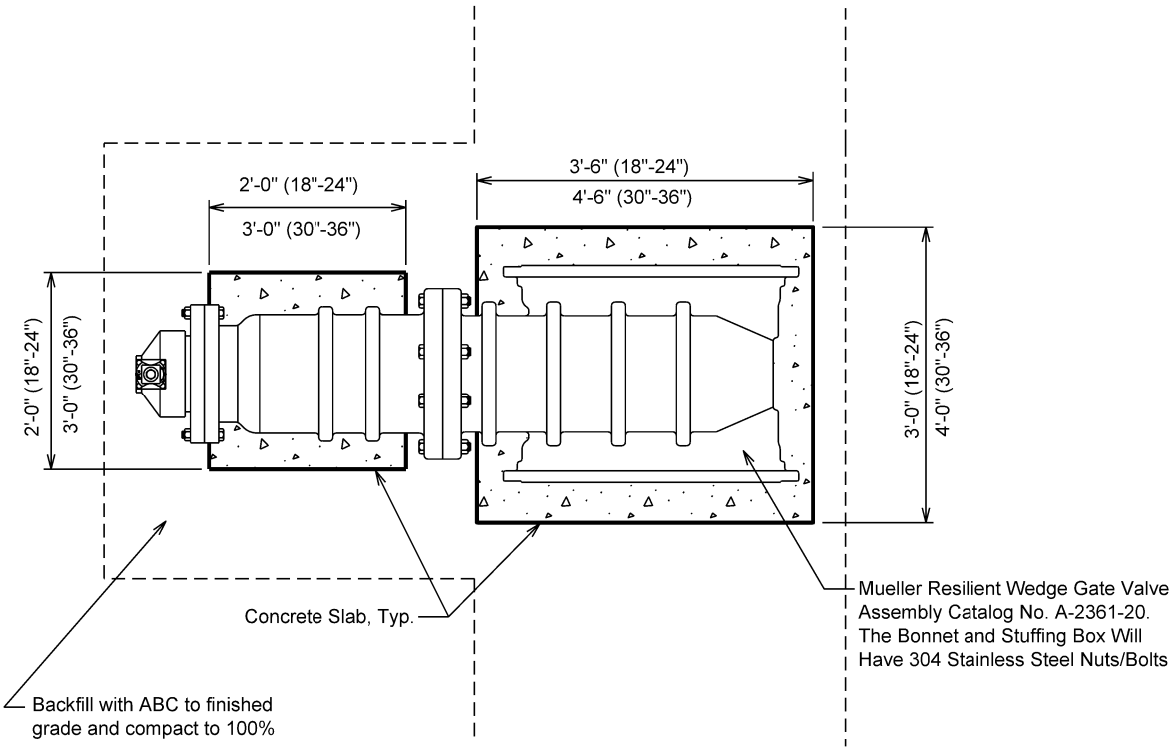
STANDARD DETAIL

FOR THE INSTALLATION OF

18-INCH and LARGER VERTICAL RESILIENT WEDGE MECHANICAL JOINT GATE VALVES W/BYPASS

DRAWN BY:	APPROVED BY:	DATE:	REVISED:	
CB	ML	02-07-2022		W-1-401-3





All concrete slabs to be class "C", which is defined as concrete whose minimum compressive strength at 14 days reaches 1600psi and at 28 days reaches 2000psi. per MAG Section 725, Table 725-1. Slabs to be formed and poured prior to valve installation.

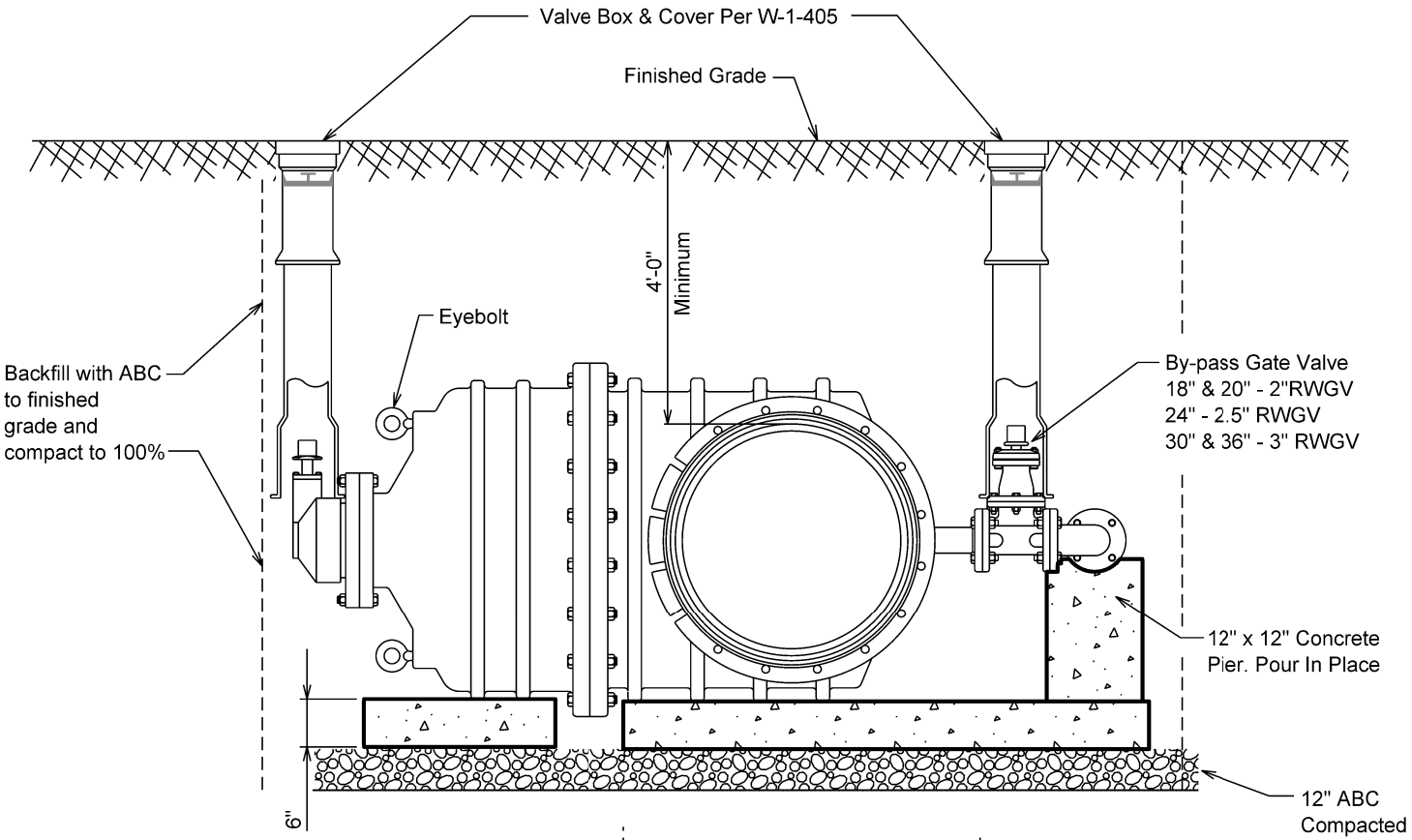
Valve operator extensions are required on all valves when the operating nut is over 5-feet below finished grade. Extensions will bring the operating nut within 24 to 36-inches of the top of the valve box. Extensions will be steel with a centering collar and 2-inch operating nut as manufactured by Pipeline Products, Part No. SX-906. Length as required.

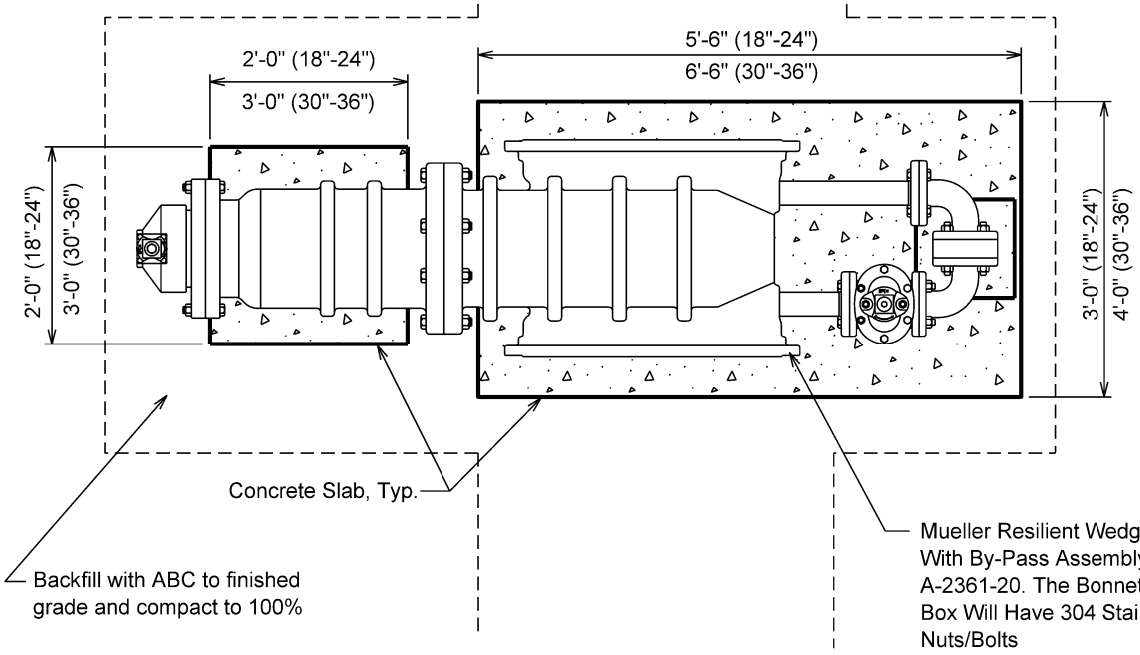
STANDARD DETAIL

FOR THE INSTALLATION OF

BEVEL GEARED HORIZONTAL MECHANICAL JOINT GATE VALVES WITHOUT A BY-PASS FOR 18-INCH AND LARGER VALVES

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-11-2021		W-1-402





All concrete slabs to be class "C", which is defined as concrete whose minimum compressive strength at 14 days reaches 1600psi and at 28 days reaches 2000psi. per MAG Section 725, Table 725-1. Slabs to be formed and poured prior to valve installation.

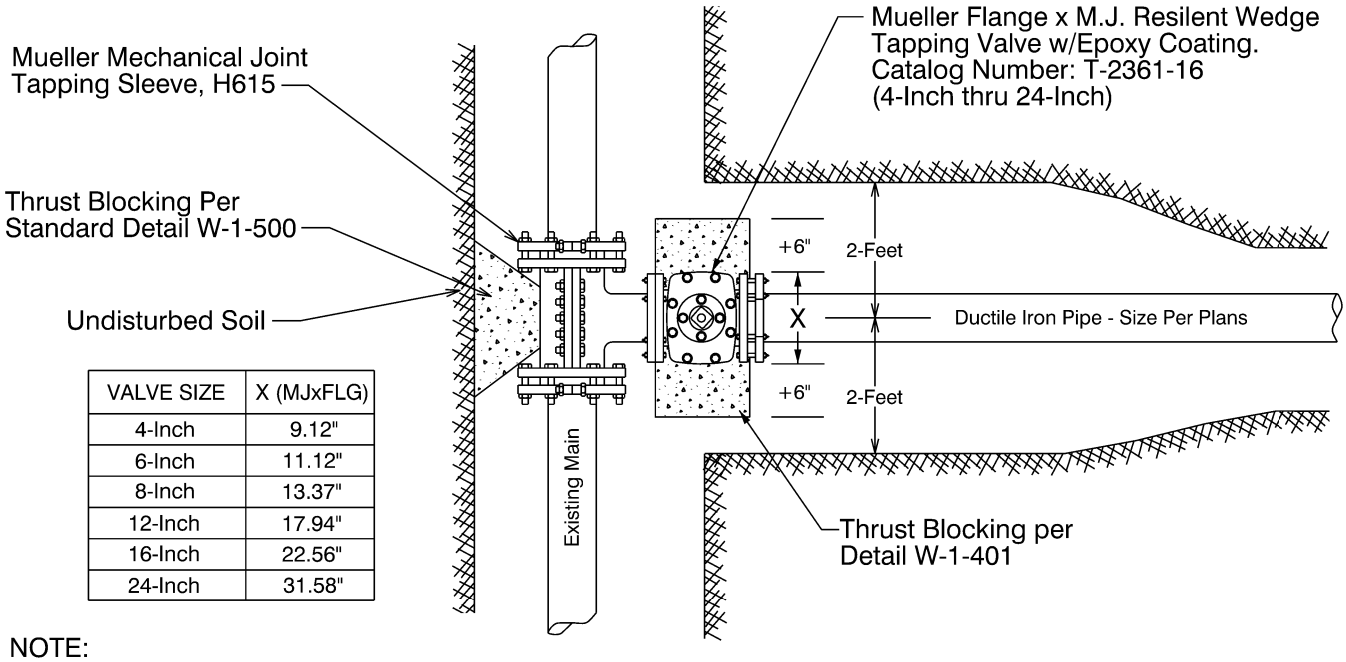
Valve operator extensions are required on all valves when the operating nut is over 5-feet below finished grade. Extensions will bring the operating nut within 24 to 36-inches of the top of the valve box. Extensions will be steel with a centering collar and 2-inch operating nut as manufactured by Pipeline Products, Part No. SX-906. Length as required.

STANDARD DETAIL

FOR THE INSTALLATION OF

BEVEL GEARED HORIZONTAL MECHANICAL JOINT GATE VALVES WITH BY-PASS FOR 18-INCH AND LARGER VALVES

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-11-2021		W-1-403

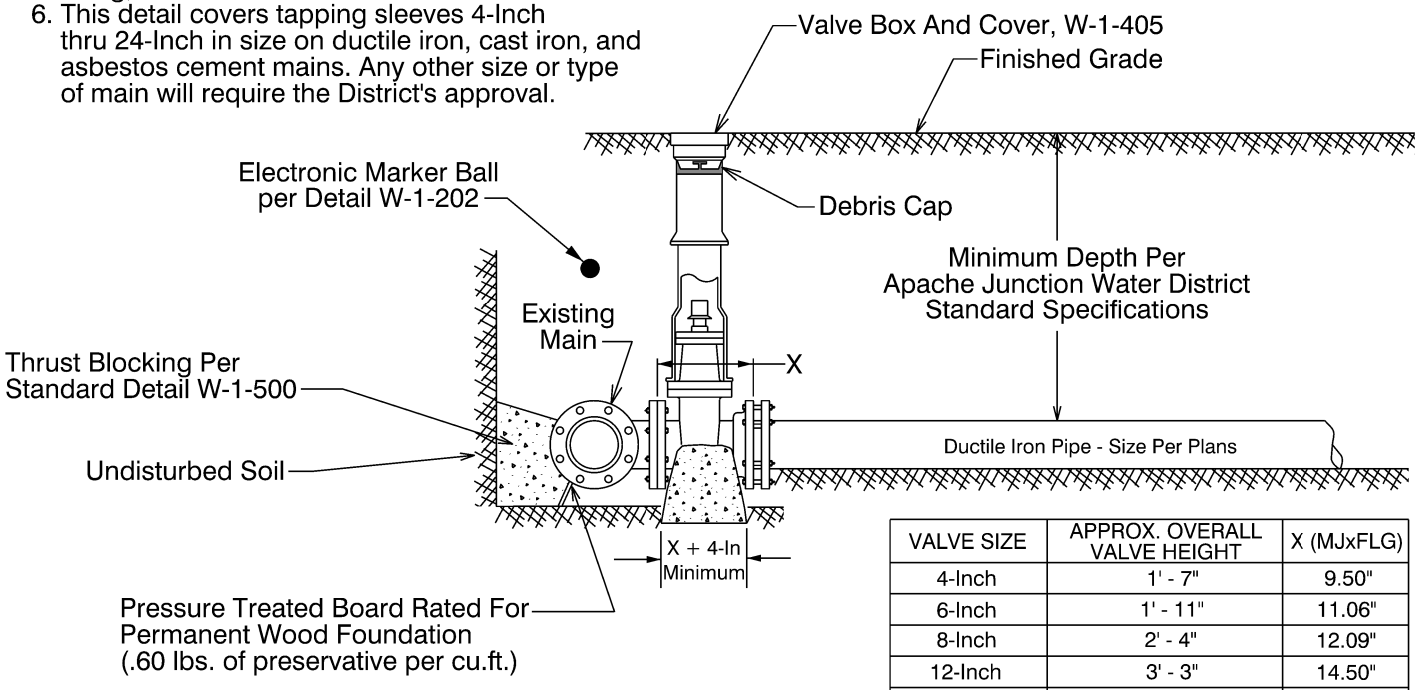


VALVE SIZE	X (MJxFLG)
4-Inch	9.12"
6-Inch	11.12"
8-Inch	13.37"
12-Inch	17.94"
16-Inch	22.56"
24-Inch	31.58"

NOTE:

1. All flanges, bolts, and nuts will be kept free of concrete.
2. Air pressure test the tapping sleeve before the live tap is made.
3. Polywrap all new pipe and fittings.
4. Size on size taps require a 1/2-Inch undersize cutter.
5. Tapping sleeve to be placed a minimum of 18-Inches from any bell, coupling, valve, fitting, or other obstruction.
6. This detail covers tapping sleeves 4-Inch thru 24-Inch in size on ductile iron, cast iron, and asbestos cement mains. Any other size or type of main will require the District's approval.

MAIN SIZE	Tapping Valve ID AWWA Standard	Tapping Machine Shell Cutter OD
4-Inch	4¼ Inch	3½ Inch
6-Inch	6¼ Inch	5½ Inch
8-Inch	8¼ Inch	7½ Inch
12-Inch	12¼ Inch	11½ Inch
16-Inch	16¼ Inch	14½ Inch
24-Inch	24¼ Inch	18½ Inch



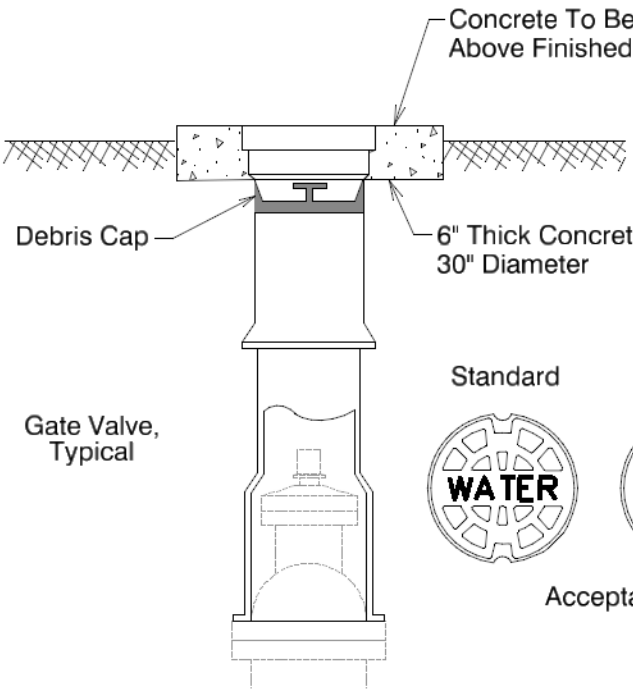
VALVE SIZE	APPROX. OVERALL VALVE HEIGHT	X (MJxFLG)
4-Inch	1' - 7"	9.50"
6-Inch	1' - 11"	11.06"
8-Inch	2' - 4"	12.09"
12-Inch	3' - 3"	14.50"
16-Inch	4' - 1"	17.91"
24-Inch	5' - 10"	21.75"

STANDARD DETAIL

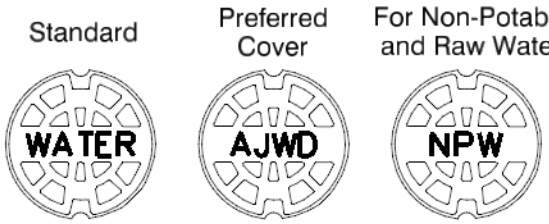
FOR THE INSTALLATION OF

4-INCH THRU 24-INCH TAPPING SLEEVE and VALVE

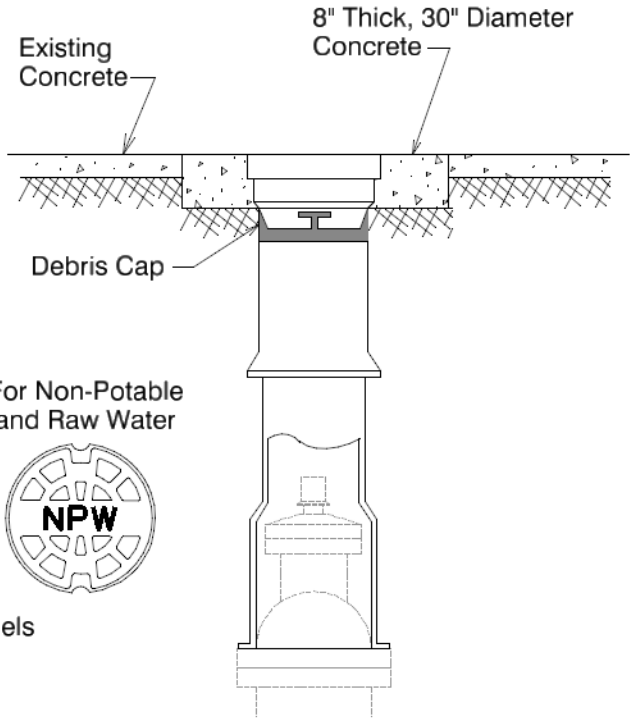
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-11-2021		W-1-404



NON-VEHICULAR VALVE BOX

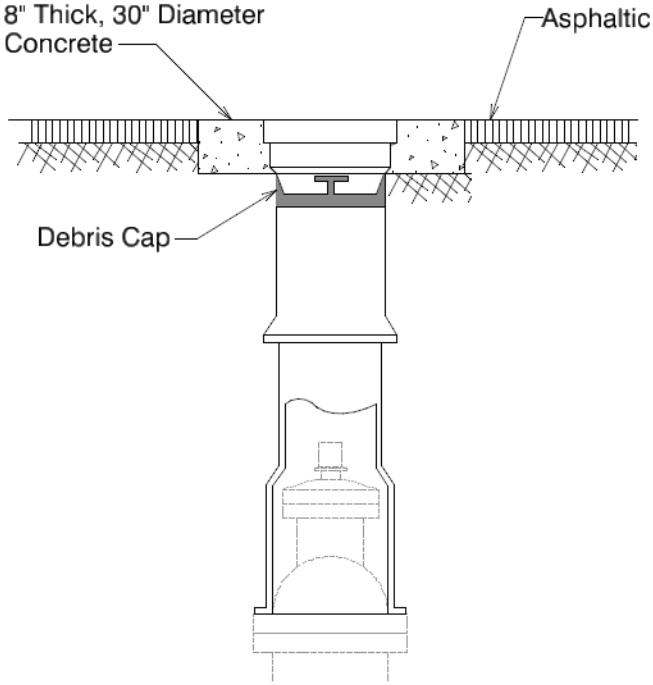


Acceptable Cover Labels



CONCRETE VALVE BOX

For Areas Subject To Vehicular Traffic



ASPHALT VALVE BOX

For Areas Subject To Vehicular Traffic

NOTE:

1. The Valve Box Will Be Adjusted To Finished Grade Prior To Placing Of Asphalt And/Or Concrete.

2. For Non-Traffic Areas Use Tyler-Union 562-A, Two-Piece, 6855 Series Adjustable Cast Iron Valve Box and Cover, Labled "AJWD". Valves 4-Inch to 8-Inch, For 12-Inch Valves, Use a 664-A, For Depths Greater Than 5-Feet, Use a 668-A.

   For Traffic Areas, Use Tyler-Union 564-A, Two-Piece, 6855 Series Adjustable Cast Iron Valve Box and Cover, Labeled "AJWD". Valves 4-Inch to 8-Inch. For 12-Inch Valves, Use a Use a 664-A, For Depths Greater Than 5-Feet, Use a 668-A.

3. Valve operator extensions are required on all valves when the operating nut is over 5-feet below finished grade. Extensions will bring the operating nut within 24 to 36-inches of the top of the valve box. Extensions will be steel with a centering collar and 2-inch operating nut as manufactured by Pipeline Products, Part No. SX-906. Length as required.

4. All Concrete Used Is Class 'C' which is defined as concrete whose minimum compressive strength at 14 days reaches 1600psi and at 28 days reaches 2000 psi per MAG Section 725, Table 725-1.

5. Debris Cap, Installed As Close Under The Cast Iron Cover Without Interfering With Cover Operation. Manufactured By SW Services, Inc., Model DC-457.

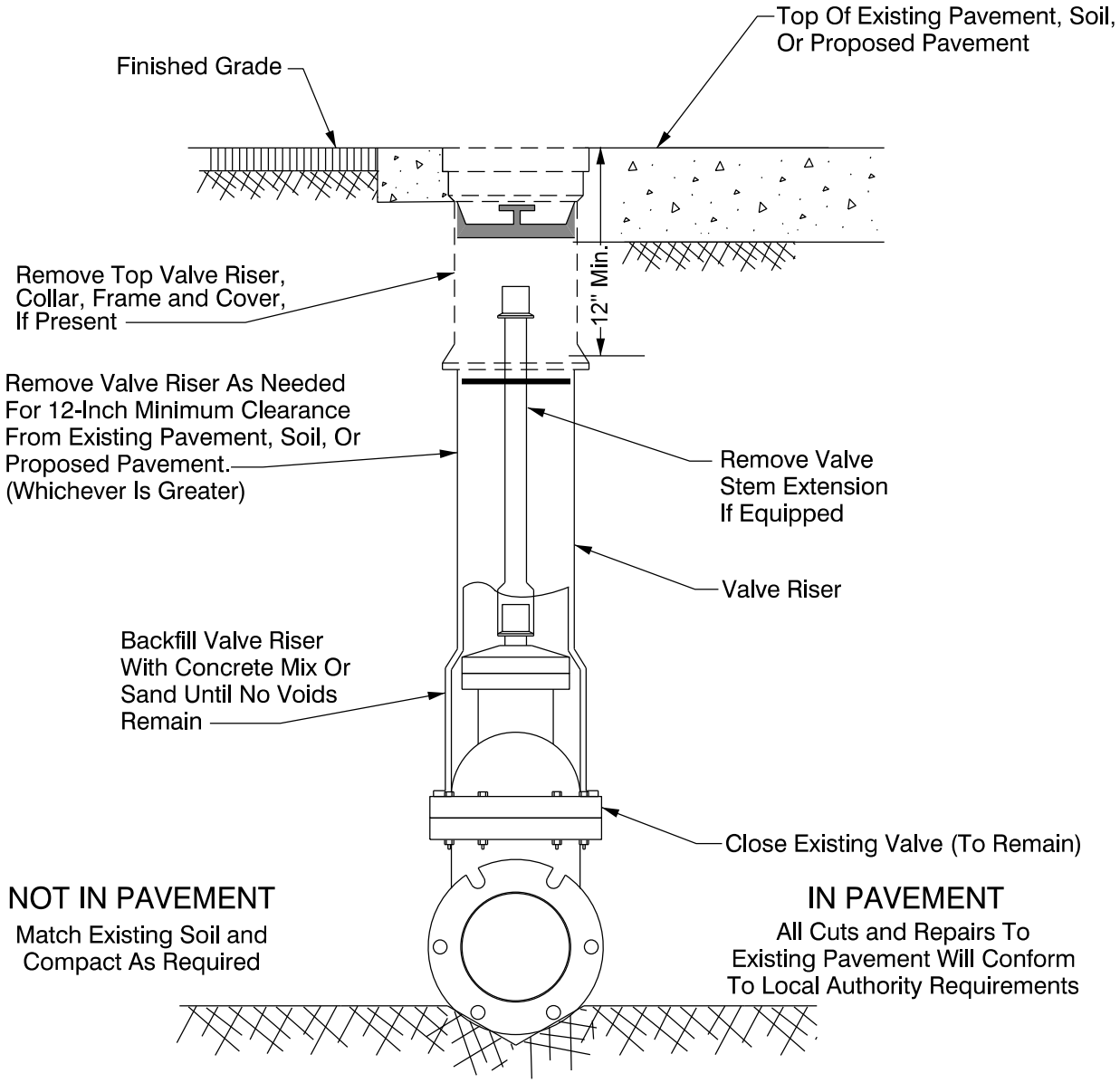
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

VALVE BOX and COVER SUBJECT TO NON-VEHICULAR and VEHICULAR TRAFFIC

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-11-2021		W-1-405



STANDARD DETAIL

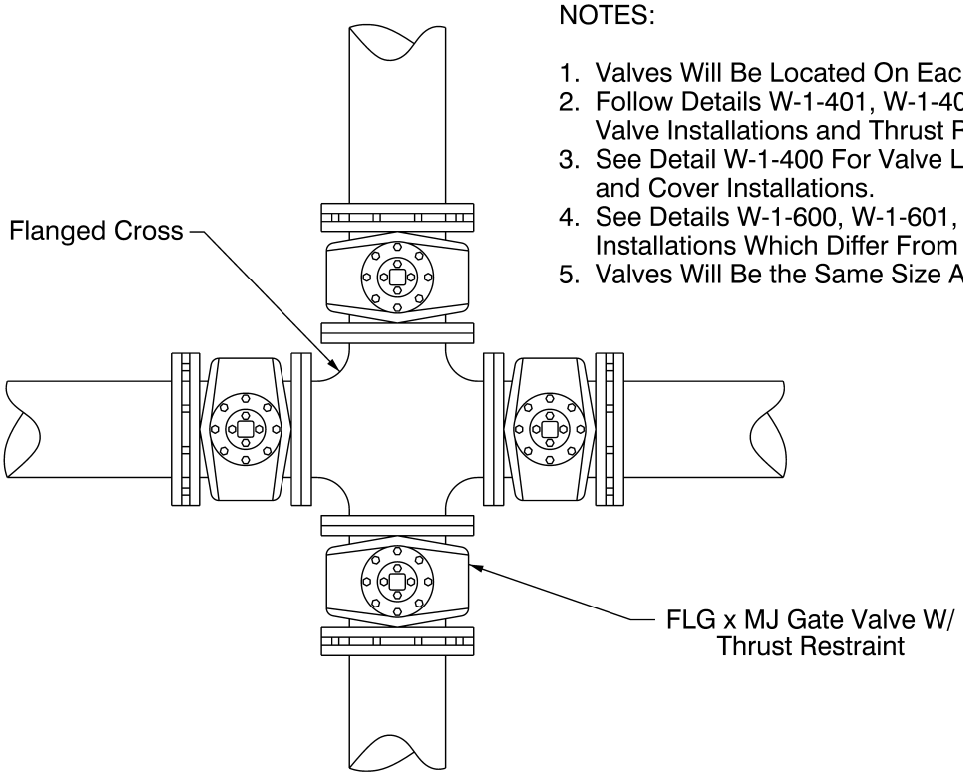
FOR THE INSTALLATION OF

GATE VALVE ABANDONMENT

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-12-2021		W-1-406

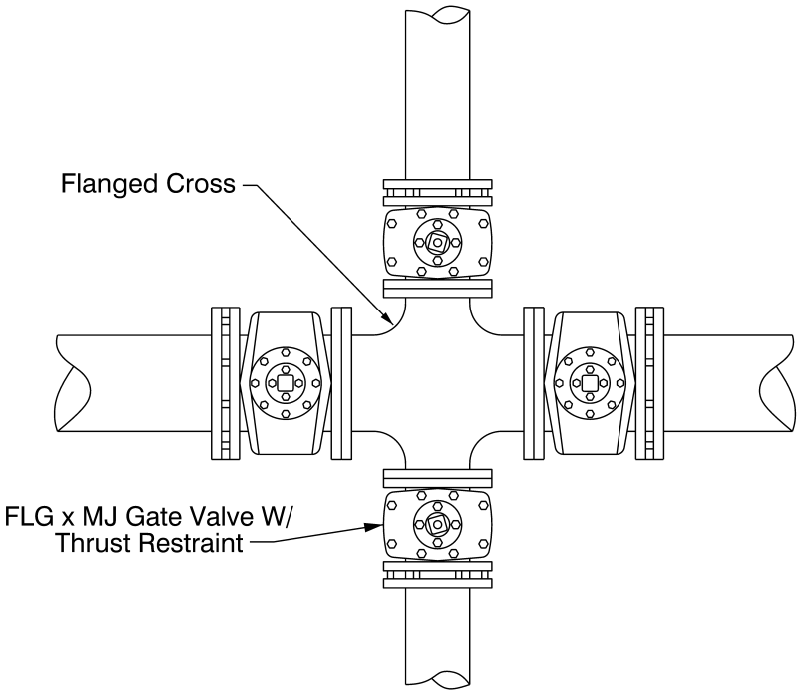
NOTES:

1. Valves Will Be Located On Each Branch Of Water Main Intersections.
2. Follow Details W-1-401, W-1-402, W-1-403, W-1-500, W-1-502 For Valve Installations and Thrust Restraints.
3. See Detail W-1-400 For Valve Locations and W-1-405 For Valve Box and Cover Installations.
4. See Details W-1-600, W-1-601, and W-1-604 for Fire Hydrant Installations Which Differ From This Detail.
5. Valves Will Be the Same Size As Each Run. No Reducers.



CROSS CONNECTIONS

SIZE ON SIZE



CROSS CONNECTIONS

REDUCING CROSS

AJWD

STANDARD DETAIL

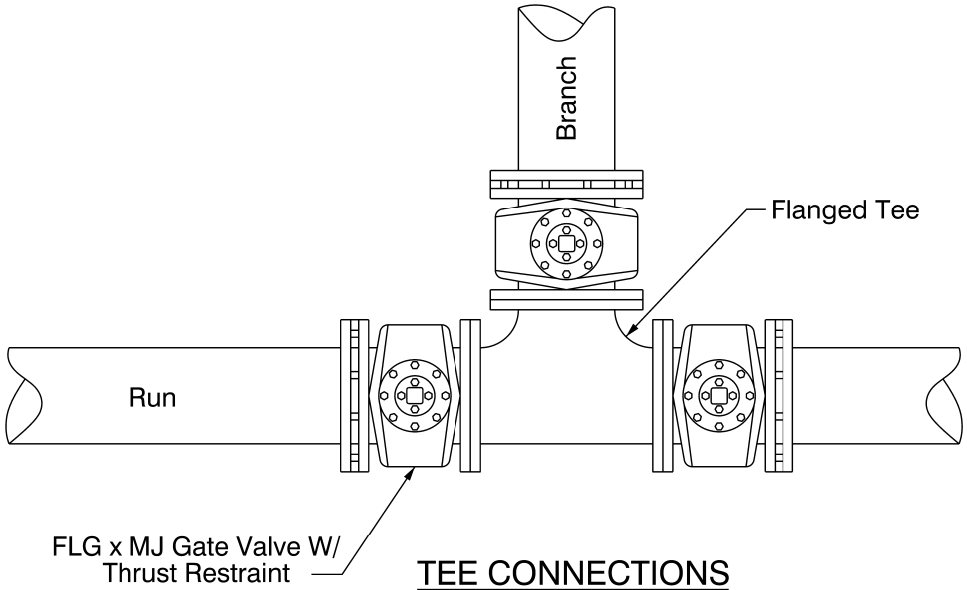
FOR THE INSTALLATION OF

WATER MAIN CONNECTIONS at INTERSECTIONS, CROSSES

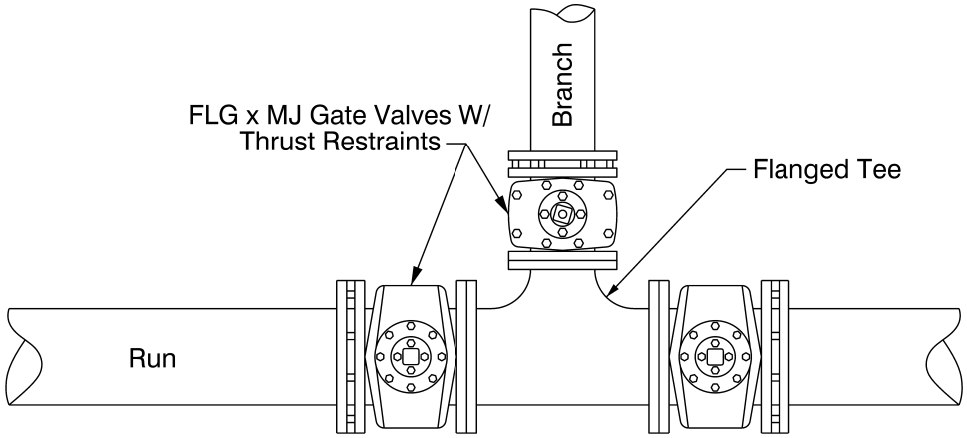
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	03-07-2022		W-1-407

NOTES:

1. Valves Will Be Located On Each Branch Of Water Main Intersections.
2. Follow Details W-1-401, W-1-402, W-1-403, W-1-500, W-1-502 For Valve Installations and Thrust Restraints.
3. See Detail W-1-400 For Valve Locations and W-1-405 For Valve Box and Cover Installations.
4. See Details W-1-600, W-1-601, and W-1-604 for Fire Hydrant Installations which Differ From This Detail.
5. Installation of a Wye Will Be Identical With This Detail.
6. Valves Will Be The Same Size As The Branch. No Reducers.



