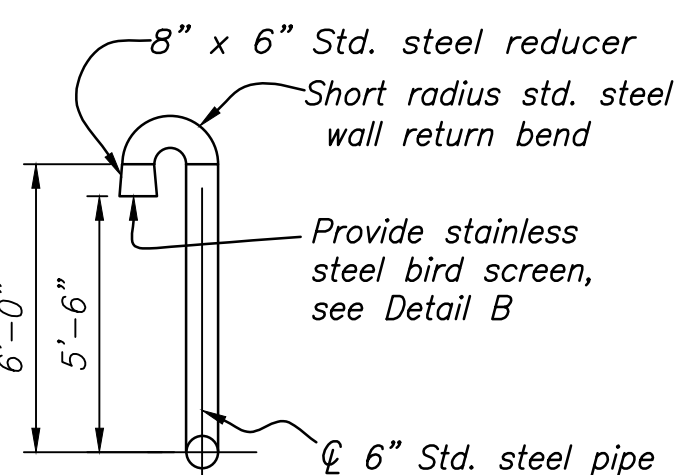
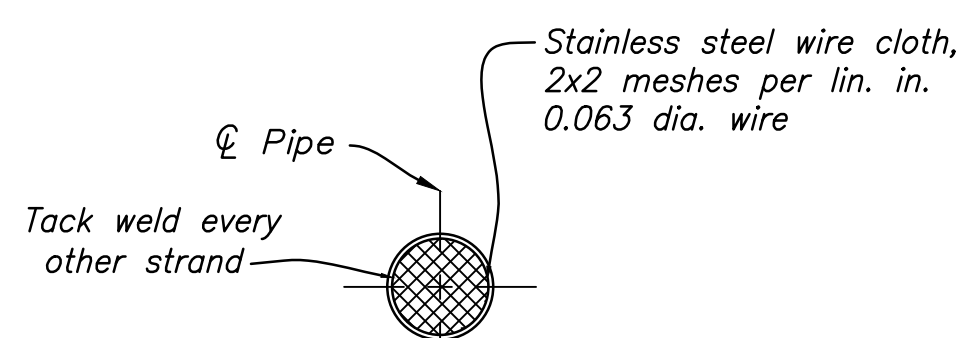
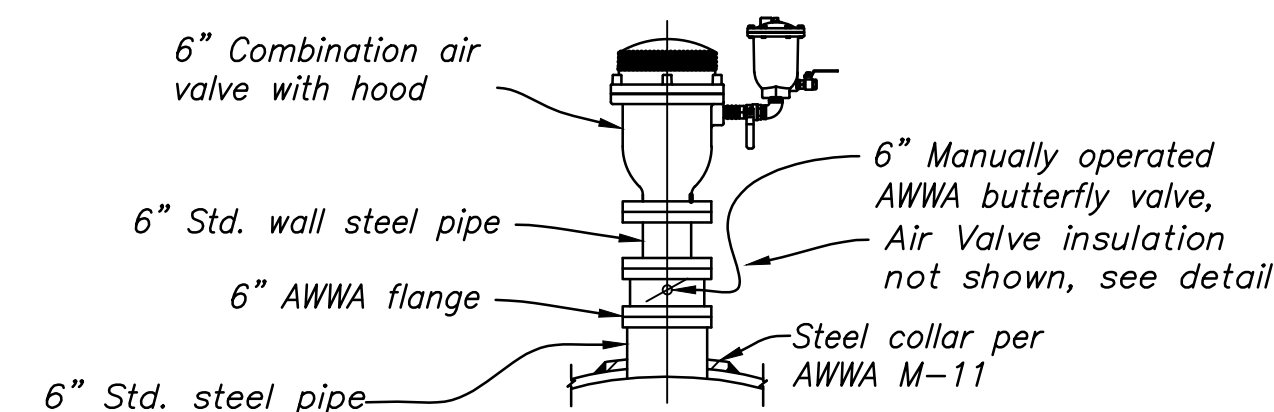




SECTION C-C

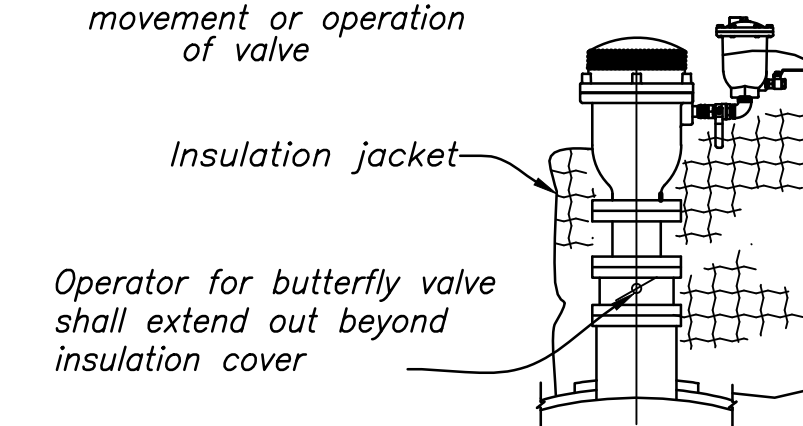


DETAIL B
(NOT TO SCALE)

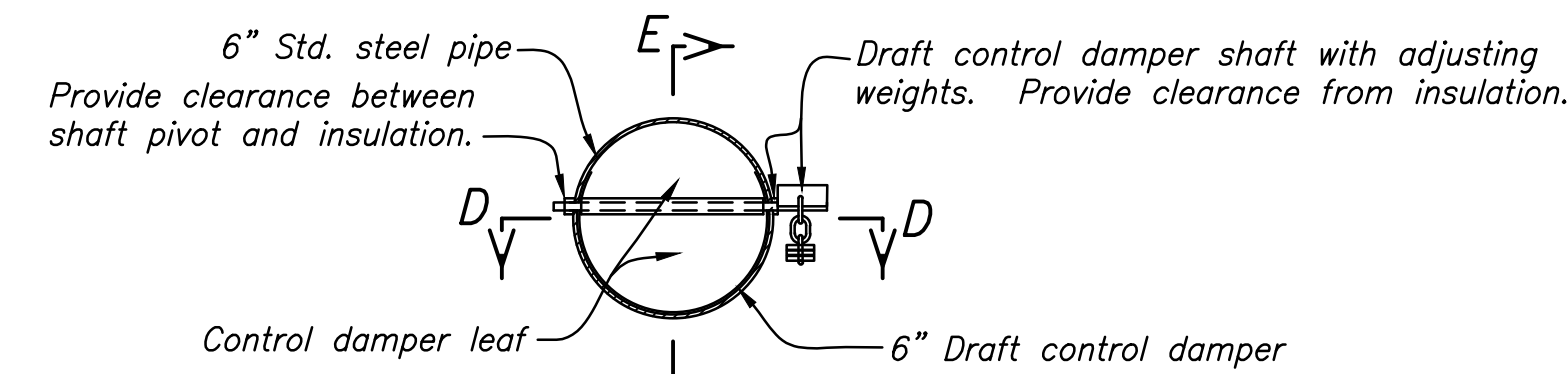


AIR VALVE ASSEMBLY DETAIL

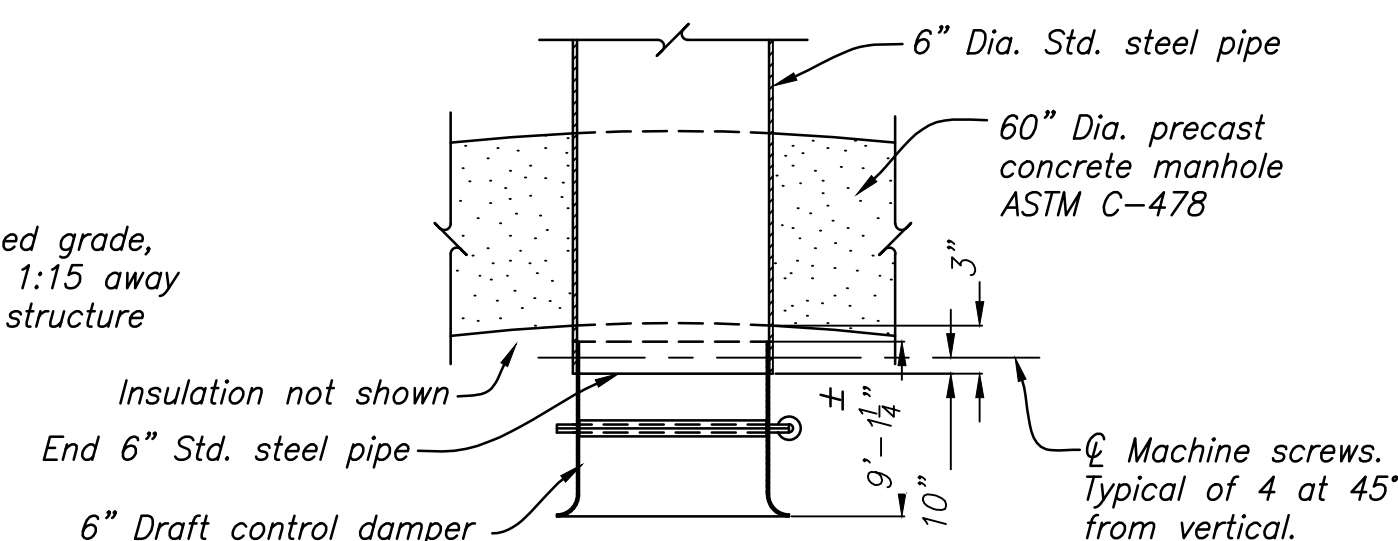
* Insulation shall not inhibit movement or operation of valve



