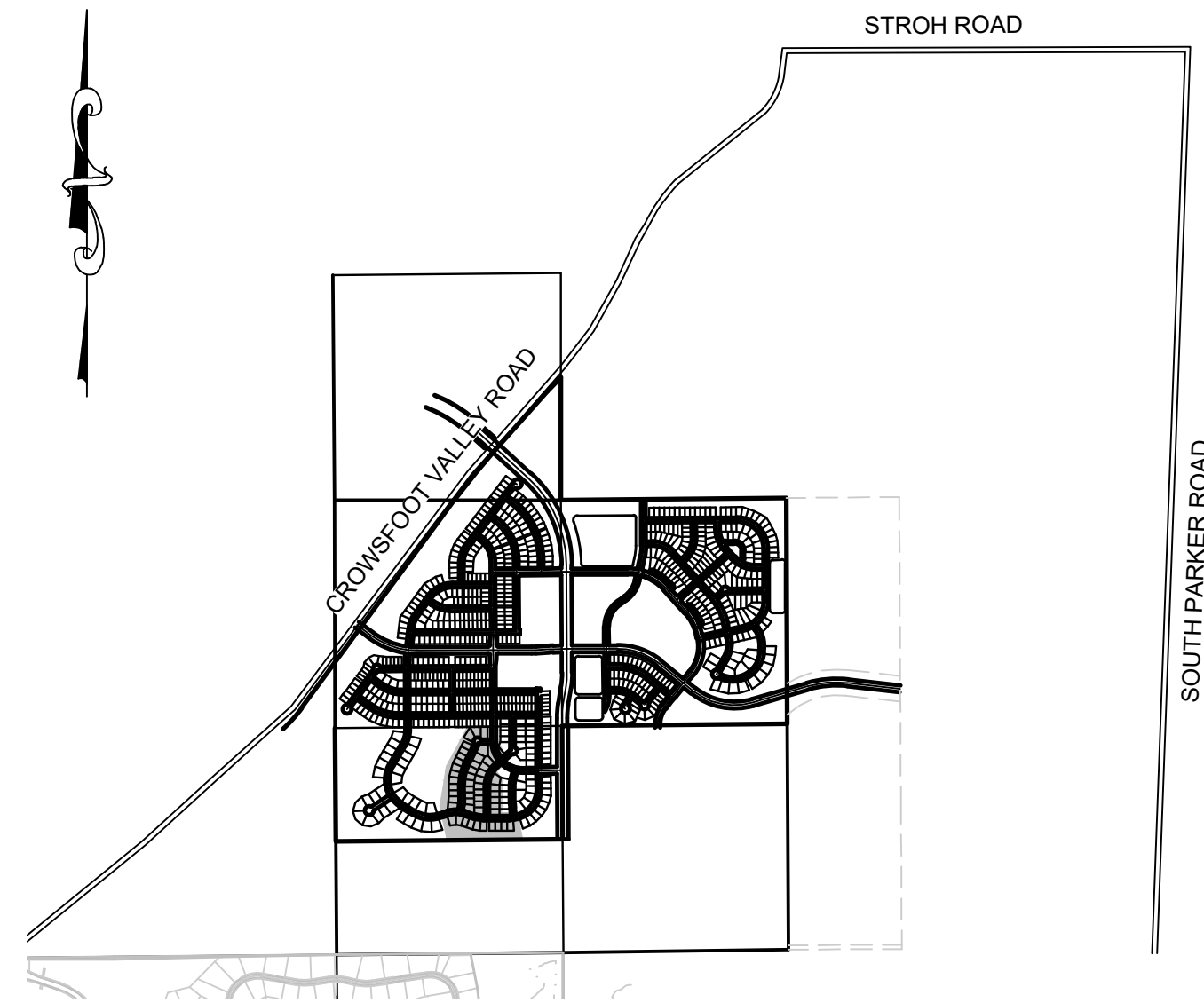


# TRAILS AT CROWFOOT FILING 8

## PARKER WATER AND SANITATION CONSTRUCTION PLANS

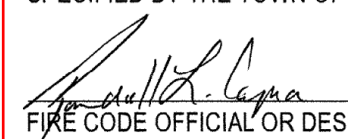
SECTIONS 4, 8, AND 9 TOWNSHIP 7 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN COUNTY OF DOUGLAS, STATE OF COLORADO

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	PARKER WATER AND SANITATION NOTES
3	AREA UTILITY PLAN
4	SANITARY P&P ROSE MALLOW WAY
5	WATER P&P ROSE MALLOW WAY
6	SANITARY SEWER DETAILS
7	SANITARY SEWER DETAILS
8	SANITARY SEWER DETAILS
9	WATER DETAILS
10	WATER DETAILS
11	WATER DETAILS
12	WATER DETAILS
13	WATER DETAILS
14	WATER DETAILS
15	WATER DETAILS



VICINITY MAP  
SCALE: 1" = 2000'

MATERIALS LIST		
DESCRIPTION	QUANTITY	UNIT
8" WATERPIPE (C900)	310	L.F.
6" WATERPIPE (DIP-FIRE HYDRANT LINE)	16	L.F.
8" GATE VALVE W/ BOX	0	EA.
6" GATE VALVE W/ BOX	1	EA.
FIRE HYDRANT WITH 6" LEAD	1	EA.
8" MISC. FITTINGS	2	EA.
AIR / VAC VALVE	1	EA.
DOMESTIC WATER SERVICE W/ METER	9	EA.
CONNECTION TO EXISTING MAIN	1	EA.
8" SEWER (SDR-35 PVC)	340	L.F.
4' DIA. MANHOLE	2	EA.
SEWER SERVICE LATERAL W/ WYE TAP	9	EA.
CONNECTION TO EXISTING MAIN	1	EA.

**FIRE DEPARTMENT APPROVAL**  
 ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO WATER UTILITY STANDARDS. THE NUMBER AND LOCATIONS OF THE FIRE HYDRANTS AS SHOWN ON THE OVERALL UTILITY PLAN ARE CORRECT AS SPECIFIED BY THE TOWN OF PARKER, COMMUNITY DEVELOPMENT DEPARTMENT.  
  
 FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE \_\_\_\_\_ DATE 05/21/2020  
 (NOTE - UNDERGROUND FIRE LINE (UFL) SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENT OF NFPA 24 WHEN SUBMITTING FOR REVIEW.)

THE DISTRICT INSPECTOR MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION. CALL PARKER WATER AND SANITATION DISTRICT AT 303-841-4627. THE DISTRICT WILL PROVIDE PERIODIC INSPECTIONS OF THE WORK. 24 HOUR NOTICE TO THE INSPECTOR IS REQUIRED FOR SCHEDULED INSPECTIONS. ANY WORK ACCOMPLISHED WITHOUT THE APPROVAL OF THE INSPECTOR WILL BE SUBJECT TO REJECTION.

REVIEWED FOR CONFORMANCE TO PARKER WATER AND SANITATION DISTRICT STANDARDS.