TEE CONNECTIONS
SIZE ON SIZE



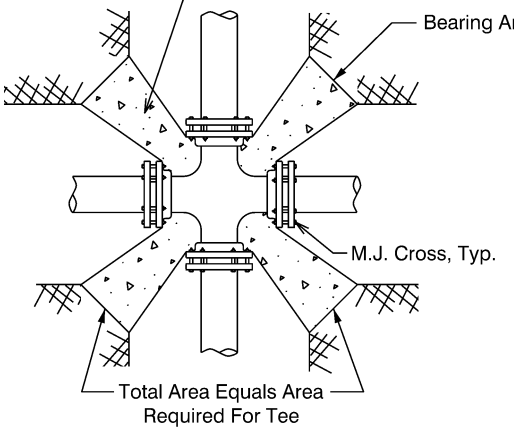
TEE CONNECTIONS
REDUCING TEE

AJWD

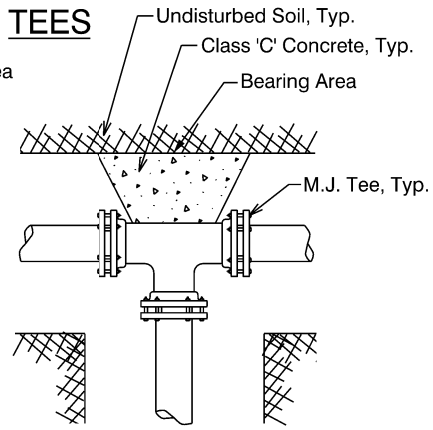
STANDARD DETAIL
FOR THE INSTALLATION OF
WATER MAIN CONNECTIONS at INTERSECTIONS, TEES

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	03-07-2022		W-1-408

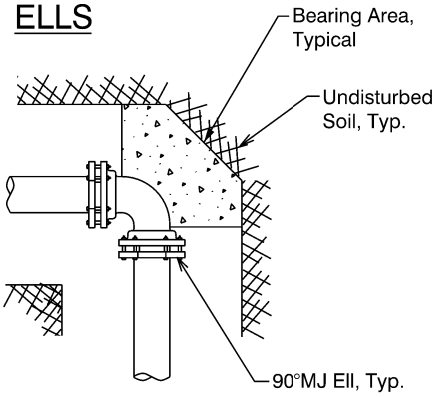
CROSSES

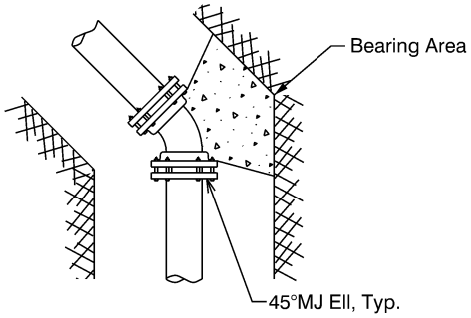


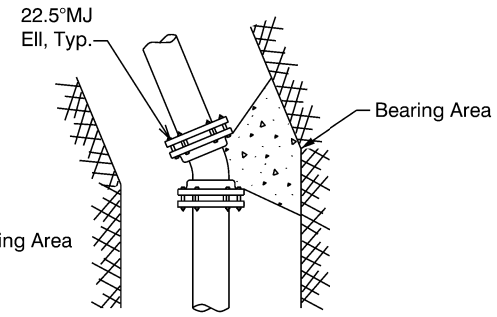
TEES

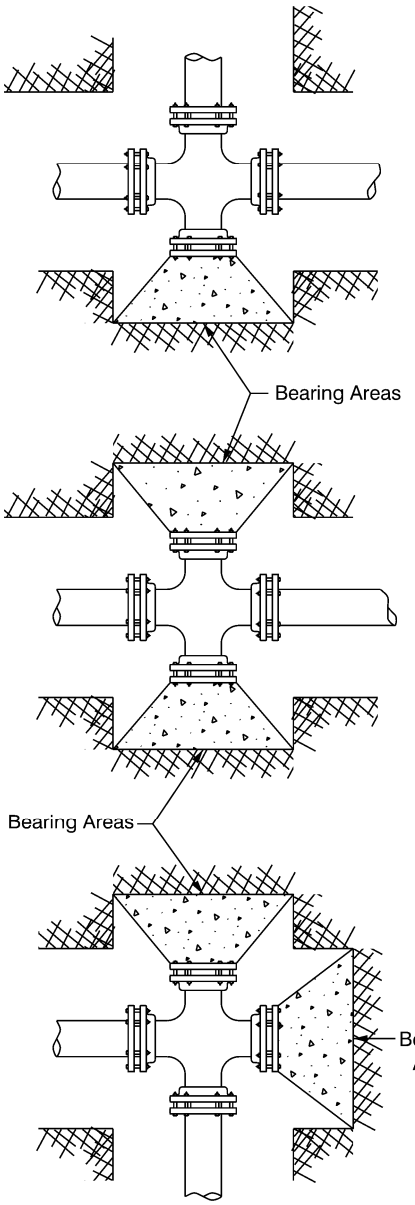


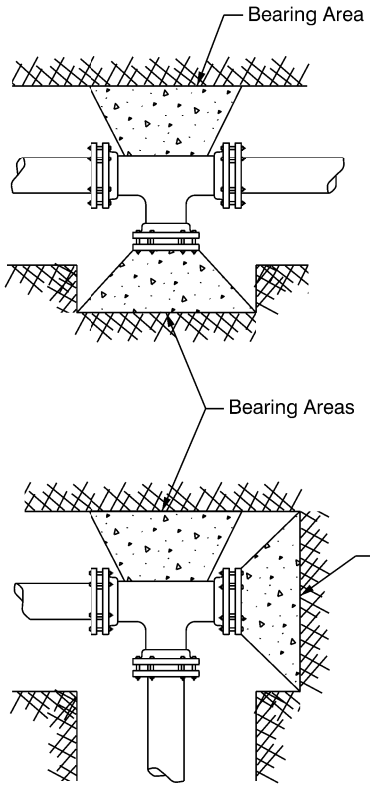
ELLS



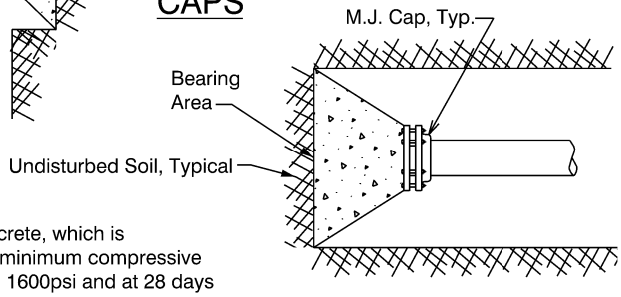


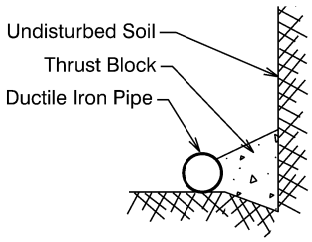






CAPS





CROSS SECTION

THRUST BLOCK SCHEDULE

FITTING SIZE	TEE, 45°, AND 22.5°ELLS, & PLUGS	90°ELLS
6-Inches and Less	4 Sq.Ft.	6 Sq.Ft.
8-Inches	6 Sq.Ft.	9 Sq.Ft.
12-Inches	13 Sq.Ft.	20 Sq.Ft.
16-Inches	23 Sq.Ft.	32 Sq.Ft.
18-Inches +	Calculated Per Project	

NOTES:

1. Use minimum Class 'C' concrete, which is defined as concrete whose minimum compressive strength at 14 days reaches 1600psi and at 28 days reaches 2000 psi. per MAG Section 725, Table 725-1.
2. Thrust blocks are to bear on undisturbed earth with minimum bearing area as shown. If not undisturbed, areas will be increased as required.
3. Place the pressure treated form board in front of all plugs before pouring thrust blocks.
4. Form all non-bearing areas to prevent any concrete from entering any joint.
5. All flanges, bolts and nuts shall be kept free of concrete.
6. Center the bearing area on the pipe centerline and force line.
7. All pipe and fittings will be encased in polyethylene pipe wrap prior to thrust block installation. W-1-301.

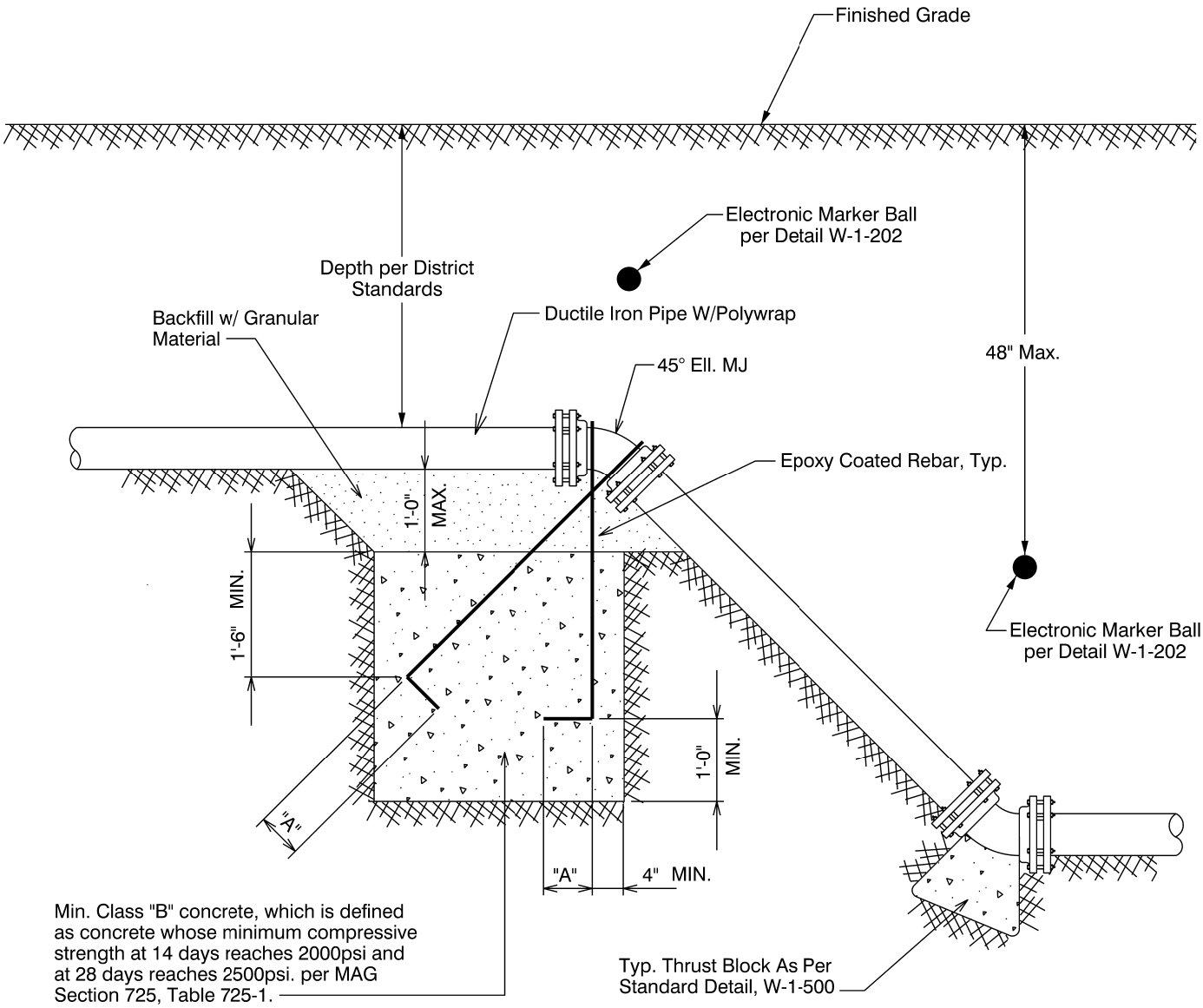
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

THRUST BLOCKING

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-12-2021		W-1-500



NOTE:

1. Rebar Set In The Concrete Thrust Block Will Be Coated w/ 2 Coats Coal Tar Epoxy or by Other Approved Method.
2. Rebar Will Have 90° Hook at Their Ends, Per Table at Right.
3. All Pipe and Fittings Will Be Encased In Polyethylene Pipe Wrap Prior To Concrete Being Poured. W-1-301

Main Size	Min. Rebar Size	"A" Dimension (Hook)	* Min. Block Dimension (WxHxL)(Cu.Yd)
6-Inch	#6 (3/4")	6-Inch	3' x 3 ' x 3' (.33)
8-Inch	#6 (3/4")	9-Inch	4' x 3' x 4' (1.8)
12-Inch	#8 (1")	9-Inch	5' x 4' x 5' (3.7)
16-Inch	#9 (1.2")	12-Inch	7' x 6' x 7' (10.9)
24-Inch	#10 (1.3")	15-Inch	8' x 8' x 8' (19)

* For 125 P.S.I. Working Pressure

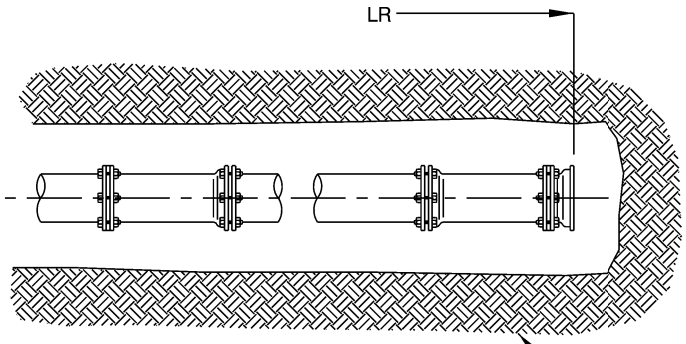
AJWD

STANDARD DETAIL

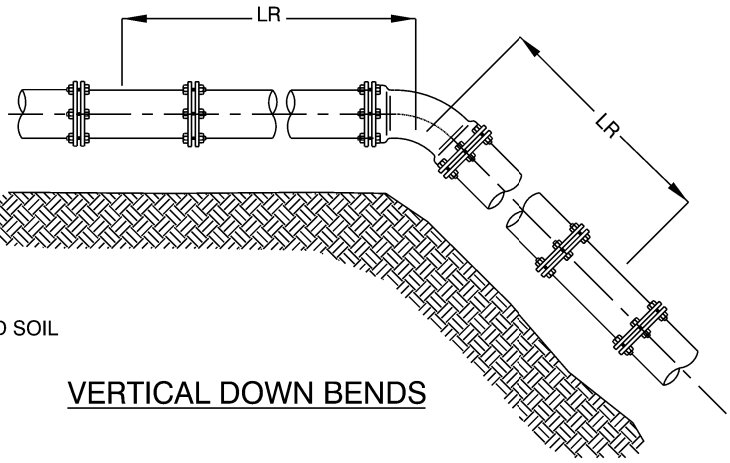
FOR THE INSTALLATION OF

BLOCKING FOR VERTICAL BENDS

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-12-2021		W-1-501

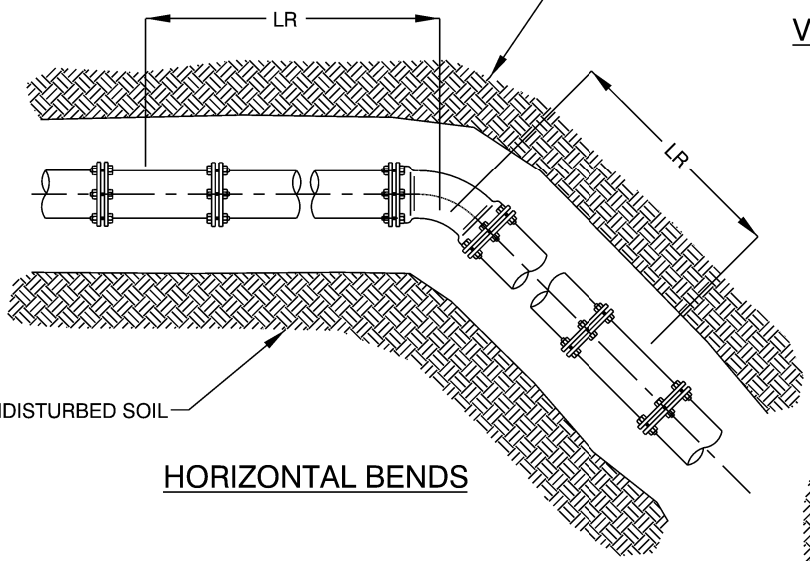


DEAD ENDS

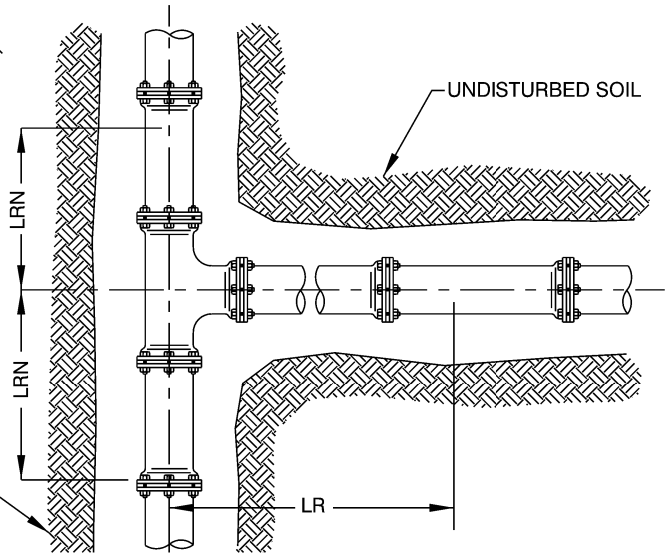


VERTICAL DOWN BENDS

UNDISTURBED SOIL

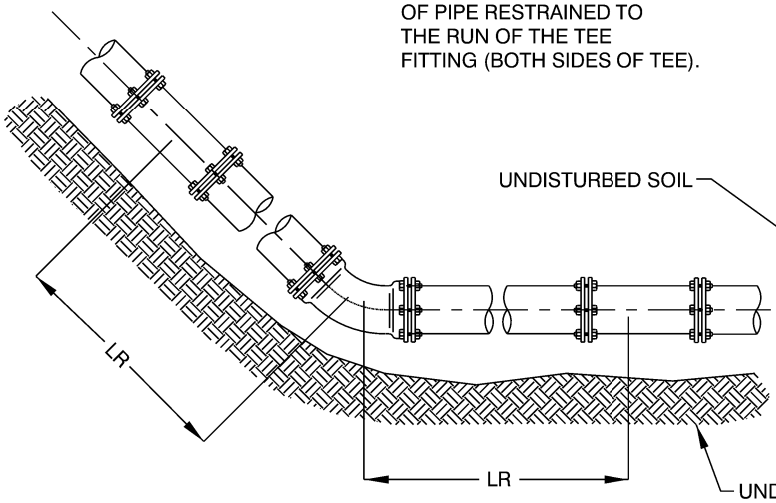


HORIZONTAL BENDS



LRN = SHORTEST LENGTH OF PIPE RESTRAINED TO THE RUN OF THE TEE FITTING (BOTH SIDES OF TEE).

TEES



VERTICAL UP BEND

AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

JOINT RESTRAINT FOR NEW DUCTILE IRON WATER MAINS

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-12-2021		W-1-502

RESTRAINED LENGTHS, LR, FOR DUCTILE IRON WITH POLYETHYLENE WRAP, IN FEET

NOMINAL PIPE SIZE INCHES	HORIZONTAL BENDS			TEES		DEAD ENDS
	90°	45°	22-1/2°	LRN=0'	LRN=10'	
4	26	11	5	69	18	72
6	36	15	7	99	47	102
8	47	19	9	130	78	133
10	56	23	11	157	103	159
12	65	27	13	185	131	187
14	74	31	15	211	156	214
16	82	34	16	238	183	241
18	90	37	18	263	207	266
20	98	41	20	289	233	292
24	113	47	22	337	280	340
30*	170	70	34	394	199	411
36*	201	83	40	438	239	493

* Calculated Using https://dipra.org Thrust Restraint Calculator.

NOMINAL PIPE SIZE INCHES	VERTICAL OFFSETS					
	90° BEND FITTINGS		45° BEND FITTINGS		22-1/2° BEND FITTINGS	
	DOWN BEND	UP BEND	DOWN BEND	UP BEND	DOWN BEND	UP BEND
4	72	26	30	11	14	5
6	102	36	42	15	20	7
8	133	47	55	19	26	9
10	159	56	66	23	32	11
12	187	65	77	27	37	13
14	214	74	89	31	42	15
16	241	82	100	34	48	16
18	266	90	110	38	53	18
20	292	98	121	41	58	20
24	340	113	141	47	68	22
30*	411	170	170	70	82	34
36*	493	201	204	83	98	40

* Calculated Using https://dipra.org Thrust Restraint Calculator.

NOTES:

1. All Joints Within The Specified Length, LR, Must Be Restrained. All Lengths Are Given in Feet.
2. The Maximum Test Pressure Will Not Exceed 200 psi
3. The Minimum Depth Of Bury Is 3-Feet To Top Of Pipe.
4. Restrained Lengths May Be Reduced When Supported By Engineering Calculations.
5. Thrust Restraint Calculators Available Online at: https://dipra.org, https://ebaa.com, https://pe.mcwane.com, and http://starpipeproducts.net.
6. Assumptions Are Made Using The Above Mentioned Thrust Restraint Calculators, Such As: Type 3 Laying Conditions, 1.5 Safety Factor, 5-Foot of Cover, Test Pressure of 150 psi, And A GP Soil Type ("Casa Grande", I.E. High Clay and Salt).

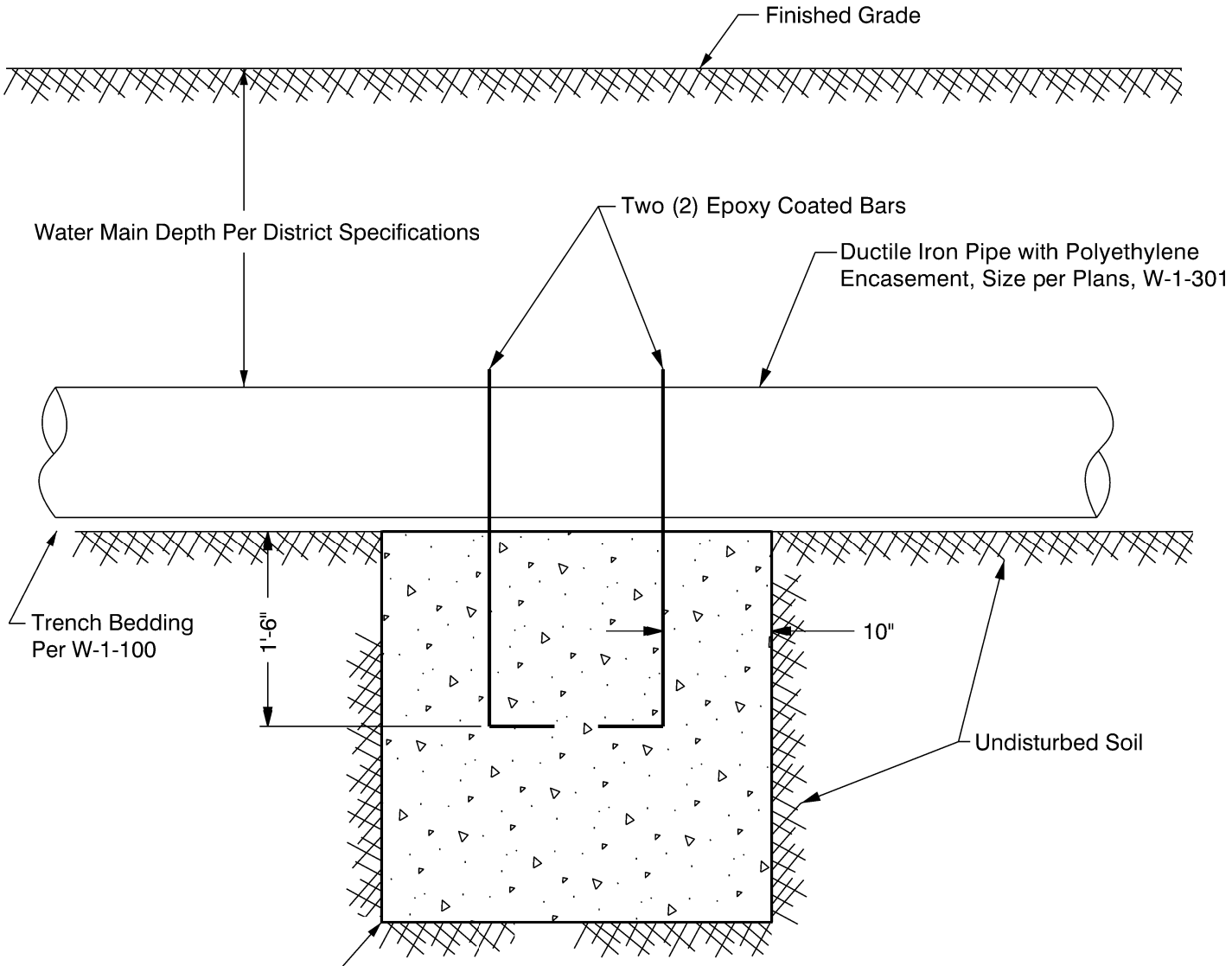
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

JOINT RESTRAINT FOR NEW DUCTILE IRON WATER MAINS

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-12-2021		W-1-502-2



NOTE:

1. Rebar Set In The Concrete Thrust Block Will Be Coated w/ 2 Coats Coal Tar Epoxy or by Other Approved Method.
2. Rebar Will Have 90° Hook At Their Ends, Per Table Below.
3. All Pipe and Will Be Encased In Polyethylene Pipe Wrap Prior To Concrete Being Poured. W-1-301

Pipe Size	Min. Rebar Size	"A" Dimension (Hook)	* Min. Block Dimension (WxHxL)
6-Inch	#6	6-Inch	3' x 3 ' x 3'
8-Inch	#6	9-Inch	4' x 3' x 4'
12-Inch	#8	9-Inch	5' x 4' x 5'
16-Inch	#9	12-Inch	7' x 6' x 7'

* For 125 P.S.I. Working Pressure

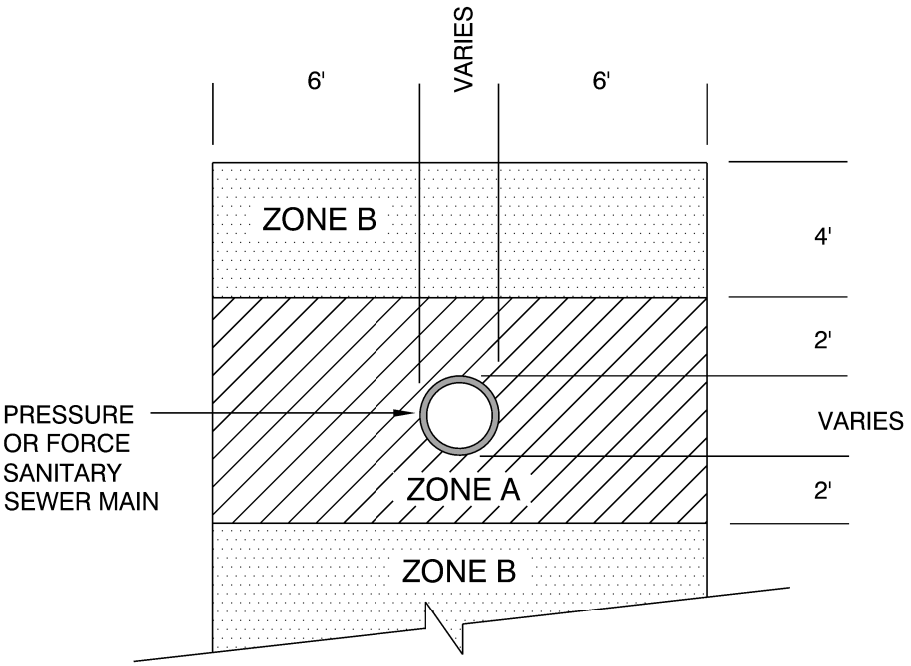
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

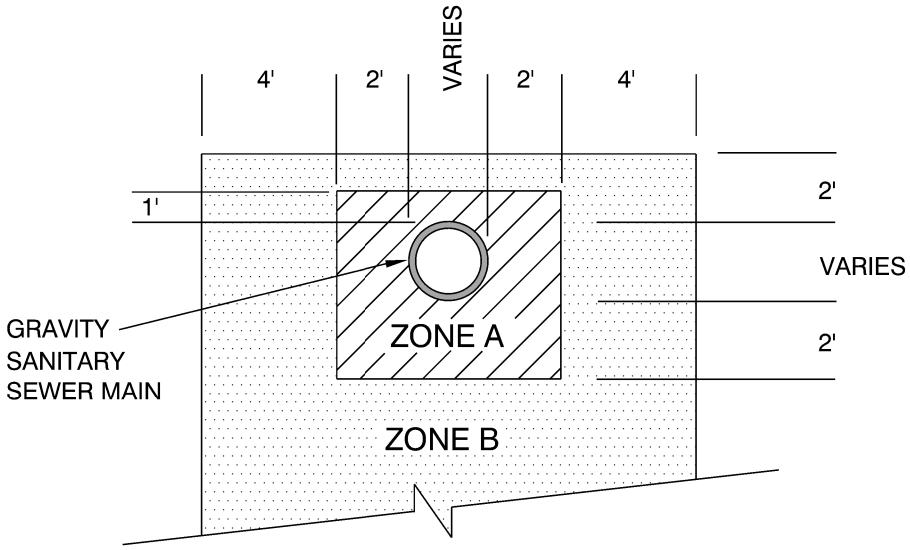
WATER MAIN DEADMAN

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-13-2021		W-1-503



PRESSURIZED SANITARY SEWER

ZONE A: NO WATER LINES ALLOWED/MINIMUM SEPARATION.
ZONE B: EXTRA PROTECTION REQUIRED FOR WATER LINES.

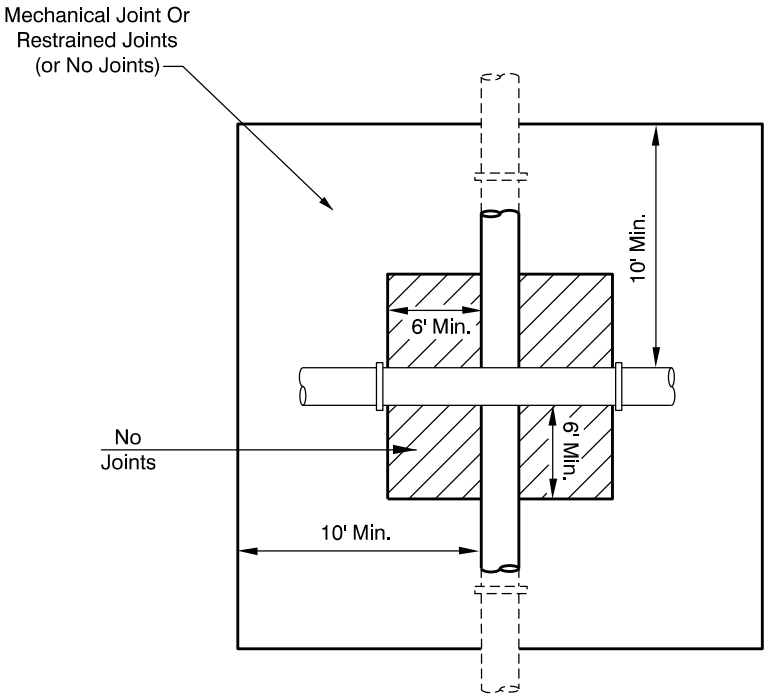


GRAVITY SANITARY SEWER

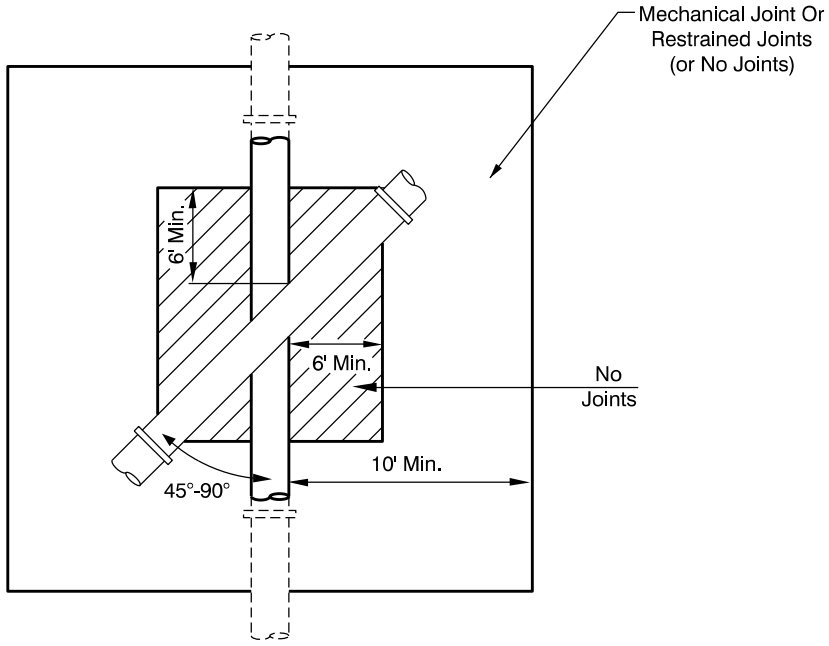
ZONE A: NO WATER LINES ALLOWED/MINIMUM SEPARATION.
ZONE B: EXTRA PROTECTION REQUIRED FOR WATER LINES.

WATER LINE EXCLUSION AND EXTRA PROTECTION ZONES

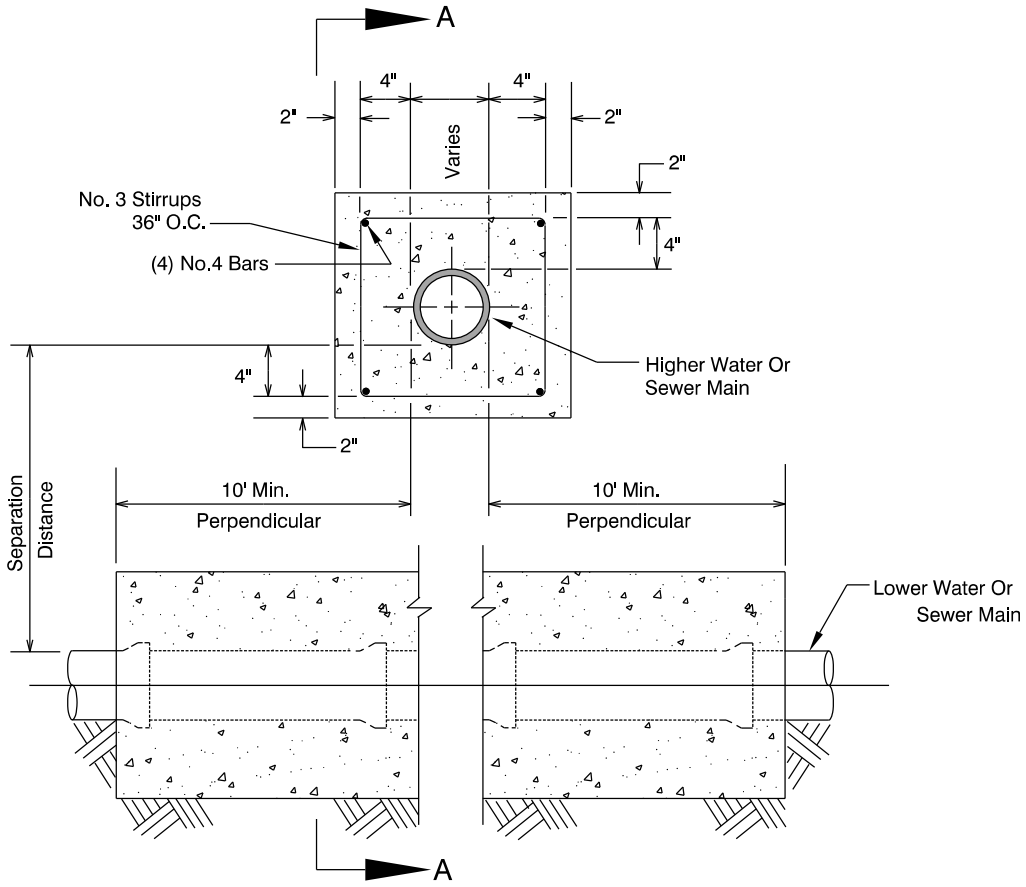
AJWD	**STANDARD DETAIL** FOR THE INSTALLATION OF			
	WATER AND SANITARY SEWER SEPARATION/PROTECTION			
DRAWN BY: CB	APPROVED BY: ML	DATE: 10-13-2021		W-1-504

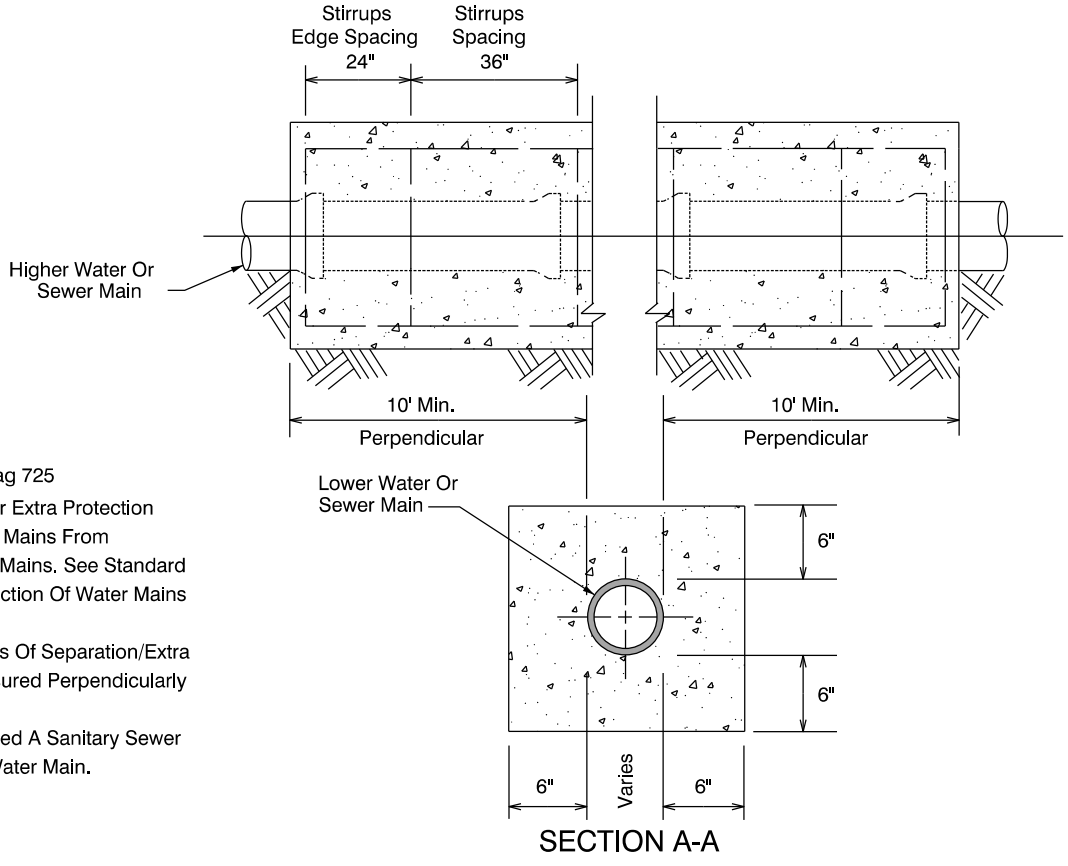


WATER and SEWER EXTRA PROTECTION:
RESTRAINED OR MECHANICAL JOINT DUCTILE IRON PIPE



AJWD	**STANDARD DETAIL** FOR THE INSTALLATION OF				
	WATER AND SANITARY SEWER SEPARATION/PROTECTION				
	DRAWN BY: CB	APPROVED BY: ML	DATE: 10-13-2021		W-1-504-2





SECTION A-A

NOTES:

1. Class 'C' Concrete, Per Section Mag 725
2. Separation Distances And/or Other Extra Protection Will Be Required To Protect Water Mains From Contamination By Sanitary Sewer Mains. See Standard Specification Paragraph 10, "Protection Of Water Mains Near Sewers".
3. See Cross Section Detail For Limits Of Separation/Extra Protection. All Distances Are Measured Perpendicularly From The Outside Of The Pipes.
4. Reclaimed Water Will Be Considered A Sanitary Sewer When Placed Next To A Potable Water Main.