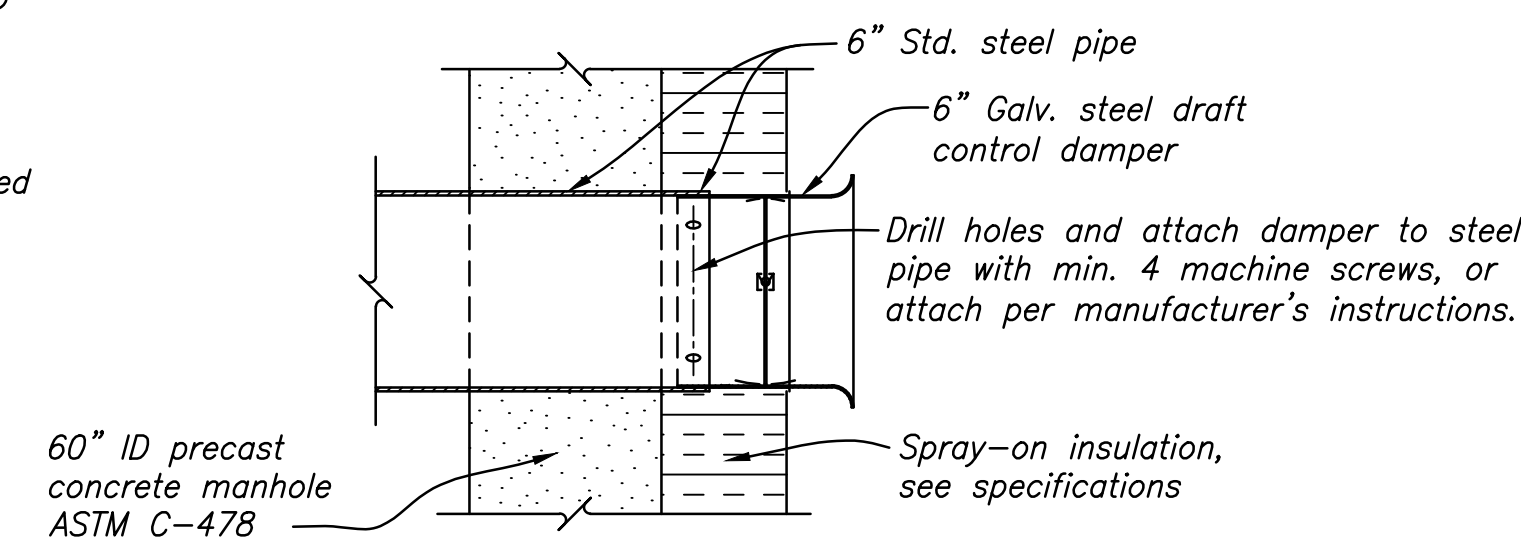
AIR VALVE INSULATION DETAIL



ELEVATION—DRAFT DAMPER
(NOT TO SCALE)



SECTION D-D



SECTION E-E

NOTES

1. For Air Valve Data Table, see (60320).
2. Contractor may submit alternative design of inlet/outlet details for approval.
3. Construct air valve vertical.
4. For connections to line pipe other than steel, submit connection for approval.
5. Earthwork paylines are shown. Actual trench slopes will depend on soil conditions.
6. Keep butterfly valve operator free to move outside of insulation jacket.
7. The height of 6" vertical pipe shall be high enough to allow enough clearance between the top of the air valve and the bottom of the insulation on the cover as per the air valve manufacturer's recommendations.
8. For ventilating pipe paragraphs, see Air Outlet and Inlet in the specifications paragraphs.
9. Match all mating flanges with highest rated flanges. For additional flange details, see (60319).
10. For air valves on meter bends encased in concrete, see (60316).
11. Drawing not to scale.

THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
NAVAJO-GALLUP WATER SUPPLY PROJECT
NEW MEXICO

SAN JUAN LATERAL

BLOCK 9-11 - LINE PIPE

Andrew Marnier
DESIGNED
Derek Kosakowski
DRAWN
D.L. Gesundheit
CHECKED
Bowles, Linda M P.E.
TECH. APPR.
Duke, Wylie C (Chris) P.E.
APPROVED
PEER REVIEWER - Manager - Water Conveyance Group
DENVER, CO

AIR VALVE INSTALLATION

SECTIONS AND DETAILS

1695-D-60318

SHEET 1

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PLOTTED BY
svc-Corp-EDM
CAD FILENAME
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Released