BY: \_\_\_\_\_  
(DISTRICT REPRESENTATIVE)

DATE SIGNED: \_\_\_\_\_

APPROVED FOR CONSTRUCTION:  
PARKER WATER AND SANITATION DISTRICT

BY: \_\_\_\_\_  
(DISTRICT ENGINEER)

DATE SIGNED: \_\_\_\_\_

PREPARED UNDER THE SUPERVISION OF  
  
 BRIAN P. WILSON  
 COLORADO P.E. 0050067

**BENCHMARK**  
 DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

**BASIS OF BEARINGS:**  
 THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

### DEVELOPER

HR 935 LLC  
 7353 SOUTH ALTON WAY  
 CENTENNIAL, CO 80112  
 TEL: (303) 770-9111  
 CONTACT: MATT JANKE

### PLANNER/ LANDSCAPE DESIGNER:

PCS GROUP, INC.  
 200 KALAMATH STREET  
 DENVER, CO 80233  
 TEL: (303) 531-4905  
 CONTACT: JOHN PRESTWICH

### SURVEYOR/ ENGINEER:

CVL CONSULTANTS  
 OF COLORADO, INC.  
 10333 E. DRY CREEK RD. STE 240  
 ENGLEWOOD, CO 80112  
 TEL: (720) 482-9526  
 CONTACT: JIM JANNICKE

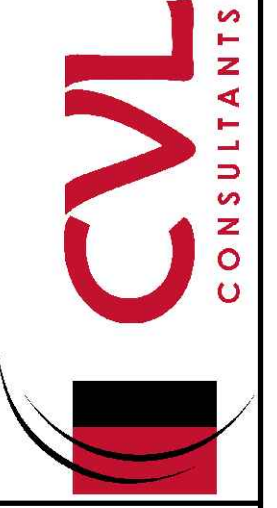
### UTILITY DISTRICT

PARKER WATER AND  
 SANITATION DISTRICT  
 18100 E. WOODMAN DRIVE  
 PARKER, CO 80134  
 TEL: (303) 841-4627

CALL 811  
 TWO WORKING DAYS  
 BEFORE YOU DIG  
 UNCC  
 UTILITY NOTIFICATION  
 CENTER OF COLORADO  
 1-800-922-1987

DRAWN BY: KID	CHECKED BY: BFW	DATE: MAY 2020	SCALE: AS SHOWN	FILE NO: 8130283701	SHEET NUMBER: 1	Revisions	Appr.	Date
							Init.	Date

10333 E. Dry Creek Rd.  
 Suite 240  
 Englewood, CO 80112  
 Tel: (720) 482-9526  
 Fax: (720) 482-9546



HR 935 LLC  
 7353 South Alton Way  
 CENTENNIAL, CO 80112

TRAILS AT CROWFOOT  
 FILING 8 CONSTRUCTION DRAWINGS  
 COVER SHEET

N:\PROJECTS\HR 935\ENGINEERING\SHETS\CD\CD\TRAILS AT CROWFOOT\COVER DWG.CDDVA\_6/20/2020 11:44 AM



**GENERAL NOTES:**

1. ALL CONSTRUCTION SHALL COMPLY WITH PARKER WATER AND SANITATION DISTRICT SPECIFICATIONS.
2. THE CONTRACTOR SHALL CONTACT ALL APPROPRIATE UTILITY COMPANIES AND THE TOWN OF PARKER PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ANY EXISTING UTILITY (INCLUDING DEPTHS) WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION. ALL EXISTING UTILITIES SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR. DAMAGED UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
3. ALL ITEMS SHOWN ON THE PLANS AS EXISTING ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE ACTUAL LOCATIONS MAY VARY FROM THE PLANS, ESPECIALLY IN THE CASE OF UNDERGROUND UTILITIES. WHENEVER CONTRACTOR DISCOVERS A DISCREPANCY IN LOCATIONS, HE SHALL CONTACT THE ENGINEER IMMEDIATELY.
4. THE DISTRICT ENGINEER AND OTHER APPROVING AGENCIES ARE TO BE NOTIFIED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR SHALL OBTAIN, AT HIS EXPENSE, ALL PERMITS THAT ARE NECESSARY TO PERFORM THE PROPOSED WORK.
6. ALL CONCRETE SHALL BE A MINIMUM OF CLASS A, 6 SACK, TYPE II, 3000-POUND COMPRESSION STRENGTH.
7. THE DESIGN ENGINEER SHALL SUBMIT ONE (1) SET OF ROLLED "AS-BUILT" BLUELINE PRINTS AND ELECTRONIC FILES TO THE DISTRICT ENGINEER FOR APPROVAL PRIOR TO PRINTING MYLAR SEPIAS FOR THE DISTRICT. AFTER APPROVAL HAS BEEN GRANTED BY THE DISTRICT ENGINEER, FULL SIZE MYLAR SEPIA PRINTS SHALL BE TRANSMITTED TO THE PARKER WATER AND SANITATION DISTRICT OFFICE.
8. ALL BACKFILL MATERIAL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY. COMPACTION TESTS MUST BE SUBMITTED TO DISTRICT ENGINEER PRIOR TO PROBATIONARY ACCEPTANCE.
9. TRENCHES SHALL BE EXCAVATED AND THE PIPE EXPOSED FOR THE INSPECTION AT ANY LOCATION ON THE PROJECT IF SO ORDERED BY THE INSPECTOR.
10. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE PROPER FUNCTIONING OF LINES (WATER AND SEWER) FOR UP TO TWO (2) YEARS FROM THE DATE OF PROBATIONARY ACCEPTANCE OF THE LINES BY THE DISTRICT. ANY MALFUNCTION DURING THIS PERIOD OF GUARANTEE SHALL BE REMEDIED BY THE CONTRACTOR TO THE SATISFACTION OF THE DISTRICT ENGINEER AT NO EXPENSE TO THE DISTRICT.
11. SURFACE GRADES ARE TO BE WITHIN PLUS OR MINUS ONE FOOT OF FINISHED GRADE AND VERIFICATION OF COMPACTION RESULTS OBTAINED PRIOR TO THE INSTALLATION OF WATER AND SEWER LINES. RESULTS MUST BE SUBMITTED TO THE DISTRICT ENGINEER.
12. NO WORK SHALL BE BACKFILLED UNTIL THE CONSTRUCTION HAS BEEN INSPECTED AND APPROVED FOR BACKFILLING BY THE DISTRICT ENGINEER OR REPRESENTATIVE OF THE DISTRICT ENGINEER.
13. ALL SERVICES WILL BE PERMANENTLY MARKED ON CURB FACE AS FOLLOWS: "X" FOR SANITARY SERVICE SEWERS "V" FOR WATER SERVICES
14. NO TREES SHALL BE ALLOWED IN EASEMENTS OR WITHIN 8' OF ANY WATER OR SANITARY SEWER MAINS IN RIGHT OF WAY.
15. THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES ONE (1) SIGNED COPY OF THE PLANS WHICH HAVE BEEN APPROVED BY THE PARKER WATER AND SANITATION DISTRICT AND THE DISTRICT ENGINEER AND ONE (1) COPY OF THE LATEST PARKER WATER AND SANITATION DISTRICT SPECIFICATION MANUAL.