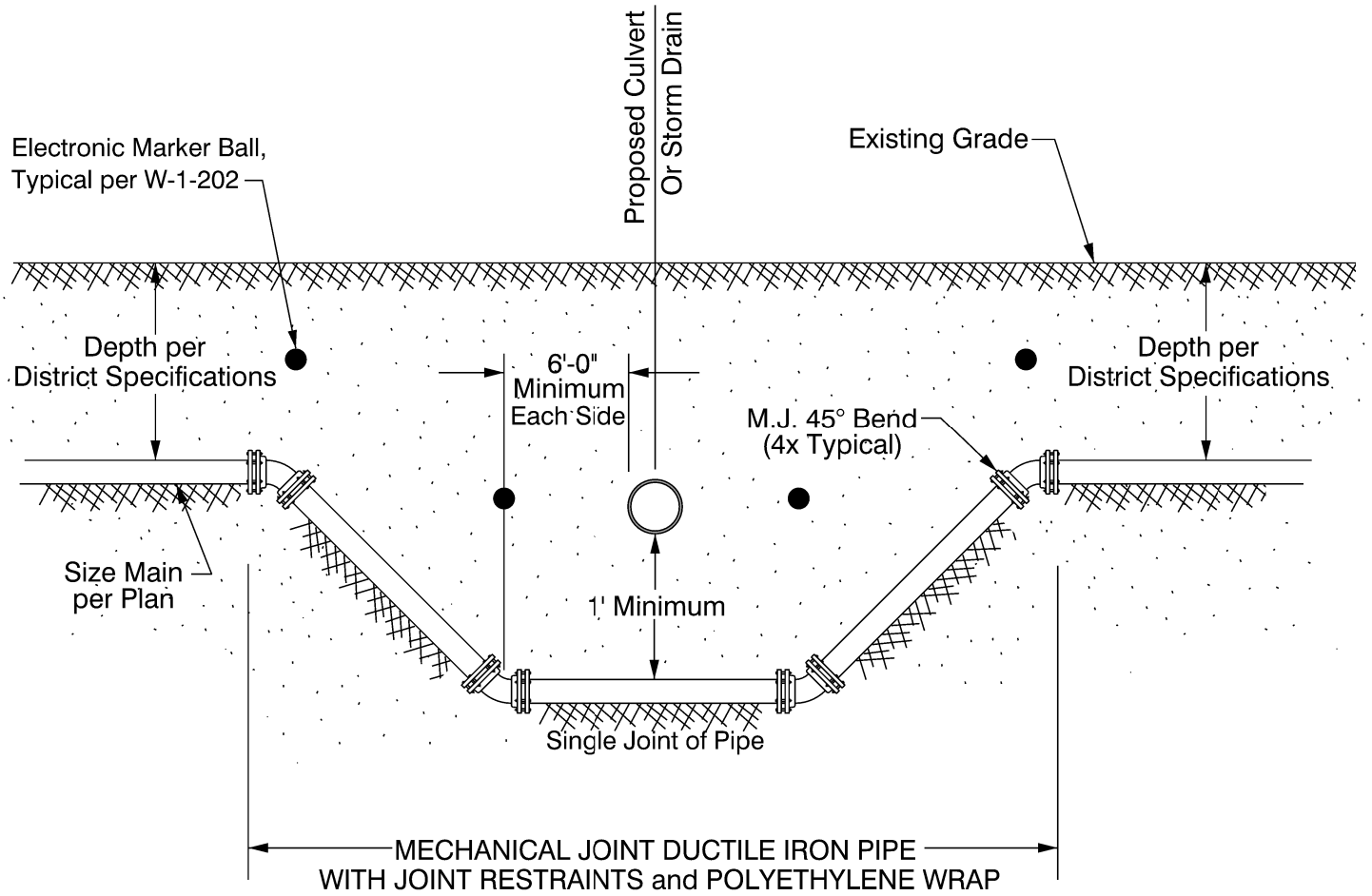
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

WATER AND SANITARY SEWER SEPARATION/PROTECTION ENCASEMENT FOR PIPE CROSSING

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-13-2021		W-1-504-3



NOTES:

1. Joint Restraints per Section 4g, District Specifications, Detail W-1-502.
2. Ductile Iron Pipe per Section 4k, District Specifications.
3. Fittings per Section 4b, District Specifications.
4. Air Release/Vacuum Valves Required at High Points. Detail W-1-701.
5. Polyethylene Encasement per Section 4m, District Specifications, Detail W-1-301.
6. Mains Crossing Highways, Railroads, or Streams Require Shutoff Valves on Each Side.
7. No Services Will Be Installed Within the Dip Section.
8. Electronic Marker Balls per Detail W-1-202.

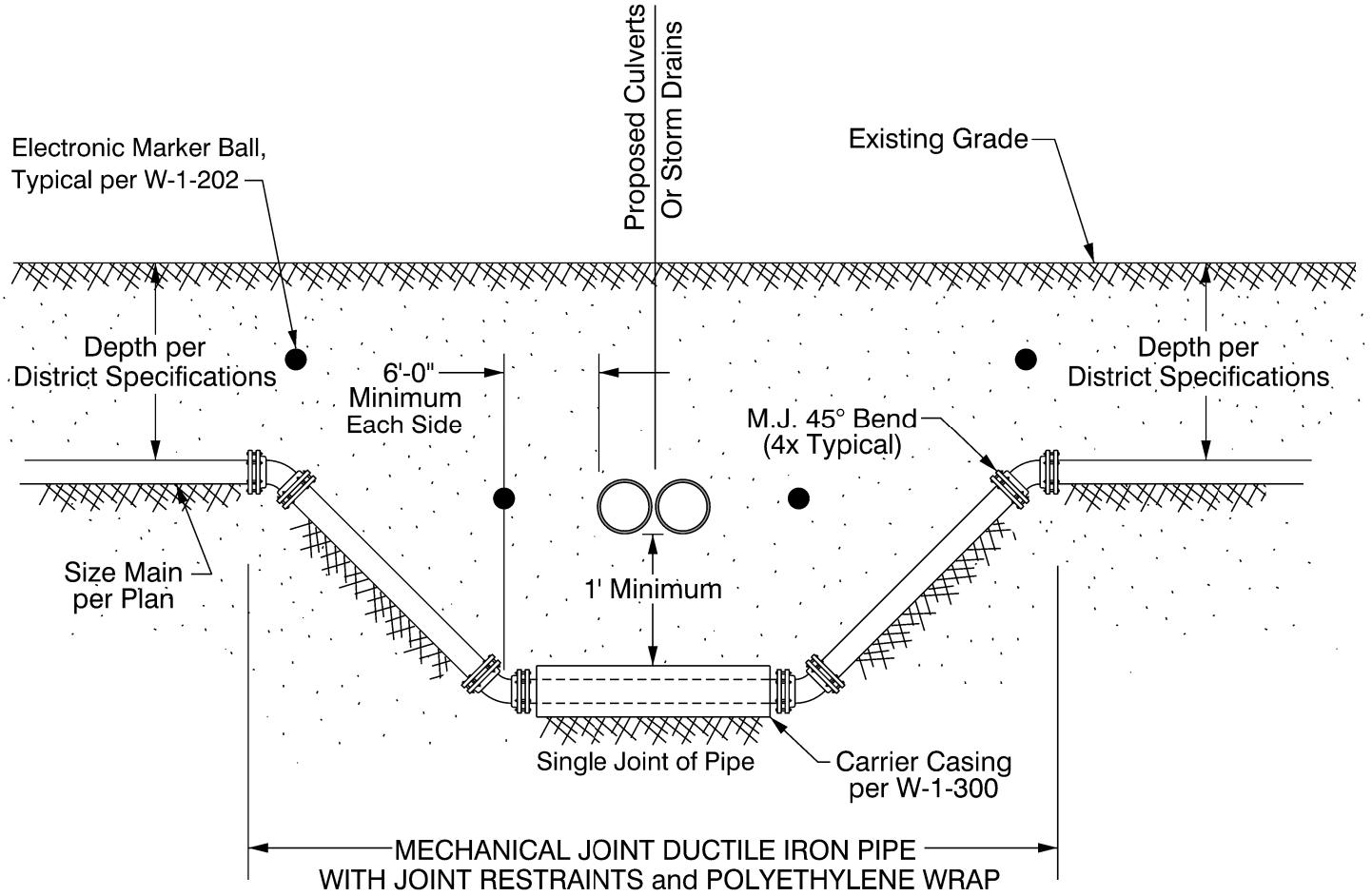
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

VERTICAL REALIGNMENT

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	02/03/2022		W-1-505



NOTES:

1. Joint Restraints per Section 4g, District Specifications, Detail W-1-502.
2. Ductile Iron Pipe per Section 4k, District Specifications.
3. Fittings per Section 4b, District Specifications.
4. Air Release/Vacuum Valves Required at High Points. Detail W-1-701.
5. Polyethylene Encasement per Section 4m, District Specifications, Detail W-1-301.
6. Mains Crossing Highways, Railroads, or Streams Require Shutoff Valves on Each Side.
7. No Services Will Be Installed Within the Dip Section.
8. Electronic Marker Balls per Detail W-1-202.

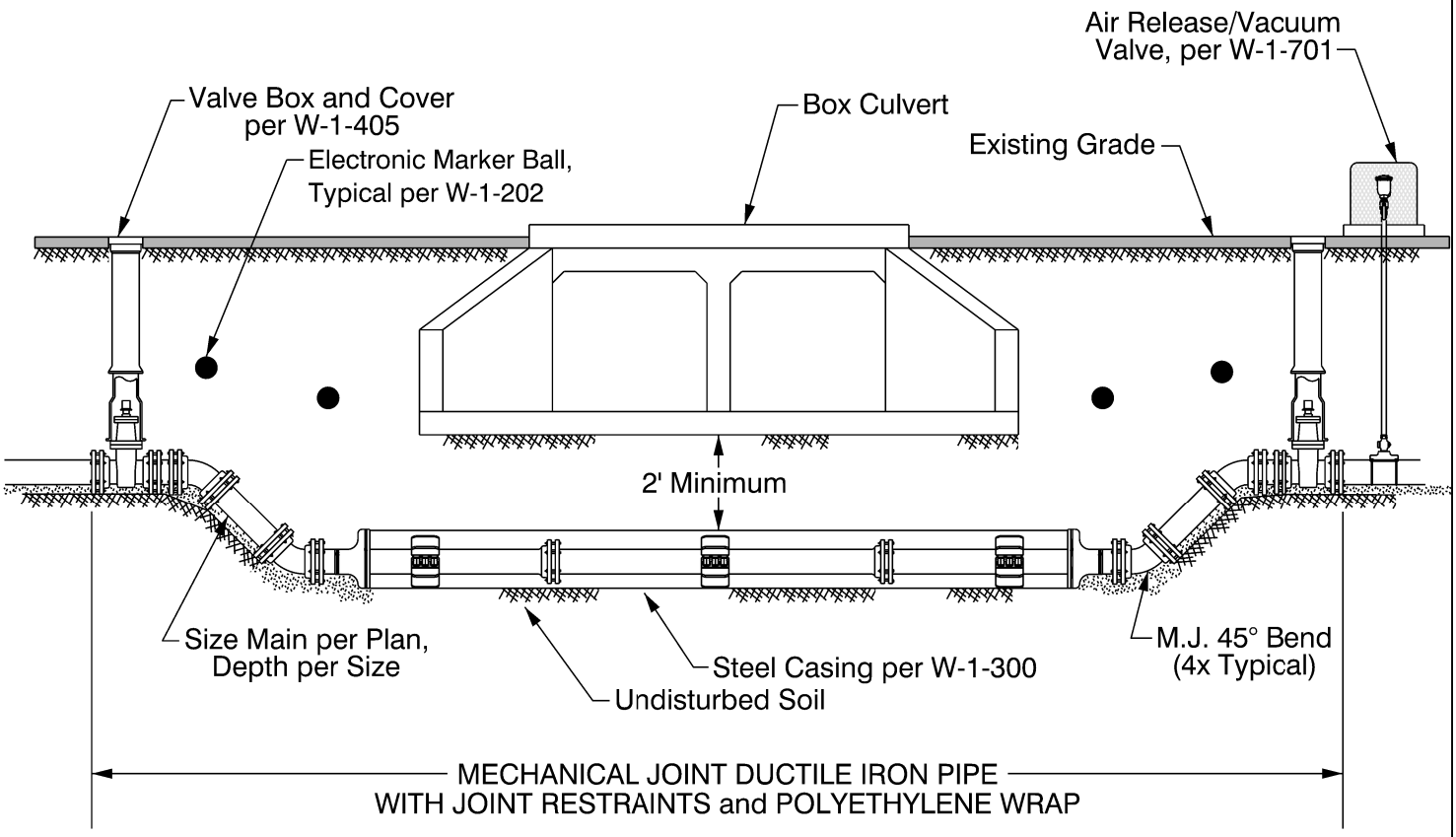
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

VERTICAL REALIGNMENT DUAL BARREL with CASING

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	02/03/2022		W-1-506



NOTES:

1. Joint Restraints per Section 4g, District Specifications, Detail W-1-502.
2. Ductile Iron Pipe per Section 4k, District Specifications.
3. Fittings per Section 4b, District Specifications.
4. Air Release/Vacuum Valves Required at High Points. Detail W-1-701.
5. Polyethylene Encasement per Section 4m, District Specifications, Detail W-1-301.
6. Mains Crossing Highways, Railroads, or Streams Require Shutoff Valves on Each Side.
7. No Services Will Be Installed Within the Dip Section.
8. Electronic Marker Balls per Detail W-1-202.

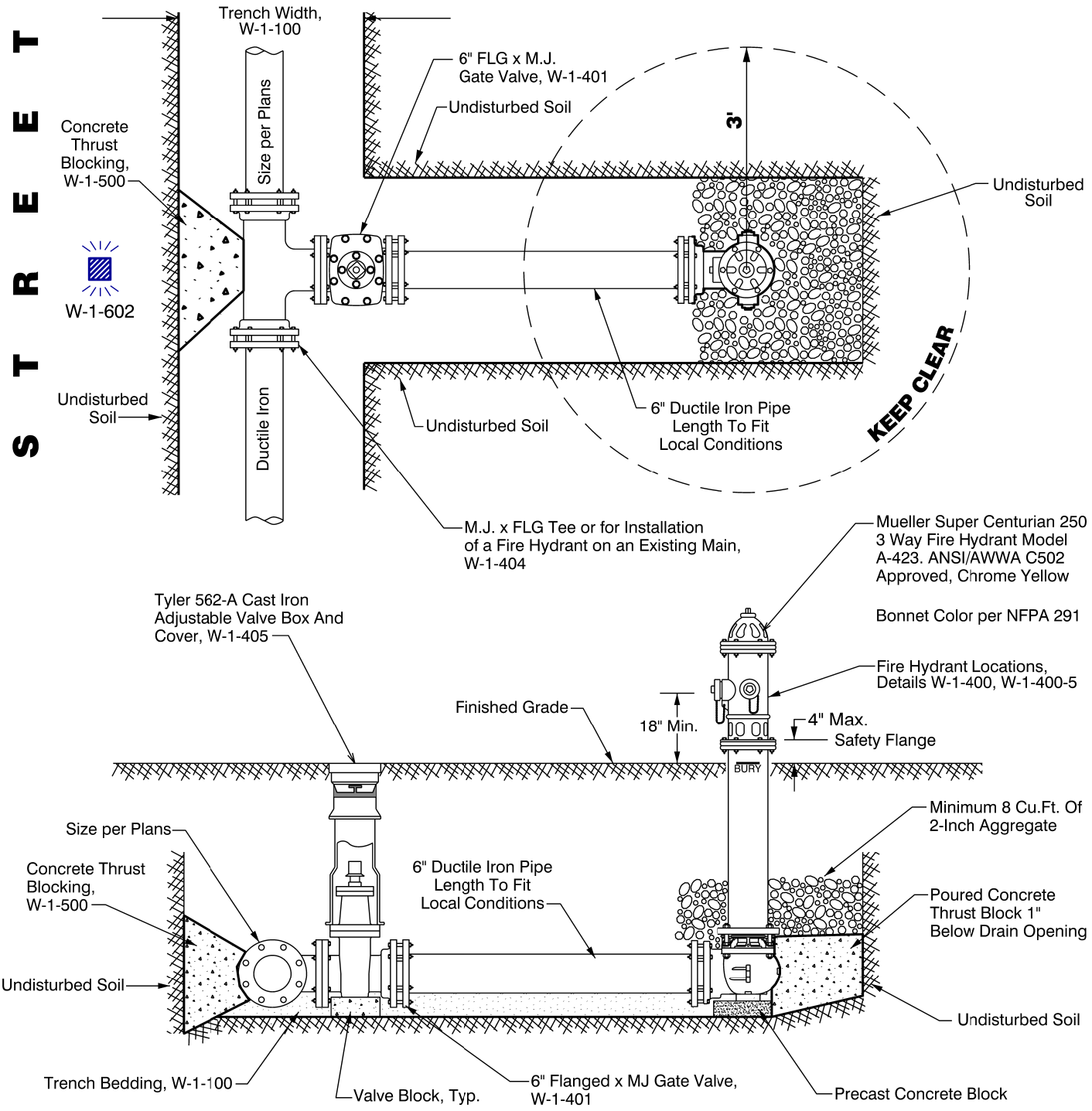
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

VERTICAL REALIGNMENT with CASING

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	02/10/2022		W-1-507



NOTES:
1. All Flanges, Nuts, and Drain Holes Will Be Kept Free of Concrete.
2. Fire Hydrants will be Located on the Same Side as the Water Main.
3. For Installation of a Fire Hydrant on an Existing Main, See Detail W-1-404.
4. The Fire Marshall to Approve the Final Location of All Fire Hydrants.
5. Polywrap and Thrust Restraints on All Mechanical Joint Fittings.
6. Use of a Foster Adapter Between the Gate Valve and Fire Hydrant is Only Allowed When Conditions Warrant Their Use and Must Be Approved in Writing By The District Prior To Construction.
7. Fire Hydrants Installed on Non-Potable Water Mains Will Be Painted Silver and be stenciled "EFFLUENT WATER" in Gloss Black per SFMD.

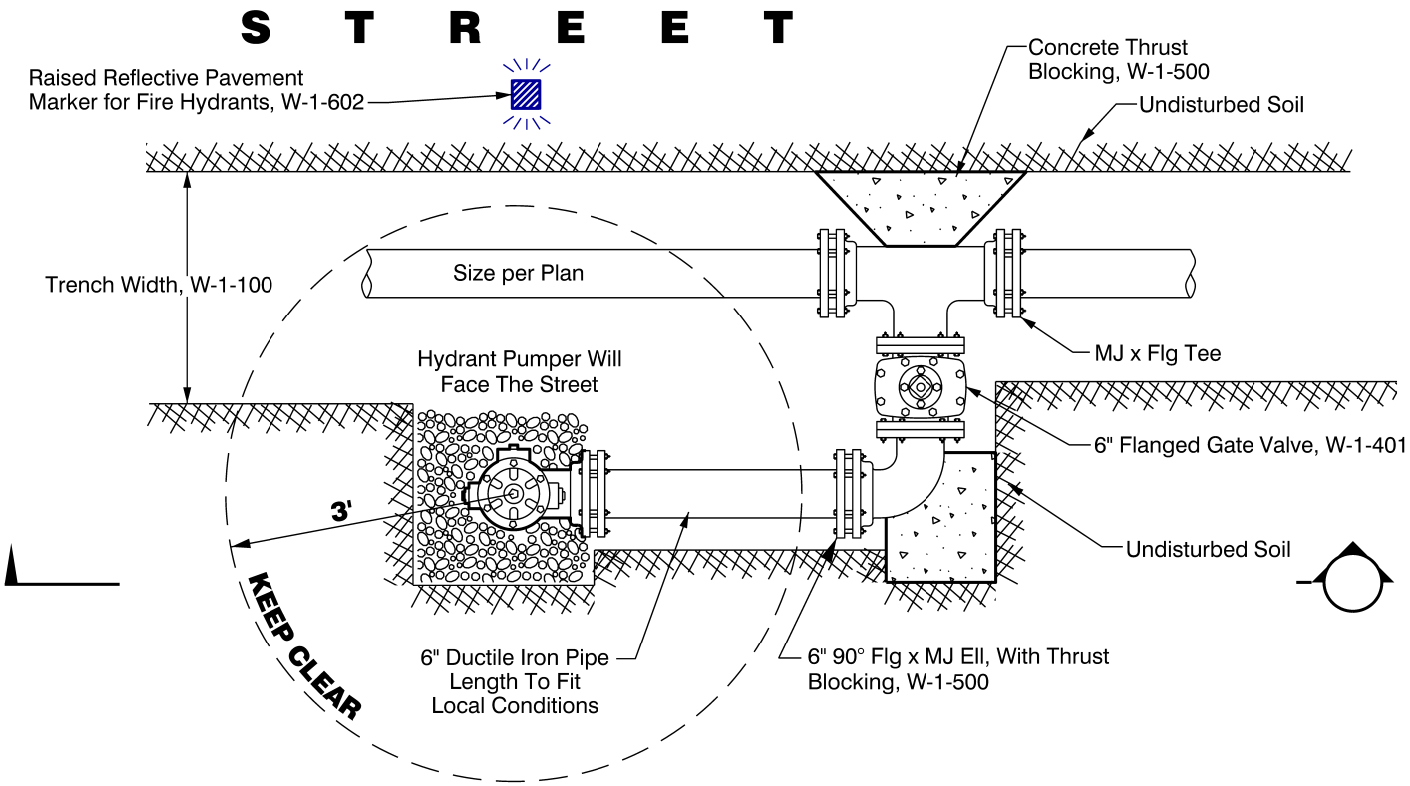
AJWD

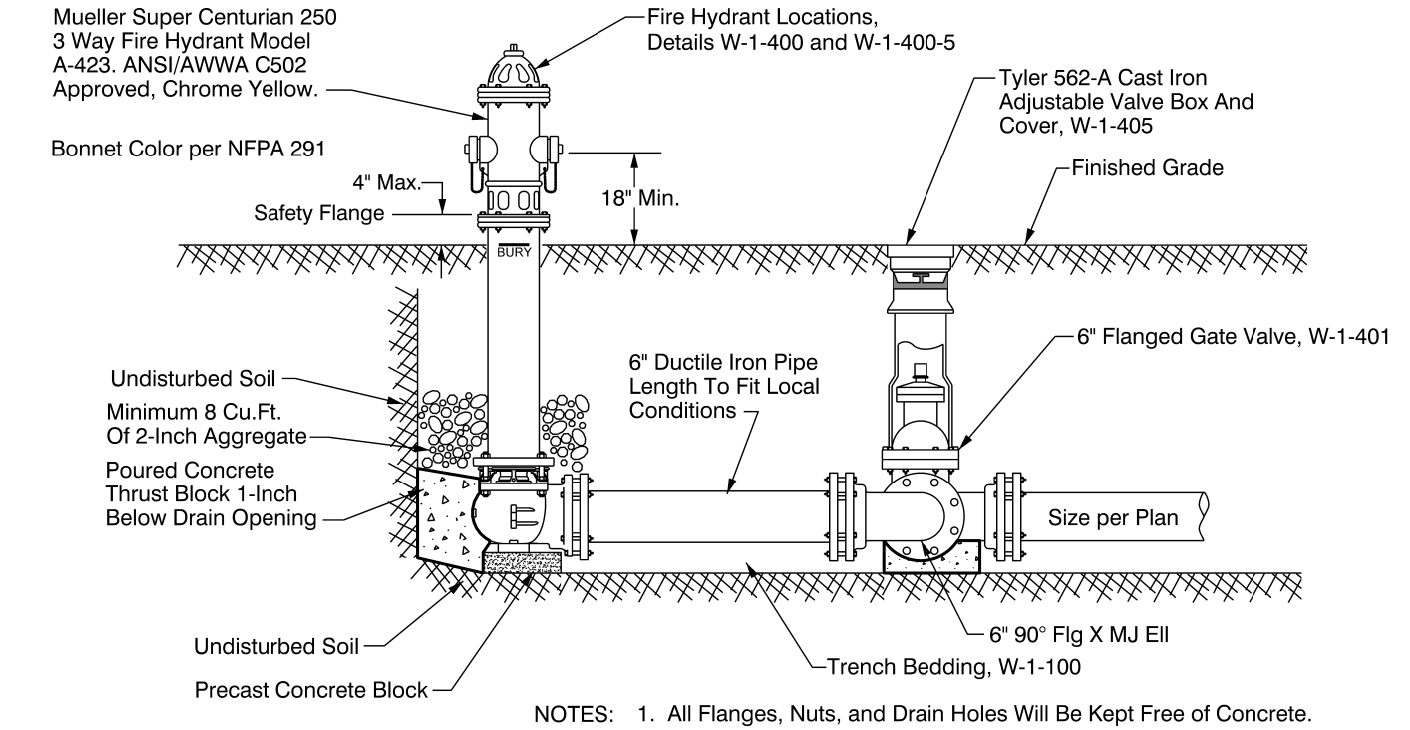
STANDARD DETAIL

FOR THE INSTALLATION OF

PERPENDICULAR FIRE HYDRANT

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-13-2021		W-1-600





NOTES:
1. All Flanges, Nuts, and Drain Holes Will Be Kept Free of Concrete.
2. Fire Hydrants will be Located on the Same Side as the Water Main.
3. For Installation of a Fire Hydrant on an Existing Main, See Detail W-1-404.
4. The Fire Marshall to Approve the Final Location of All Fire Hydrants.
5. Polywrap and Thrust Restraints on All Mechanical Joint Fittings.
6. Use of a Foster Adapter Between the Gate Valve and Fire Hydrant is Only Allowed When Conditions Warrant Their Use and Must Be Approved in Writing By The District Prior To Construction.
7. Fire Hydrants Installed on Non-Potable Water Mains Will Be Painted Silver and be stenciled "EFFLUENT WATER" in Gloss Black per SFMD.

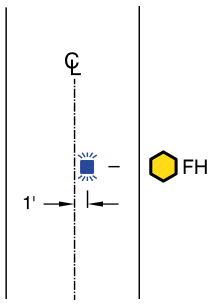
AJWD

STANDARD DETAIL

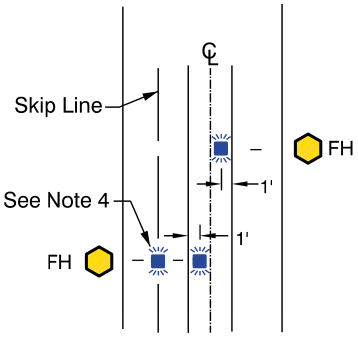
FOR THE INSTALLATION OF

PARALLEL FIRE HYDRANT

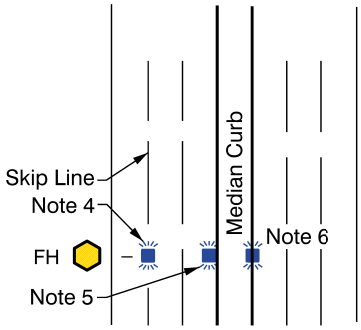
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-14-2021		W-1-601



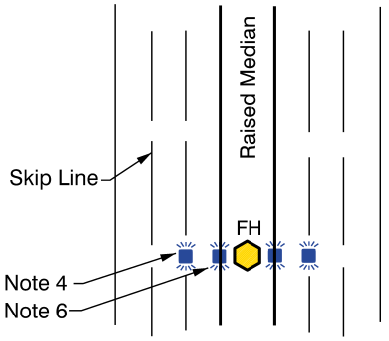
MIDBLOCK
LOCAL



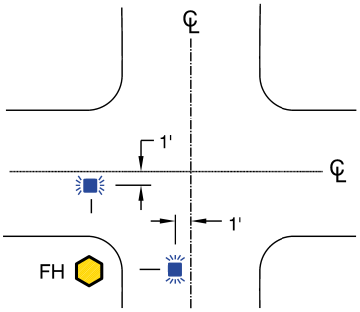
MIDBLOCK
WITH CENTER LANE
OR SKIP LINES



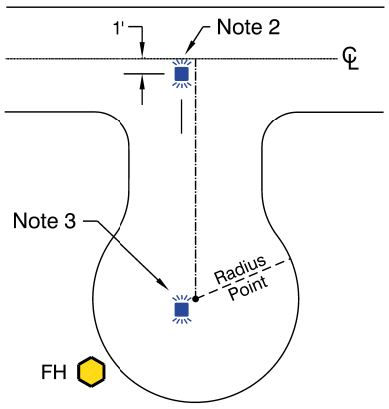
STREET WITH
RAISED MEDIAN
ONE SIDE



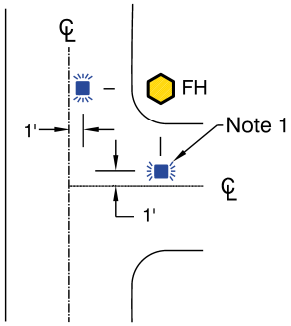
RAISED CENTER
MEDIAN



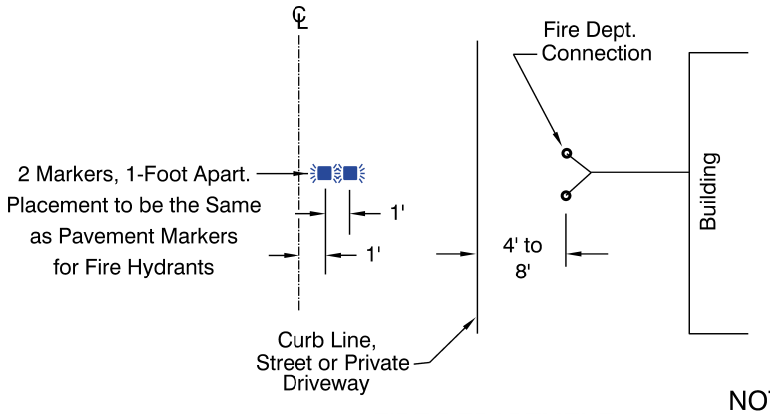
LOCAL CROSS
INTERSECTION



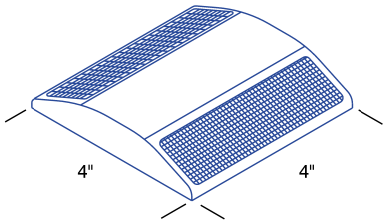
CUL-DE-SAC
STREET



LOCAL 'T'
INTERSECTION



FIRE DEPARTMENT
CONNECTION



PAVEMENT MARKER

3M Series 290 Raised Pavement Marker
Two-Way Reflective Blue, Part No. 295-2B
with Pressure Sensitive Adhesive (PSA)

NOTES:

1. Not Required on Dead End Streets Without Hydrants
2. Place on Hydrant Side of Centerline.
3. Not Required When Cul-De-Sac is Less Than 250'.
4. To Be Placed in Line With Skip Line.
5. Place on Gutter or Adjacent To Curb.
6. Place on Top of Curb.
7. Pavement Markers Will Not Be Placed Within One Foot of A Paint Line (Center to Center).
8. Do not install markers for non-potable fire hydrants.

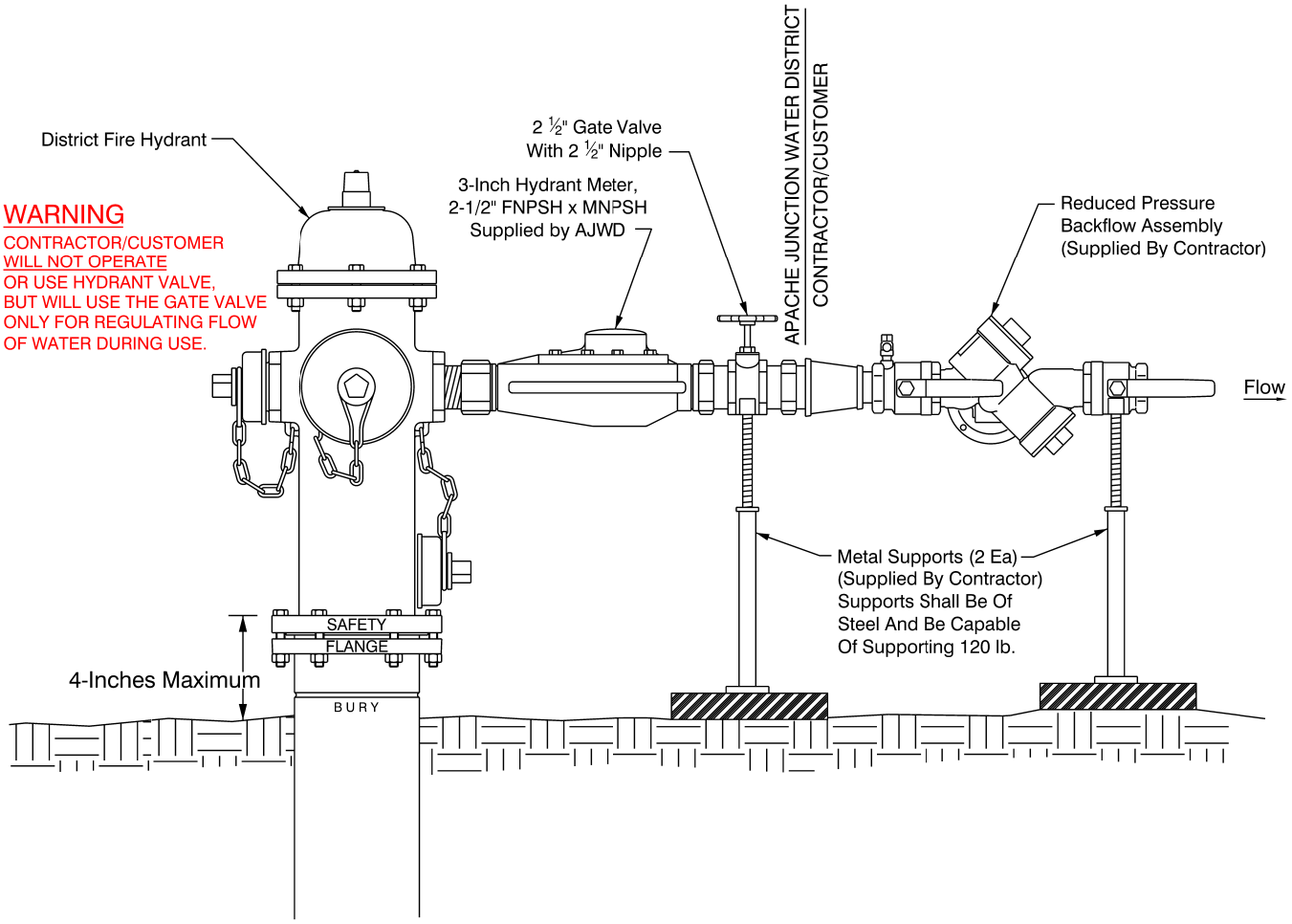
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

RAISED REFLECTIVE PAVEMENT MARKERS for FIRE HYDRANTS

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-14-2021		W-1-602



GENERAL NOTES

1. Contractor/Customer will apply at the Apache Junction Water District for temporary water service a minimum of three (3) days prior to required service date.
2. By applying for water service, the Contractor/Customer agrees to take water from the Apache Junction Water District in accordance with its current rate schedule and its rules and regulations.
3. Backflow assembly will be provided by the Contractor/Customer and be tested by a certified backflow assembly testor, at its expense, before initial service and each time the meter is moved.
4. Contractor/Customer must remove the backflow assembly before the hydrant meter is removed or relocated.
5. Contractor/Customer is responsible for any/all damage to the hydrant and all attachments to the hydrant.
6. Contractor/Customer will use the gate valve to control the flow of water, never the hydrant valve.
7. A 3-inch hydrant meter has a typical continuous operating range of 10 to 350 GPM. Its maximum intermittent flow operation is 400 GPM.
8. A 4-inch hydrant meter has a typical continuous operating range of 10 to 1125 GPM. Its maximum intermittent flow operation is 1250 GPM. The actual flow will vary based on system pressures.

AJWD

STANDARD DETAIL

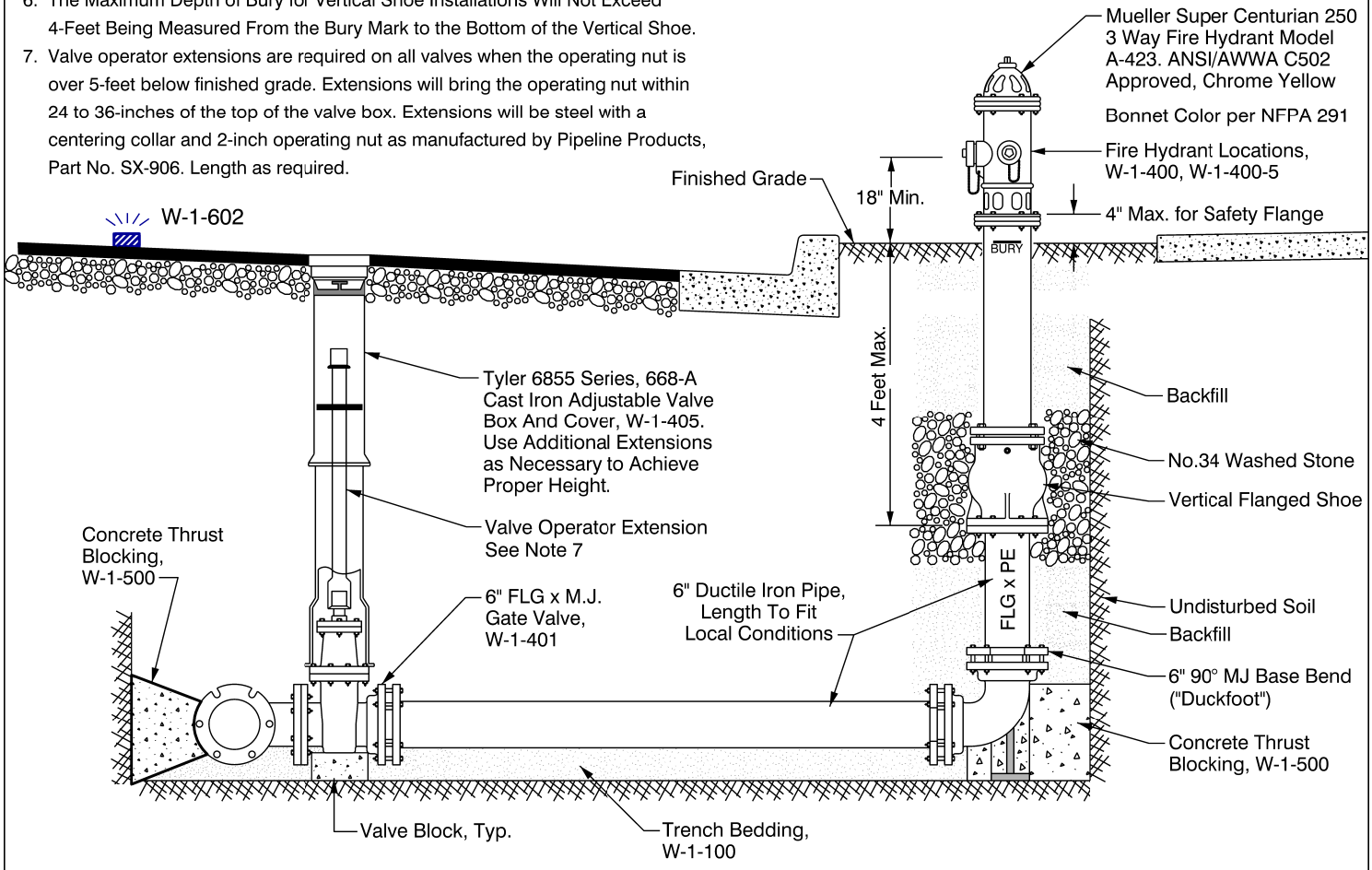
FOR THE INSTALLATION OF

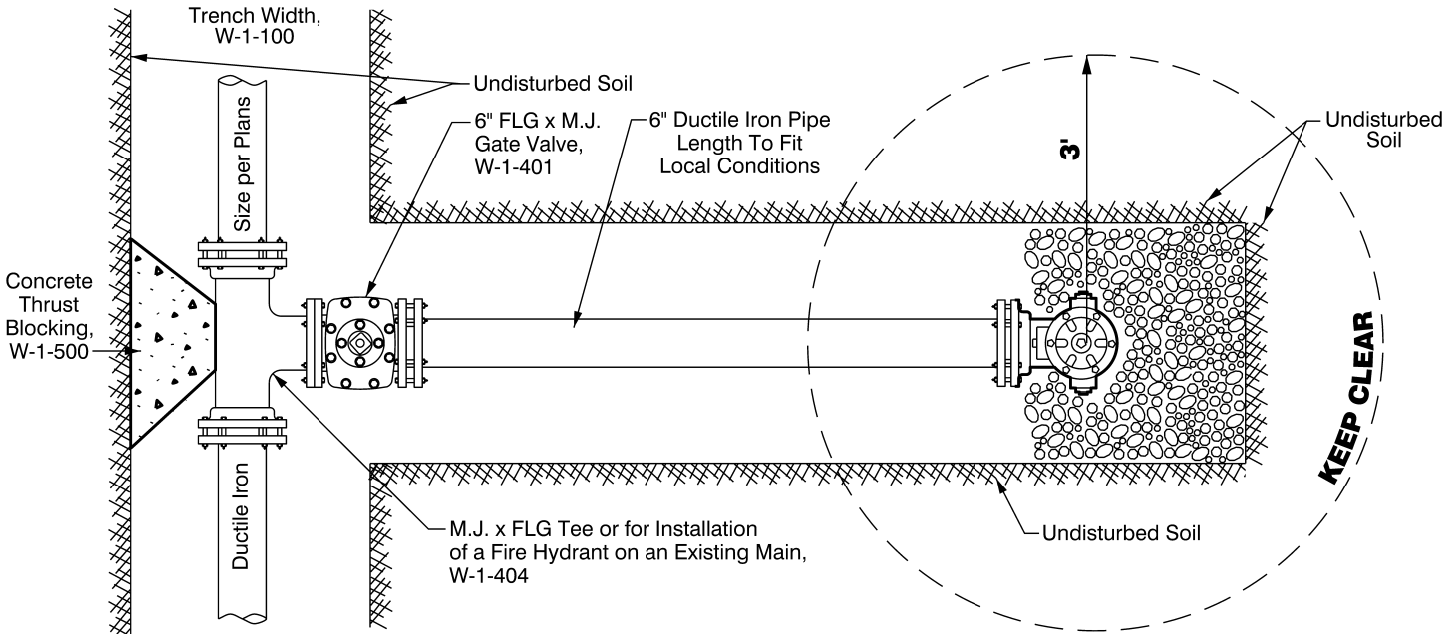
FIRE HYDRANT METER

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-14-2021		W-1-603

NOTES:

1. All Flanges, Nuts, and Drain Holes Will Be Kept Free of Concrete.
2. For Installation of a Fire Hydrant on an Existing Main, See Detail W-1-404.
3. Fire Hydrants will be Located on the Same Side as the Water Main.
4. The Fire Marshall to Approve the Location of All Fire Hydrants.
5. Polywrap all Pipe and Thrust Restraints on All Mechanical Joint Fittings.
6. The Maximum Depth of Bury for Vertical Shoe Installations Will Not Exceed 4-Feet Being Measured From the Bury Mark to the Bottom of the Vertical Shoe.
7. Valve operator extensions are required on all valves when the operating nut is over 5-feet below finished grade. Extensions will bring the operating nut within 24 to 36-inches of the top of the valve box. Extensions will be steel with a centering collar and 2-inch operating nut as manufactured by Pipeline Products, Part No. SX-906. Length as required.
8. Use of a Foster Adapter Between the Gate Valve and Fire Hydrant is Only Allowed When Conditions Warrant Their Use and Must Be Approved in Writing By The District Prior To Construction.
9. Fire Hydrants Installed on Non-Potable Water Mains Will Be Painted Silver and be stenciled "EFFLUENT WATER" in Gloss Black per SFMD.