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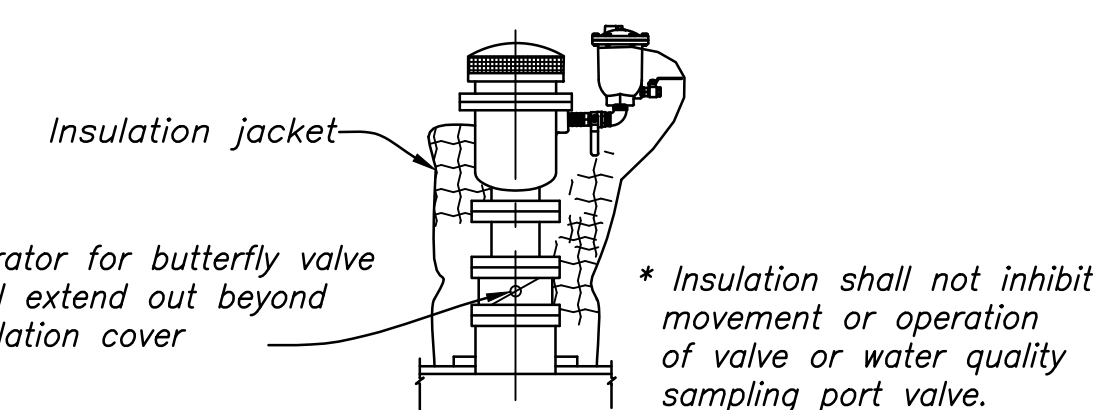
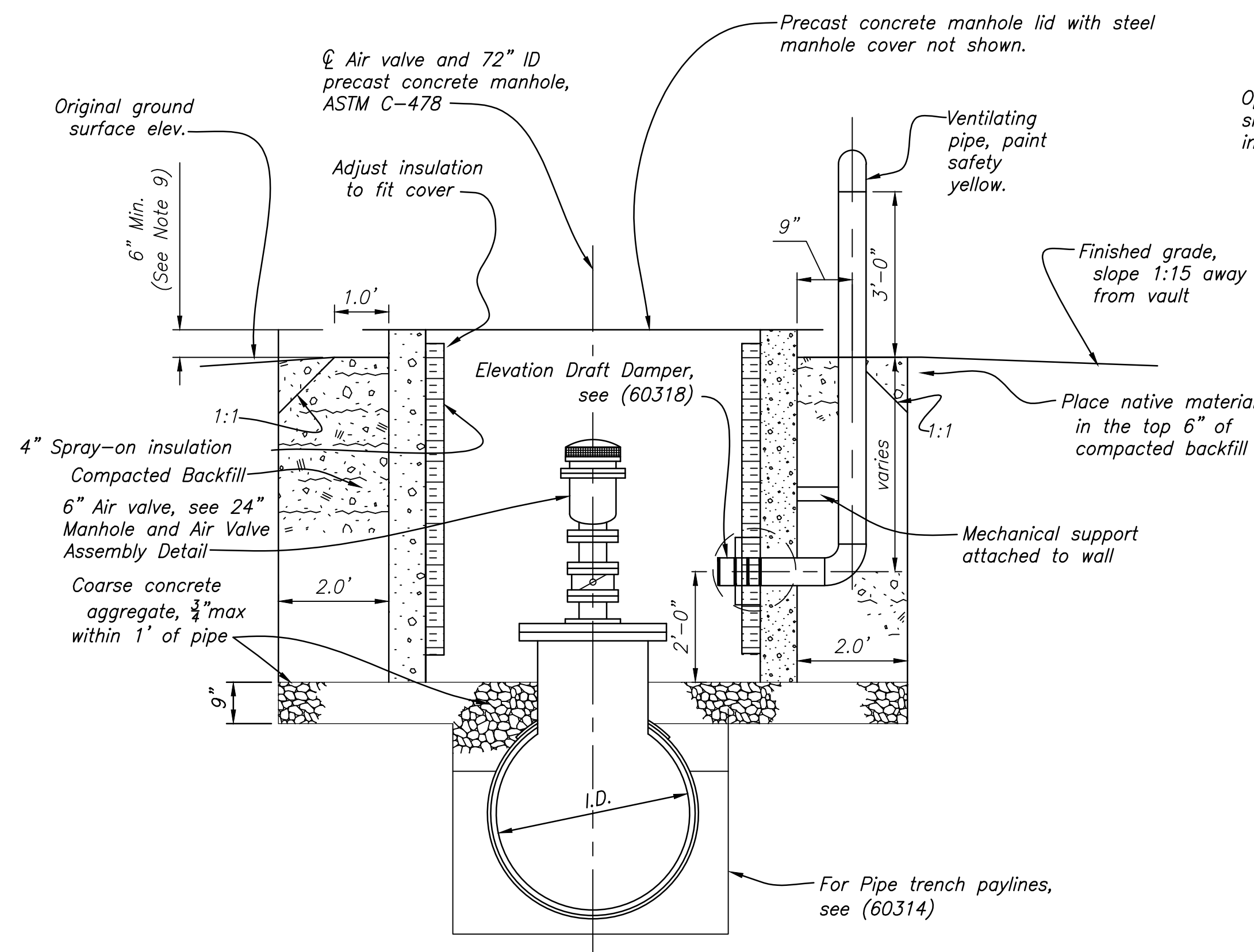
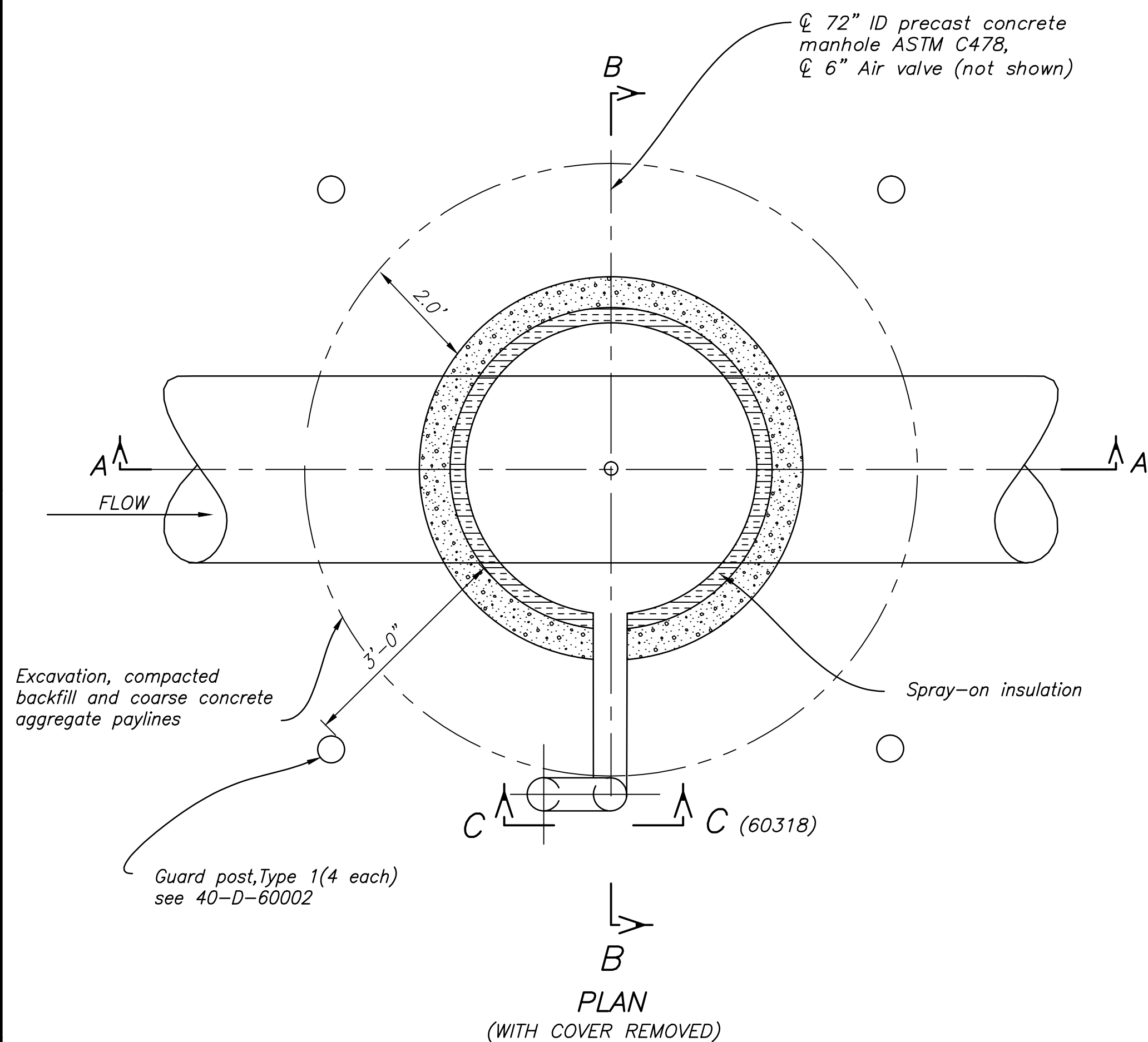
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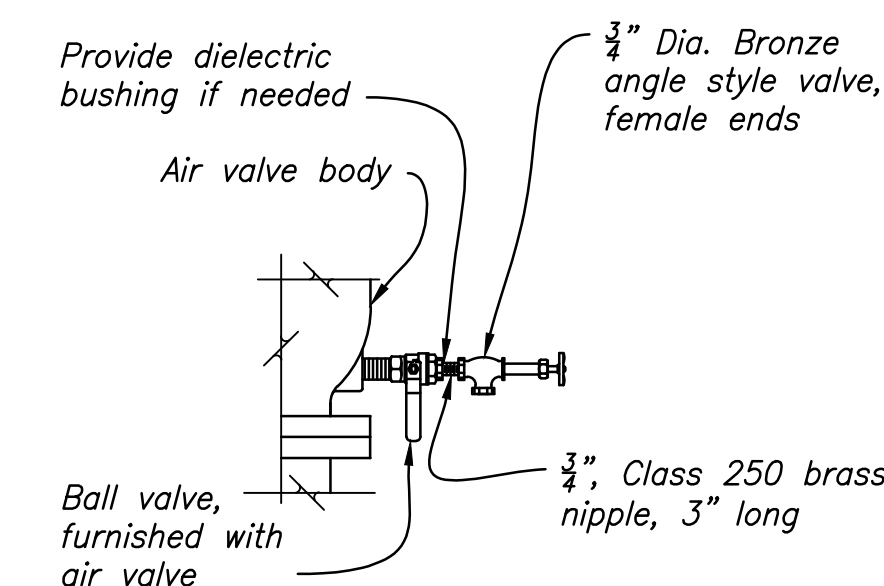