**WATER MAIN NOTES:**

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PARKER WATER AND SANITATION DISTRICT ENGINEERING STANDARDS AND SPECIFICATIONS, LATEST REVISIONS. ALL WORK SHALL BE INSPECTED AND APPROVED BY PERSONNEL OF THE PARKER WATER SANITATION DISTRICT AND THE DISTRICT ENGINEER.
2. ALL WATER MAINS SHALL BE PER PWS MATERIALS SPECIFICATIONS.
3. ALL BENDS, PLUGS, REDUCERS, AND FIRE HYDRANTS TO BE RODDED OR MEGA-LUGGED. ALL FITTINGS SHALL BE WRAPPED WITH 8-MIL MINIMUM THICKNESS POLYETHYLENE MATERIAL PER PWS MATERIALS SPECIFICATIONS.
4. THERE SHALL BE A MINIMUM COVER OF 4.5 FEET OVER ALL WATER MAINS.
5. FIRE HYDRANTS SHALL CONFORM TO AWWA C-502 "DRY BARREL FIRE HYDRANTS" PIPE HYDRANT ASSEMBLIES SHALL INCLUDE ALL PIPE, FITTINGS, VALVES, MATERIALS, AND LABOR WHICH ARE NECESSARY TO INSTALL THE HYDRANT COMPLETE IN PLACE. SEE MATERIALS SPECIFICATIONS FOR APPROVED MODELS.
6. ALL BENDS, TEES, FIRE HYDRANTS, BLOW-OFFS AND PLUGS AT DEAD END MAINS SHALL BE PROTECTED FROM THRUST BY USING CONCRETE THRUST BLOCKS.
7. PRECAUTIONS SHALL BE TAKEN TO PROTECT THE INTERIOR OF PIPES, FITTINGS, AND VALVES AGAINST CONTAMINATION. ALL OPENINGS IN THE PIPELINE SHALL BE CLOSED WITH WATERTIGHT PLUGS WHEN PIPE LAYING IS STOPPED AT THE CLOSE OF THE DAY'S WORK OR FOR OTHER REASONS, SUCH AS REST BREAKS OR MEAL PERIODS. THE MORE CLOSELY THE RATE OF DELIVERY IS CORRELATED TO THE RATE OF PIPE LAYING, THE LOWER THE RISK OF CONTAMINATION.
8. CHLORINATION AND FLUSHING: ALL WATER MAINS SHALL BE INSTALLED AND CHLORINATED PER PARKER WATER AND SANITATION STANDARDS AND SPECIFICATIONS. THE LINES SHALL BE CHLORINATED IN ACCORDANCE WITH ANSI/AWWA C-651-92., "DISINFECTING WATER MAINS." PARKER WATER AND SANITATION DISTRICT REQUIRES THE INITIAL DOSAGE RATE OF DISINFECTION BE AT LEAST 50 MG PER LITER. CHLORINE TABLETS SHOULD BE ADHERED TO THE TOP OF THE PIPE SECTION WITH PERMATEX NO.1 (RED). THE CHLORINATION OF ANY FINISHED PIPELINE SHALL BE DONE PRIOR TO THE HYDROSTATIC TESTING.
9. HYDROSTATIC TESTING: ALL WATER MAINS SHALL BE TESTED PER THE REQUIREMENTS OF THE PARKER WATER AND SANITATION DISTRICT STANDARDS AND SPECIFICATIONS. ALL PIPE SHALL BE FIELD PRESSURE TESTED TO A MINIMUM OF 150 PSI. ALL TESTING SHALL BE DONE IN THE PRESENCE OF A PARKER WATER AND SANITATION DISTRICT INSPECTOR. LEAKAGE FOR EACH SECTION OF PIPE BETWEEN LINES VALVES SHALL NOT EXCEED THE LIMITS SET FORTH IN THE PARKER WATER AND SANITATION DISTRICT STANDARDS AND SPECIFICATIONS.
10. VALVES IN STREETS ARE TO BE LOCATED AT PROPERTY LINE EXTENSIONS EXCEPT FOR TAPPING TEES WHERE AN ADDITIONAL VALVES SHALL BE PLACED ON THE TAPPING TEE. OTHER VALVE LOCATIONS, SUCH AS WHERE CROSS PANS EXIST, ARE SHOWN ON THE PLANS.
11. WHEN NECESSARY TO LOWER OR RAISE WATER LINES AT STORM DRAINS AND OTHER UTILITY CROSSING, A MINIMUM CLEARANCE OF 1.50 FEET SHALL BE MAINTAINED BETWEEN OUTSIDE OF PIPES.
12. THE CONTRACTOR SHALL NOTIFY THE PARKER WATER AND SANITATION DISTRICT AND THE DISTRICT ENGINEER AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION. IF WORK IS SUSPENDED FOR ANY PERIOD OF TIME AFTER INITIAL START-UP, THE CONTRACTOR MUST NOTIFY THE DISTRICT ENGINEER 48 HOURS PRIOR TO RE-START.
13. PIPE BEDDING SHALL BE A CLEAN, WELL-GRADED SAND OR SQUEEGEE SAND IN ACCORDANCE WITH PARKER WATER AND SANITATION DISTRICT STANDARDS AND SPECIFICATIONS, LATEST REVISION.
14. THE CONTRACTOR SHALL NOTIFY THE PUBLIC UTILITY COMPANIES AND DETERMINE THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO PROCEEDING WITH THE EXCAVATION. ALL WORK PERFORMED IN THE AREA OF THE PUBLIC UTILITIES SHALL BE PERFORMED ACCORDING TO THE REQUIREMENTS OF THESE AGENCIES.
15. COMPACTION OF ALL TRENCHES MUST BE ATTAINED IN ACCORDANCE WITH THE SOILS REPORTS AND COMPACTION TEST RESULTS SUBMITTED TO THE DISTRICT ENGINEER PRIOR TO PROBATIONARY ACCEPTANCE.
16. VALVE BOXES: TYLER SCREW-TYPE 6 INCHES CAST IRON VALVE BOX ASSEMBLY SERIES 6860 WITH NO. 160 OVAL BASE. CLAY AND BAILEY SCREW-TYPE 6 INCH CAST IRON VALVE BOX ASSEMBLY NO. P-108 WITH NO. 106 LARGE OVAL BASE.
17. ALL PIPE LENGTHS ARE APPROXIMATE.
18. AT LEAST FIVE (5) DAYS PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING WILL BE HELD AT THE OFFICE OF THE DISTRICT ENGINEER AND ATTENDED BY THE CONTRACTOR AND REPRESENTATIVE OF OTHER APPROVING AGENCIES. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE DISTRICT ENGINEER.