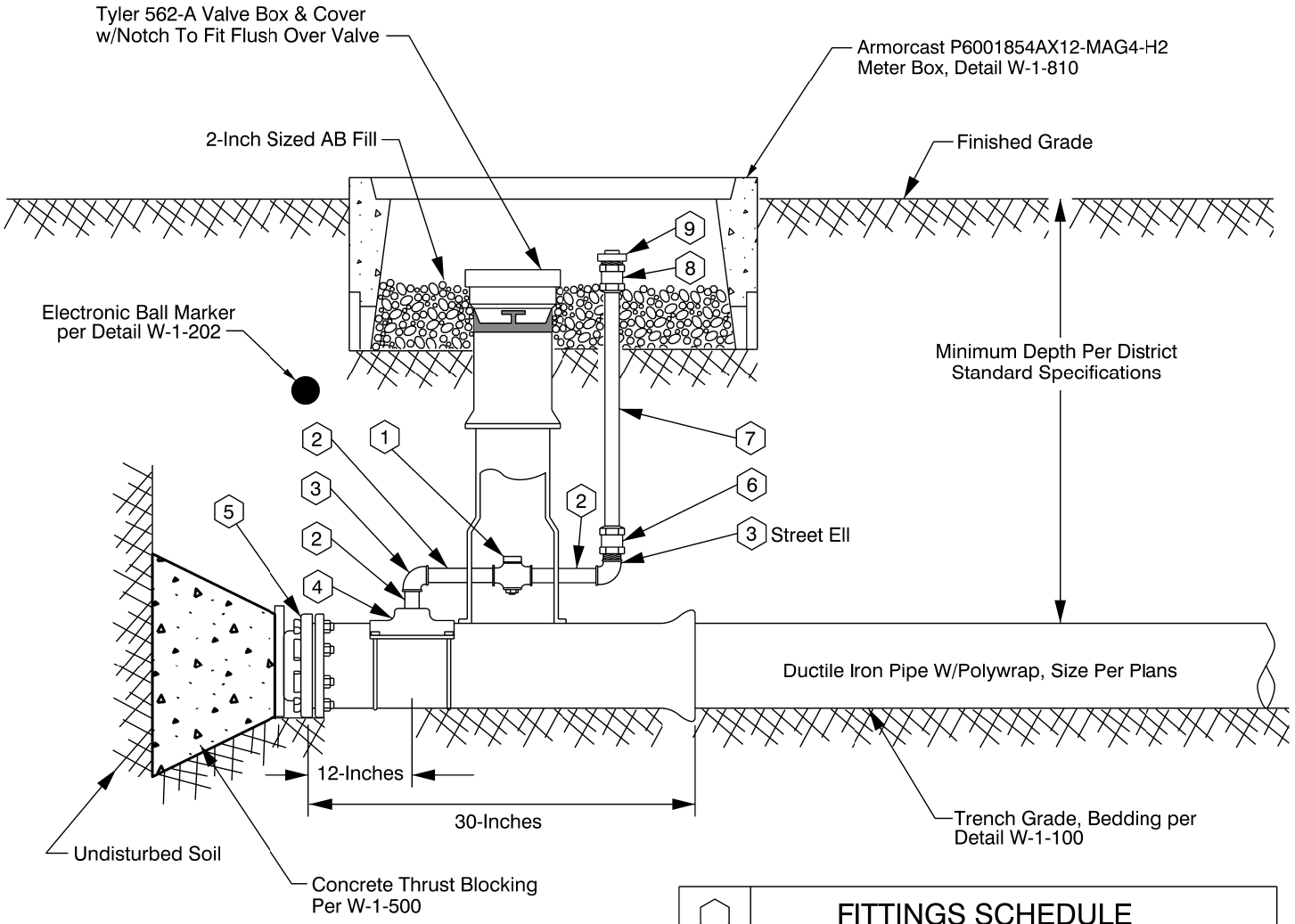
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF A

DEEP FIRE HYDRANT

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	01-13-2022		W-1-604



Notes:

1. Meter Box Is Not Traffic Rated, Do Not Set In Pavement, Sidewalks, Driveways, or other Areas Subject to Vehicluar Traffic.
2. Set Meter Box A Minimum of 1-Inch Above Finished Grade To Prevent Water Intrusion.
3. Electronic Marker Ball per Detail W-1-202.

⬡	FITTINGS SCHEDULE
1.	2-Inch Mueller 300 Ball Curb Valve B-20283 FIP x FIP W/ 2-Inch Mueller Brass Square Wrench Nut Adapter B-20299
2.	2-Inch Brass Nipple - Length To Fit Field Conditions
3.	2-Inch Brass 90° Elbow, IPST
4.	Mueller Double Strap Bronze Service Saddle - BR2B
5.	M.J. Plug - Megalug Restraints Required
6.	2-Inch Straight Coupling CC x FIP H-15451
7.	2-Inch Copper Pipe
8.	2-Inch Straight Coupling CC x MIP H-15428
9.	2-Inch Square Head Plug, MIP

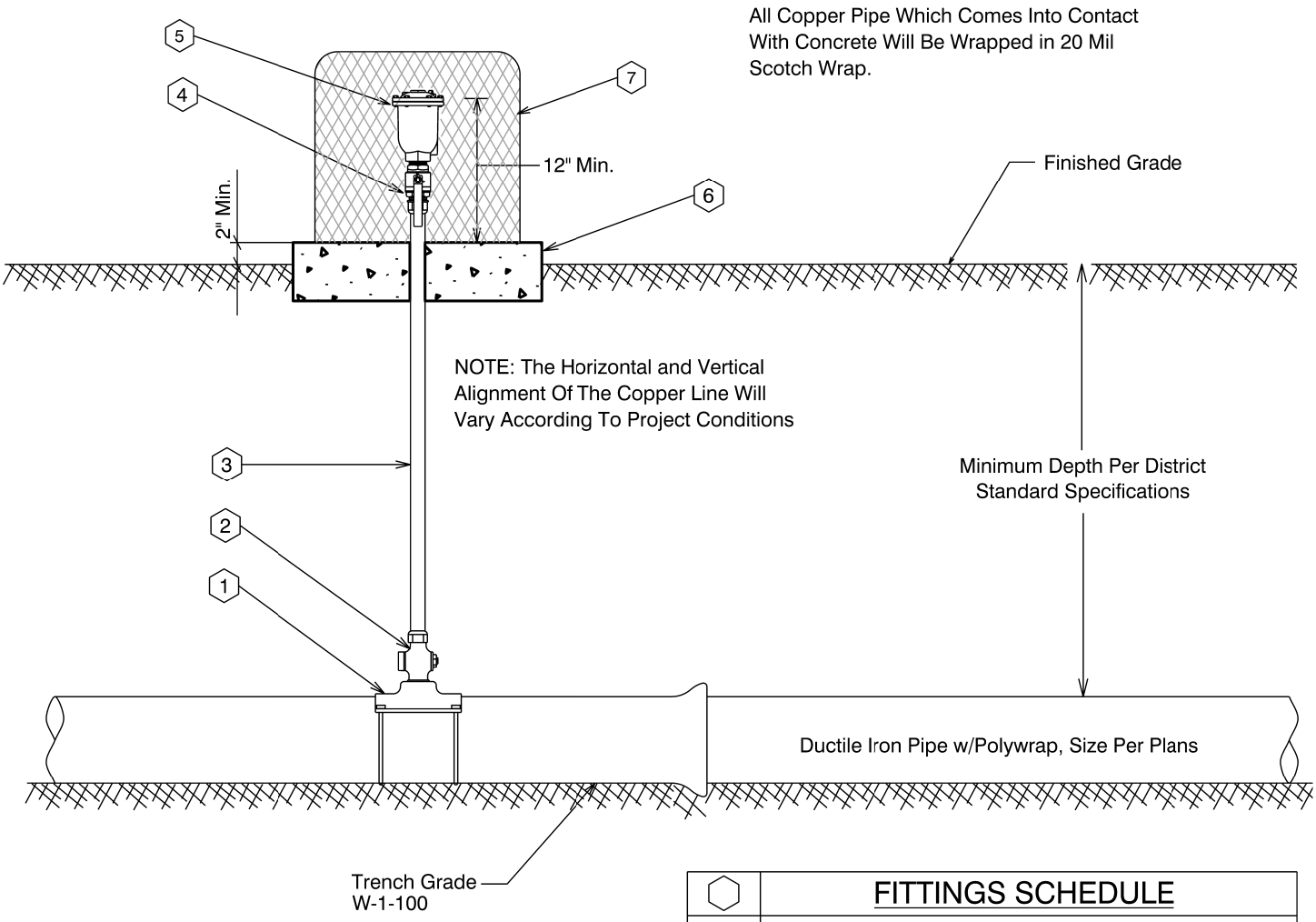
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

2-INCH BLOWOFF

DRAWN BY:	APPROVED BY:	DATE:		W-1-700
CB	ML	10-14-2021		



⬡	FITTINGS SCHEDULE
1.	Mueller BR2B Bronze Service Saddle - Double Strap
2.	1-Inch Mueller B-25008, Taper x CC, Ball Corp Stop
3.	1-Inch Type 'K' Copper w/NO Splices - Field Fit
4.	1-Inch Mueller B-25028, IP x CC, Ball Corp Stop
5.	DeZurik 1-Inch Air/Vacuum Valve, Model 142 with Mushroom Cap
6.	4-Inch Thick Concrete Pad - Class 'C' Concrete
7.	Guardshack, Model GS-1, Woodland Tan

NOTES:

1. The combination valve will be DeZurik AVV Model 142 for all water mains.
2. The AAV Model 142 combination valve construction consists of a 1-Inch NPT inlet and 1-Inch NPT outlet, ductile iron body and top flange with stainless steel float and trim. Outlet to have screened protective mushroom top. Manufactured in compliance with ANSI/AWWA Standard C512.
3. The combination valve will be installed at high points and on long runs to release the accumulation of air during filling or to allow the inlet of air when draining or when the system is subject to negative pressure.
4. The combination valve will be located out of the path of traffic but within right-of-way or utility easement. See Detail W-1-400-3.

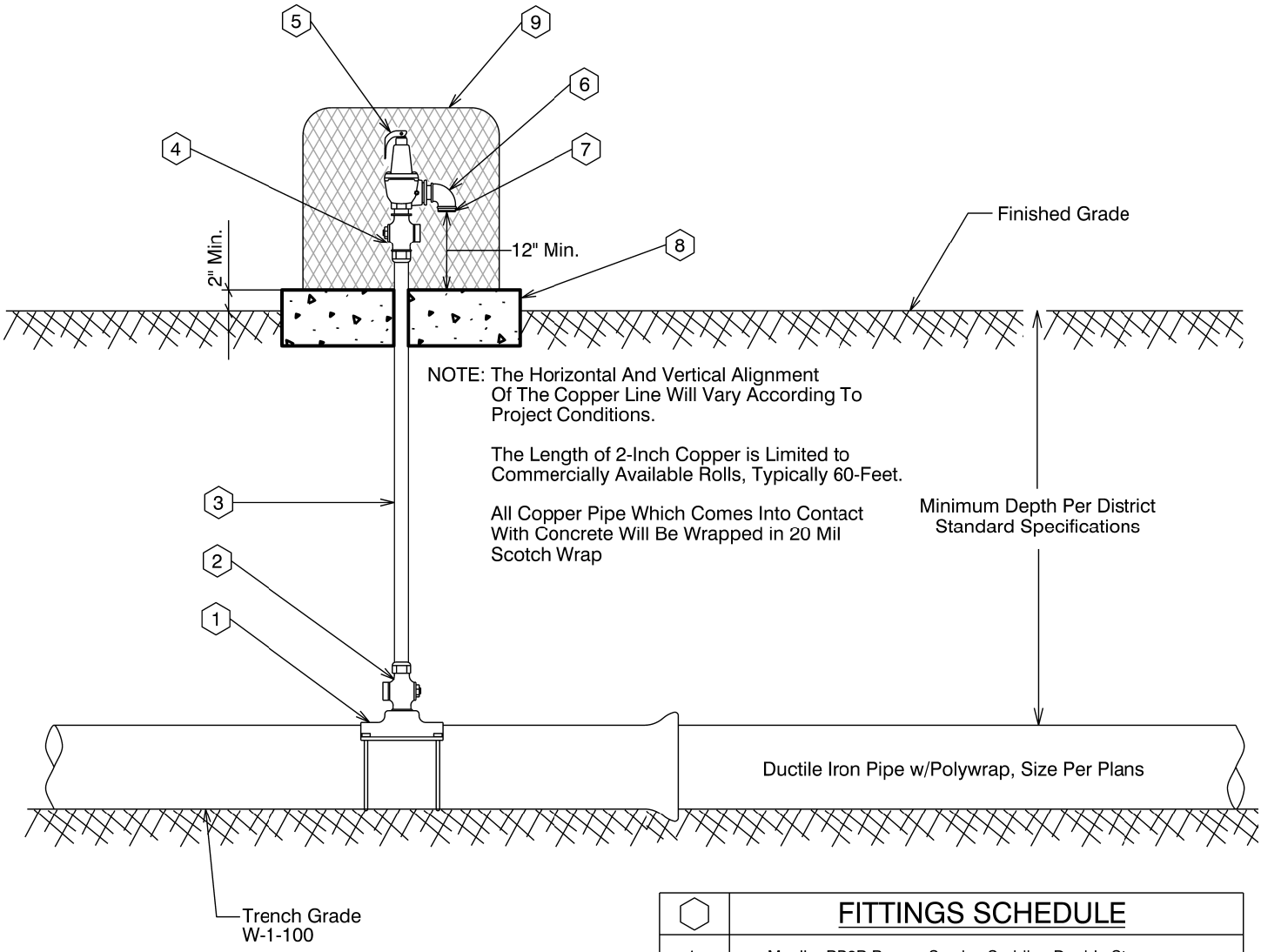
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

COMBINATION AIR RELEASE/VACUUM VALVE

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-14-2021		W-1-701



⬡	FITTINGS SCHEDULE
1.	Mueller BR2B Bronze Service Saddle - Double Strap
2.	2-Inch Mueller B-25008, Taper x CC, Ball Corp Stop
3.	2-Inch Type 'K' Copper w/NO Splices - Field Fit
4.	2-Inch Mueller B-25028, IP x CC, Ball Corp Stop
5.	2-Inch Pressure Relief Valve Watts 174A With A 2-Inch Inlet / 2-Inch Outlet 30-150 psi W/ Bronze Body
6.	2-Inch Brass Street Elbow
7.	No.16 Wire Mesh Screen (Non-Corrodible)
8.	4-Inch Thick Concrete Pad - Class 'C' Concrete
9.	Vandal enclosure to be centered on the concrete pad, Guardshack Model GS-1, Woodland Tan

NOTE:

1. Pressure Relief Valves Are Typically Located Just Down Stream Of A Pressure Reducing Station Or Where System Conditions Might Be Subject To Greater Than Allowable Pressures.

2. The Relief Valve Assembly And Vandal Enclosure Will Be Located Out Of The Roadway, But Within The Right-of-way Or Utility Easement. See Detail W-1-400-3.

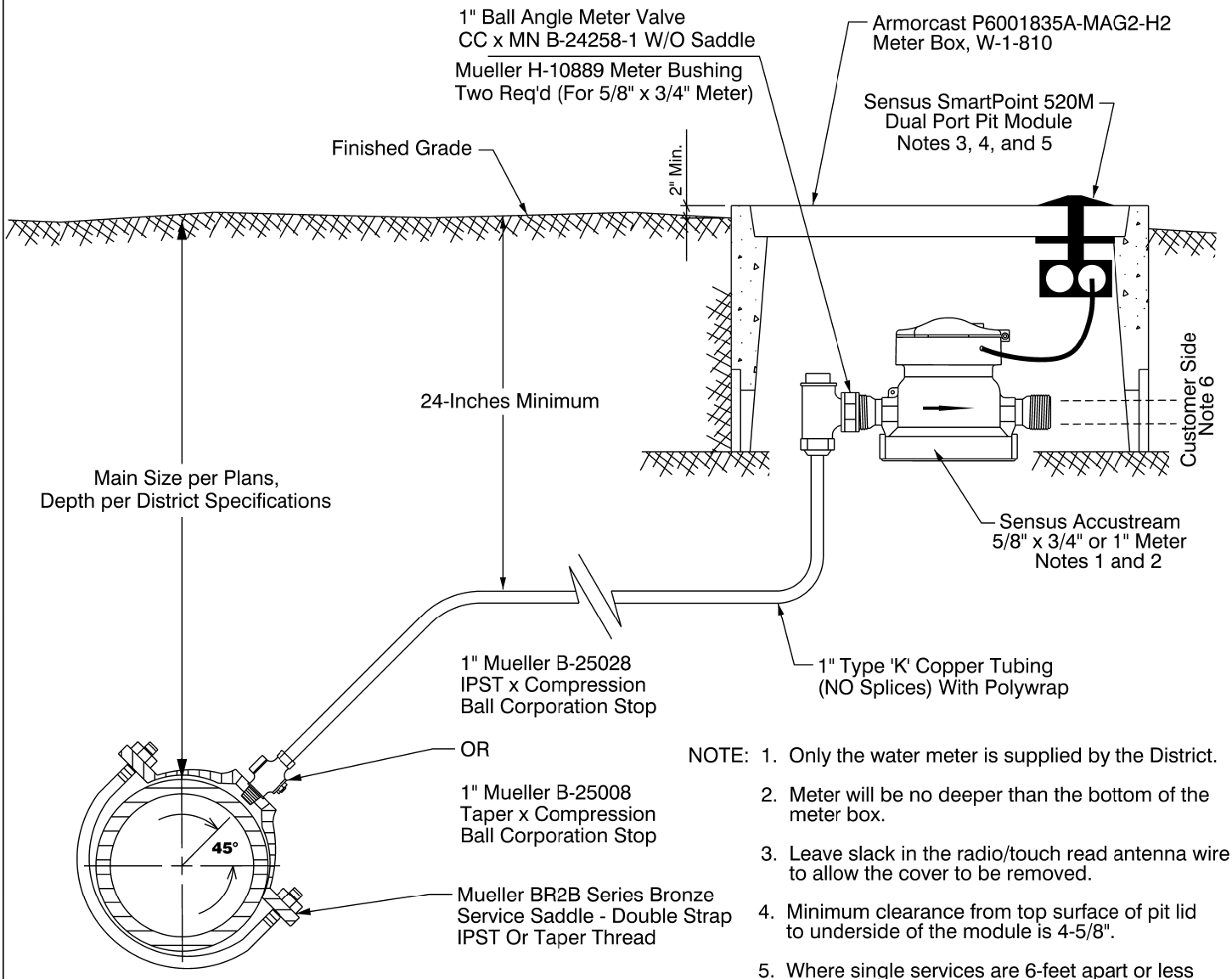
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

PRESSURE RELIEF VALVE

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-18-2021		W-1-702



SADDLE TAP TO CA, PVC, OR DI PIPE

NOTE: The Minimum Spacing on Service Taps is 12-Inches From Any Bell, Coupling, Valve, Fitting, or Other Obstruction.

NOTE:
1. Only the water meter is supplied by the District.
2. Meter will be no deeper than the bottom of the meter box.
3. Leave slack in the radio/touch read antenna wire to allow the cover to be removed.
4. Minimum clearance from top surface of pit lid to underside of the module is 4-5/8".
5. Where single services are 6-feet apart or less provide a 1-1/2" x 6'-0" Schedule 40 PVC pipe between meter boxes for a radio-read antenna cable. Field fit the length of PVC between meter boxes. Dry fit caps at each end until meters are set by the District.
6. The customer will provide and maintain a private shut-off valve within 18-inches of the water meter. Only District personnel will operate the District's shut-off valve.

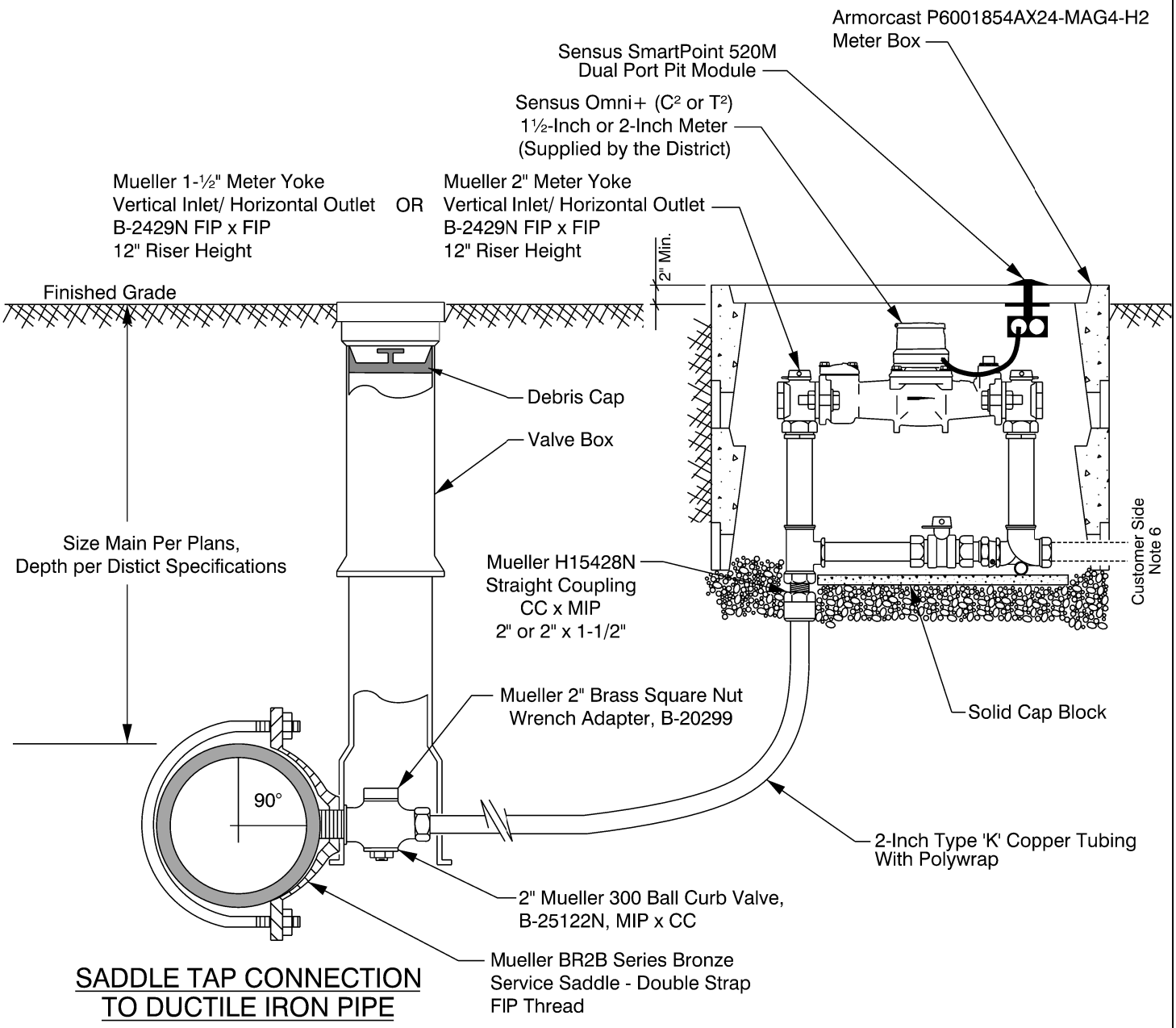
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

SINGLE SERVICE CONNECTION FOR
5/8" x 3/4" and 1-INCH METERS

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-18-2021		W-1-800



SADDLE TAP CONNECTION TO DUCTILE IRON PIPE

NOTE:
1. Only the water meter is supplied by the District.
2. Meter will be no deeper than the bottom of the meter box.
3. Leave slack in the radio/touch read antenna wire to allow the cover to be removed.
4. 2-Inch type 'K' copper is limited to commercially available rolls, typically 60-feet.
5. The minimum spacing on service taps is 12-inches from any bell, coupling, valve, fitting, or other obstruction.
6. The customer will provide and maintain a private shut-off valve within 18-inches of the water meter. Only District personnel will operate the District's shut-off valve.

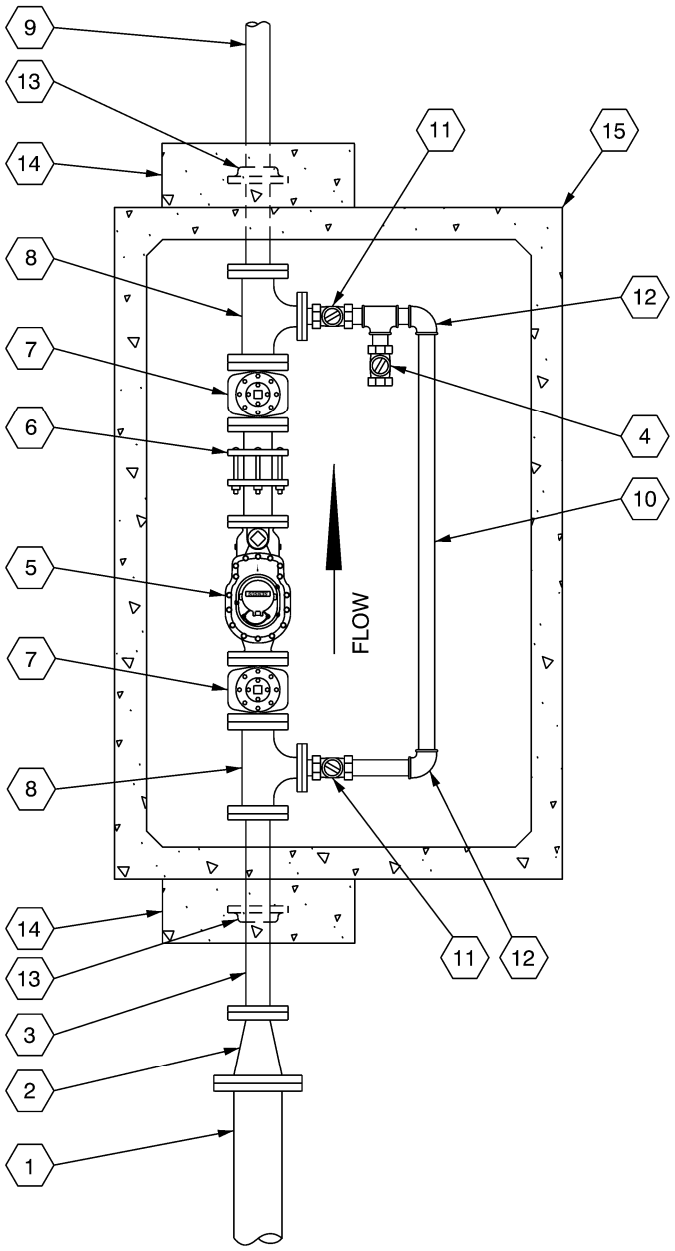
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

SINGLE SERVICE CONNECTION FOR
1½-INCH and 2-INCH METERS

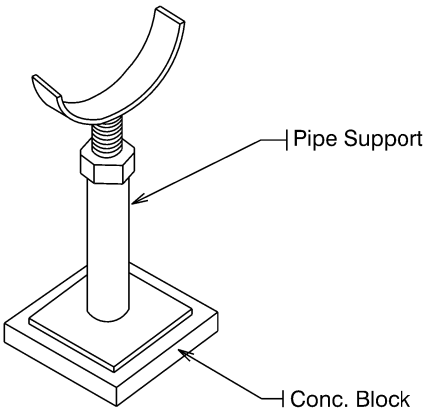
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-19-2021		W-1-802



No.	FITTINGS SCHEDULE
1.	6" Ductile Iron Pipe
2.	6" x 3" Reducer, FLG
3.	3" x 2'-0" Ductile Iron Spool, FLG
4.	2" Test Port
5.	3" Sensus Omni+ (C^2) Compound Meter
6.	3" Dismantling Joint, Romac DJ405
7.	3" Gate Valve, FLG
8.	3" x 2" Tee, FLG
9.	3" x 4'-0" Ductile Iron Spool, FLG x PE
10.	2" Copper Pipe
11.	2" Locking Ball Valve (normally closed)
12.	2" Mueller H-15526 90° Ell CC x CC
13.	3" Slip-On Welding Flange as Thrust Restraint
14.	24" x 24" x 8" Concrete Thrust Block, P.I.P.
15.	575-LA Concrete Vault, per W-1-811

NOTE:

1. Use pipe supports as needed (See detail below).
2. Pipe support locations to be determined by field personnel.
3. All copper pipe that comes in contact with concrete will be wrapped w/10-20 Mil Scotchwrap corrosion protection tape.
4. All mechanical joint fittings will be megalugged.
5. Use deflection fittings (45° Ells.) to achieve necessary depths and cover as shown on the standard detail for the installation of a water meter concrete vault, W-1-811.



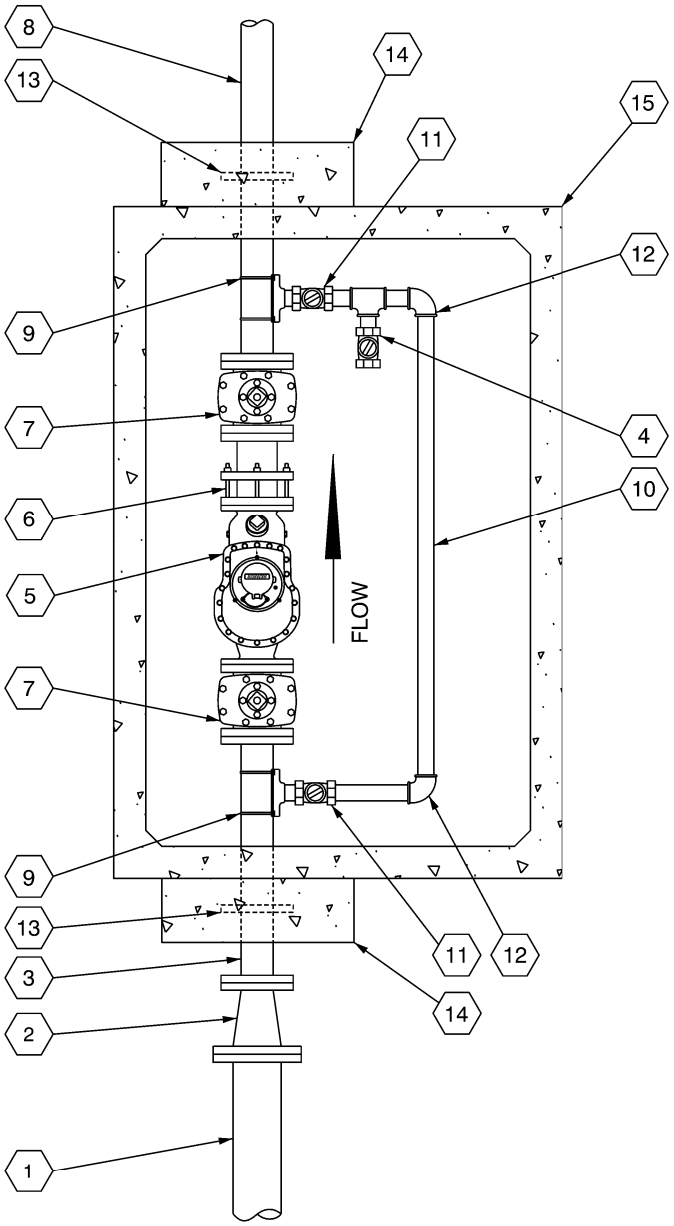
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

3-INCH COMPOUND METER

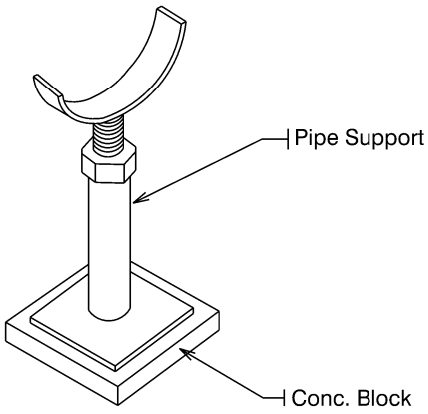
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-20-2021		W-1-803



No.	FITTINGS SCHEDULE
1.	6" Ductile Iron Pipe
2.	6" x 4" Reducer, FLG x MJ
3.	4" x 3'-0" Ductile Iron Spool, FLG x PE
4.	2" Test Port
5.	4-Inch Sensus Omni+ (C^2) Compound Meter
6.	4" Dismantling Joint, Romac DJ405
7.	4" Gate Valve, FLG x FLG
8.	4" x 4'-0" Ductile Iron Spool, FLG x PE
9.	4" x 2" Tapping Saddle
10.	2" Copper Pipe, Type 'K'
11.	2" Ball Valve / Locking (Normally Closed)
12.	2" 90° Ell, CC x CC, Mueller H-15526N
13.	4" Thrust Restraint
14.	24" x 24" x 8" Concrete Thrust Block, P.I.P.
15.	575-LA Concrete Vault

NOTE:

1. Use pipe supports as needed (See detail below).
2. Pipe support locations to be determined by field personnel.
3. All copper pipe that comes in contact with concrete will be wrapped w/10-20 Mil Scotchwrap corrosion protection tape.
4. All mechanical joint fittings will be megalugged.
5. Use deflection fittings (45° Ells.) to achieve necessary depths and cover as shown on the standard detail for the installation of a water meter concrete vault, W-1-811.



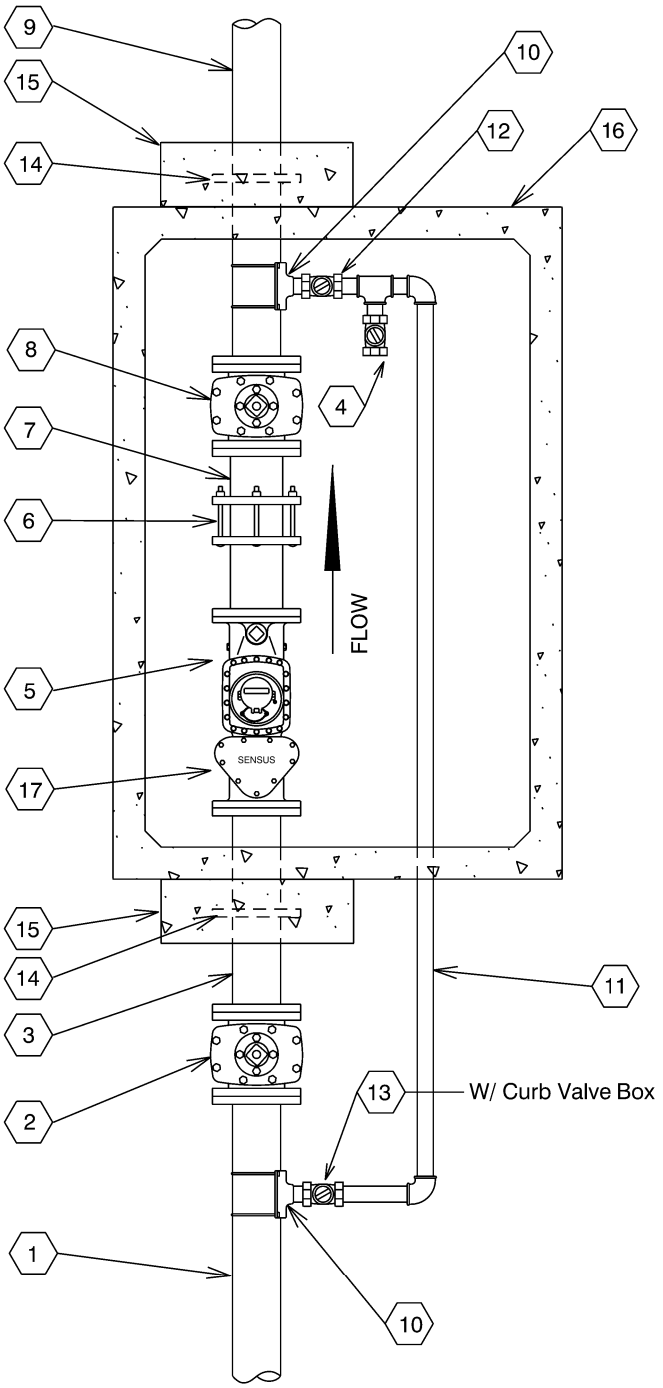
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

4-INCH COMPOUND METER

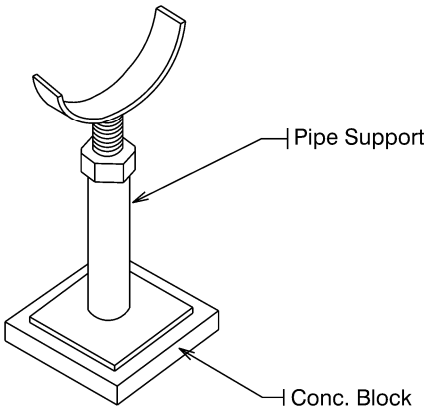
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-20-2021		W-1-804



No.	FITTINGS SCHEDULE
1.	6" Ductile Iron Pipe
2.	6" G.V.B.&C., MJ
3.	6" x 3'-0" Ductile Iron Spool, FLG x PE
4.	2" Test Port
5.	6-Inch Sensus Omni+ (C^2) Compound Meter
6.	6" Dismantling Joint, Romac DJ405
7.	6" x 1'-0" Ductile Iron Spool. FLG x PE
8.	6" Gate Valve, FLG x FLG
9.	6" x 4'-0" Ductile Iron Spool, FLG x PE
10.	6" x 2" Tapping Saddle
11.	2" Copper Pipe, Type 'K'
12.	2" Ball Valve / Locking (Normally Closed)
13.	2" Mueller B25122 Ball Valve w/B20299 Nut
14.	6" Thrust Restraint
15.	24" x 24" x 8" Concrete Thrust Block, P.I.P.
16.	575-LA Concrete Vault
17.	6" Strainer, FLG x FLG

NOTE:

1. Use pipe supports as needed (See detail below).
2. Pipe support locations to be determined by field personnel.
3. All copper pipe that comes in contact with concrete will be wrapped w/10-20 Mil Scotchwrap corrosion protection tape.
4. All mechanical joint fittings will be megalugged.
5. Use deflection fittings (45° Ells.) to achieve necessary depths and cover as shown on the standard detail for the installation of a water meter concrete vault, W-1-811.