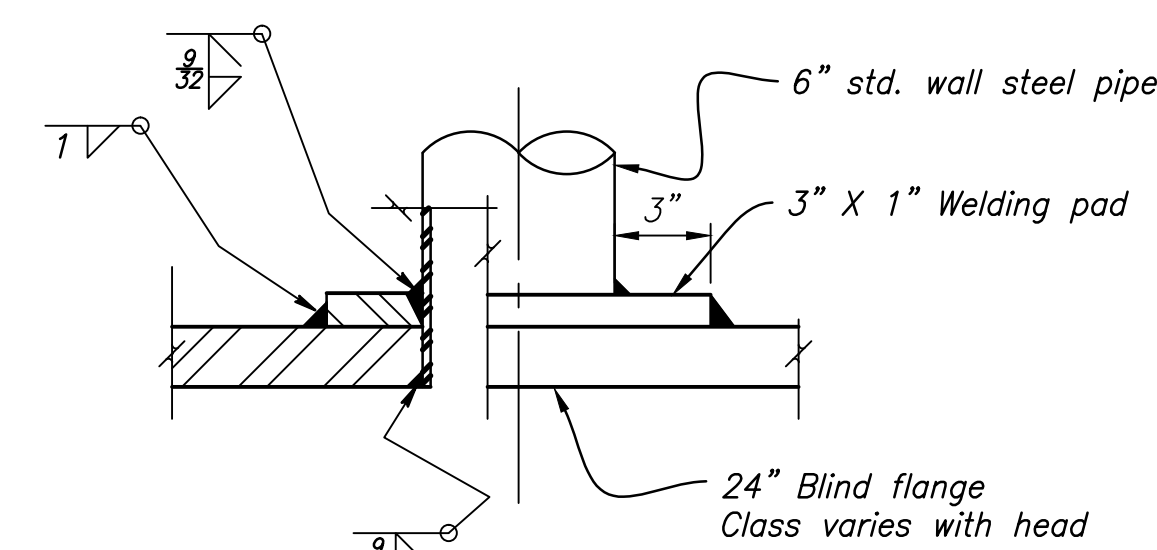
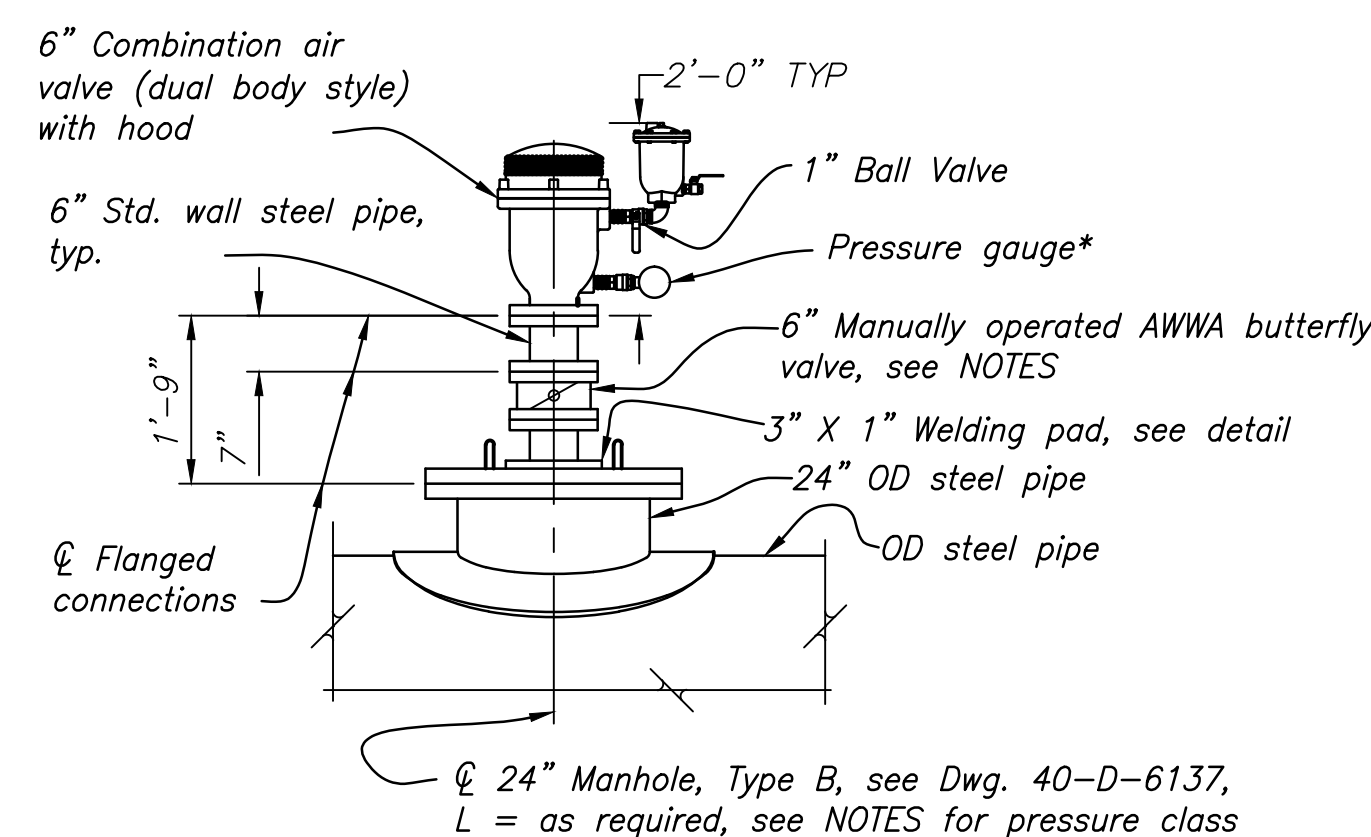
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PLOT BY
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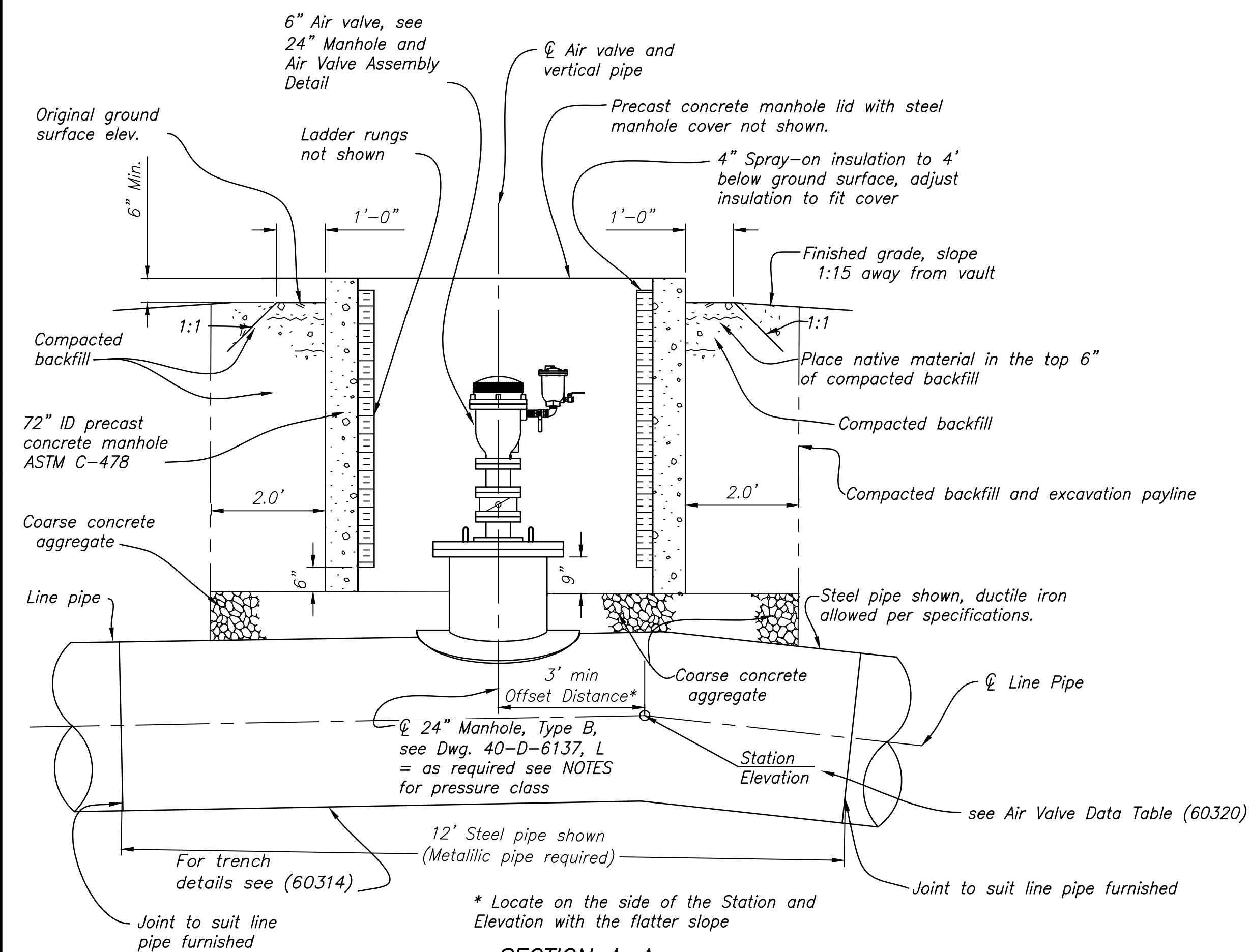