**SANITARY SEWER NOTES:**

1. ALL SANITARY SEWER CONSTRUCTION SHALL CONFORM TO THE PARKER WATER AND SANITATION DISTRICT SPECIFICATION.
2. ALL SEWER MAINS SHALL BE PVC, ASTM D-3034, SDR 35 OR APPROVED EQUAL. ALL SEWER MAIN SIZE IS 8" IN DIAMETER UNLESS OTHERWISE NOTED.
3. SEWER LINES SHALL BE INSTALLED 5.0 FEET SOUTH OR WEST OF STREET CENTERLINE, UNLESS OTHERWISE SHOWN ON PLANS. SEWER LINES SHALL BE 10.00 FEET FROM WATER LINES EXCEPT WHEN CROSSING EACH OTHER. SEWER LINES WHICH CROSS LESS THAN 1.50 FEET VERTICALLY FROM THE WATER MAIN SHALL BE ENCASED IN CONCRETE AS PER PARKER WATER AND SANITATION DISTRICT STANDARD AND SPECIFICATIONS. USE RUBBER GASKETS FOR PVC ENCASEMENT.
4. SEWER RIM ELEVATIONS SHOWN ARE APPROPRIATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATIONS. RING AND COVER SHALL BE SET IN CENTERED CONCRETE RINGS WITH RAM-NECK FOR ADJUSTMENT TO MATCH FINAL PAVEMENT ELEVATIONS.
5. THE CONTRACTOR AND SURVEY CREW SHALL VERIFY ELEVATIONS OF EXISTING SEWER LINES AND MANHOLES TO BE TIED TO PRIOR TO CONSTRUCTION OR STAKING OF SANITARY SEWER.
6. NO UNDERDRAIN SYSTEM WILL BE ALLOWED TO BE PLACED IN MAINLINE OR SEWER SERVICE TRENCHES.
7. SEWER SERVICE TEES FOR EACH UNIT SHALL BE STAKED BY A SURVEY CREW AND FURNISHED AND INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL FURNISH TO THE ENGINEER "AS CONSTRUCTED" LOCATION OF TEES. SEWER WYES SHALL BE USED RATHER THAN TEES.
8. ALL MANHOLES SHALL BE 48-INCHES IN DIAMETER WITH 24-INCH RING AND COVER, ECCENTRIC CONE UNLESS OTHERWISE SPECIFIED.
9. PIPE BEDDING SHALL BE CLASS "B" AND SHALL CONFORM TO ASTM C-33 OR D-448 GRADATION NO. 6 OR NO. 67.
10. AT LEAST FIVE (5) DAYS PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING WILL BE HELD AT THE OFFICE OF THE DISTRICT ENGINEER AND ATTENDED BY THE CONTRACTOR AND REPRESENTATIVES OF THE OTHER APPROVING AGENCIES. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE DISTRICT ENGINEER TO SCHEDULE THIS MEETING.
11. ALL PIPE LENGTHS ARE APPROXIMATE.
12. THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES ONE (1) SIGNED COPY OF THE PLANS WHICH HAVE BEEN APPROVED BY THE PARKER WATER AND SANITATION DISTRICT AND THE DISTRICT ENGINEER AND ONE (1) COPY OF THE LATEST PARKER WATER AND SANITATION DISTRICT SPECIFICATION MANUAL.
13. ALL MANHOLES SHALL HAVE SHAPED INVERTS.
14. ALL SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH THE PARKER WATER AND SANITATION DISTRICT STANDARDS AND SPECIFICATIONS PRIOR TO ACCEPTANCE OR ANY CONNECTION TO AN EXISTING SEWER LINE.
15. PRIOR TO START WORK WHERE SEWER MAIN TO BE INSTALLED INTO EXISTING DISTRICT SEWER SYSTEMS. THE NEAREST MANHOLE TO THE POINT OF TIE-IN SHALL BE PLUGGED WITH A PLUMBER'S PLUG ON THE INLET SIDE BY THE CONTRACTOR. THIS PLUG SHALL REMAIN IN PLACE UNTIL FINAL ACCEPTANCE BY THE DISTRICT. ITS PURPOSE SHALL BE TO PREVENT ANY MUD, WATER OR OTHER MATERIALS FROM ENTERING THE LINE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PUMPING AND CLEANING THESE MANHOLES AND REMOVING THE PLUG WHEN SO INSTRUCTED BY THE DISTRICT.
16. PRIOR TO PROBATIONARY ACCEPTANCE WALK-THROUGH, THE CLIENT SHALL JET CLEAN THE ENTIRE SANITARY SEWER SYSTEM AND PUMP OUT AT THE PLUGGED MANHOLE.

**DISTRICT ACCEPTANCE NOTES:**

1. UPON COMPLETION OF SANITARY SEWER AND WATER CONSTRUCTION AND TESTING, THE DEVELOPER OR CONTRACTOR SHALL CONTACT THE DISTRICT FOR PROBATIONARY ACCEPTANCE INSPECTION. A PUNCHLIST WILL BE PROVIDED THE DEVELOPER AND CONTRACTOR UPON COMPLETION OF THE INITIAL WALK-THRU AND PROBATIONARY ACCEPTANCE WILL BE ISSUED FOLLOWING COMPLETION AND ACCEPTANCE OF THE WORK OUTLINED IN THE PUNCHLIST.
2. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE PROPER FUNCTIONING OF THE LINES FOR UP TO TWO (2) YEARS FROM THE DATE OF PROBATIONARY ACCEPTANCE OF THE LINES BY THE DISTRICT. ANY MALFUNCTION DURING THIS PERIOD OF GUARANTEE SHALL BE REMEDIED BY THE CONTRACTOR TO THE SATISFACTION OF THE DISTRICT ENGINEER AT NO EXPENSE TO THE DISTRICT.
3. THE DATE OF FINAL ACCEPTANCE WILL BE INDICATED IN THE CONDITIONS OF THE PROBATIONARY ACCEPTANCE LETTER. THE DEVELOPER SHALL BE RESPONSIBLE FOR CONTACTING THE DISTRICT FOR FINAL INSPECTION AND FINAL ACCEPTANCE.