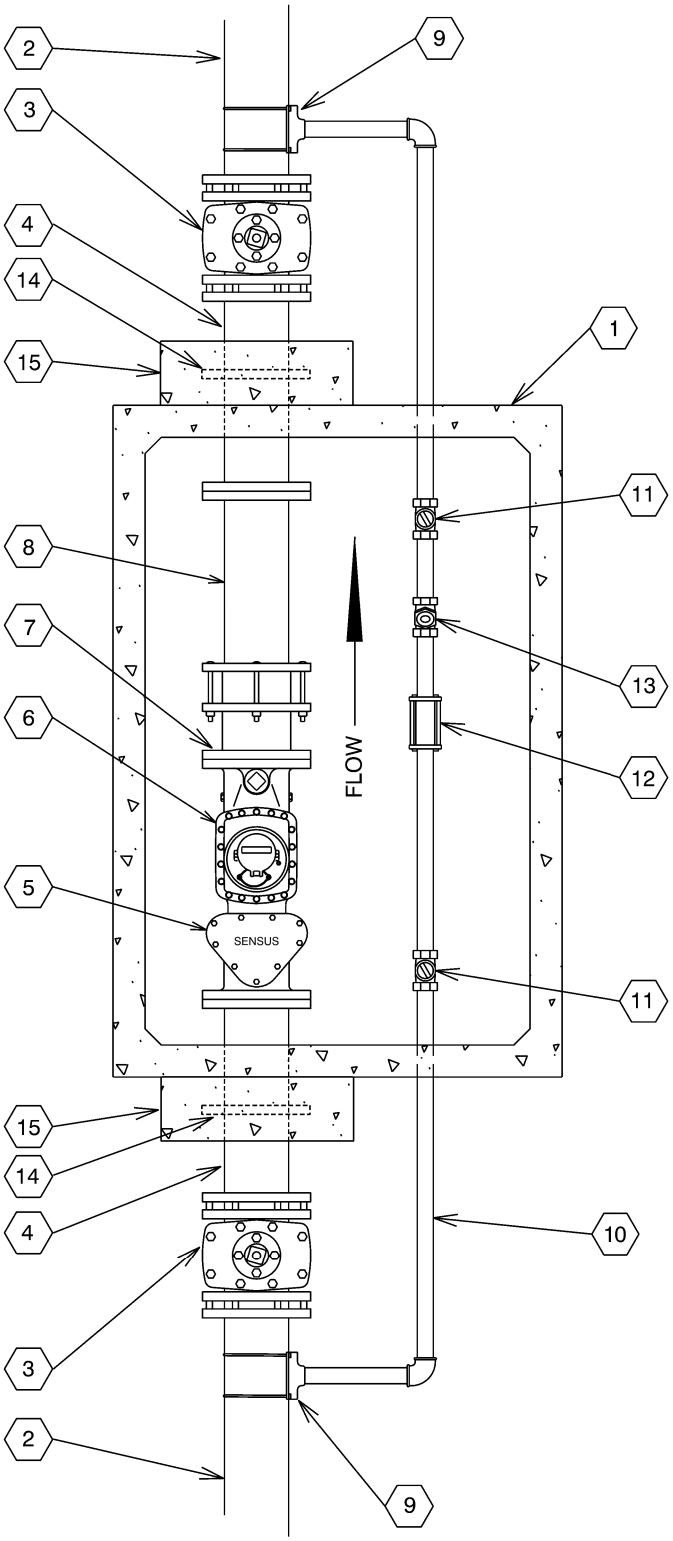
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

6-INCH COMPOUND METER

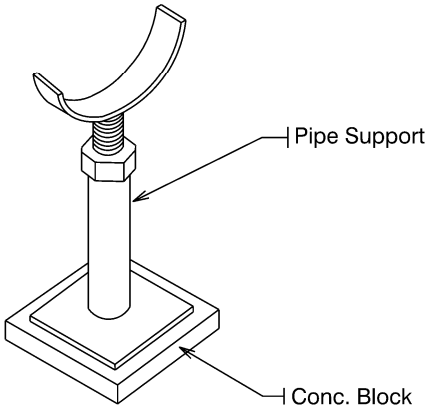
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-20-2021		W-1-805



No.	FITTINGS SCHEDULE
1.	575-LA Concrete Vault
2.	8" Ductile Iron Pipe
3.	8" G.V.B.&C., MJ
4.	8" x 4'-0" Ductile Iron Spool, FLG x PE
5.	8" Strainer
6.	8" Sensus Omni+ (C2) Compound Meter
7.	8" Flanged Coupling Adapter
8.	8" x 2'-0" Ductile Iron Spool, FLG x PE (Trim Spool Piece To 2x The Pipe Dia.)
9.	8 "x 2" Tapping Saddle
10.	2" Copper Pipe, Type 'K'
11.	2" Ball Valve (Locking)
12.	2" Coupling Adapter
13.	2" Check Valve
14.	8" Thrust Restraint
15.	36" x 36" x 12" Concrete Thrust Block, P.I.P.

NOTE:

1. Use pipe supports as needed (See detail below).
2. Pipe support locations to be determined by field personnel.
3. All copper pipe that comes in contact with concrete will be wrapped w/10-20 Mil Scotchwrap corrosion protection tape.
4. All mechanical joint fittings will be megalugged.
5. Use deflection fittings (45° Ells.) to achieve necessary depths and cover as shown on the standard detail for the installation of a water meter concrete vault, W-1-811.



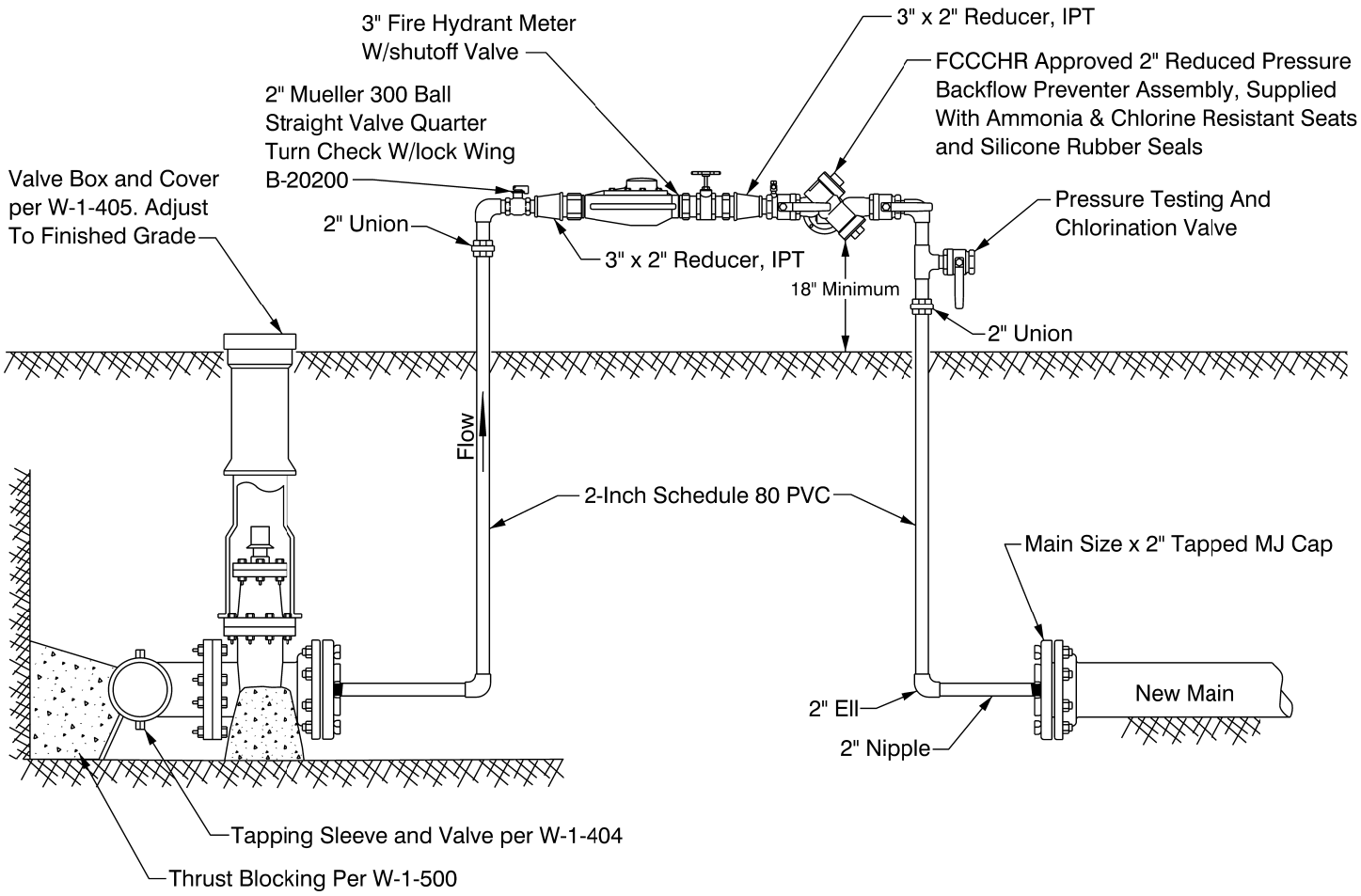
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

8-INCH COMPOUND METER

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-20-2021		W-1-806



NOTE:

1. Final Inspection And Connection To Be Witnessed By A Water District Representative.
2. Reducing/Tapped Flanges Will Be Properly Restrained.
3. Install Jumper Tap For Temporary Meter Downstream of the Reducing Flange For Pressure And Bactee Testing.
4. Jumper Assembly Must Be a Minimum Of 18" Above Finished Grade.
5. Backflow Assembly Requires Certification.
6. Assembly Will Not To Be Removed and Spool Piece Installed For Final Connection Until All Testing, Bacterial Clearance and Final Inspections Have Been Obtained.
7. All New Piping Will Be Properly Restrained.
8. All new waterlines will be pressure tested in accordance with current AWWA/ANSI C605 for PVC and AWWA\ANSI C600 for Ductile Iron Pipe.
9. All new water system components or equipment will be disinfected and flushed in accordance with Engineering Bulletin No. 8, Disinfection of Water Systems, or AWWA/ANSI C651-14.
10. After disinfection, all water system components or equipment will be bacteriologically tested by a Bacti test through an Arizona Department of Health Services certified laboratory.

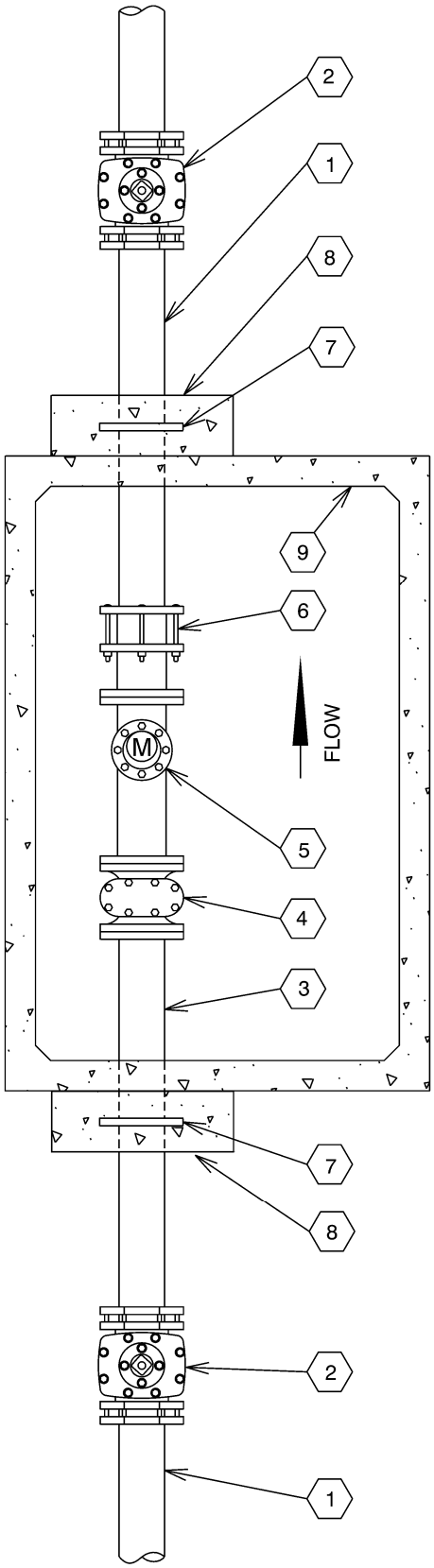
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

HOT TAP and JUMPER METER CONNECTION

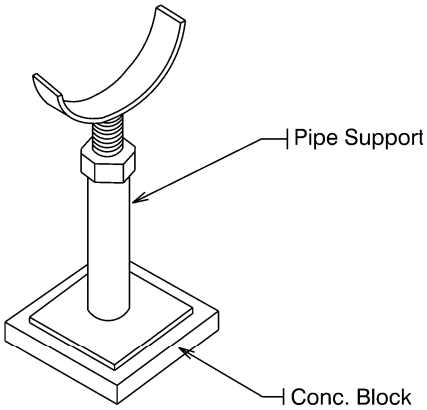
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-20-2021		W-1-807



No.	FITTINGS SCHEDULE
1.	Ductile Iron Pipe
2.	Gate Valve, M.J.
3.	Ductile Iron Spool Piece FLG x PE (10x Dia.)
4.	Meter Strainer
5.	Sensus Propeller Meter (4" Thru 10")
6.	Romac Dismantling Joint, DJ405
7.	Megalug Gland (Thrust Anchor)
8.	Concrete Thrust Block, P.I.P.
9.	575-LA Concrete Vault

NOTE:

1. Use pipe supports as needed (See detail below).
2. Pipe support locations to be determined by field personnel.
3. All steel pipe that comes in contact with concrete will be wrapped w/10-20 Mil Scotchwrap corrosion protection tape.
4. All mechanical joint fittings will be megalugged.
5. Use deflection fittings (45° Ells.) to achieve necessary depths and cover as shown on the standard detail for the installation of a water meter concrete vault, W-1-811.



AJWD

STANDARD DETAIL

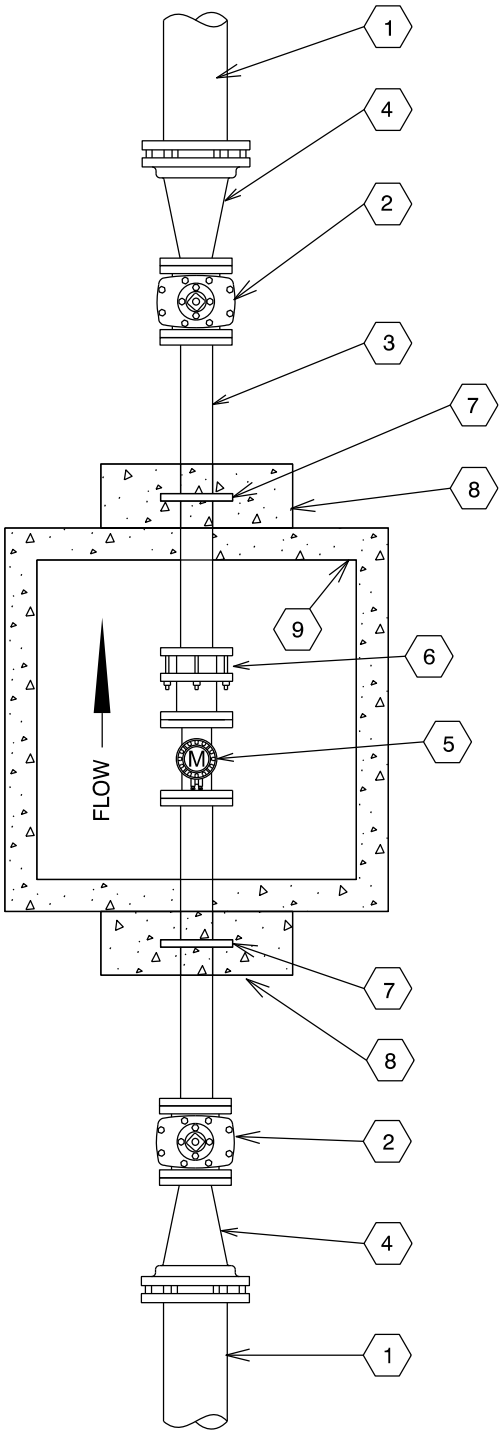
FOR THE INSTALLATION OF

NON-POTABLE PROPELLER METER

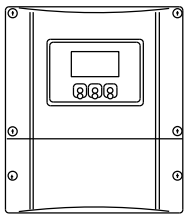
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-21-2021		W-1-808

No.	FITTINGS SCHEDULE
1.	*-Inch Ductile Iron Pipe
2.	*-Inch Gate Valve, FLG x FLG
3.	*-Inch Ductile Iron Spool, FLG x PE
4.	* x *-Inch M.J. x FLG Reducer
5.	*-Inch Proline Promag 50W Meter (Remote Version)
6.	*-Inch Flanged Coupling Adapter
7.	Megalug Gland (Thrust Anchor)
8.	Concrete Thrust Block, P.I.P.
9.	Concrete Meter Vault 444-WA

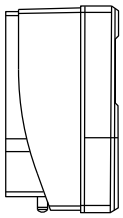
* Size per Plans



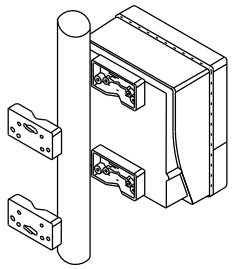
Size per Plans



Front



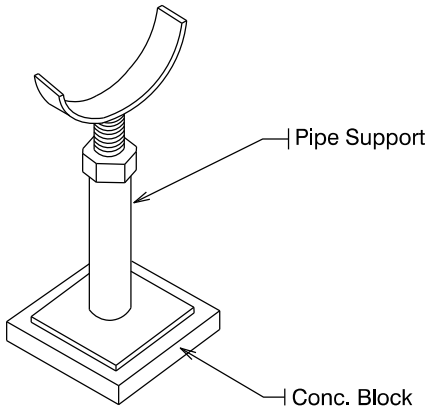
Side



POWER SUPPLY TO PIPE MOUNT

NOTE:

1. Use pipe supports as needed (See detail below).
2. Pipe support locations to be determined by field personnel.
3. All steel pipe that comes in contact with concrete will be wrapped w/10-20 Mil Scotchwrap corrosion protection tape.
4. All mechanical joint fittings will be megalugged.
5. Use deflection fittings (45° Ells.) to achieve necessary depths and cover as shown on the standard detail for the installation of a concrete vault, W-1-811.



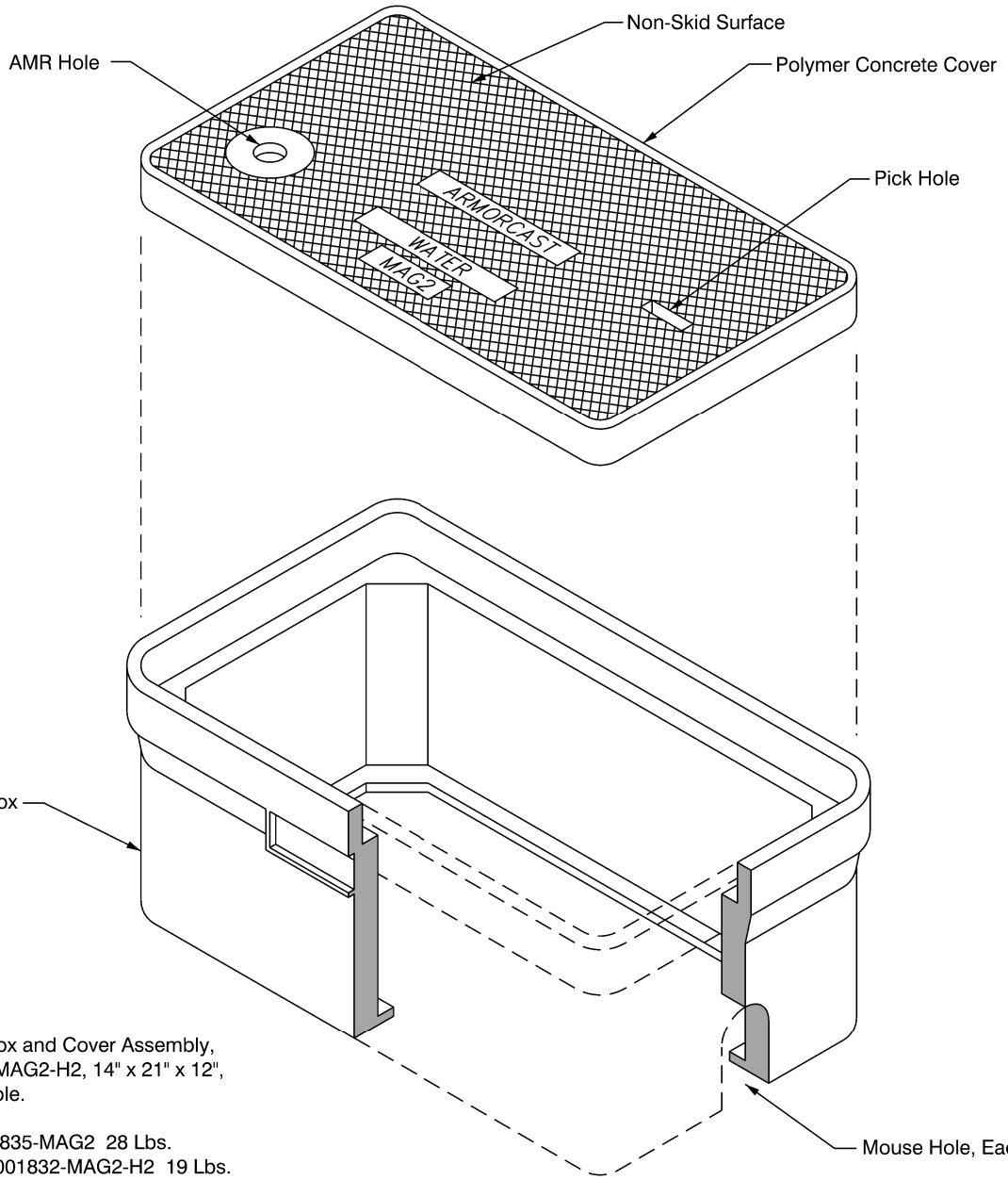
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

NON-POTABLE MAG METER

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-21-2021		W-1-809



Armorcast Box and Cover Assembly,
P6001835A-MAG2-H2, 14" x 21" x 12",
With AMR Hole.

BOX: P6001835-MAG2 28 Lbs.
COVER: A6001832-MAG2-H2 19 Lbs.

Armorcast Box and Cover Assembly,
P6001854AX12-MAG4-H2, 19" x 30" x 12",
P6001854AX24-MAG4-H2, 19" x 30" x 24"
With AMR Hole.

BOX: P6001854X12-MAG4 45 Lbs.
BOX: P6001854X24-MAG4 50 Lbs.
COVER: A6001852-MAG4-H2 44 Lbs.

NOTE: ANSI / SCTE Tier 5 Load Rating. Designed for sidewalk applications and occasional non-deliberate light vehicular traffic. Design load 5,000 lbs and a minimum failure load of 7,500 lbs.

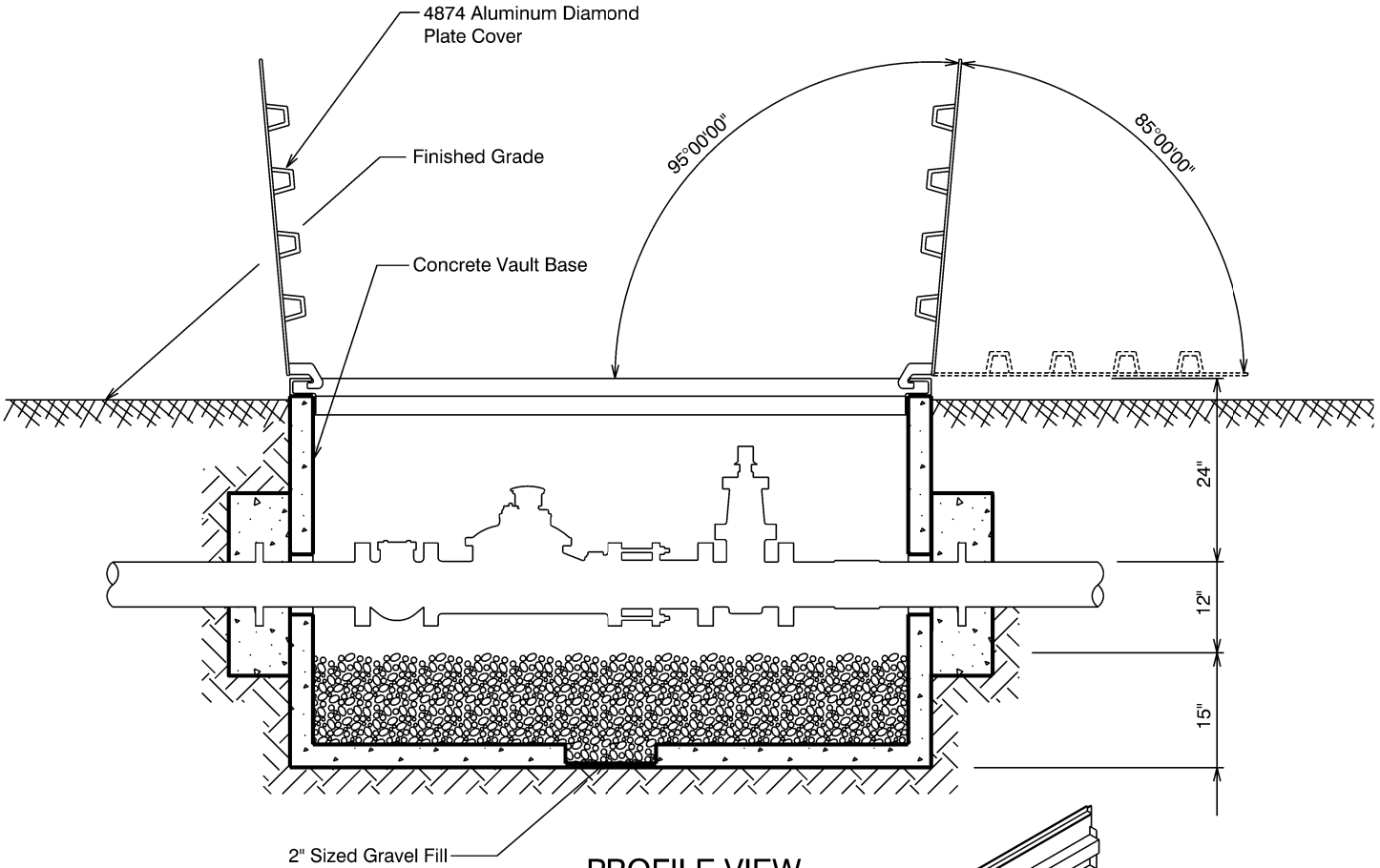
AJWD

STANDARD DETAIL

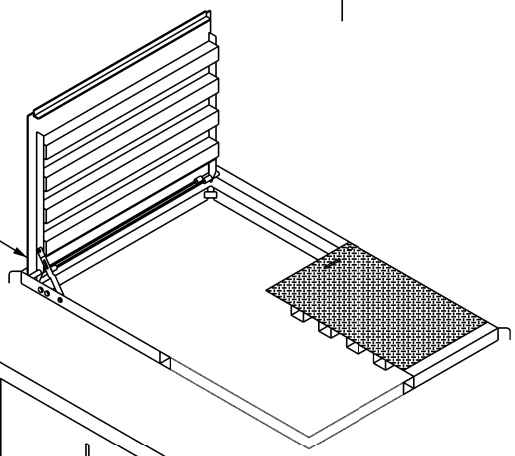
FOR THE INSTALLATION OF

WATER METER BOX and LID

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-21-2021		W-1-810



PROFILE VIEW

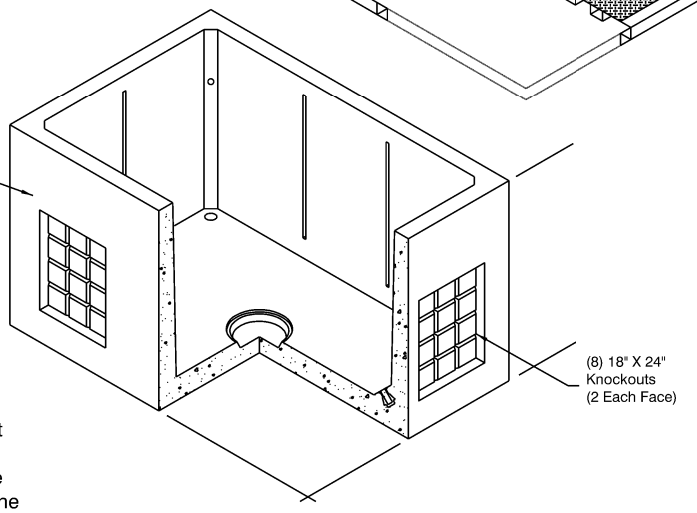


CONCRETE VAULT & COVER SPECIFICATIONS

Vault - Base No. 575-BL
Cover - Standard Engineered Vault Cover

. 4874 Aluminum Diamond Plate Cover For Non-Traffic Loading Areas
. Double Torsion Spring Assisted Doors W/ Recessed Hasp & Safety Latches

BASE
NO. 575-BL
4,500 lbs.



NOTES

1. Total Depth Of Concrete Vault To Be A Maximum Of 3'-0" From Top Of Vault Cover To Top Of Gravel Fill.
2. Service Connections Larger Than 6" In Diameter Will Conform To The Same Vault & Cover Specifications. Size Of Vault & Cover To Be Determined By the Water District.
3. All Joints Will Be Sealed Using Conseal CS-101 Butyl Rubber Rope.

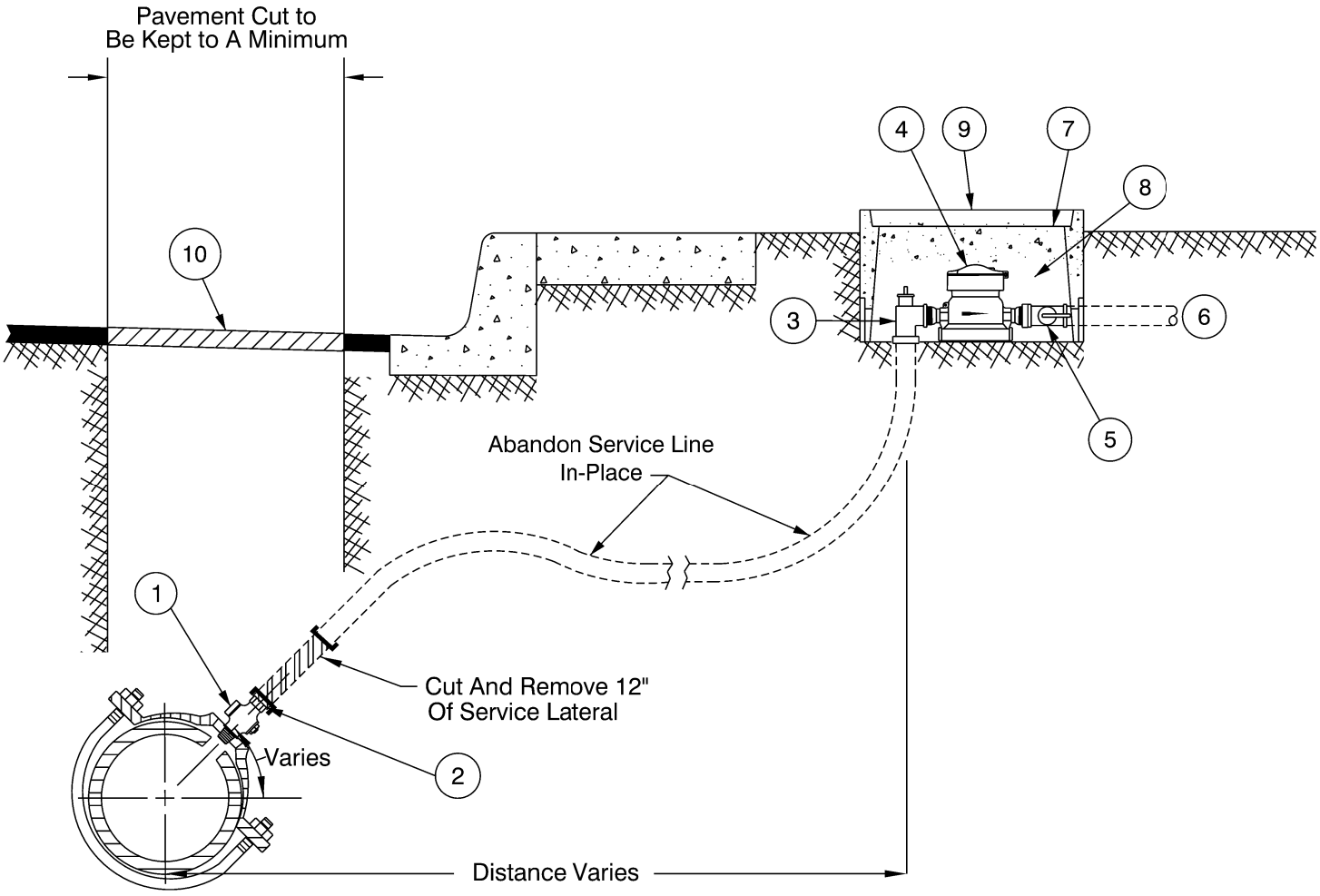
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

WATER METER CONCRETE VAULT

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10/21/2021		W-1-811



NOTE:

1. Close Existing Corp Stop
2. Install Threaded Bronze Cap On Corp Stop, Female Or Soldered Cap
3. Close Lockwing Angle Valve
4. Remove Meter And Return To The Water District
5. Close Customer Shut-Off Valve
6. Private Service Line To Remain In-place
7. Remove Entire Meter Box Assembly
8. Backfill Meter Box With Select Backfill And Compact
9. If Meter Box is located in The Sidewalk or Set in Concrete, Then Pour Concrete Pad or Sidewalk Per City Of Apache Junction Standards
10. Backfill And Pavement Replacement Per City, County, or ADOT Requirements

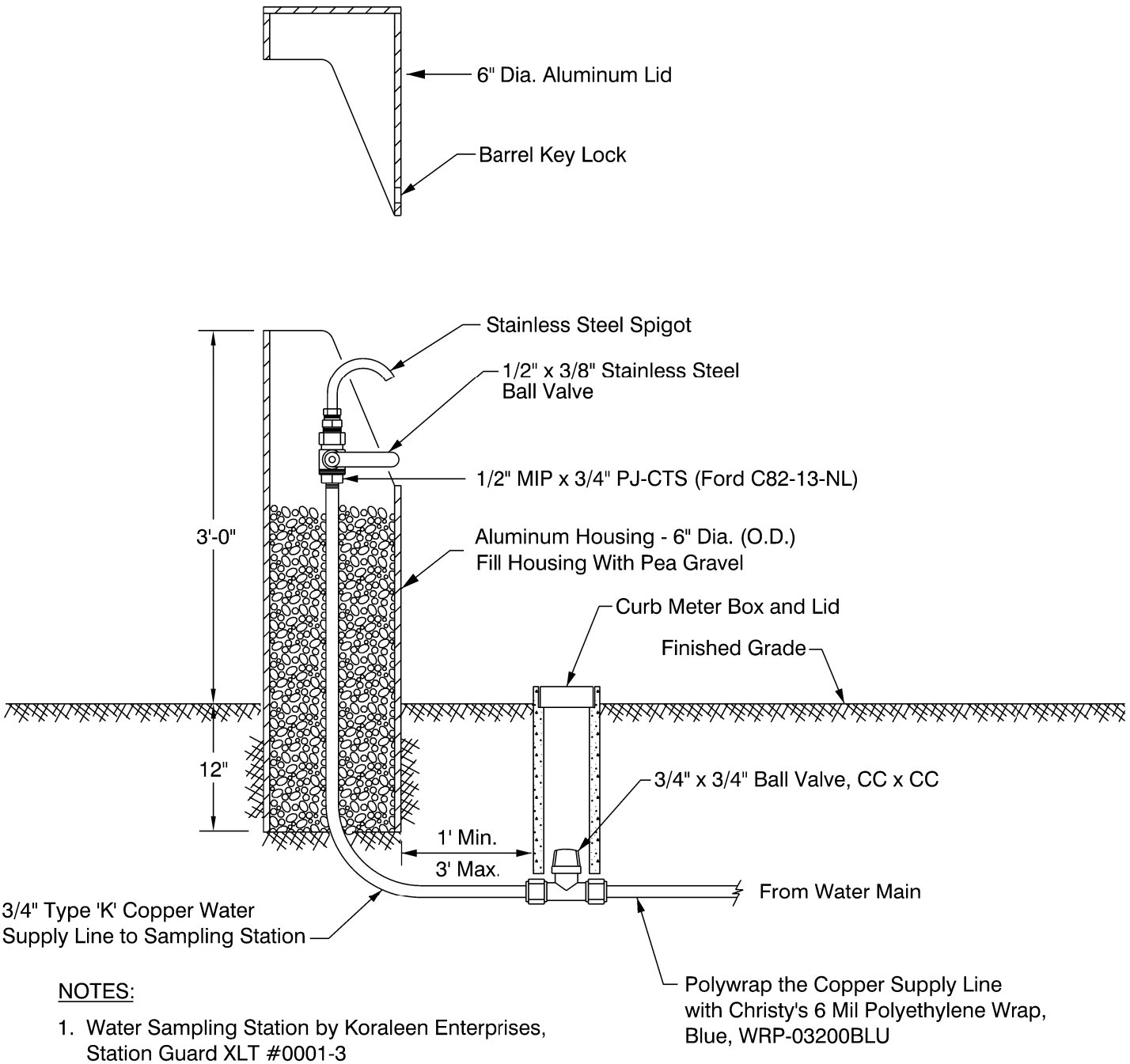
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

WATER SERVICE ABANDONMENT

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-25-2021		W-1-812



NOTES:

1. Water Sampling Station by Koraleen Enterprises, Station Guard XLT #0001-3
2. Keys to Each Station will be Delivered to the Water District

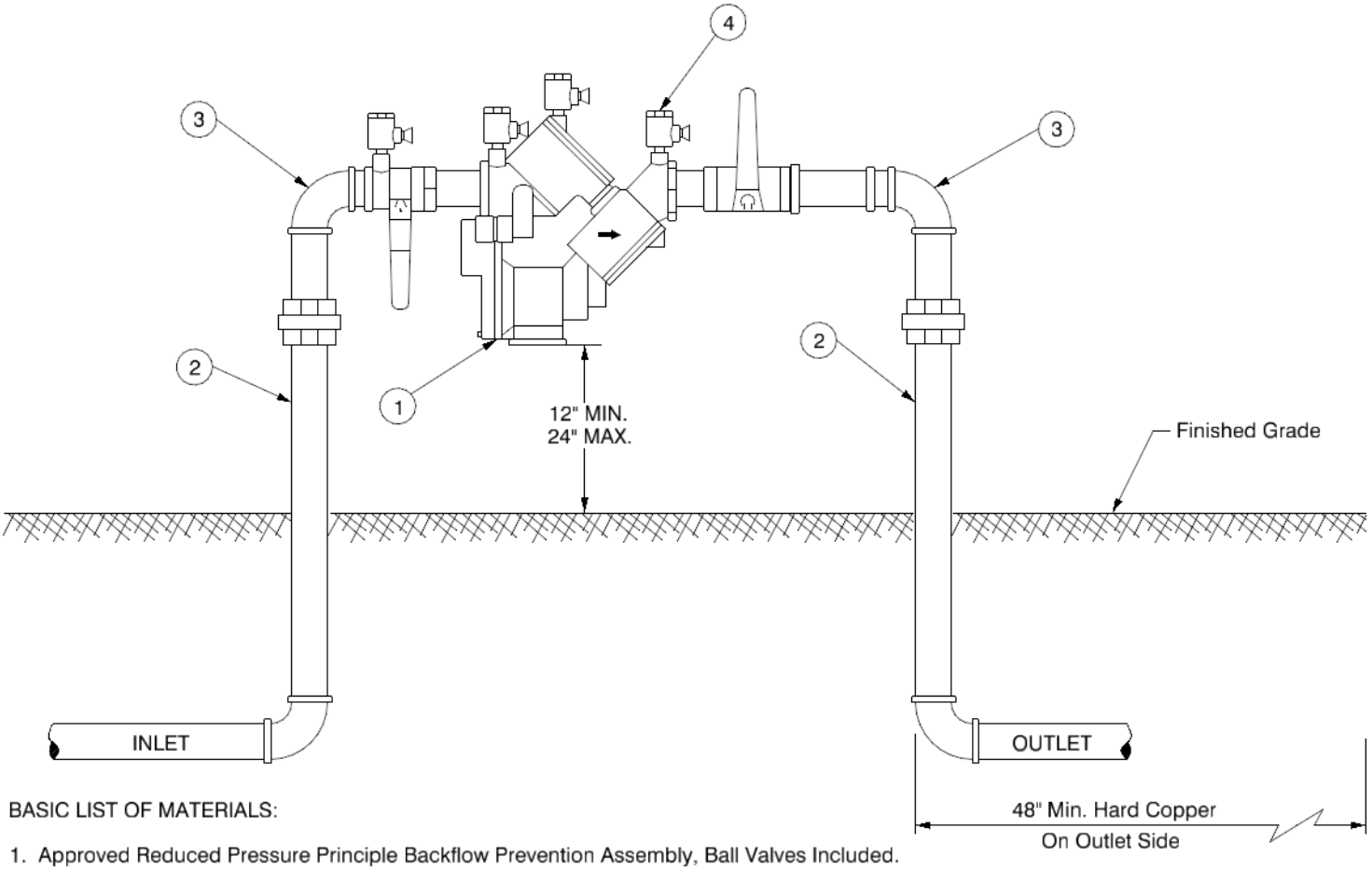
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

WATER SAMPLING STATION

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-25-2021		W-1-900



BASIC LIST OF MATERIALS:

1. Approved Reduced Pressure Principle Backflow Prevention Assembly, Ball Valves Included.
2. Pipe Spool with 2 Unions (Brass or Copper), Type K Hard Copper, 3/4-Inch Through 2-Inch.
3. 90° Elbow, Copper, 3/4-Inch Through 2-Inch.
4. Install Brass Plugs In Each Testcock. (4 Required)

GENERAL NOTES:

1. Backflow Assemblies Must Be Tested By A Certified Tester That Is Recognized By The Apache Junction Water District (AJWD).
2. Approved Backflow Assembly Per The University of Southern California Foundation of Cross-Connection Control and Hydraulic Research (FCCCHR) List for "RP" Assemblies.
3. The "RP" Assembly is Owned, Installed, and Maintained By The Customer As A Condition of Providing Water Service.
4. The "RP" Assembly Will Be Located As Close To The Water Meter As Possible With No Connections Between The Meter And The "RP" Assembly.
5. Copper Fittings Will Be Connected With Lead Free Solder Joints.
6. Finished Grade Underneath The Backflow Preventer Shall Be At 95% Compaction.
7. All Nipples To Be Copper Or Brass.
8. All Inlet / Outlet Piping Must Be Type 'K' Hard Copper.
9. Backflow Assemblies Installed On A Concrete Pad Will Have The Copper Pipe Wrapped Or Sleeved Where It Penetrates The Concrete.
10. Approvals For Backflow Assemblies Must Have Seal Approval From The American Society Of Sanitation Engineers.
11. Backflow Assemblies Installed On Fire Suppression Systems Must Also Have Approval From Underwriters Laboratories And/or Factory Mutual Research Corporation.
12. The Backflow Device Will Not Be Smaller Than The Size of the Water Meter.
13. The Backflow Device Will Be Tested At The Time of Installation and Once a Year Thereafter.