AIR VALVE INSULATION DETAIL

WATER QUALITY SAMPLING PORT DETAIL
For locations, see Air Valve Data Tables (60320)DETAIL
3" X 1" WELDING PAD

24" MANHOLE AND AIR VALVE ASSEMBLY

* Pressure gauge to be installed at air valve assembly for the following locations only:
Station 90044+50 (Reach 9)
Station 10003+58.44 (Reach 10)



NOTES

- For Air valve data table, see (60320)
- Flanges should be AWWA class D when the head class is less than or equal to 346 ft, AWWA class E when the head class is less than or equal to 635 ft and AWWA class F when the head class is less than or equal to 692 ft.
- The butterfly valve shall be AWWA class 150B when the head class is less than or equal to 346 ft, AWWA class 250B when the head class is less than or equal to 577 ft. See specifications for butterfly valves with head classes greater than 577 ft.
- The air valve inlet flange shall be ANSI B16.1 class 125 or ANSI B16.5 class 150 when the head class of the pipe is less than 346 ft and ANSI B16.1 class 250 or ANSI B16.5 class 350 for a head class of pipe greater than or equal to 692 ft.
- The Manhole class shall be Class 150 when the head class of the pipe is less than 346 feet and Class 300 for a head class of pipe less than or equal to 692 ft.
- Drawing not to scale.
- Construct air valve vertical.
- Earthwork paylines are shown. Actual slope will depend on soil conditions.
- The height of 72" vertical pipe shall be high enough to allow enough clearance between the top of the air valve and the bottom of the insulation on the cover as per the air valve manufacturer's recommendations.
- Match all mating flanges with highest rated flanges.