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CALL 811  
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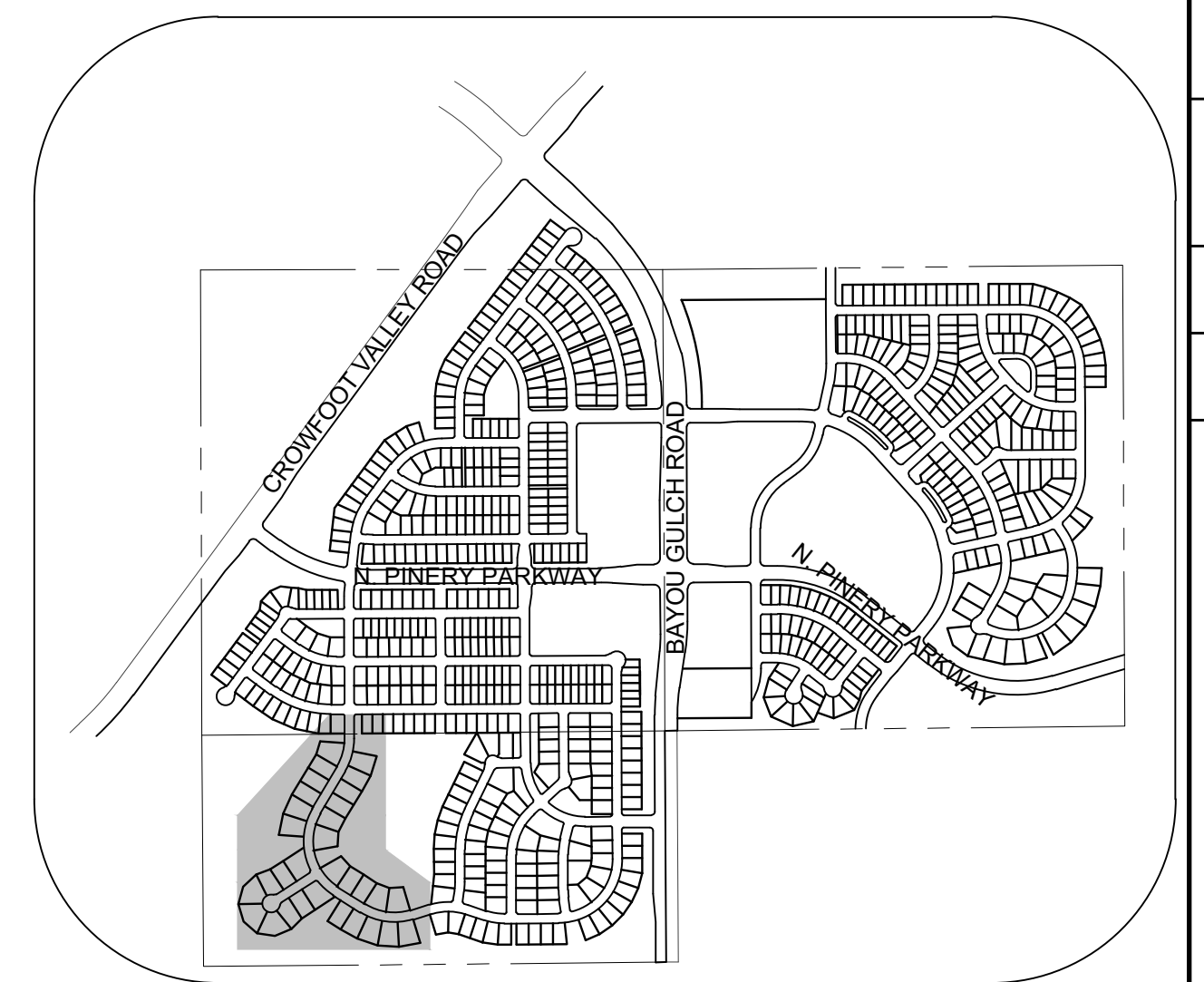
**BENCHMARK**  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

**BASIS OF BEARINGS:**  
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

PREPARED UNDER THE SUPERVISION OF  
  
BRIAN P. WILSON  
COLORADO P.E. 0050067

SHEET NUMBER	DRAWN BY: KJD	CHECKED BY: BFW	DATE: MAY 2020	SCALE:	AS SHOWN	FILE NO:	8130283701
				TRAILS AT CROWFOOT FILING 8 CONSTRUCTION DRAWINGS PARKER WATER AND SANITATION NOTES			
HR 95 LLC 7353 South Alton Way CENTENNIAL, CO 80112				 10335 E. Dry Creek Rd. Suite 240 Englewood, CO 80112 Tel: (720) 482-9526 Fax: (720) 482-9546			
No.	Revisions	Date	Init.	Appr.	Date		





### KEYMAP N.T.S. LEGEND

	2 BLOCK NUMBER		PROPOSED RANGE POINT
	(A) LOT TYPE		CENTERLINE
	6 LOT NUMBER		RIGHT-OF-WAY
	PROPOSED BUTTERFLY VALVE		PROPERTY LINE
	PROPOSED CAP WITH END OF LINE BLOWOFF		EDGE OF PAVEMENT
	PROPOSED REDUCER		PROPOSED DIRECTION OF FLOW
	PROPOSED VALVE		PROPOSED SLOPE & DIRECTION
	PROPOSED FIRE HYDRANT	1.0%	PROPOSED SLOPE & DIRECTION
	PROPOSED WL FITTING WITH THRUST BLOCK	-5615	EXISTING 5' CONTOUR
	PROPOSED FLARED END SECTION	-5616	EXISTING 1' CONTOUR
	PROPOSED LOW POINT BLOW-OFF	-5620	PROPOSED 5' CONTOUR
	PROPOSED AIR VALVE	-5607	PROPOSED 1' CONTOUR
	FUTURE PHASE VALVE		PROPOSED STORM DRAIN
	FUTURE FIRE HYDRANT		PROPOSED SEWER LINE WITH MANHOLE
	PROPOSED LIGHT POLE		PROPOSED SEWER LATERAL
	PROPOSED SIDEWALK	8"	PROPOSED WATER LINE
	PROPOSED SIDEWALK RAMP		PROPOSED WATER LATERAL W/ METER
10.00	EXISTING ELEVATION	- - -	SECTION LINE
10.00	PROPOSED DESIGN ELEVATION	---	FILING BOUNDARY
	PROPOSED STORM DRAIN INLET	FO	EXISTING FIBER OPTIC LINE
	PROPOSED STORM DRAIN MANHOLE	OH	EXISTING OVERHEAD POWER
		TEL	EXISTING TELEPHONE LINE

### ABBREVIATIONS

AD	ANGLE DIFFERENCE	MH	MANHOLE
AV	AIR VAC RELEASE VALVE	N.T.S.	NOT TO SCALE
BVC	BEGIN VERTICAL CURVE	PVC	POLYVINYL CHLORIDE
BVP	BEGIN VERTICAL PROFILE	PVI	PT. OF VERTICAL INTERSECTION
CBO	CAP WITH BLOW OFF	PVT	POINT OF VERTICAL TANGENT
CRR	CURB RETURN RADIUS	RCBC	REINFORCED CONCRETE BOX CULVERT
EL	ELEVATION	RCP	REINFORCED CONCRETE PIPE
EP	EDGE OF PAVEMENT	ROW	RIGHT OF WAY
EVC	END VERTICAL CURVE	SC	SANITARY CAP
EVP	END VERTICAL PROFILE	SD	STORM DRAIN
FG	FINISHED GROUND	SL	SECTION LINE
FH	FIRE HYDRANT	SS	SANITARY SEWER
FL	FLOW LINE	STA	STATION
GV	GATE VALVE	T.O.P.	TOP OF PIPE
HCR	HANDICAP CURB RAMP	UE	UTILITY EASEMENT
HP	HIGH POINT	VC	VERTICAL CURVE
INV	INVERT	WL	WATER LINE
K	CURVATURE COEFFICIENT	WLC	WATER LINE CONNECTION
LF	LINEAR FEET	WSE	WATER SURFACE ELEVATION