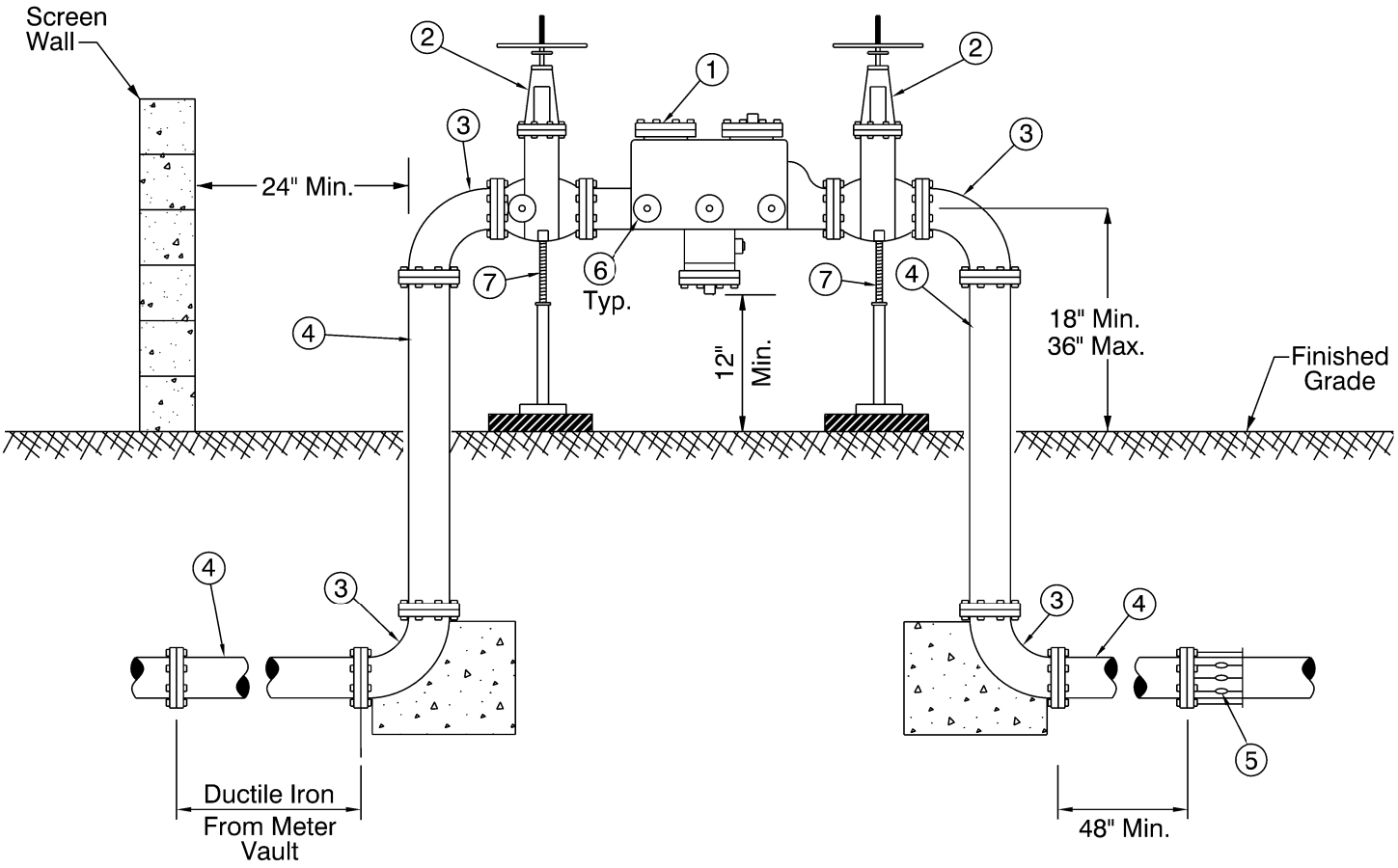
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION
FOR 2-INCH AND SMALLER SERVICE CONNECTIONS

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-25-2021		W-1-1000



BASIC LIST OF MATERIALS:

1. Approved Reduced Pressure Principle Backflow Prevention Assembly.
2. Resilient Seated Gate Valve, O.S. & Y. (Fire Line Connection). N.R.S. (Non-Fire Line)
3. 90° Ell. Flanged D.I.P., 3-Inch Thru 10-Inch, Megalug Or Approved Equal May Be Used On Underground Joints.
4. Pipe Spool, Flanged D.I.P., 3-Inch Thru 10-Inch, Megalug Or Approved Equal May Be Used On Underground Joints.
5. Flanged Adapter (when Required)
6. Test Cocks With Brass Plugs Or Adaptors With Caps Installed. (4 Required)
7. Adjustable Metal Pipe Supports And Concrete Block Supports With 1" Adjusting Rod And Nut On Assemblies 4" And Larger.

GENERAL NOTES:

1. Backflow Assemblies Must Be Tested By A Certified Tester That Is Recognized By The Apache Junction Water District (AJWD).
2. Approved Backflow Assembly Per The University of Southern California Foundation of Cross-Connection Control and Hydraulic Research (FCCCHR) List for "RP" Assemblies.
3. The "RP" Assembly is Owned, Installed, and Maintained By The Customer As A Condition of Providing Water Service.
4. The "RP" Assembly Will Be Located As Close To The Water Meter As Possible With No Connections Between The Meter And The "RP" Assembly.
5. Finished Grade Underneath The Backflow Preventer Shall Be At 95% Compaction.
6. Approvals For Backflow Assemblies Must Have Seal Approval From The American Society Of Sanitation Engineers.
7. Backflow Assemblies Installed On Fire Suppression Systems Must Also Have Approval From Underwriters Laboratories And/or Factory Mutual Research Corporation.

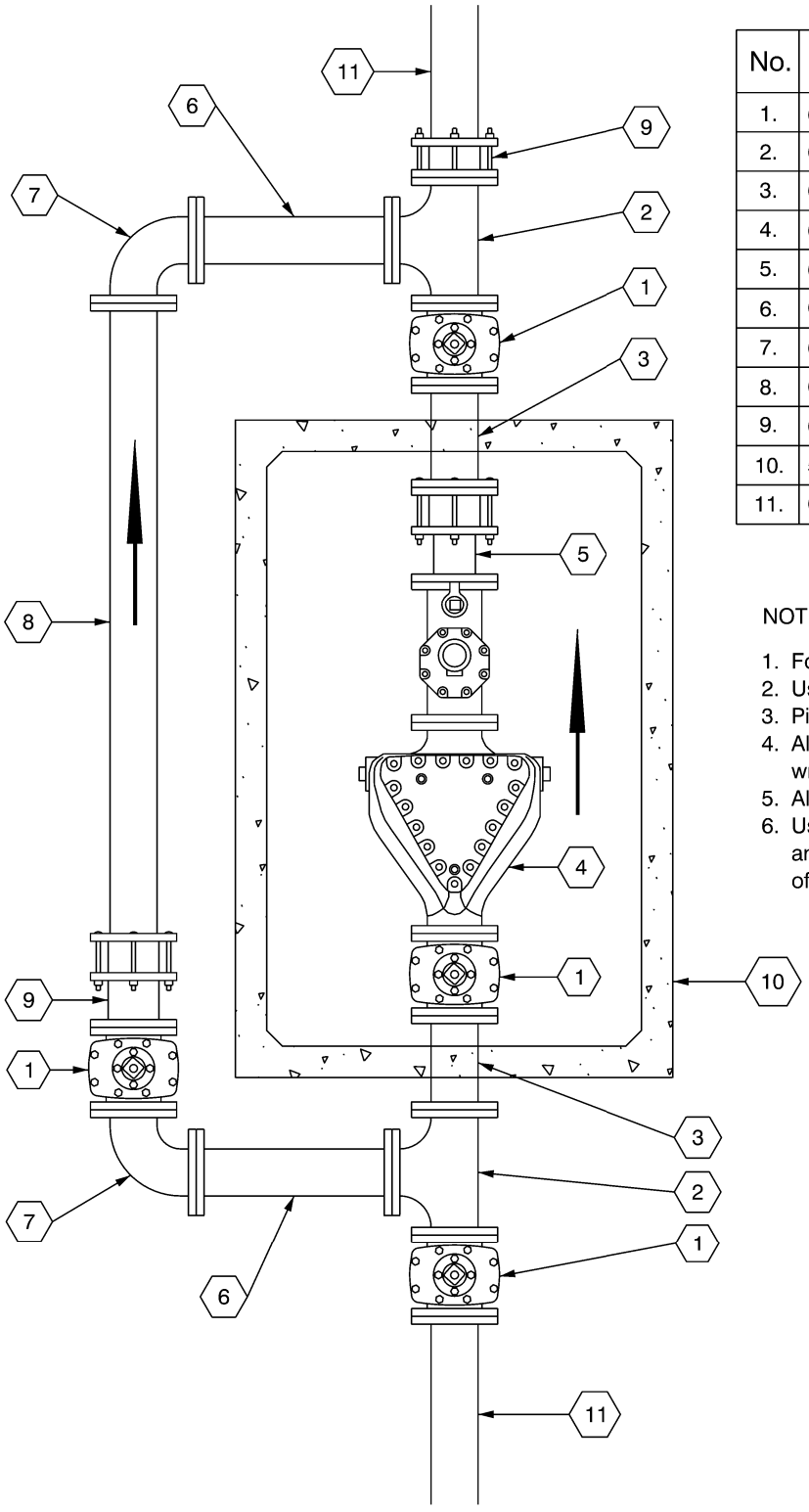
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION FOR 3-INCH THRU 10-INCH SERVICE CONNECTIONS

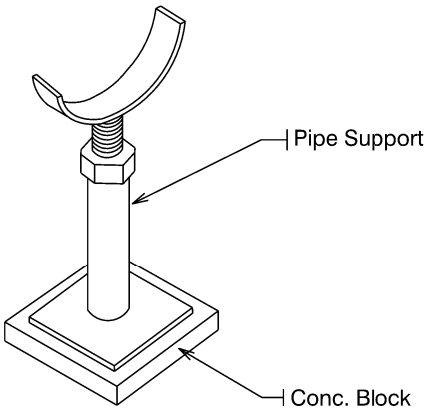
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-25-2021		W-1-1001



No.	FITTINGS SCHEDULE
1.	6" G.V.B. & C., FLG
2.	6" Tee, FLG x FLG
3.	6" x 1'-0" Ductile Iron Spool, FLG x FLG
4.	6" Sensus Omni+ (F^2) Fire Line Water Meter
5.	6" Romac DJ405 Dismantling Joint
6.	6" x 2'-0" Ductile Iron Spool, FLG x FLG
7.	6" 90° Ell, FLG
8.	6" x 7'-0" Ductile Iron Spool, FLG x PE
9.	6" Flanged Coupling Adapter
10.	575-WA Concrete Vault
11.	6" Ductile Iron Pipe

NOTE:

1. For an 8-Inch fire line meter, use 8-Inch fittings.
2. Use pipe supports as needed (See detail below).
3. Pipe support locations to be determined by field personnel.
4. All steel pipe that comes in contact with concrete will be wrapped w/10-20 Mil Scotchwrap corrosion protection tape.
5. All mechanical joint fittings will be megalugged.
6. Use deflection fittings (45° Ells.) to achieve necessary depths and cover as shown on the standard detail for the installation of a concrete water meter vault, W-1-811.



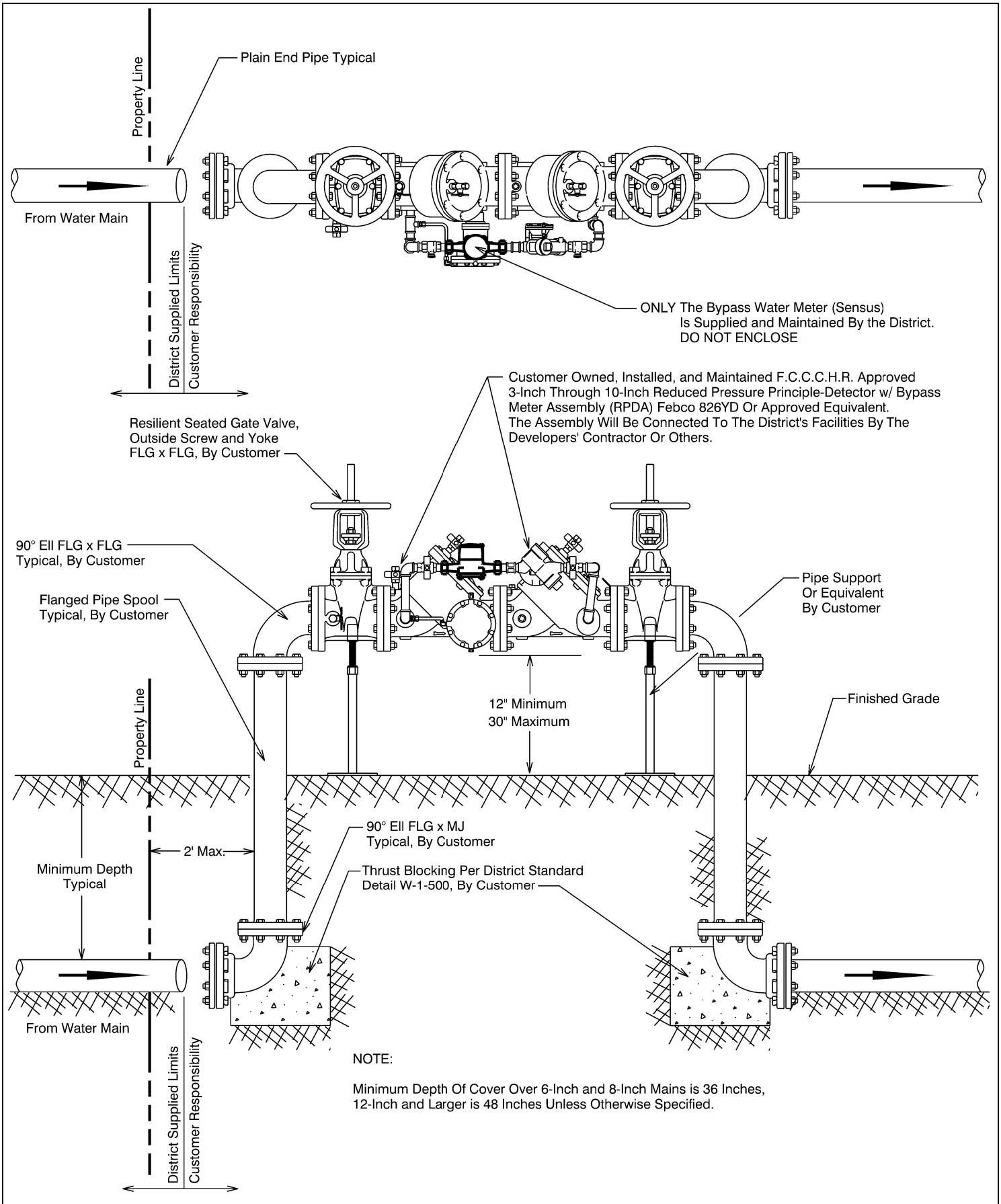
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

6-INCH and 8-INCH FIRE LINE METER

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-26-2021		W-1-1002



NOTE:

Minimum Depth Of Cover Over 6-Inch and 8-Inch Mains is 36 Inches, 12-Inch and Larger is 48 Inches Unless Otherwise Specified.

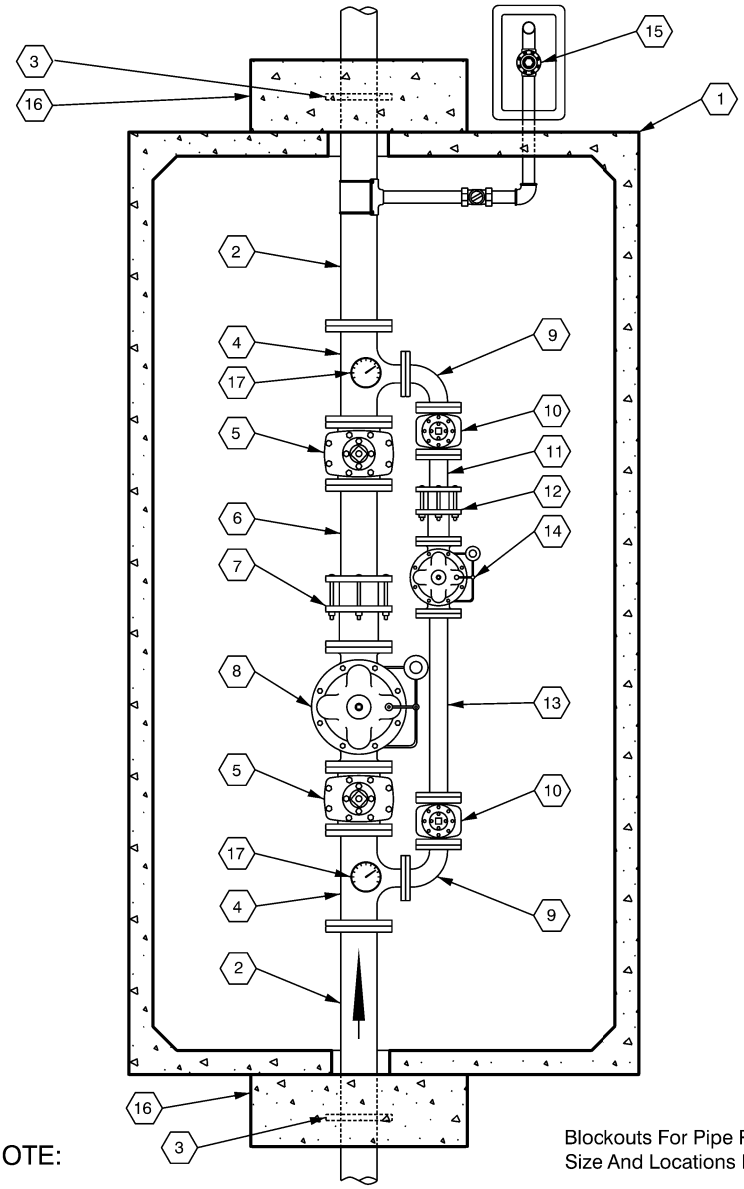
AJWD

STANDARD DETAIL

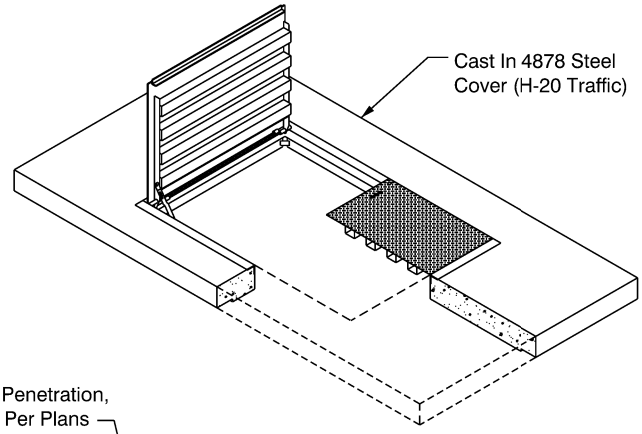
FOR THE INSTALLATION OF

3-INCH THRU 10-INCH REDUCED PRESSURE PRINCIPLE-DETECTOR WITH BYPASS METER ASSEMBLY (RPDA) FOR FIRELINE SERVICES

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-26-2021		W-1-1003

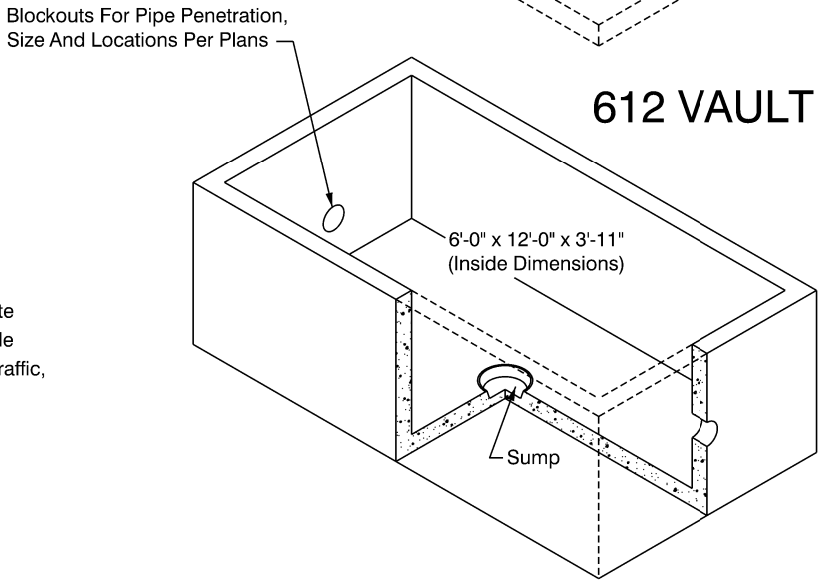


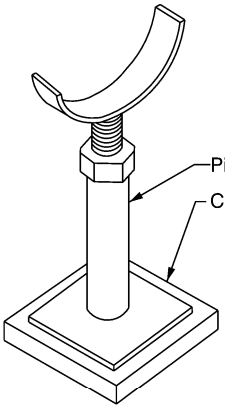
No.	FITTINGS SCHEDULE
1.	612 WA Conc. Vault (See Note 3)
2.	6" x 6'-0" D.I.P. Spool, FLG x P.E.
3.	6" Megalug (Thrust Anchor)
4.	6" x 3" Tee, FLG
5.	6" Gate Valve, FLG
6.	6" x 2'-0" D.I.P. Spool, FLG x P.E.
7.	6" Flanged Coupling Adapter (Smith-Blair 913)
8.	6" High Flow Pressure Reducing Valve, FLG
9.	3" 90° Ell, FLG
10.	3" Gate Valve, FLG
11.	3" x 1'-0" D.I.P. Spool, FLG x P.E.
12.	3" Flanged Coupling Adapter (Smith-Blair 913)
13.	3" x 2'-6" D.I.P. Spool, FLG
14.	3" Medium Flow Pressure Reducing Valve, FLG
15.	2" Pressure Relief Valve (See W-1-702)
16.	12" x 36" x 36" Concrete Thrust Block, P.I.P.
17.	Pressure Gauge W/Shut Off Valve



NOTE:

1. Use pipe supports as needed (See detail below).
2. Pipe support locations to be determined by field personnel.
3. All pipe that comes in contact with concrete will be wrapped w/10-20 Mil Scotchwrap corrosion protection tape.
4. All mechanical joint fittings will be megalugged.
5. Use deflection fittings (45° Ells.) to achieve necessary depths and cover as shown on the standard detail for the installation of a concrete water meter vault, W-1-811.
6. Vault-612 LA top section w/12" Dia. sump hole. Cover-concrete slab top w/(4) 4'-0" x 2'-6" aluminum spring loaded hinged style covers for non-traffic loading areas. For areas w/low density traffic, cover is to be designed for H-20 traffic loading.





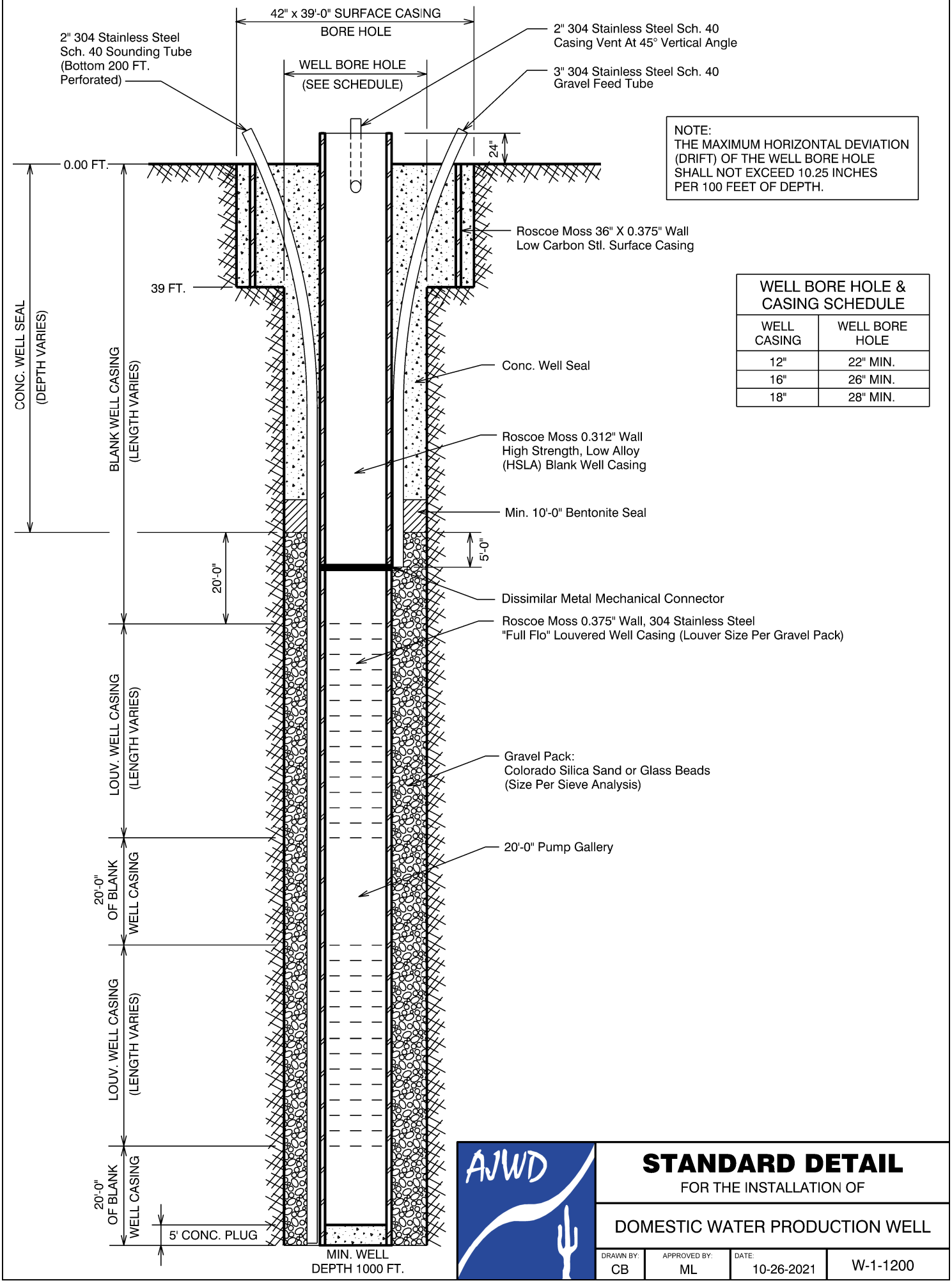
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

PRESSURE REDUCING STATION

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10/28/2021		W-1-1100



NOTE:
THE MAXIMUM HORIZONTAL DEVIATION (DRIFT) OF THE WELL BORE HOLE SHALL NOT EXCEED 10.25 INCHES PER 100 FEET OF DEPTH.

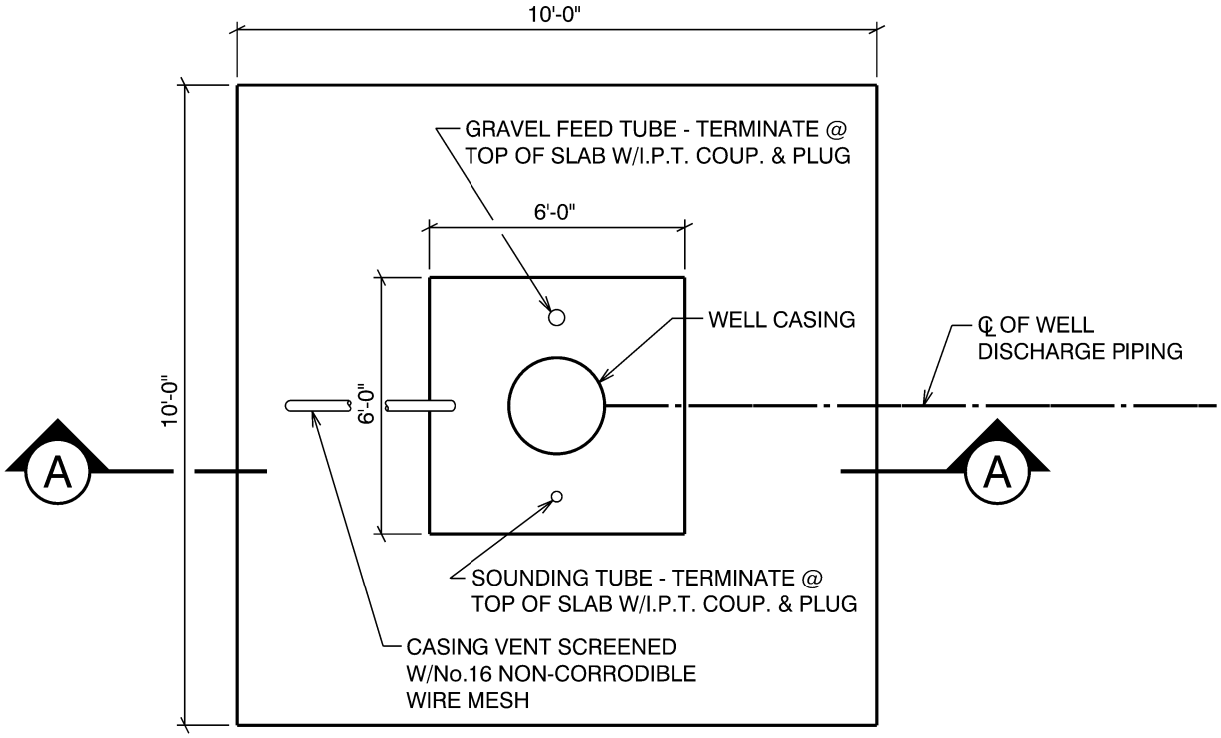
WELL BORE HOLE & CASING SCHEDULE	
WELL CASING	WELL BORE HOLE
12"	22" MIN.
16"	26" MIN.
18"	28" MIN.

STANDARD DETAIL

FOR THE INSTALLATION OF

DOMESTIC WATER PRODUCTION WELL

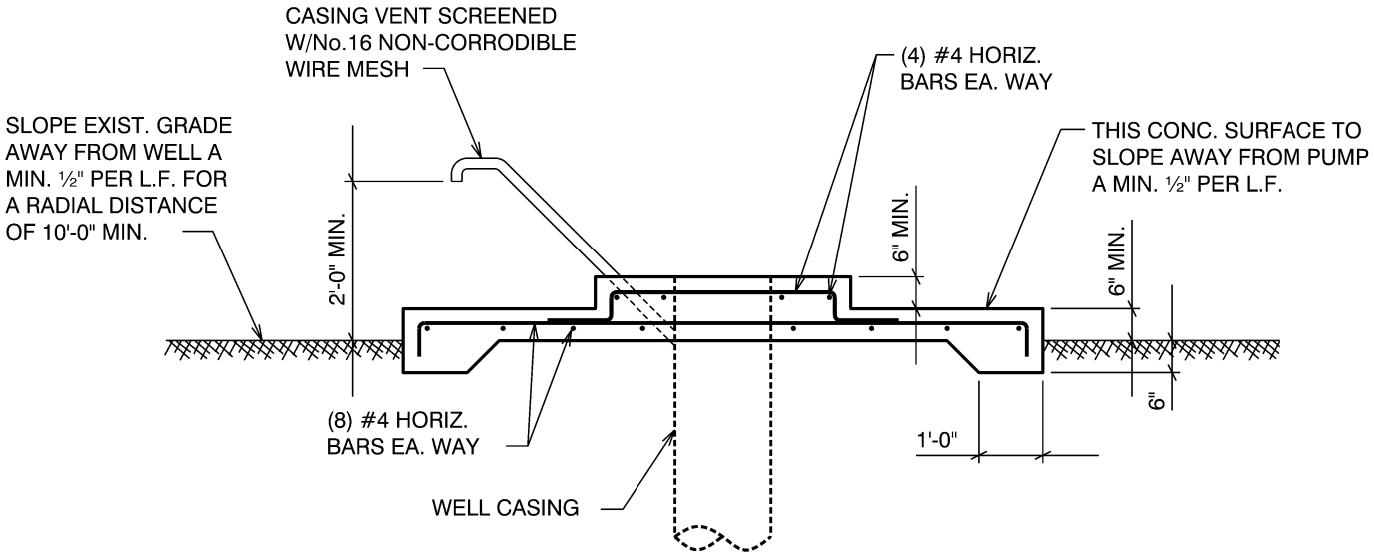
DRAWN BY:	APPROVED BY:	DATE:	
CB	ML	10-26-2021	W-1-1200



CONC. WELL SLAB PLAN

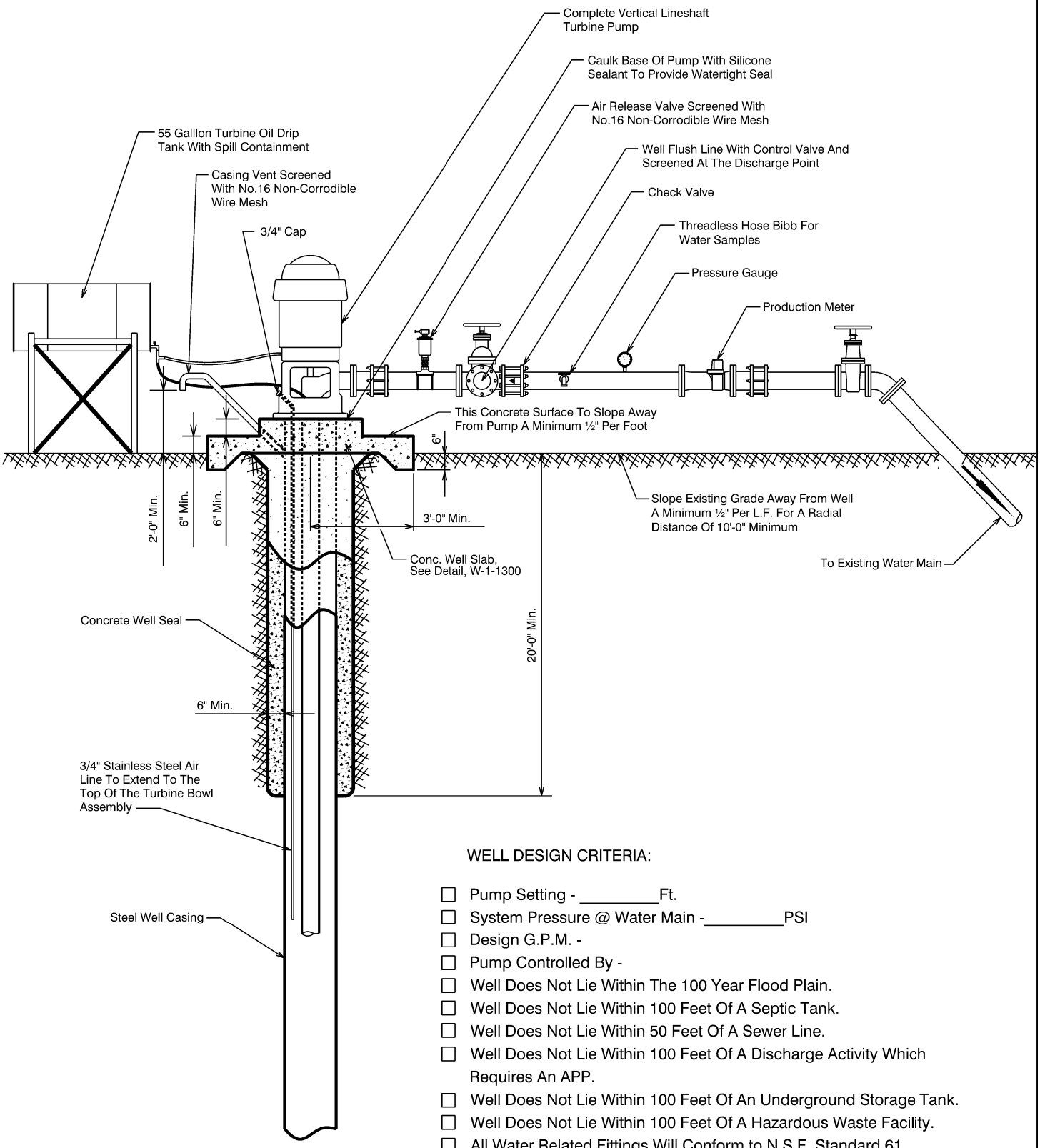
CONC. SLAB NOTES

CONCRETE: CONCRETE MIN. 28 DAY STRENGTH OF 3,000 PSI
REINFORCING: ASTM A615, GRADE 60



SECTION A - A

AJWD	**STANDARD DETAIL** FOR THE INSTALLATION OF LINESHAFT CONCRETE WELL SLAB			
DRAWN BY: CB	APPROVED BY: ML	DATE: 10-26-2021		W-1-1300



WELL DESIGN CRITERIA:

- ☐ Pump Setting - _____Ft.
- ☐ System Pressure @ Water Main -_____PSI
- ☐ Design G.P.M. -
- ☐ Pump Controlled By -
- ☐ Well Does Not Lie Within The 100 Year Flood Plain.
- ☐ Well Does Not Lie Within 100 Feet Of A Septic Tank.
- ☐ Well Does Not Lie Within 50 Feet Of A Sewer Line.
- ☐ Well Does Not Lie Within 100 Feet Of A Discharge Activity Which Requires An APP.
- ☐ Well Does Not Lie Within 100 Feet Of An Underground Storage Tank.
- ☐ Well Does Not Lie Within 100 Feet Of A Hazardous Waste Facility.
- ☐ All Water Related Fittings Will Conform to N.S.F. Standard 61.
- ☐ The Well Is Not Located Within 500 Feet Of Surface Water.
- ☐ The Site Will Be Graded To Provide Adequate Drainage Away From The Well.