ALWAYS THINK SAFETY

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NAVAJO-GALLUP WATER SUPPLY PROJECT
NEW MEXICO

SAN JUAN LATERAL

BLOCK 9-11 - LINE PIPE

DESIGNED	2017-07-28	D	Revised manhole cover call out to match detail on drawing 40-D-6137, 40-D-6138, 40-D-6139, 40-D-6140, 40-D-6141, 40-D-6142, 40-D-6143, 40-D-6144, 40-D-6145, 40-D-6146, 40-D-6147, 40-D-6148, 40-D-6149, 40-D-6150, 40-D-6151, 40-D-6152, 40-D-6153, 40-D-6154, 40-D-6155, 40-D-6156, 40-D-6157, 40-D-6158, 40-D-6159, 40-D-6160, 40-D-6161, 40-D-6162, 40-D-6163, 40-D-6164, 40-D-6165, 40-D-6166, 40-D-6167, 40-D-6168, 40-D-6169, 40-D-6170, 40-D-6171, 40-D-6172, 40-D-6173, 40-D-6174, 40-D-6175, 40-D-6176, 40-D-6177, 40-D-6178, 40-D-6179, 40-D-6180, 40-D-6181, 40-D-6182, 40-D-6183, 40-D-6184, 40-D-6185, 40-D-6186, 40-D-6187, 40-D-6188, 40-D-6189, 40-D-6190, 40-D-6191, 40-D-6192, 40-D-6193, 40-D-6194, 40-D-6195, 40-D-6196, 40-D-6197, 40-D-6198, 40-D-6199, 40-D-6200, 40-D-6201, 40-D-6202, 40-D-6203, 40-D-6204, 40-D-6205, 40-D-6206, 40-D-6207, 40-D-6208, 40-D-6209, 40-D-6210, 40-D-6211, 40-D-6212, 40-D-6213, 40-D-6214, 40-D-6215, 40-D-6216, 40-D-6217, 40-D-6218, 40-D-6219, 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AIR VALVE DATA TABLE--REACH 9								
PI STATION	HEAD CLASS (FT)	AIR VALVE SEAT RATING (PSI)	PI ELEVATION (FT)	GROUND SURFACE ELEVATION (FT)	DEPTH OF COVER +/- (FT)	MANHOLE?	SAMPLING PORT?	MITER?
90010+00	600	260.0	5872.30	5879.5	5.2	NO	NO	NO
90030+00	625	270.8	5842.40	5851.6	7.2	NO	NO	NO
90044+50	625	270.8	5849.50	5856.6	5.1	YES	NO	YES
90074+00	650	281.7	5827.90	5835.0	5.1	NO	NO	YES
90080+00	650	281.7	5820.40	5827.5	5.1	NO	NO	NO
90102+00	625	270.8	5827.50	5835.7	6.2	NO	NO	YES
90115+00	625	270.8	5830.80	5838.0	5.2	YES	NO	NO
90139+00	575	249.2	5872.50	5879.7	5.2	YES	NO	NO
90160+00	600	260.0	5875.00	5883.0	6.0	YES	YES	YES
90167+20	575	249.2	5875.10	5884.7	7.6	YES	NO	NO
90201+00	500	216.7	5956.80	5963.9	5.1	YES	NO	NO
90224+60	500	216.7	5956.00	5963.3	5.3	YES	NO	NO
90224+60	500	216.7	5956.00	5963.3	5.3	YES	NO	NO
90264+00	500	216.7	5934.20	5941.4	5.2	NO	NO	NO
90281+00	500	216.7	5926.70	5935.6	6.9	YES	NO	NO
90285+30	500	216.7	5923.81	5931.4	5.6	YES	NO	NO
90306+00	500	216.7	5937.70	5945.0	5.3	YES	YES	NO
90330+00	525	227.5	5912.80	5920.3	5.5	YES	NO	NO
90356+50	450	195.0	5993.00	6001.1	6.1	NO	NO	YES
90375+00	500	216.7	5937.30	5944.5	5.2	YES	NO	YES
90384+00	450	195.0	5962.90	5970.1	5.2	YES	NO	NO
90384+00	450	195.0	5962.90	5970.1	5.2	YES	NO	NO
90394+00	475	205.8	5961.60	5968.8	5.2	NO	NO	YES
90419+40	475	205.8	5937.37	5944.4	5.0	YES	NO	NO
90419+40	475	205.8	5937.37	5944.4	5.0	YES	NO	NO
90464+00	475	205.8	5960.70	5968.1	5.4	YES	YES	YES
90470+00	450	195.0	5963.50	5970.9	5.4	YES	NO	NO
90483+45	375	162.5	6040.00	6047.1	5.1	YES	NO	YES
90523+00	375	162.5	6026.00	6033.2	5.2	YES	NO	NO
90523+00	375	162.5	6026.00	6033.2	5.2	YES	NO	NO
90553+00	375	162.5	6022.30	6029.5	5.2	NO	NO	NO
90577+00	375	162.5	6015.73	6023.8	6.1	YES	NO	NO
90577+00	375	162.5	6015.73	6023.8	6.1	YES	NO	NO
90580+20	375	162.5	6014.40	6022.0	5.6	NO	NO	YES
90601+00	375	162.5	6009.50	6016.6	5.1	NO	NO	NO
90610+34	400	173.3	6001.80	6009.2	5.4	YES	YES	YES
90624+00	400	173.3	5991.44	5999.9	6.5	YES	NO	NO
90645+00	375	162.5	6006.40	6013.5	5.1	YES	NO	YES
90672+00	375	162.5	6018.00	6025.3	5.3	NO	NO	YES
90681+50	375	162.5	5998.15	6007.3	7.2	YES	NO	NO
90698+40	350	151.7	6022.80	6030.1	5.3	NO	NO	NO
90720+50	325	140.8	6046.00	6053.2	5.2	NO	NO	NO
90730+00	325	140.8	6057.50	6065.1	5.6	NO	NO	NO
90750+70	325	140.8	6058.00	6065.0	5.0	YES	YES	NO
90831+70	325	140.8	6036.60	6044.0	5.4	NO	NO	YES
90879+00	300	130.0	6052.19	6058.7	4.8	YES	NO	NO
90921+50	275	119.2	6064.30	6073.3	7.3	YES	YES	NO
90969+50	250	108.3	6102.70	6109.6	5.2	YES	NO	NO
91037+00	250	108.3	6081.80	6088.7	5.1	YES	NO	NO
91088+00	200	86.7	6120.50	6127.3	5.1	YES	YES	NO
91126+00	150	65.0	6139.50	6147.3	6.1	YES	NO	NO
91185+50	125	54.2	6160.50	6168.8	6.6	YES	NO	YES
91188+00	125	54.2	6161.50	6168.5	5.3	YES	NO	NO
91220+00	100	43.3	6172.00	6179.2	5.4	YES	NO	NO

AIR VALVE DATA TABLE--REACH 10								
PI STATION	HEAD CLASS (FT)	AIR VALVE SEAT RATING (PSI)	PI ELEVATION (FT)	GROUND SURFACE ELEVATION (FT)	DEPTH OF COVER +/- (FT)	MANHOLE?	SAMPLING PORT?	MITER?
10003+58.44	100	43.3	6172.0	6179.2	5.4	YES	YES	NO
10050+15	50	21.7	6205.0	6212.6	5.8	YES	NO	NO

AIR VALVE DATA TABLE--REACH 11								
PI STATION	HEAD CLASS (FT)	AIR VALVE SEAT RATING (PSI)	PI ELEVATION (FT)	GROUND SURFACE ELEVATION (FT)	DEPTH OF COVER +/- (FT)	MANHOLE?	SAMPLING PORT?	MITER?
11069+00	650	281.7	6243.58	6251.3	6.0	YES	NO	NO
11074+20	650	281.7	6256.50	6263.5	5.3	NO	NO	NO
11166+00	600	260.0	6281.90	6289.5	5.9	YES	YES	YES
11168+80	600	260.0	6283.13	6290.4	5.5	YES	NO	NO
11197+50	575	249.2	6304.80	6312.2	5.6	YES	NO	NO
11237+40	525	227.5	6339.20	6346.7	5.8	YES	YES	NO
11267+00	475	205.8	6380.70	6387.7	5.3	NO	NO	NO

NOTE

1. For air valve details see (60318) and (60319).

RECLAMATION
Managing Water in the West

ALWAYS THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
NAVAJO-GALLUP WATER SUPPLY PROJECT
NEW MEXICO

SAN JUAN LATERAL
BLOCK 9-11 - LINE PIPE

DESIGNED
Derek Kosakowski

DRAWN
D.L. Gesundheit

CHECKED
Bowles, Linda M P.E.