### SANITARY SERVICE TABLE

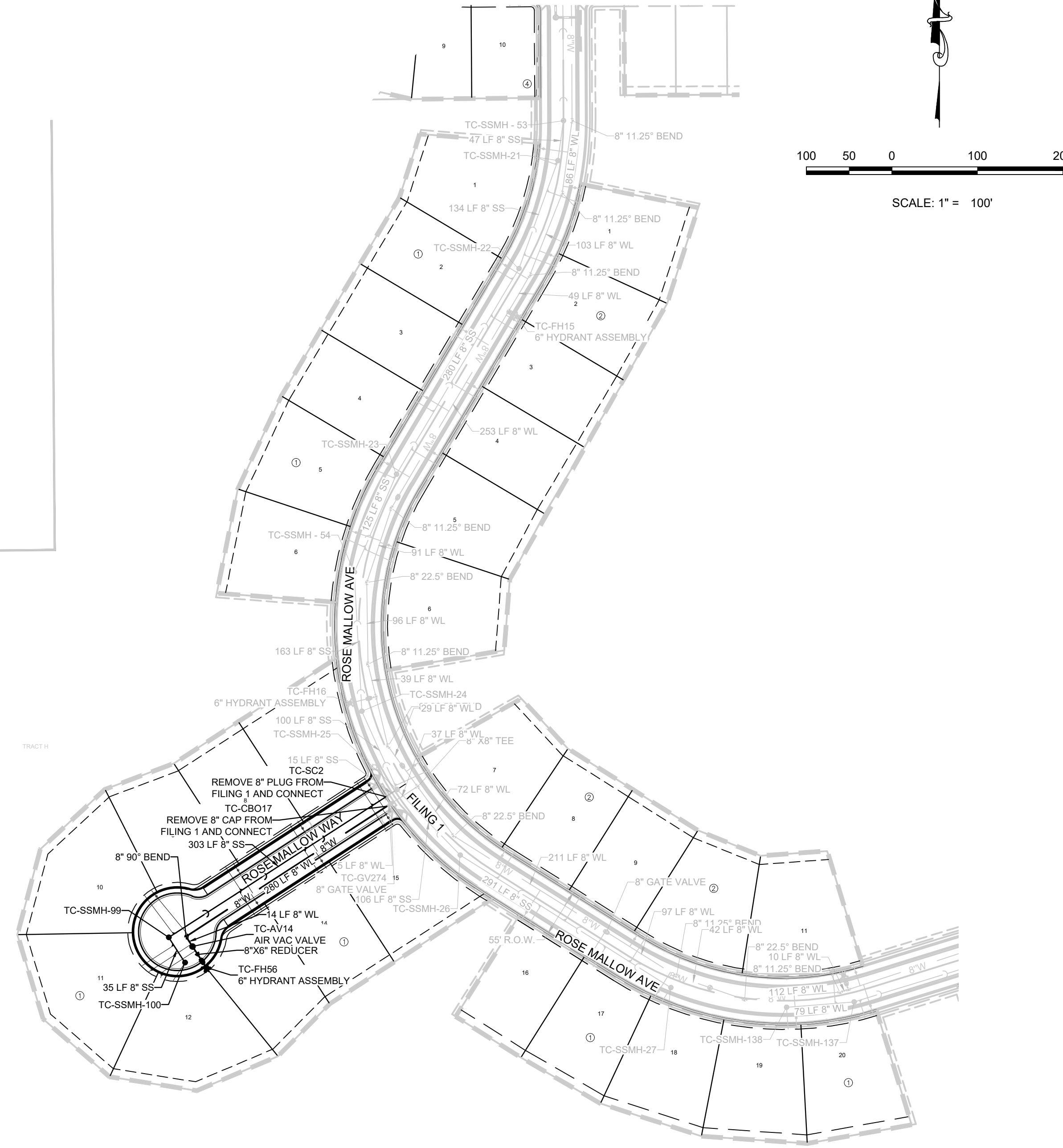
FILING, LOT, BLOCK	STREET	STATIONING
F8,B1,L1	ROSE MALLOW AVE	19+88.81
F8,B1,L2	ROSE MALLOW AVE	21+35.68
F8,B1,L3	ROSE MALLOW AVE	22+25.68
F8,B1,L4	ROSE MALLOW AVE	23+15.68
F8,B1,L5	ROSE MALLOW AVE	24+05.62
F8,B1,L6	ROSE MALLOW AVE	24+92.62
F8,B1,L7	ROSE MALLOW WAY	12+83.43
F8,B1,L8	ROSE MALLOW WAY	11+90.65
F8,B1,L9	ROSE MALLOW WAY	11+00.65
F8,B1,L10	ROSE MALLOW WAY	10+07.00
F8,B1,L11	ROSE MALLOW WAY	9+89.14
F8,B1,L12	ROSE MALLOW WAY	9+65.00
F8,B1,L13	ROSE MALLOW WAY	10+98.65
F8,B1,L14	ROSE MALLOW WAY	11+88.65
F8,B1,L15	ROSE MALLOW WAY	12+81.43
F8,B1,L16	ROSE MALLOW AVE	29+93.58
F8,B1,L17	ROSE MALLOW AVE	30+83.58
F8,B1,L18	ROSE MALLOW AVE	31+71.90
F8,B1,L19	ROSE MALLOW AVE	33+06.43
F8,B1,L20	ROSE MALLOW AVE	33+90.10
F8,B2,L1	ROSE MALLOW AVE	20+22.09
F8,B2,L2	ROSE MALLOW AVE	21+03.57
F8,B2,L3	ROSE MALLOW AVE	21+85.16
F8,B2,L4	ROSE MALLOW AVE	22+76.16
F8,B2,L5	ROSE MALLOW AVE	23+66.87
F8,B2,L6	ROSE MALLOW AVE	24+94.56
F8,B2,L7	ROSE MALLOW AVE	27+74.71
F8,B2,L8	ROSE MALLOW AVE	29+34.24
F8,B2,L9	ROSE MALLOW AVE	30+27.18
F8,B2,L10	ROSE MALLOW AVE	31+17.11
F8,B2,L11	ROSE MALLOW AVE	33+62.25