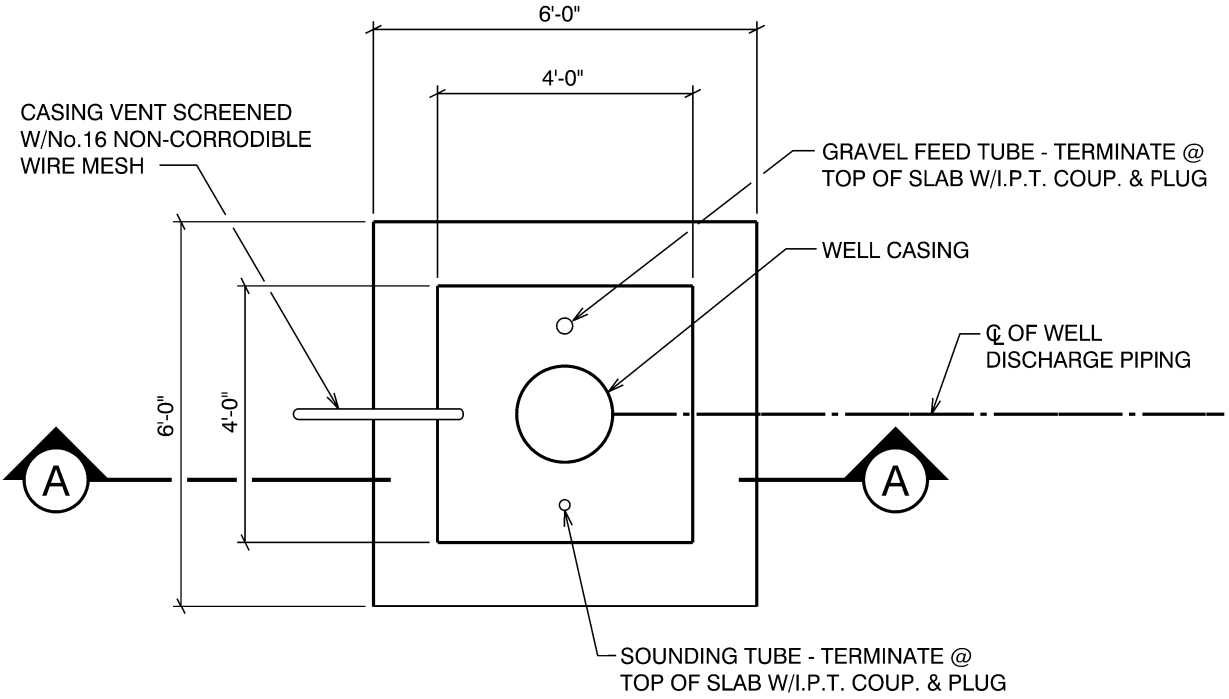
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

PRODUCTION WELL WITH LINESHAFT TURBINE PUMP

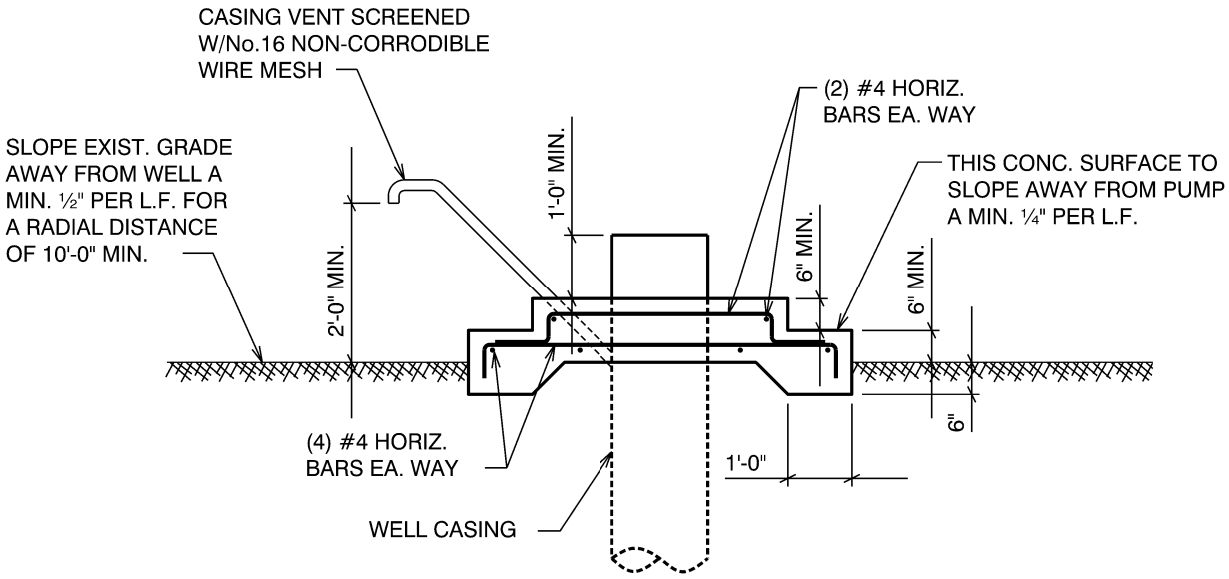
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-26-2021		W-1-1301



CONC. WELL SLAB PLAN

CONCRETE SLAB NOTES:

CONCRETE: Minimum 28 DAY STRENGTH OF 2,500 PSI
REINFORCING: ASTM A615, GRADE 60

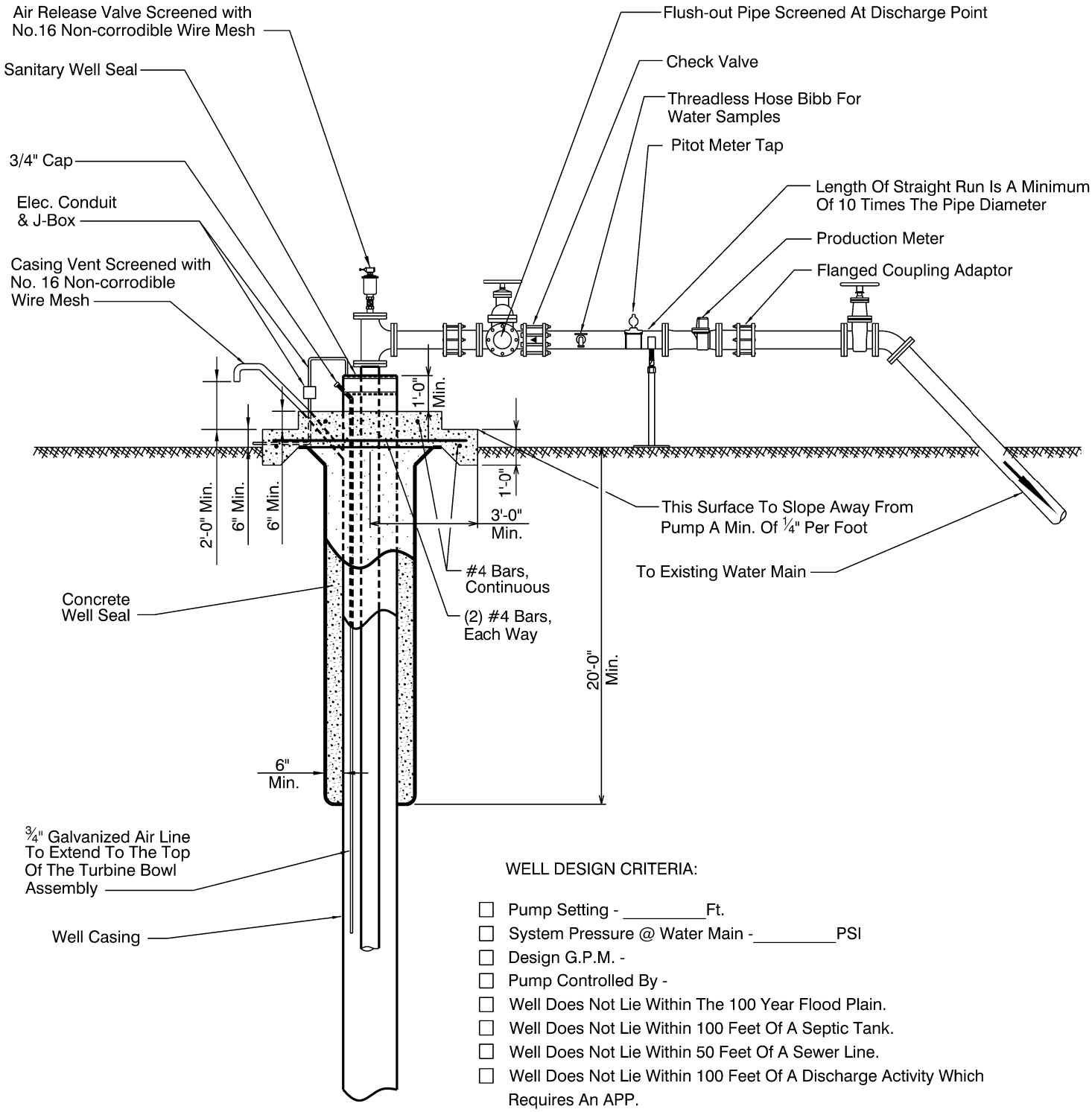


SECTION A - A

STANDARD DETAIL
FOR THE INSTALLATION OF

SUBMERSIBLE PUMP CONCRETE WELL SLAB

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-26-2021		W-1-1400



WELL DESIGN CRITERIA:

- ☐ Pump Setting - _____Ft.
- ☐ System Pressure @ Water Main -_____PSI
- ☐ Design G.P.M. -
- ☐ Pump Controlled By -
- ☐ Well Does Not Lie Within The 100 Year Flood Plain.
- ☐ Well Does Not Lie Within 100 Feet Of A Septic Tank.
- ☐ Well Does Not Lie Within 50 Feet Of A Sewer Line.
- ☐ Well Does Not Lie Within 100 Feet Of A Discharge Activity Which Requires An APP.
- ☐ Well Does Not Lie Within 100 Feet Of An Underground Storage Tank.
- ☐ Well Does Not Lie Within 100 Feet Of A Hazardous Waste Facility.
- ☐ All Water Related Fittings Will Conform to N.S.F. Standard 61.
- ☐ The Well Is Not Located Within 500 Feet Of Surface Water.
- ☐ The Site Will Be Graded To Provide Adequate Drainage Away From The Well.

AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

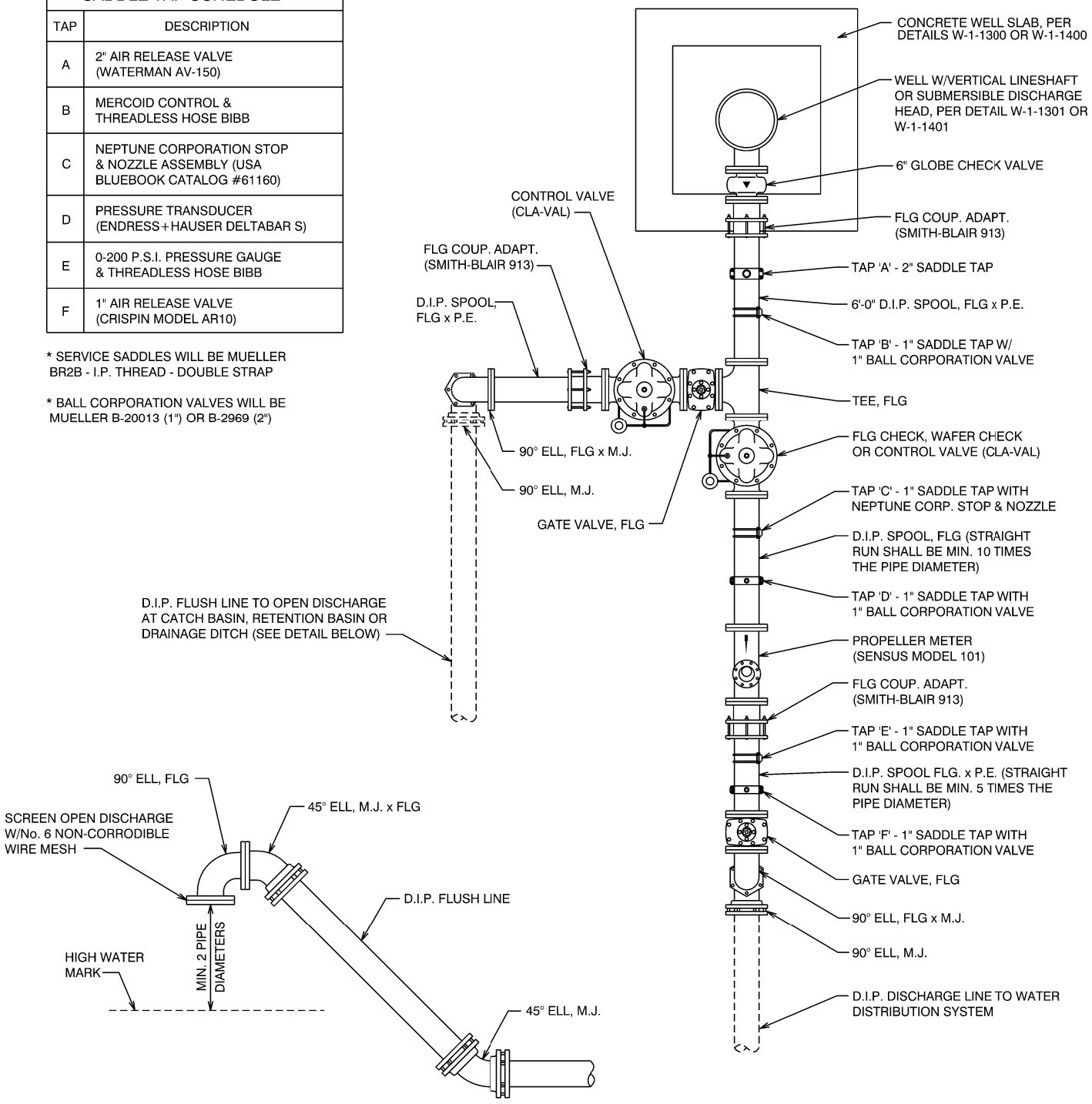
PRODUCTION WELL WITH SUBMERSIBLE TURBINE PUMP

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-26-2021		W-1401

SADDLE TAP SCHEDULE	
TAP	DESCRIPTION
A	2" AIR RELEASE VALVE (WATERMAN AV-150)
B	MERCOID CONTROL & THREADLESS HOSE BIBB
C	NEPTUNE CORPORATION STOP & NOZZLE ASSEMBLY (USA BLUEBOOK CATALOG #61160)
D	PRESSURE TRANSDUCER (ENDRESS+HAUSER DELTABAR S)
E	0-200 P.S.I. PRESSURE GAUGE & THREADLESS HOSE BIBB
F	1" AIR RELEASE VALVE (CRISPIN MODEL AR10)

* SERVICE SADDLES WILL BE MUELLER BR2B - I.P. THREAD - DOUBLE STRAP

* BALL CORPORATION VALVES WILL BE MUELLER B-20013 (1") OR B-2969 (2")



FLUSH LINE DISCHARGE DETAIL

GENERAL NOTES:

1. ALL M.J. FITTINGS SHALL HAVE MEGALUGS.
2. ALL FLANGE COUPLING ADAPTORS WILL BE RESTRAINED WITH A MEGALUG & ALL THREAD ROD RESTRIANT HARNESS.
3. USE PIPE SUPPORTS AS NEEDED FOR ABOVE GROUND PIPING.

AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

PRODUCTION WELL DISCHARGE LINE

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-27-2021		W-1-1500

All New Purchases Of Column Pipe, Oil Tube, and Lineshaft
Will Conform To The Following List:

COLUMN PIPE:

4-Inch I.D.	8 Threads Per Inch (TPI), Tapered 3/4" Per Foot, Right Hand
6-Inch I.D.	Same As Above
8-Inch I.D.	Same As Above
10-Inch I.D.	Same As Above
12-Inch I.D.	Same As Above
14-Inch I.D.	Same As Above

OIL TUBE: - Peerless Type

1-1/2-Inch O.D.	14 Threads Per Inch (TPI), Right Hand
2-Inch O.D.	Same As Above
2-1/2-Inch O.D.	Same As Above
3-Inch O.D.	Same As Above
3-1/2-Inch O.D.	Same As Above
4-Inch O.D.	Same As Above

LINESHAFT:

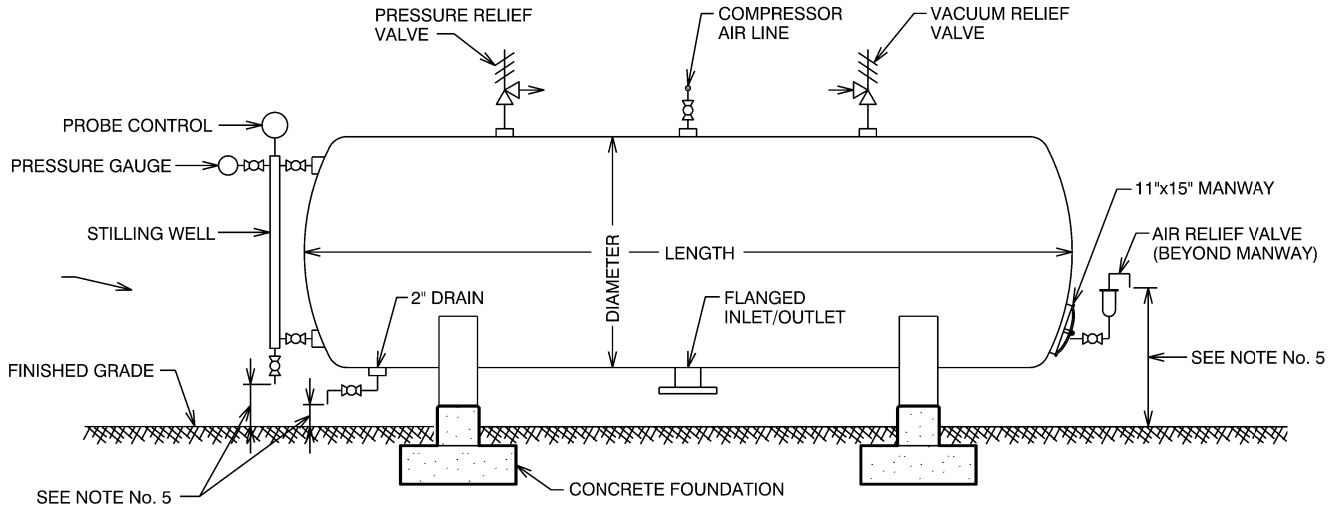
3/4-Inch O.D.	10 Threads Per Inch (TPI), Left Hand
1-Inch O.D.	14 Threads Per Inch (TPI), Left Hand
1-3/16-Inch O.D.	10 Threads Per Inch (TPI), Left Hand
1-1/2-Inch O.D.	Same As Above
1-11/16-Inch O.D.	Same As Above
1-15/16-Inch O.D.	Same As Above
2-1/16-Inch O.D.	Same As Above
2-7/16-Inch O.D.	8 Threads Per Inch (TPI). Left Hand

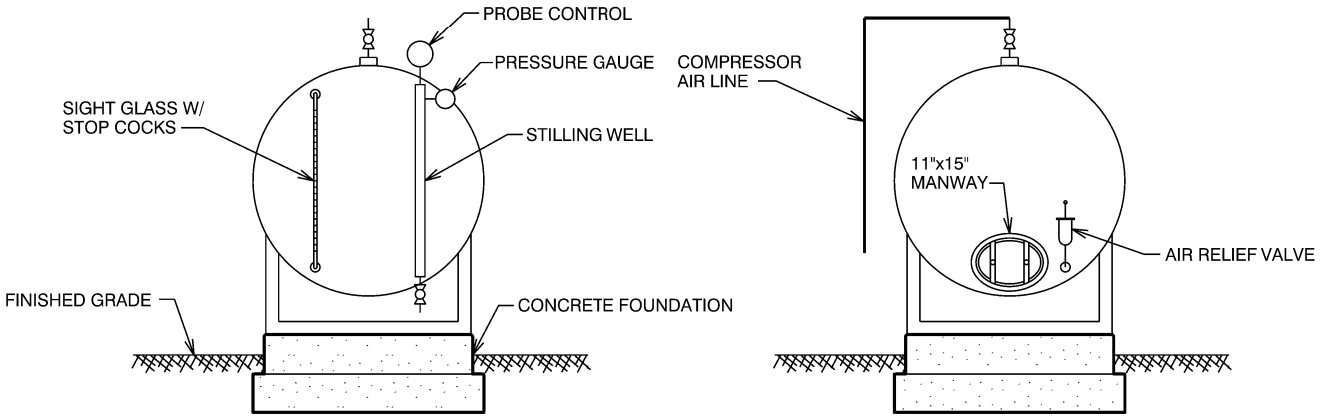
AJWD

STANDARD DETAIL
FOR THE INSTALLATION OF

COLUMN PIPE, OIL TUBE AND LINESHAFT

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-27-2021		W-1-1600





LEVEL CONTROL END

MANWAY END

GENERAL NOTES:

1. All Hydropneumatic Tanks Will Be Designed and Constructed In Accordance With The Current Requirements Of The ASME Code For Unfired Pressure Vessels, Section VIII, Division 1.
2. Finished Tank Will Be Disinfected In Accordance With ADEQ Bulletin No. 8 Before Being Placed Into Service.
3. The Welded Steel Hydropneumatic Tank Will Be Coated Per AWWA Specification D102 and NSF Standard 61.
4. All Pipes Open To Atmosphere Will Be Screened With No. 16 Non-Corrodible Wire Mesh.
5. Maintain A Minimum Air-Gap Separation Of Twice The Pipe Diameter.
6. The Following Information Will Be Included With The Application For Approval To Construct.

   A. Tank Location
   B. Tank Length
   C. Tank Diameter
   D. Tank Capacity
   E. Maximum Working Pressure

AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

HYDROPNEUMATIC PRESSURE TANK

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10/27/2021		W-1-1700

WELDED STEEL WATER STORAGE TANK NOTES

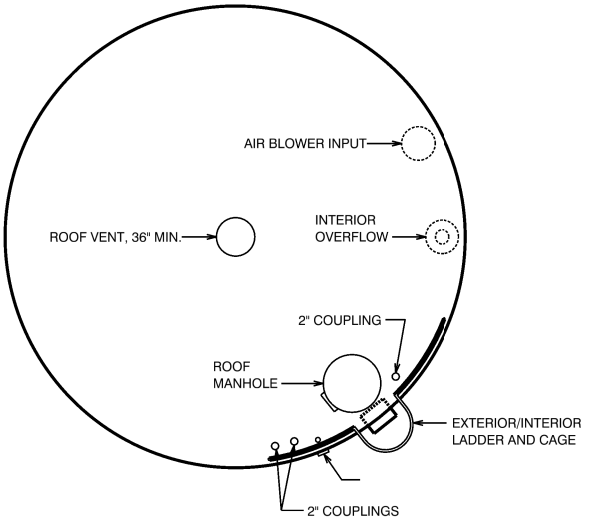
1. TANK WILL CONFORM TO AWWA SPECIFICATION D100-84 WITH EXCEPTIONS NOTED BELOW.
2. ★ 1/4-INCH MINIMUM SHELL PLATE.
3. MINIMUM 24-INCH DIAMETER ROOF VENT, SCREENED WITH No. 16 NON-CORRODIBLE WIRE MESH, TO BE LOCATED ON A 24-INCH DIAMETER ROUND HINGED MANHOLE OPENING AT THE CENTER OF THE TANK TO PROVIDE ACCESS TO THE DOLLAR PLATE.
4. OVERFLOW PIPE WILL BE THE SAME DIAMETER AS THE INLET PIPE AND WILL TERMINATE A MINIMUM OF 2 OVERFLOW PIPE DIAMETERS ABOVE SPLASH PAD OR WEIR BOX HIGH WATER LEVEL (OVERFLOW PIPE DIAMETER SHALL BE VERIFIED BY ENGINEER TO MATCH TANK INLET FLOWS).
5. STORAGE TANK WILL BE PLACED UPON ADEQUATELY COMPACTED BASE MATERIAL.
6. TANK DRAIN/CLEANOUT WILL CONFORM TO DISTRICT STANDARD DETAIL W-1-1802.
7. TANK AND RELATED FITTINGS WILL BE ENCLOSED WITH A 6 TO 8-FEET TALL FENCE WITH LOCKABLE GATES AND TOPPED WITH ANTI-PERSONNEL WIRE.
8. LIQUID LEVEL WILL BE INDICATED BY A TARGET BOARD MOUNTED ON THE OUTSIDE SURFACE OF THE TANK.
9. MINIMUM 24-INCH DIAMETER MANHOLES WILL BE PROVIDED ON THE ROOF AND ON THE SHELL NEAR THE BOTTOM OF THE TANK. THE ROOF MANHOLE COVER WILL OVERLAP THE MANHOLE BY AT LEAST 2-INCHES TO PROVIDE A RAIN TIGHT CLOSURE. ROOF MANHOLE WILL BE HINGED AND EQUIPPED WITH A LOCK. SHELL MANHOLE WILL BE HINGED AND BOLTED IN PLACE. *TANKS LARGER THAN 60-FEET DIAMETER REQUIRE 2 SHELL MANHOLES.
10. INSIDE AND OUTSIDE LADDERS WILL BE LOCATED AT THE ROOF MANHOLE. OUTSIDE LADDER WILL BE CAGED WITH A LOCKING TRAP DOOR AT THE BOTTOM OF THE CAGE. BOTTOM 8 FEET OF CAGE WILL BE ENCLOSED TO WITHIN 1/2-INCH OF THE TANK SHELL WITH 10-GAUGE SHEET STEEL.
11. FINISHED TANK WILL BE DISINFECTED IN ACCORDANCE WITH ARIZONA DEPARTMENT OF ENVIROMENTAL QUALITY (ADEQ) ENGINEERING BULLETIN No. 8 BEFORE BEING PLACED INTO SERVICE.
12. THE FOLLOWING INFORMATION WILL BE INCLUDED WITH THE ADEQ APPLICATION FOR APPROVAL TO CONSTRUCT:
    1. TANK LOCATION: _____
    2. TANK HEIGHT: _____
    3. TANK DIAMETER: _____
    4. TANK CAPACITY: _____
    5. METHOD OF WATER LEVEL CONTROL: _____

    _____
13. THE STORAGE TANK WILL NOT BE CONSTRUCTED WITHIN THE 100-YEAR FLOOD PLAIN AND THE TANK SITE WILL BE GRADED TO SLOPE AWAY FROM THE TANK.
14. THE TANK WILL BE COATED AS PER AWWA STANDARD D102 AND NSF 61.
15. A PERSONAL FALL ARREST SYSTEM WILL BE INSTALLED ON ALL TANKS THAT ARE 6-FEET OR MORE ABOVE THE LOWER LEVEL.
    1. EXTERIOR LADDER SYSTEM: LAD-SAF® FLEXIBLE CABLE LADDER SAFETY SYSTEM.
    2. ROOF SYSTEM: PER DISTRICT STANDARD DETAILS.

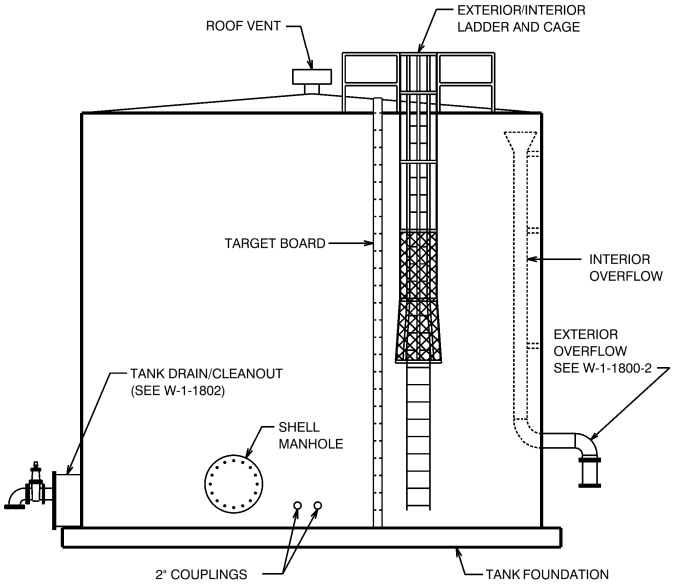
    *EXCEPTIONS TO AWWA SPECIFICATION D100-84.

FOUNDATION NOTES

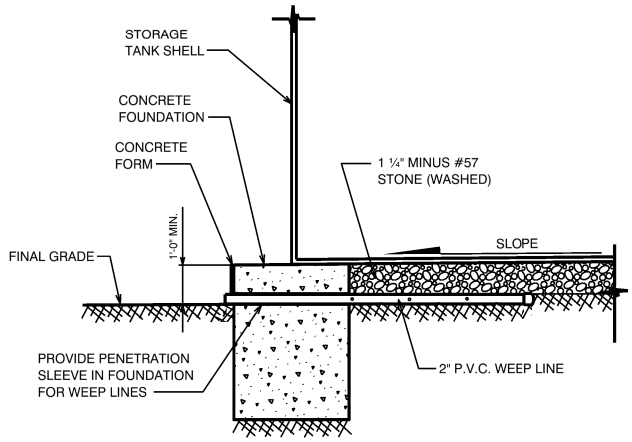
1. TANK FOUNDATION DESIGN BY WATER STORAGE TANK SUPPLIER AND IN ACCORDANCE WITH A GEOTECHNICAL ENGINEERING REPORT.
2. FINISHED CONCRETE SURFACE MUST SLOPE UPWARDS FROM THE CONCRETE FORM APPRCXIMATELY 1-INCH IN 10-FEET.
3. TOP OF CONCRETE FORM MUST BE MAINTAINED LEVEL TO WITHIN 1/8-INCH.
4. INSTALL (8) 2-INCH DIAMETER X 10-FEET P.V.C. WEEP LINES, EQUALLY SPACED (EVERY 45-DEGREES). PERFORATE 8-FEET OF THE WEEP LINE WITH 1/2-INCH DIAMETER HOLES AT 6-FEET ON CENTER AND PLUG INTERIOR END OF LINE WITH 2-INCH CAP.



PLAN VIEW



PROFILE VIEW



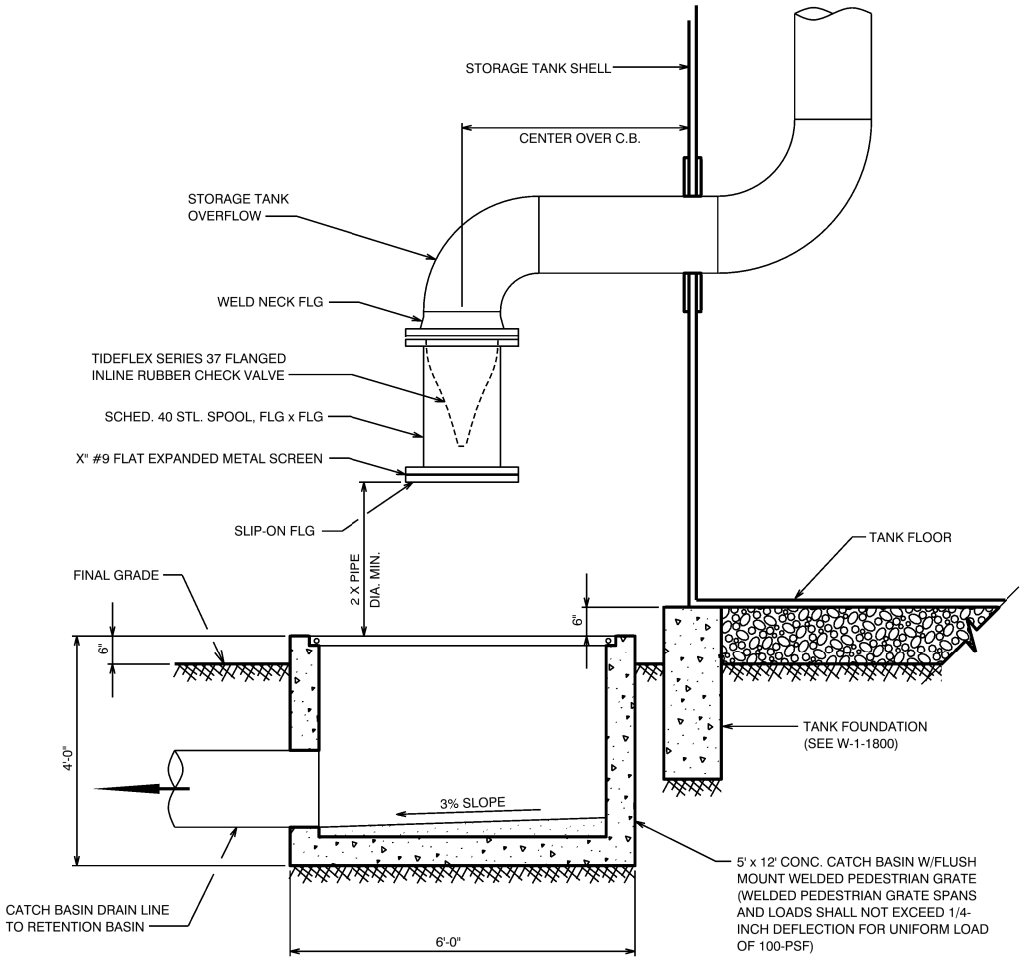
TANK FOUNDATION

STANDARD DETAIL

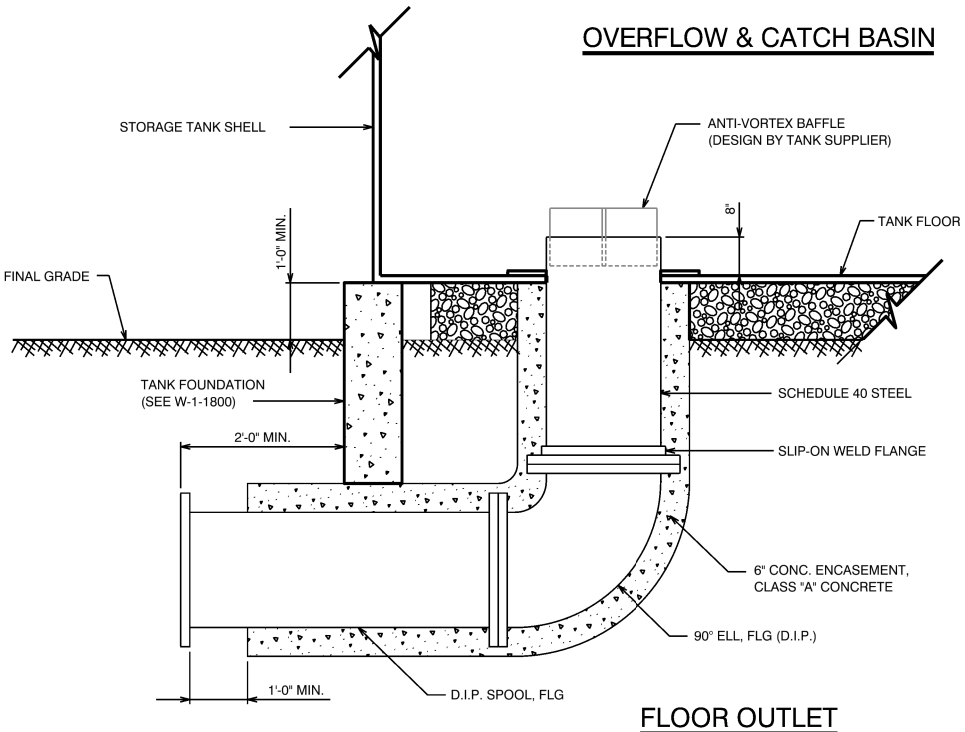
FOR THE INSTALLATION OF

WELDED STEEL WATER STORAGE TANK AND FOUNDATION

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-27-2021		W-1-1800



OVERFLOW & CATCH BASIN



FLOOR OUTLET

TANK OUTLET NOTES

1. SCHED. 40 STL. SHALL BE COATED ON THE INSIDE. COATING SHALL CONFORM TO N.S.F. STANDARD 61.
2. HALF LAP WRAP ALL SCHED. 40 STL. PIPE W/10-20 MIL. SCOTCHWRAP CORROSION PROTECTION TAPE.
3. WHEN FLOOR PENETRATIONS ARE INSTALLED THEY MUST PROTRUDE ABOVE THE TANK FOUNDATION A MINIMUM OF 12-INCHES.
4. INSTALL ANTI-VORTEX BAFFLE ON FLOOR OUTLET INSIDE OF TANK (DESIGN BY TANK SUPPLIER).