TECH. APPR.
Duke, Wylie C (Chris) P.E.

APPROVED
KERR REVIEWER - Manager - Water Conveyance Group

DENVER, CO2017-03-30

AIR VALVES

DATA TABLES

1695-D-60320

SHEET 1

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REV NO	2017-07-28	D	Added Plan view of blowoff and modified detail to match number of guard posts in Note 3.
2	Bowles, Linda M P.E.		
REV NO	2017-06-08	D	Corrected the title block text. Corrected valve box callout.
1	Bowles, Linda M P.E.		

DESIGNED	Andrew Marnier
DRAWN	Derek Kosakowski
CHECKED	D. L. Gesundheit
TECH. APPR.	Bowles, Linda M P.E.
APPROVED	Duke, Wylie C (Chris) P.E.
REVIEWER	Manager - Water Conveyance Group
DENVER, CO	2017-03-30

BLOWOFF

SECTIONS AND DETAILS

1695-D-60321

SHEET 1

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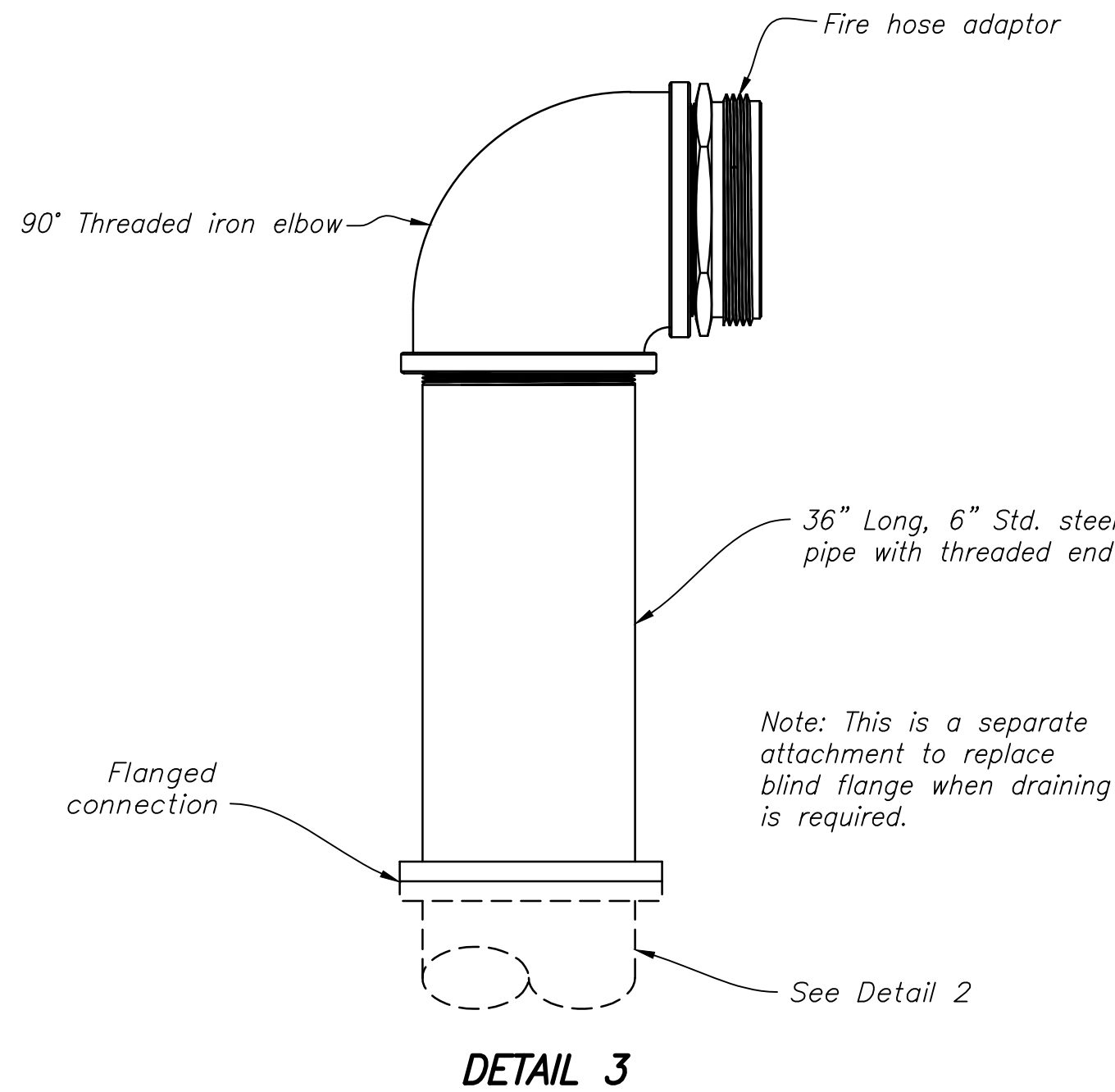
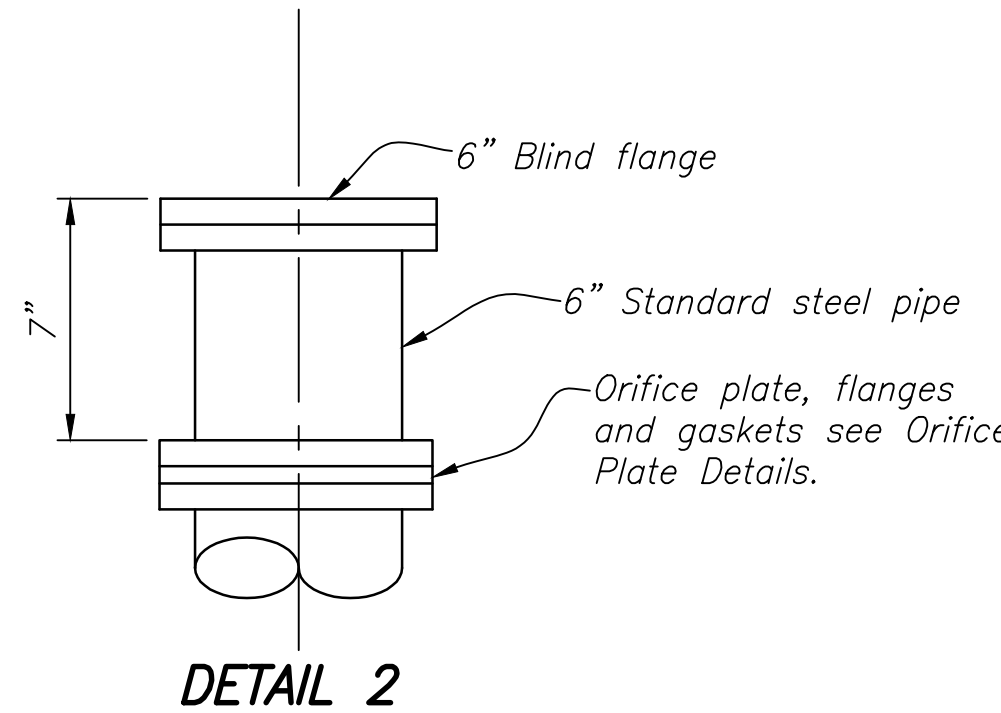