### WATER SERVICE TABLE

FILING, LOT, BLOCK	STREET	STATIONING
* F8, B1, L1	ROSE MALLOW AVE	19+72.71
* F8, B1, L2	ROSE MALLOW AVE	21+25.68
* F8, B1, L3	ROSE MALLOW AVE	22+15.68
* F8, B1, L4	ROSE MALLOW AVE	23+05.68
* F8, B1, L5	ROSE MALLOW AVE	23+95.68
* F8, B1, L6	ROSE MALLOW AVE	24+79.97
* F8, B1, L16	ROSE MALLOW AVE	29+83.58
* F8, B1, L17	ROSE MALLOW AVE	30+73.58
* F8, B1, L18	ROSE MALLOW AVE	31+64.55
* F8, B1, L19	ROSE MALLOW AVE	33+15.73
* F8, B1, L20	ROSE MALLOW AVE	33+99.31
* F8, B2, L1	ROSE MALLOW AVE	20+12.19
* F8, B2, L2	ROSE MALLOW AVE	20+91.06
* F8, B2, L3	ROSE MALLOW AVE	21+75.16
* F8, B2, L4	ROSE MALLOW AVE	22+66.16
* F8, B2, L5	ROSE MALLOW AVE	23+56.87
* F8, B2, L6	ROSE MALLOW AVE	24+82.03
* F8, B2, L7	ROSE MALLOW AVE	27+67.44
* F8, B2, L8	ROSE MALLOW AVE	29+24.15
* F8, B2, L9	ROSE MALLOW AVE	30+17.18
* F8, B2, L10	ROSE MALLOW AVE	31+07.18
* F8, B2, L11	ROSE MALLOW AVE	33+95.13
F8,B1,L7	ROSE MALLOW WAY	12+93.43
F8,B1,L8	ROSE MALLOW WAY	12+00.65
F8,B1,L9	ROSE MALLOW WAY	11+10.65
F8,B1,L10	ROSE MALLOW WAY	10+20.73
F8,B1,L11	ROSE MALLOW WAY	9+79.14
F8,B1,L12	ROSE MALLOW WAY	9+70.00
F8,B1,L13	ROSE MALLOW WAY	11+08.65
F8,B1,L14	ROSE MALLOW WAY	11+98.65
F8,B1,L15	ROSE MALLOW WAY	12+91.43

\* INSTALLED WITH FILING 1 IMPROVEMENTS

FUTURE  
PWSD  
WELL SITE



THE TOWN OF PARKER REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE TOWN'S STANDARDS AND APPROVED VARIANCES, SUBJECT TO THESE PLANS BEING STAMPED, SIGN, AND DATED BY THE PROFESSIONAL ENGINEER OF RECORD. REVIEW BY THE TOWN DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN OR ACCURACY AND CORRECTNESS OF ENGINEERING CALCULATIONS. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE ARE AFFIXED TO THIS DOCUMENT.

THIS REVIEW DOES NOT CONSTITUTE APPROVAL OF ANY PRIVATE ON-SITE IMPROVEMENTS WHICH MAY BE SHOWN. CONSTRUCTION CANNOT COMMENCE UNTIL ALL REQUIRED DRAINAGE/TRAFFIC REPORT(S), FINAL DEVELOPMENT PLAN(S), SPECIAL REVIEW(S), GRADING PERMIT, AND/OR OTHER PERMITS ARE COMPLETE, APPROVED AND ON FILE WITH THE TOWN OF PARKER.

TOWN OF PARKER, DIRECTOR OF ENGINEERING \_\_\_\_\_ DATE \_\_\_\_\_

PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON  
COLORADO P.E. 0050067

THE DISTRICT INSPECTOR MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION. CALL PARKER WATER AND SANITATION DISTRICT AT 303-841-4627. THE DISTRICT WILL PROVIDE PERIODIC INSPECTIONS OF THE WORK. 24 HOUR NOTICE TO THE INSPECTOR IS REQUIRED FOR SCHEDULELINE INSPECTIONS. ANY WORK ACCOMPLISHED WITHOUT THE APPROVAL OF THE INSPECTOR WILL BE SUBJECT TO REJECTION.

REVIEWED FOR CONFORMANCE TO PARKER WATER AND SANITATION DISTRICT STANDARDS.

BY: \_\_\_\_\_ DATE \_\_\_\_\_  
(DISTRICT REPRESENTATIVE)

APPROVED FOR CONSTRUCTION:  
PARKER WATER AND SANITATION DISTRICT

BY: \_\_\_\_\_ DATE \_\_\_\_\_  
(DISTRICT ENGINEER)

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO WATER UTILITY STANDARDS. THE NUMBER AND LOCATIONS OF THE FIRE HYDRANTS AS SHOWN ON THE OVERALL UTILITY PLAN ARE CORRECT AS SPECIFIED BY THE TOWN OF PARKER, COMMUNITY DEVELOPMENT DEPARTMENT.

FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE \_\_\_\_\_ DATE 05/22/2020

(NOTE - UNDERGROUND FIRE LINE (UFL) SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENT OF NFPA 24 WHEN SUBMITTING FOR REVIEW.

**BENCHMARK**  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

**BASIS OF BEARINGS:**  
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

CALL 811  
TWO WORKING DAYS  
**BEFORE YOU DIG**  
UNCC  
1-800-922-1987

10333 E. Dry Creek Rd., Suite 240, Englewood, CO 80112  
Tel: (720) 482-9526, Fax: (720) 482-9546

**CVL CONSULTANTS**

HR 995 LLC  
7353 South Alton Way, CENTENNIAL, CO 80112

TRAILS AT CROWFOOT  
FILING 8 CONSTRUCTION DRAWINGS  
AREA UTILITY PLAN

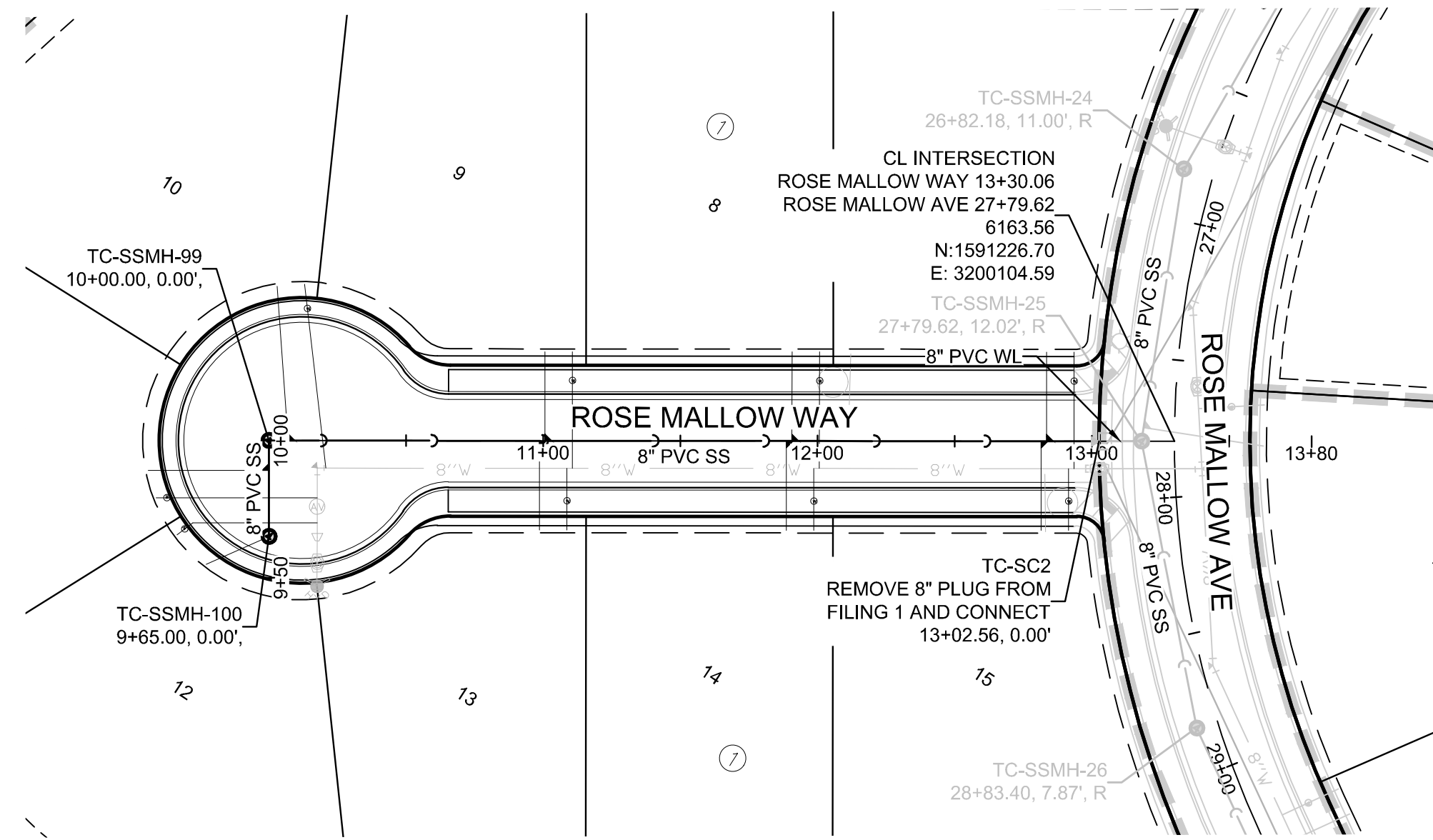
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DATE: MAY 2020