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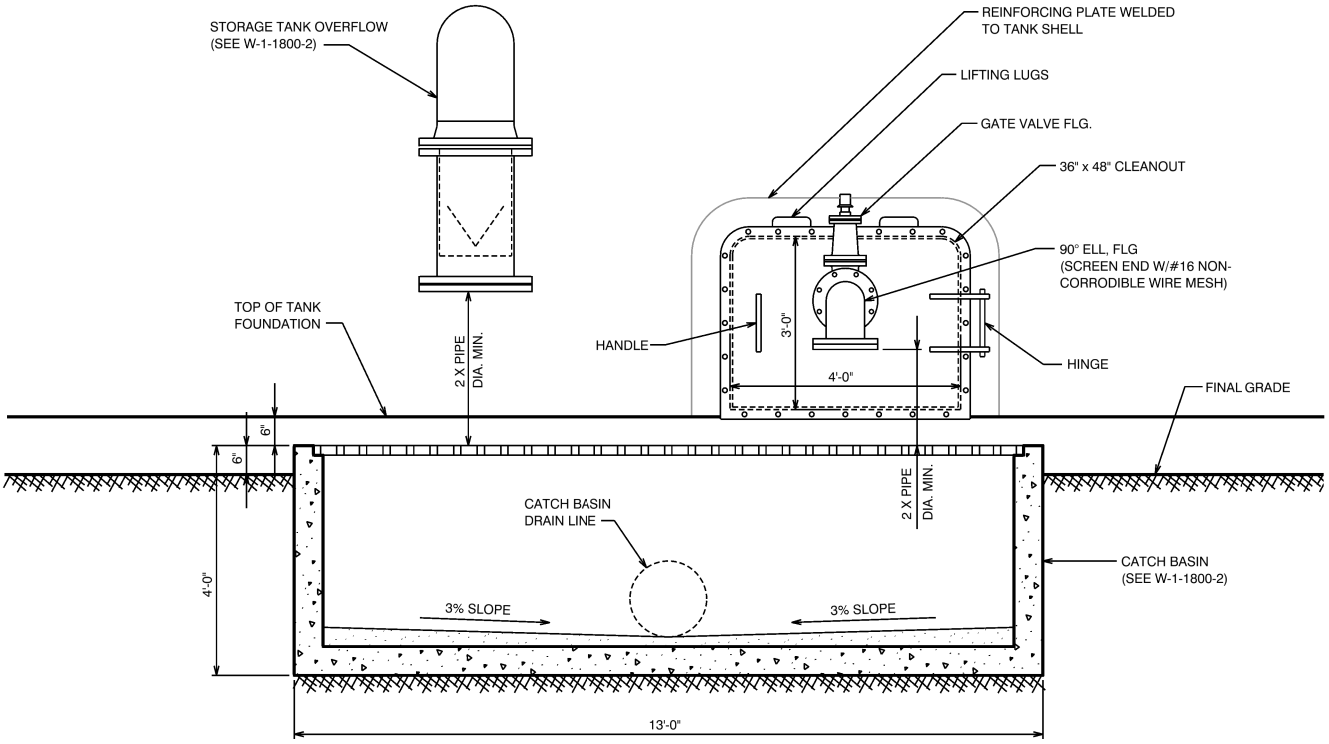
STANDARD DETAIL

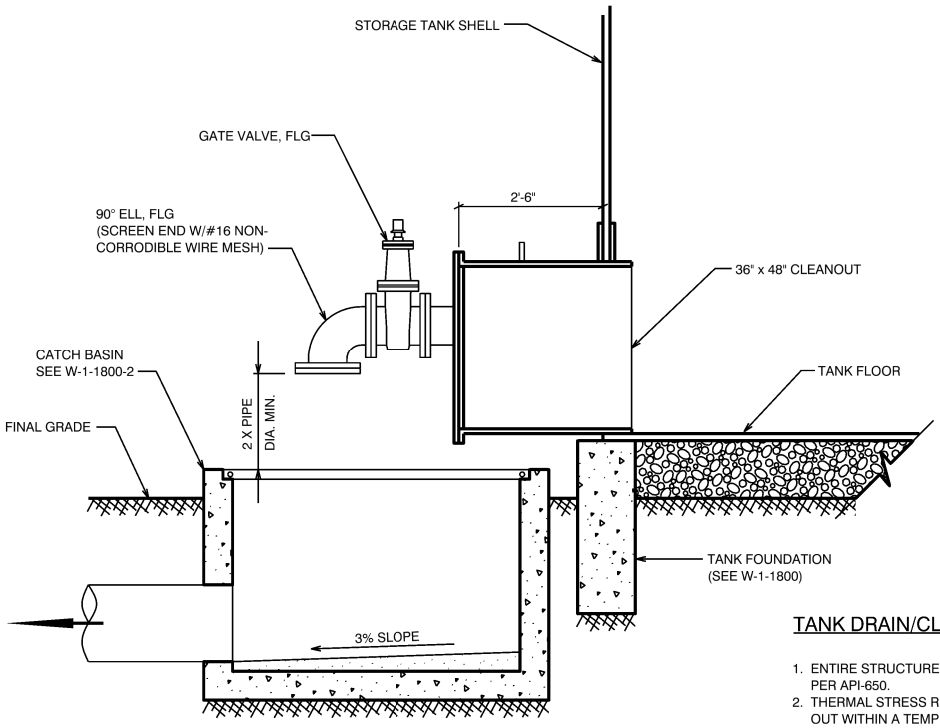
FOR THE INSTALLATION OF

STEEL WATER STORAGE TANK OVERFLOW, CATCH BASIN AND FLOOR OUTLET

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10/27/2021		W-1-1800-2



FRONT VIEW



SECTION

TANK DRAIN/CLEANOUT NOTES

1. ENTIRE STRUCTURE SHALL BE STRESS RELIEVED PER API-650.
2. THERMAL STRESS RELIEF SHALL BE CARRIED OUT WITHIN A TEMPERATURE RANGE OF 1100 TO 1200 DEGREES FAHRENHEIT FOR 1-HOUR PER INCH OF SHELL THICKNESS.

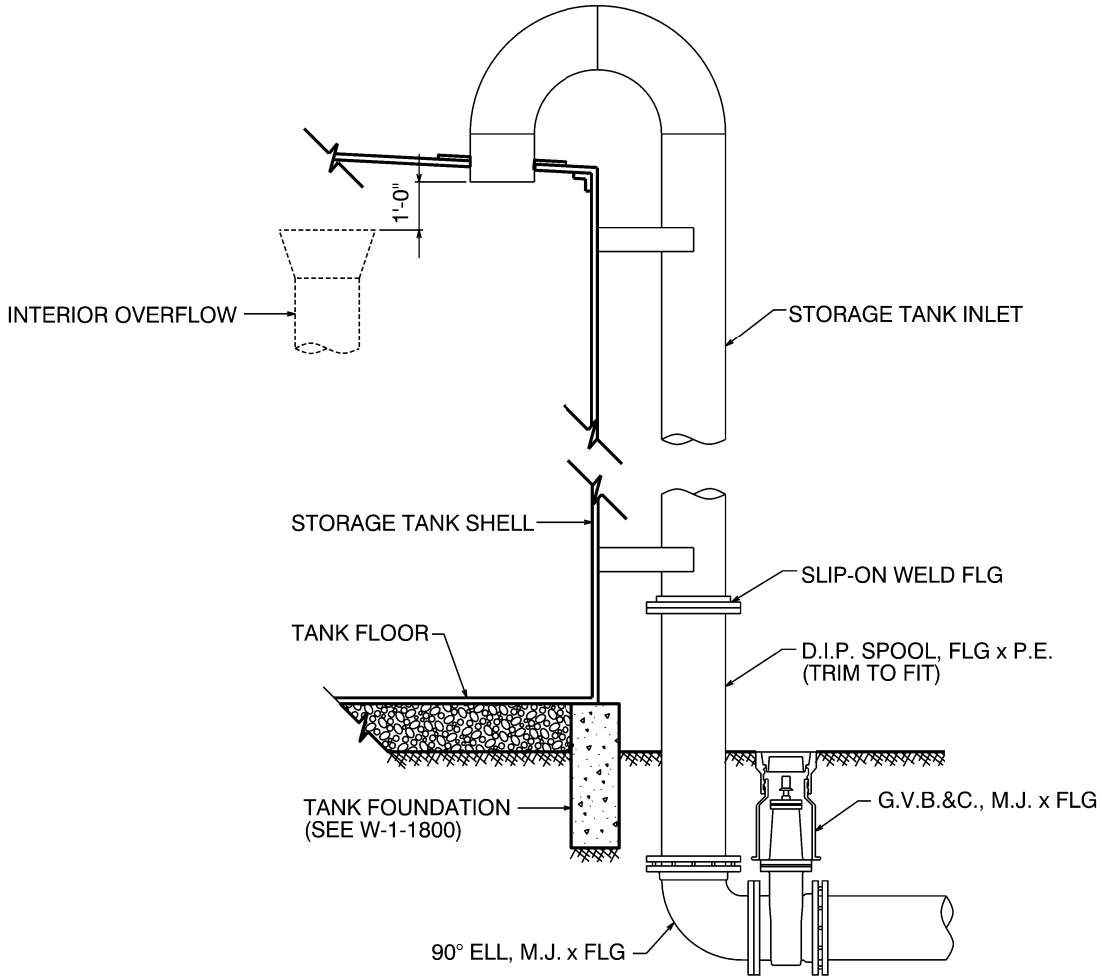
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

STEEL WATER STORAGE TANK DRAIN AND CLEANOUT

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10/27/2021		W-1-1800-3



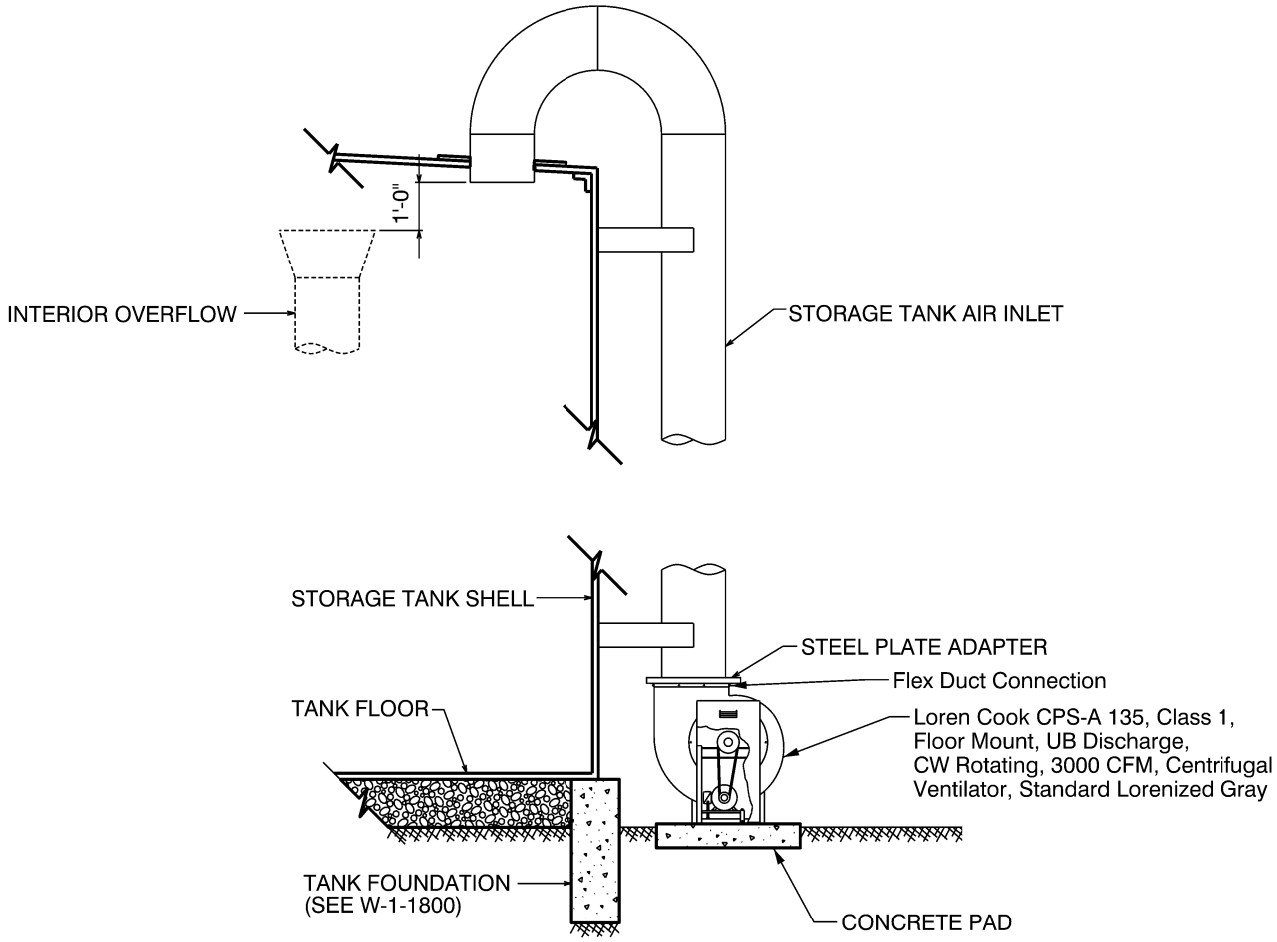
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

STEEL WATER STORAGE TANK OPTIONAL ROOF INLET

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-27-2021		W-1-1800-4



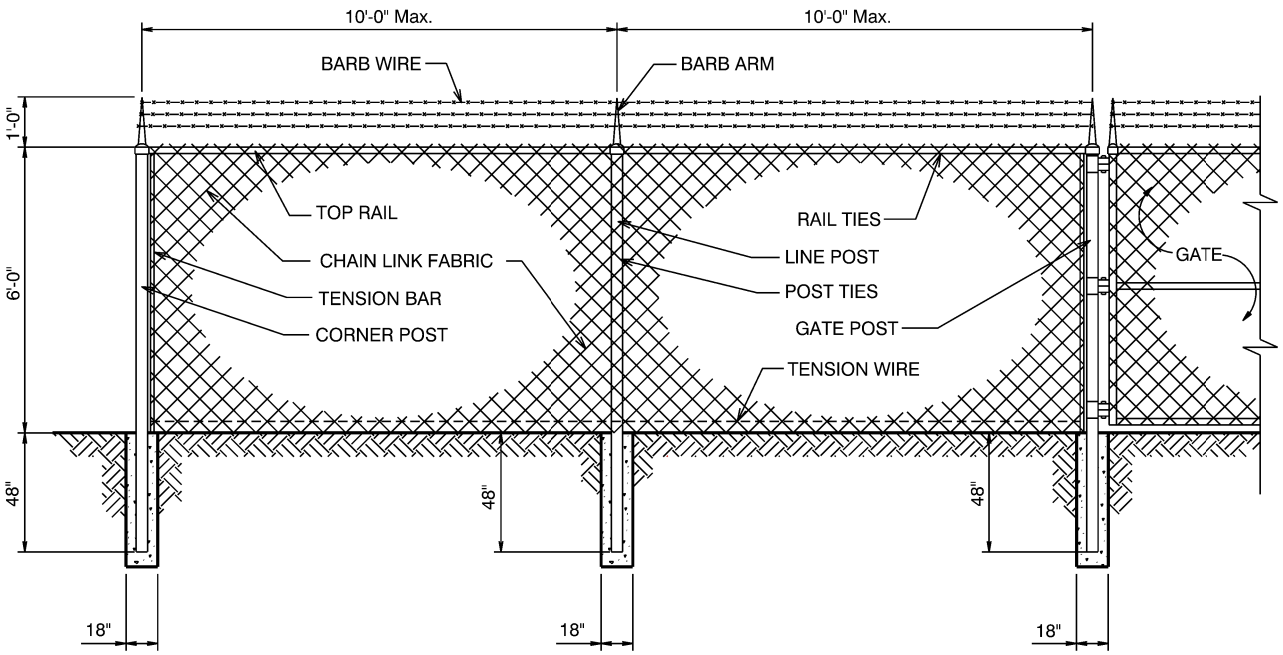
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

STEEL WATER STORAGE TANK ROOF INLET for HEADSPACE VENTILATION

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	12-13-2021		W-1-1800-5



FENCE SPECIFICATIONS:

Line Post:	2-7/8" O.D.	4.64 lbs. P/L.F.	ASTM F 1043
End Post:	2-7/8" O.D.	4.64 lbs. P/L.F.	ASTM F 1043
Corner Post:	2-7/8" O.D.	4.64 lbs. P/L.F.	ASTM F 1043
Gate Post:	2-7/8" O.D.	4.64 lbs. P/L.F.	ASTM F 1043
Top Rail:	1-5/8" O.D.	1.84 lbs. P/L.F.	ASTM F 1043
Chain Link Fabric:	9 Ga. 2" Mesh Galv. Before Weave		
Selvage:	Barb/Knuckle		
Fittings:	Pressed Steel		
Barb Wire:	2-1/2 Ga./2 Point		
Barb Arm:	1 Piece/45° Arm		
Tension Wire:	9 Ga./Galv.		
Line Post Set:	18" x 48" In Concrete		
Terminal Post Set:	18" x 48" In Concrete		

Optional Fence Features (determined by specific site location):

A. Concertina Razor Coil.

B. Polyester Coated Framework and Fittings and Polyvinyl Chloride Coated Chain Link Fabric and Tension Wires (Color Determined by Location).

C. Polyvinyl Cholride PrivacyLink Ultimate Slat®(Winged Slat)©(Color Determined by Location).

D. Woven Polyethylene Privacy Screen, 90-Percent Density, Top and Bottom Edges Hemmed With Grommets Every 12-Inches (Color Determined by Location).

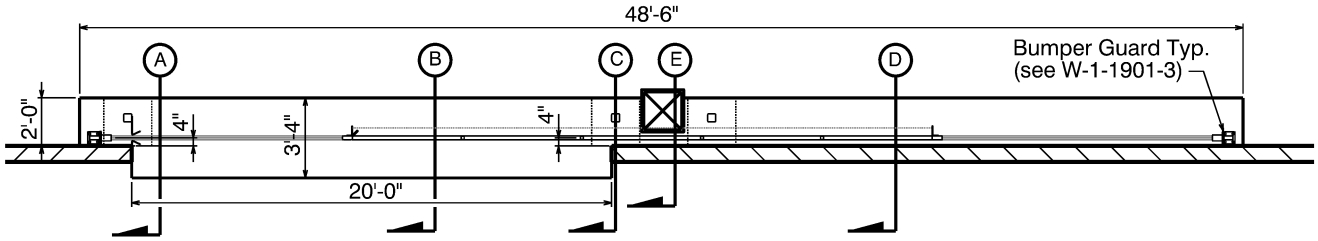
AJWD

STANDARD DETAIL

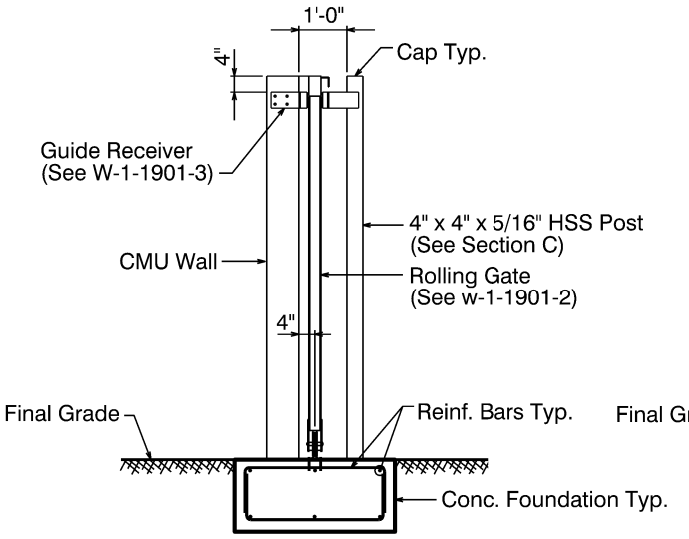
FOR THE INSTALLATION OF

6-FOOT TALL CHAIN LINK FENCE

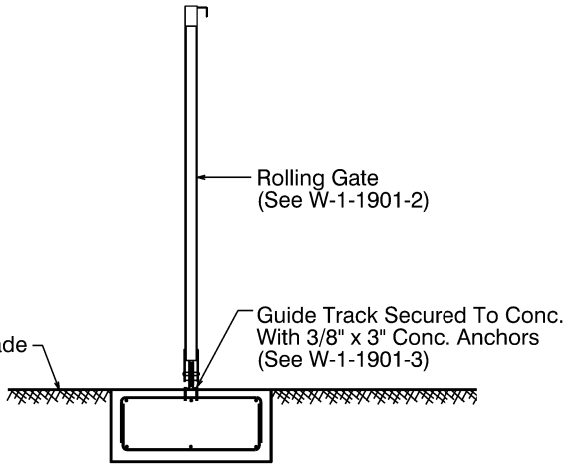
DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-27-2021		W-1-1900



ROLL OPEN GATE PLAN



SECTION A



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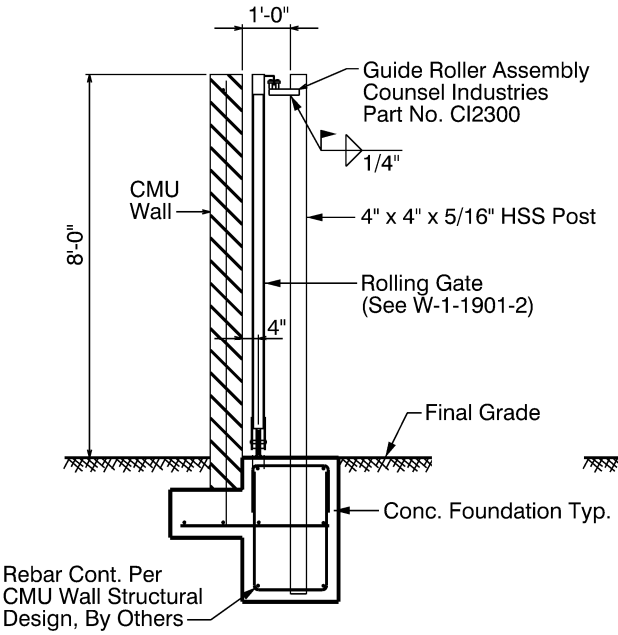
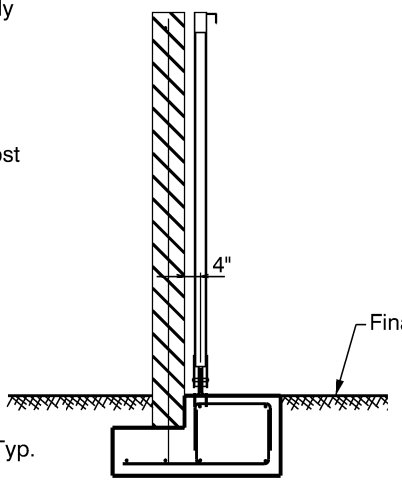
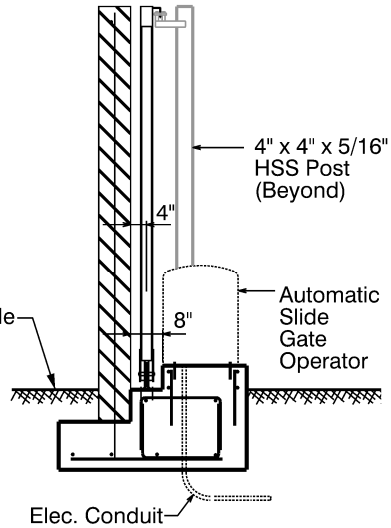


SECTION C



SECTION D



SECTION E

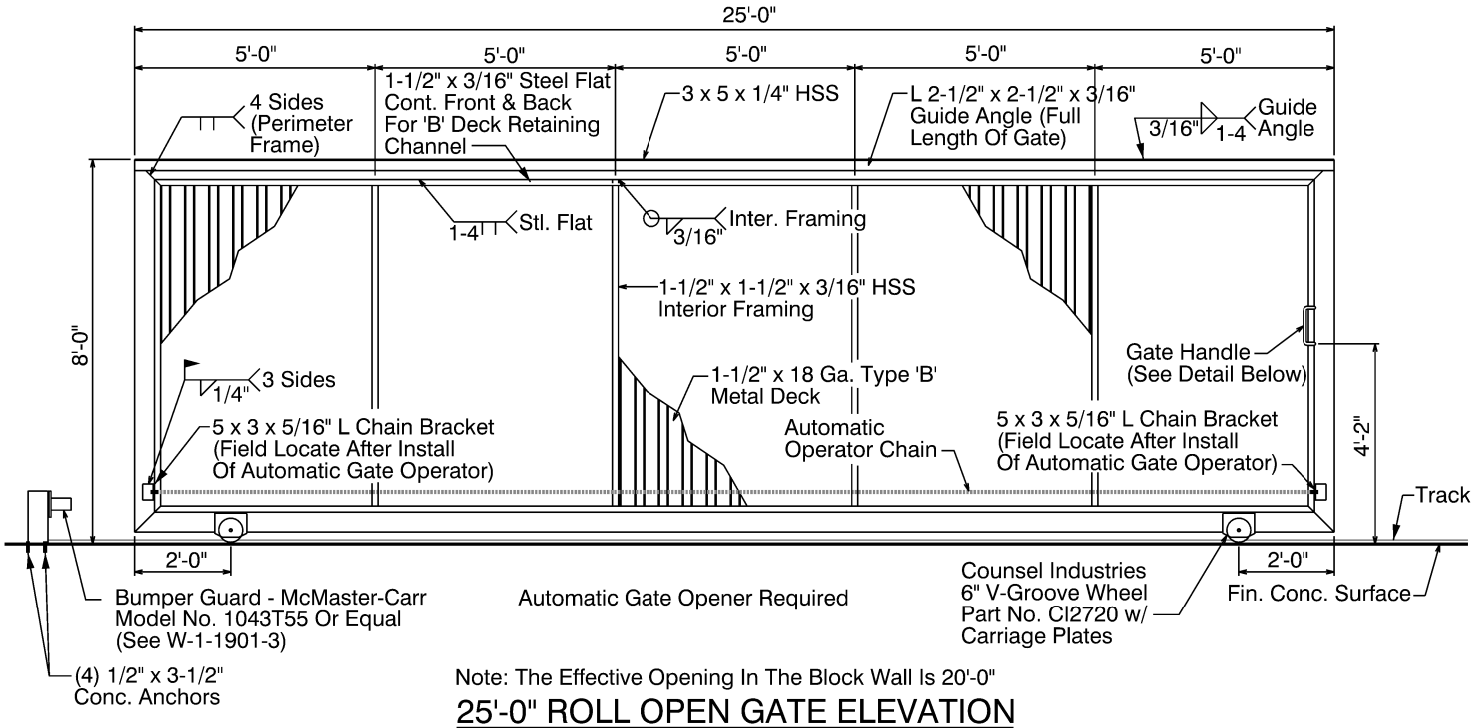
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

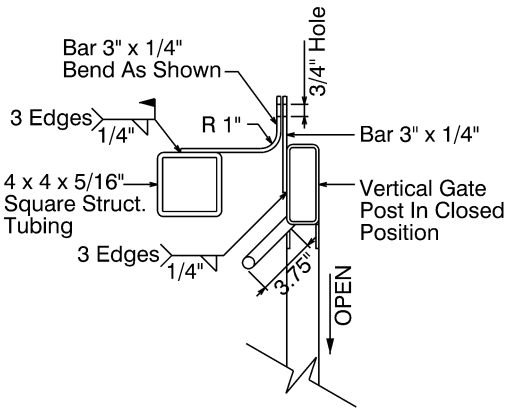
8-FOOT TALL CMU WALL, GATE PLAN, and WALL SECTIONS

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	11-02-2021		W-1-1901



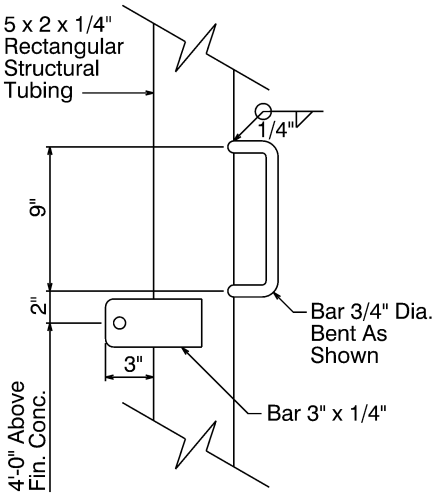
Note: The Effective Opening In The Block Wall Is 20'-0"

25'-0" ROLL OPEN GATE ELEVATION



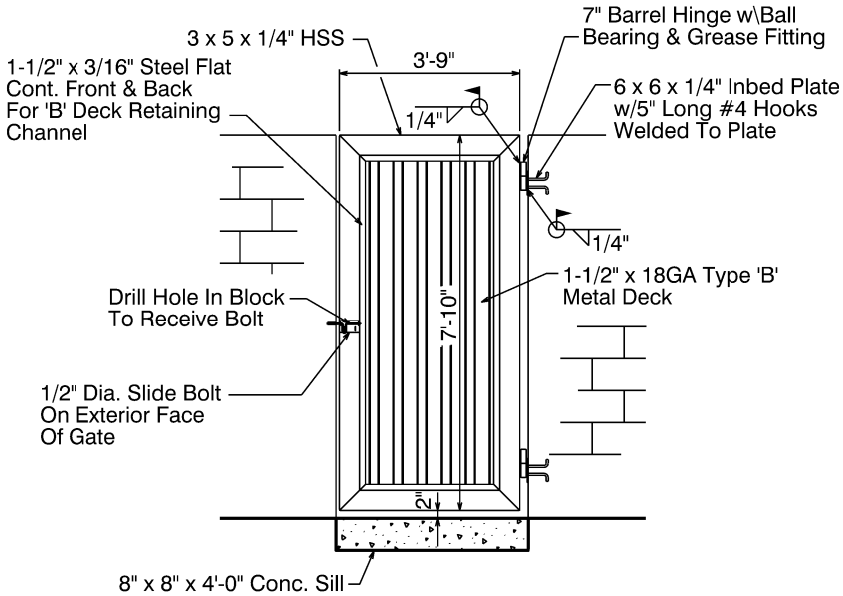
TOP VIEW

ROLLING GATE LATCH & HANDLE



SIDE VIEW

ROLLING GATE LATCH & HANDLE



MAN GATE

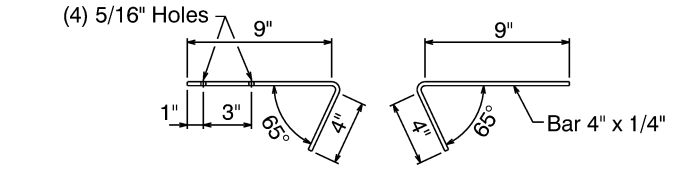
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

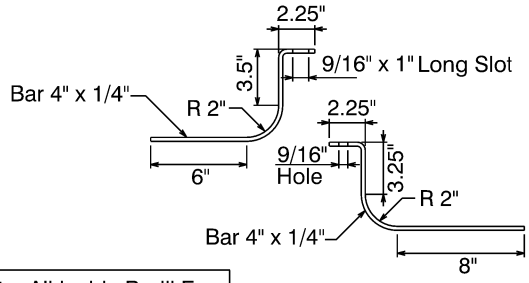
8-FOOT TALL CMU WALL, ROLL OPEN, and MAN GATES

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	11-02-2021		W-1-1901-2



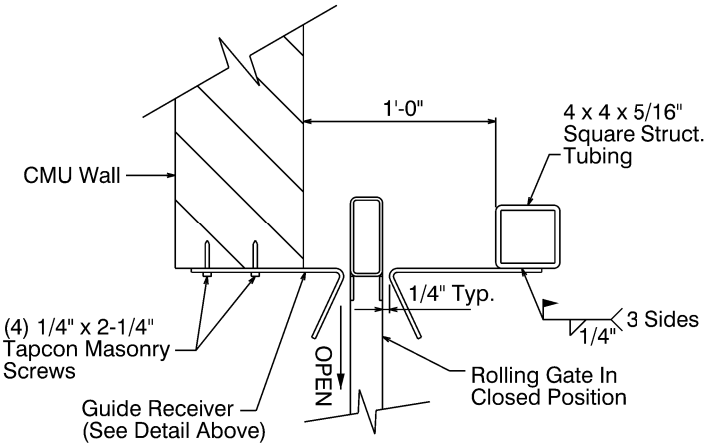
Note: All Inside Radii For Bends Not Noted Are 1/4"

TOP VIEW
GUIDE RECEIVER DETAIL



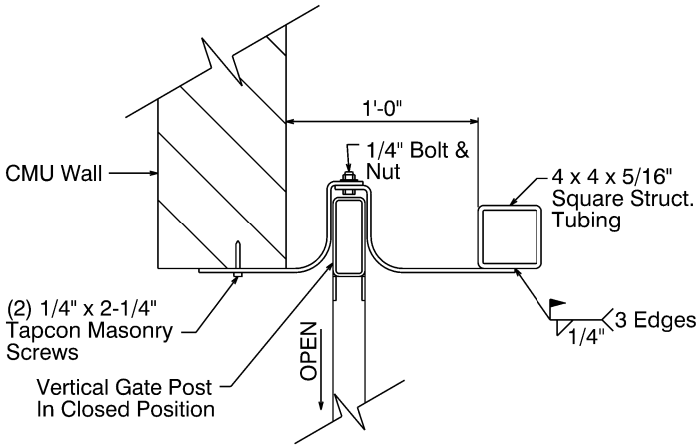
Note: All Inside Radii For Bends Not Noted Are 1/4"

TOP VIEW
GATE RECEIVER DETAIL



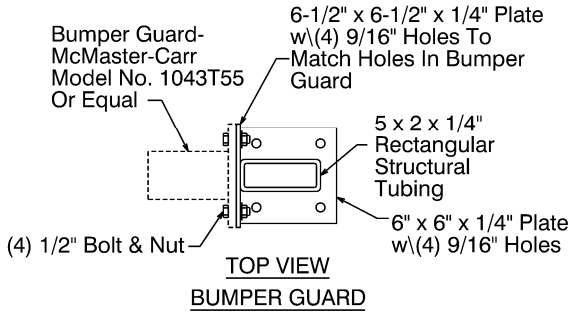
TOP VIEW
GUIDE RECEIVER

* Use This Gate Receiver For Gates WITH Automatic Opener

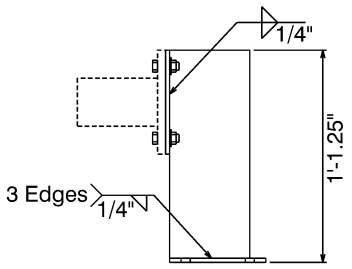


TOP VIEW
ROLLING GATE RECEIVER

* Use This Gate Receiver For Gates WITHOUT Automatic Opener

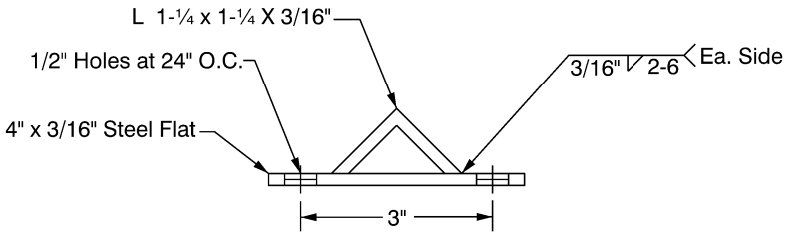


TOP VIEW
BUMPER GUARD



SIDE VIEW
BUMPER GUARD

* Two Bumper Guards Are Required For Gates WITH Automatic Gate Opener And One Bumper Guard Is Required For Gates WITHOUT Automatic Gate Opener



SECTION VIEW
GUIDE TRACK

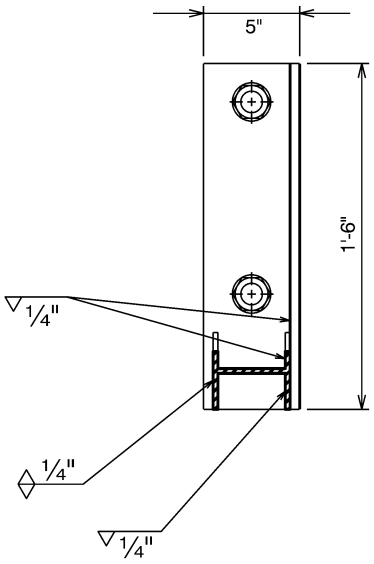
AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

8-FOOT TALL CMU WALL, GATE RECEIVER, GUIDE TRACK, and BUMPER GUARD

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	11-02-2021		W-1-1901-3

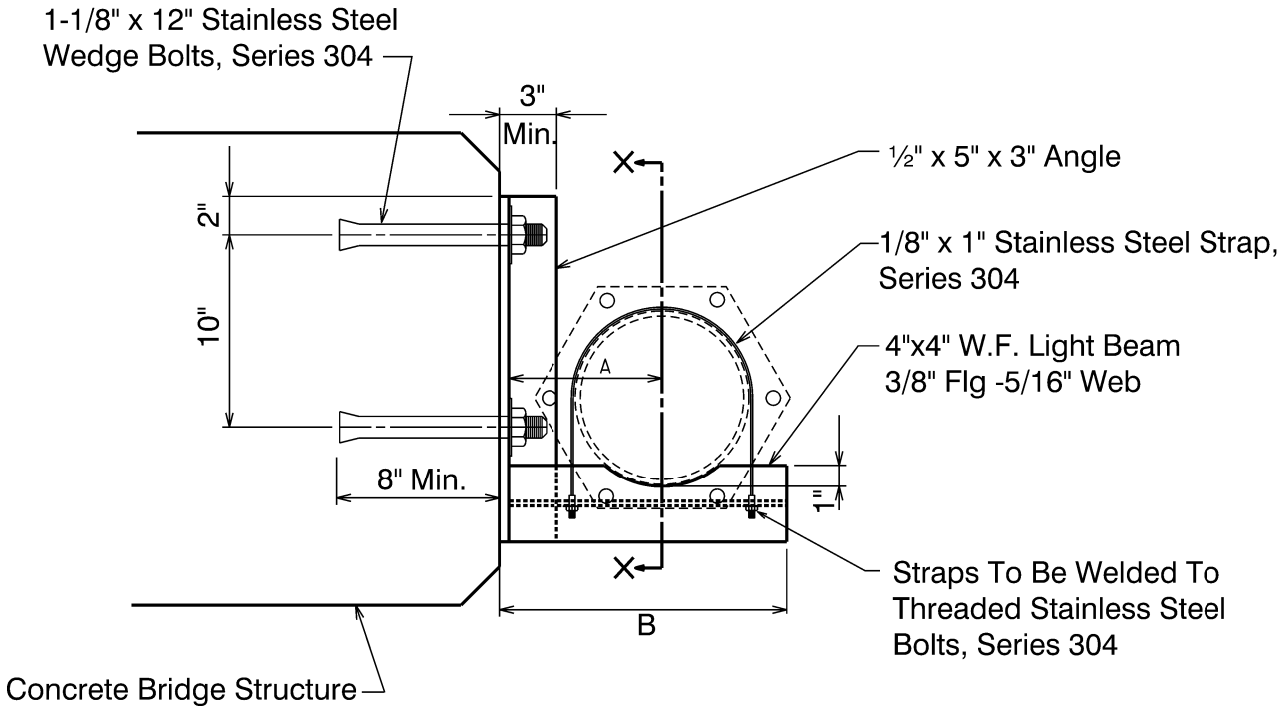


SECTION X-X

NOTES

1. Minimum 2 Supports Per Joint Of Pipe.
2. All Bolts Shall Have A Lock Washer Under The Nut.
3. All Nuts Shall Be Stainless Steel, Series 304.

PIPE SIZE	A	B
8"	8"	15"
10"	9"	17"
12"	10"	19"



SUSPENSION DETAIL

AJWD

STANDARD DETAIL

FOR THE INSTALLATION OF

WATER MAIN SUSPENSION

DRAWN BY:	APPROVED BY:	DATE:		
CB	ML	10-27-2021		W-1-2000