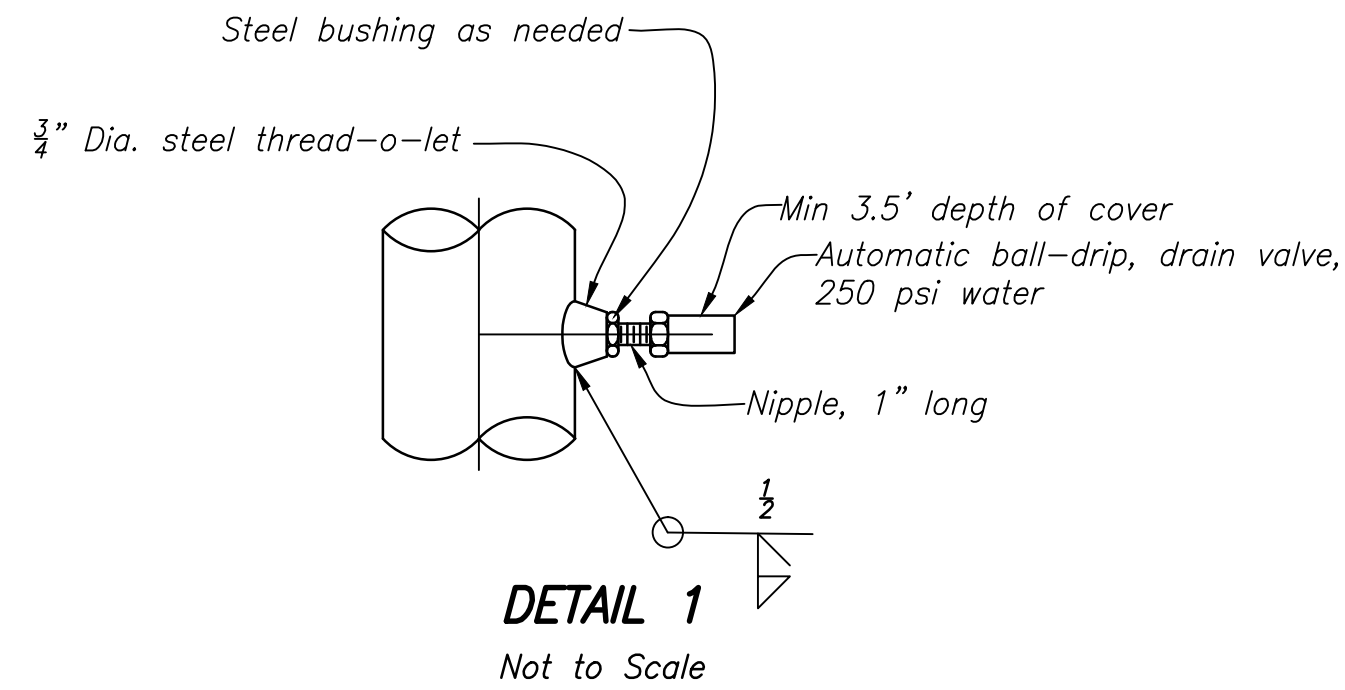
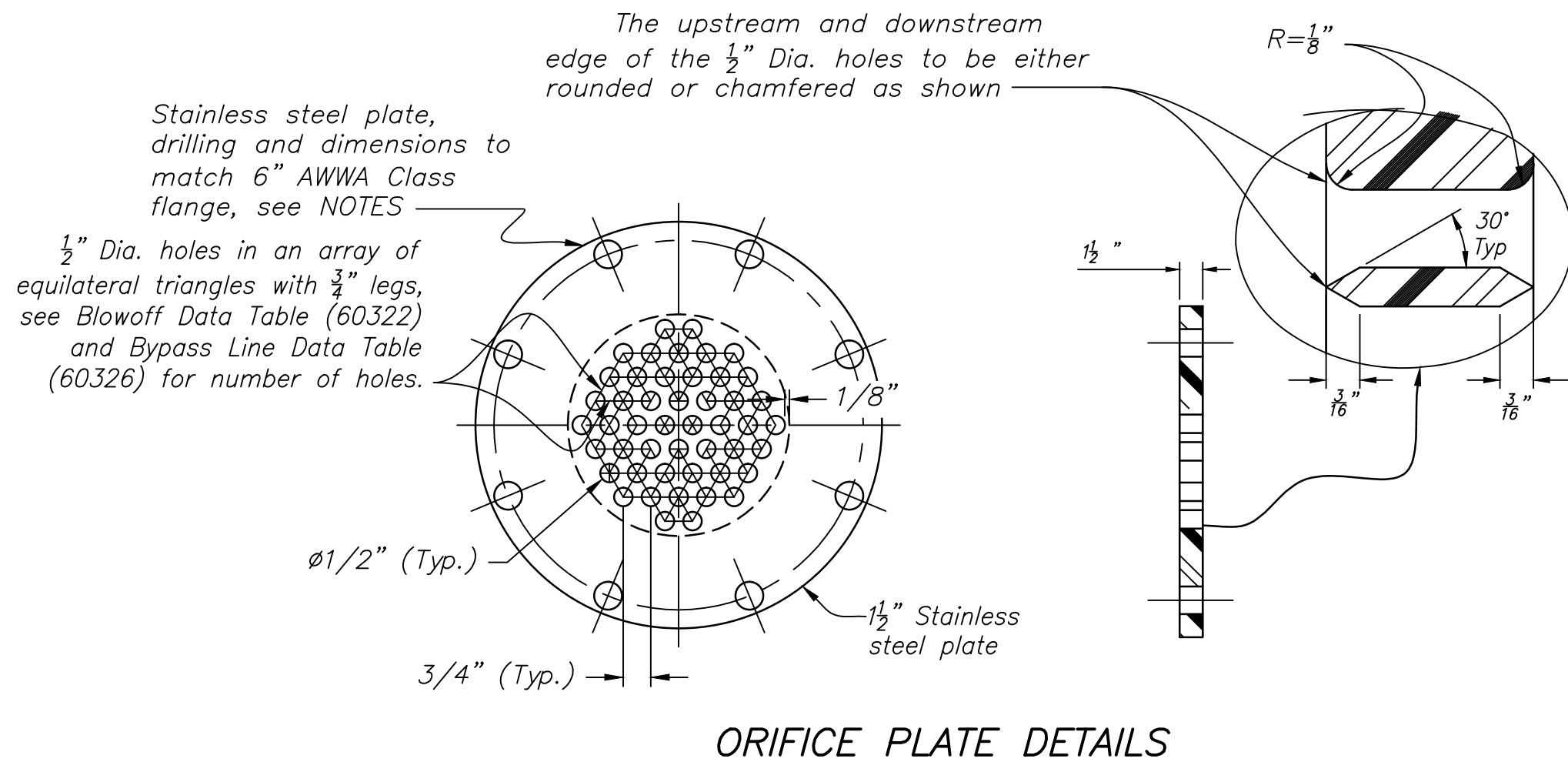
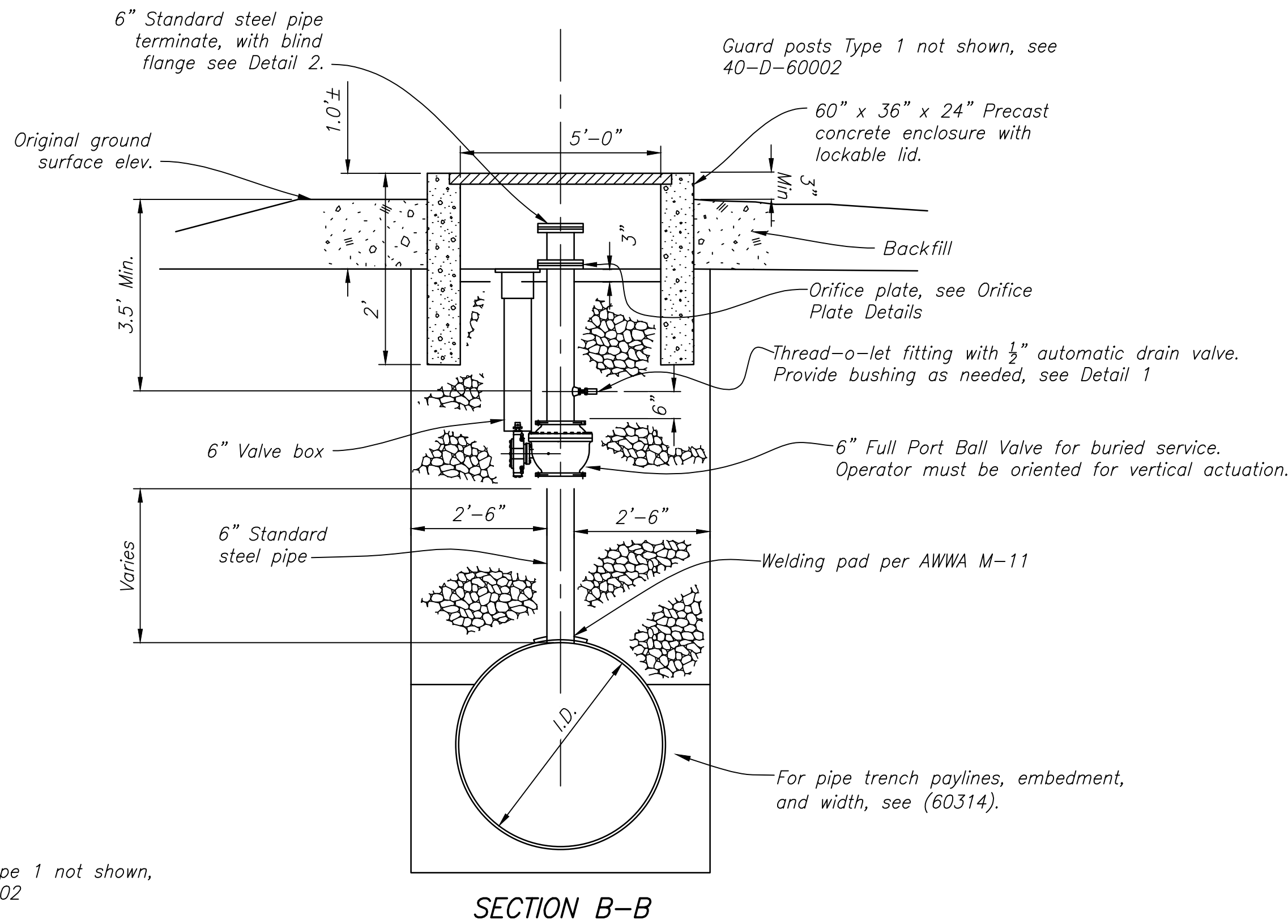
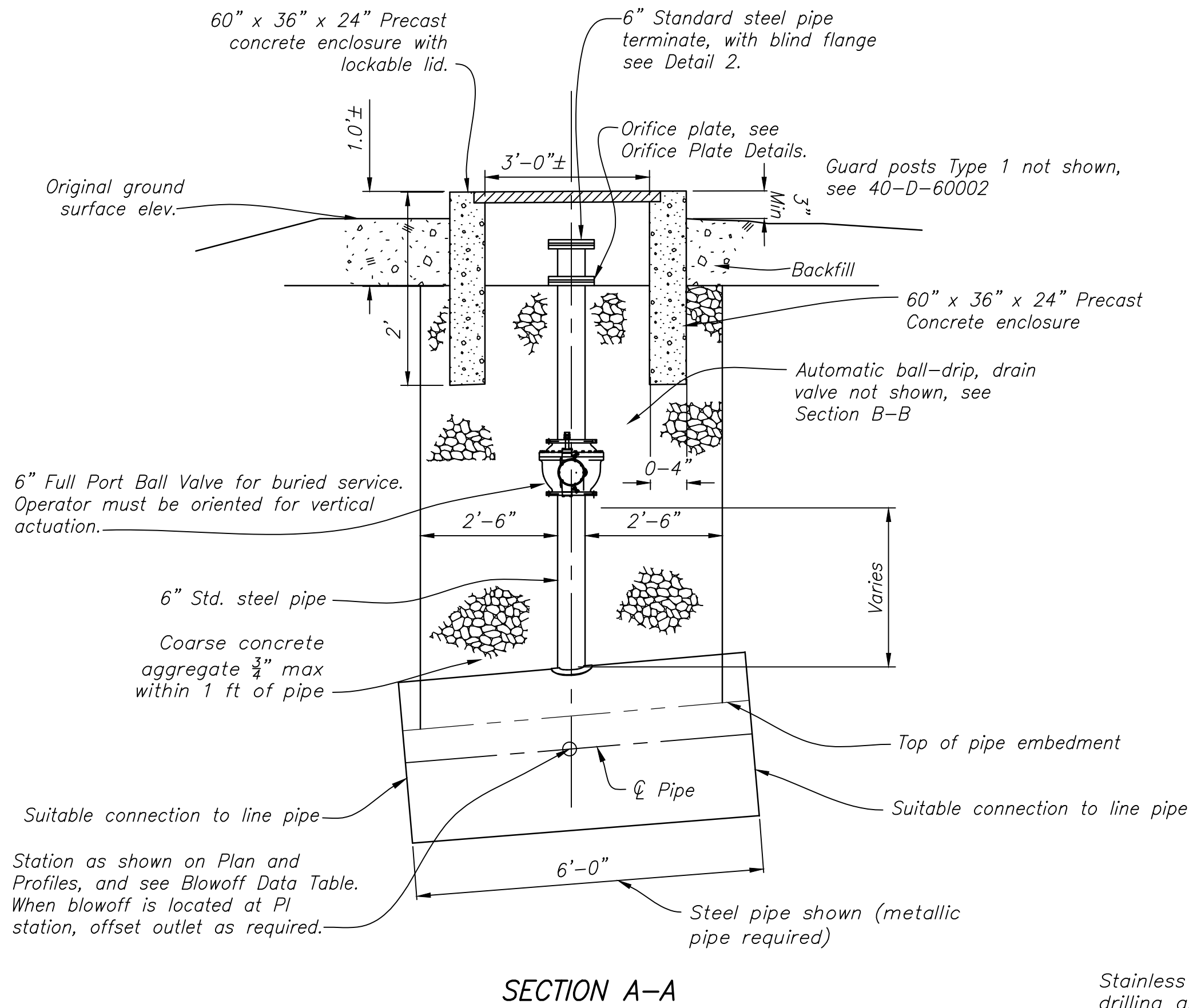
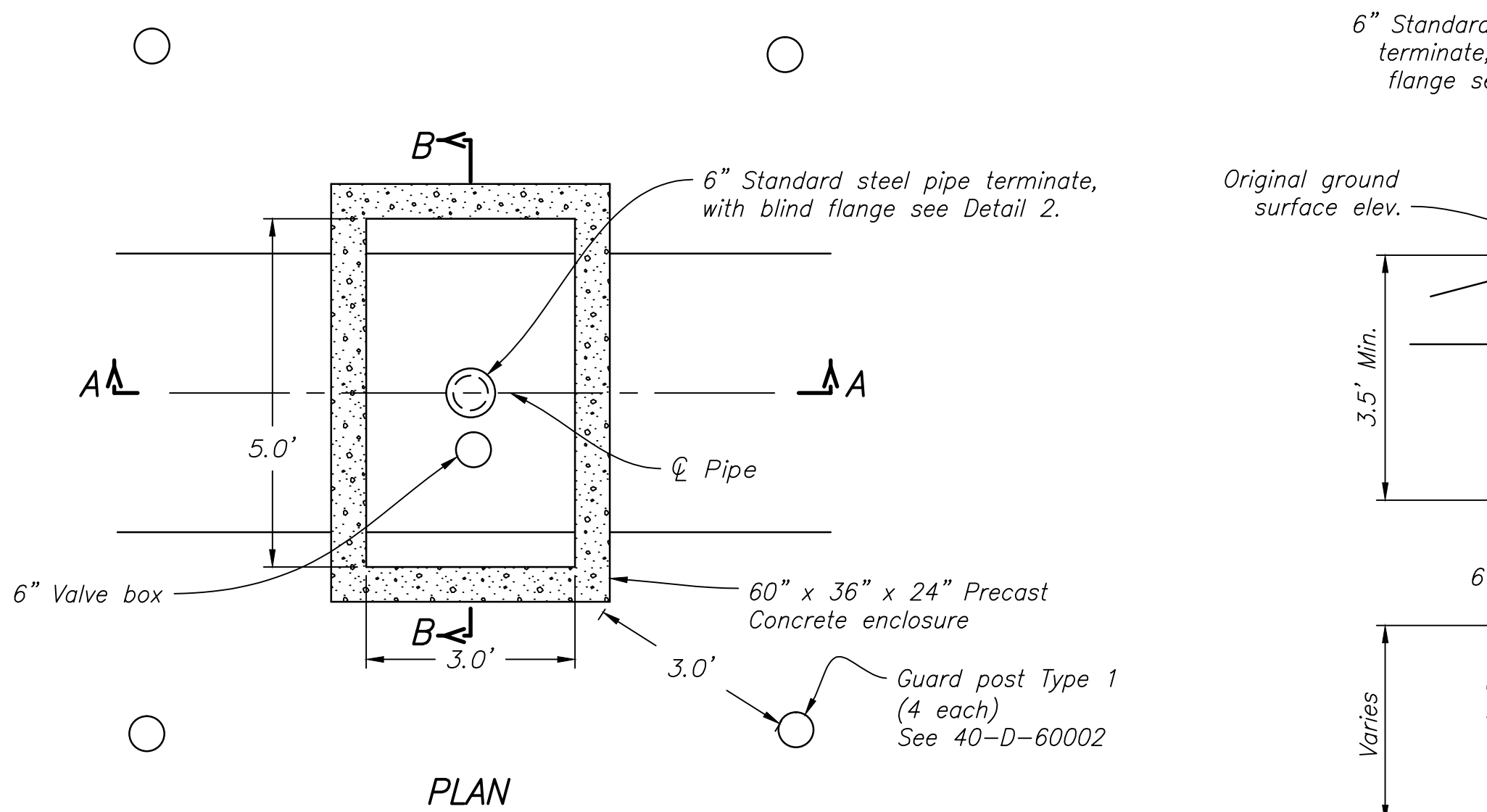
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NOTES

1. The minimum steel cylinder thickness for the section of line pipe with the blowoff outlet shall be the thickness of the steel line pipe. For the steel line pipe thickness see the specification.
2. For coating and lining requirements, see specification paragraphs.
3. Install four Guard posts Type 1 around each blowoff as directed by the COR. Install posts in accordance with 40-D-60002.
4. See Plan and Profile drawings for location of blowoff stations.
5. I.D. is inside diameter.
6. Meter box is approximately 60" x 36" x 24".
7. For Flange ratings, see Notes (60319).
8. Match all mating flanges with highest rated flange.