SCALE: AS SHOWN  
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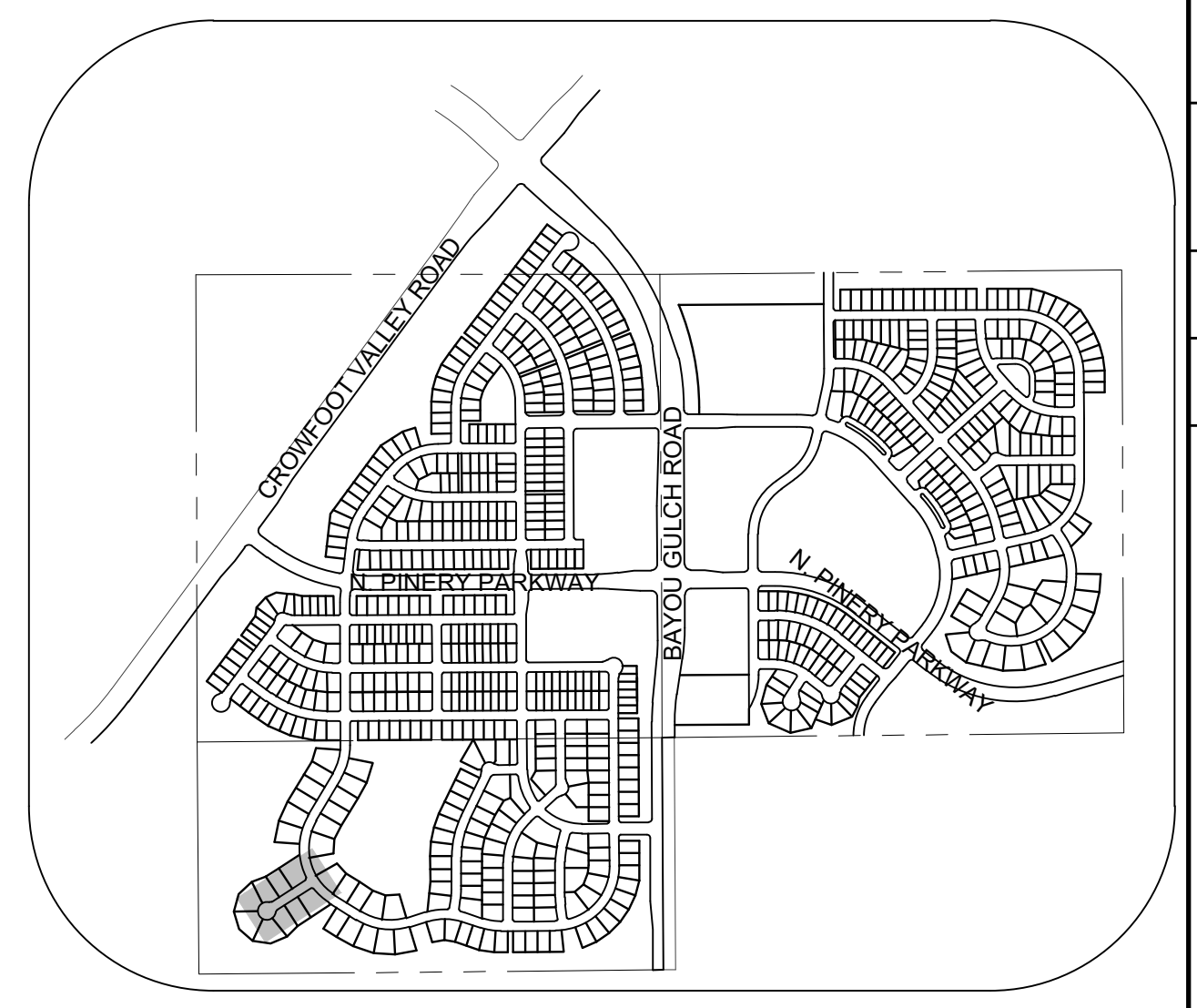
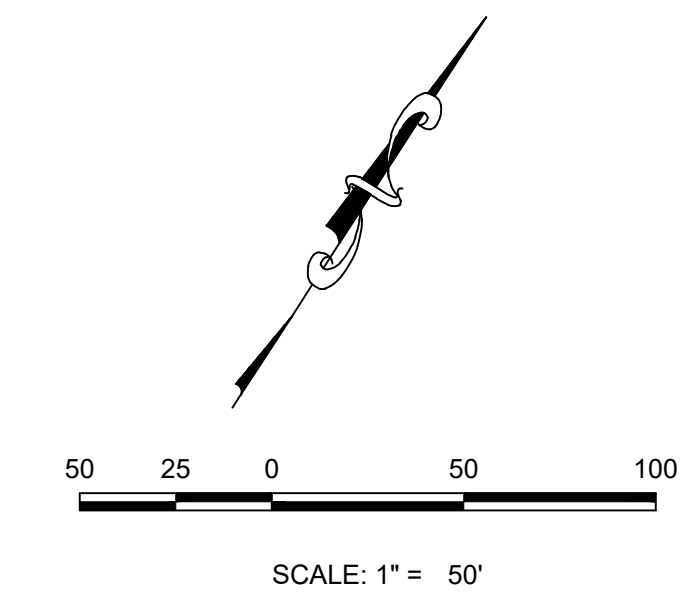
SHEET NUMBER: 3

No.	Revisions	Date	Appr.	Date



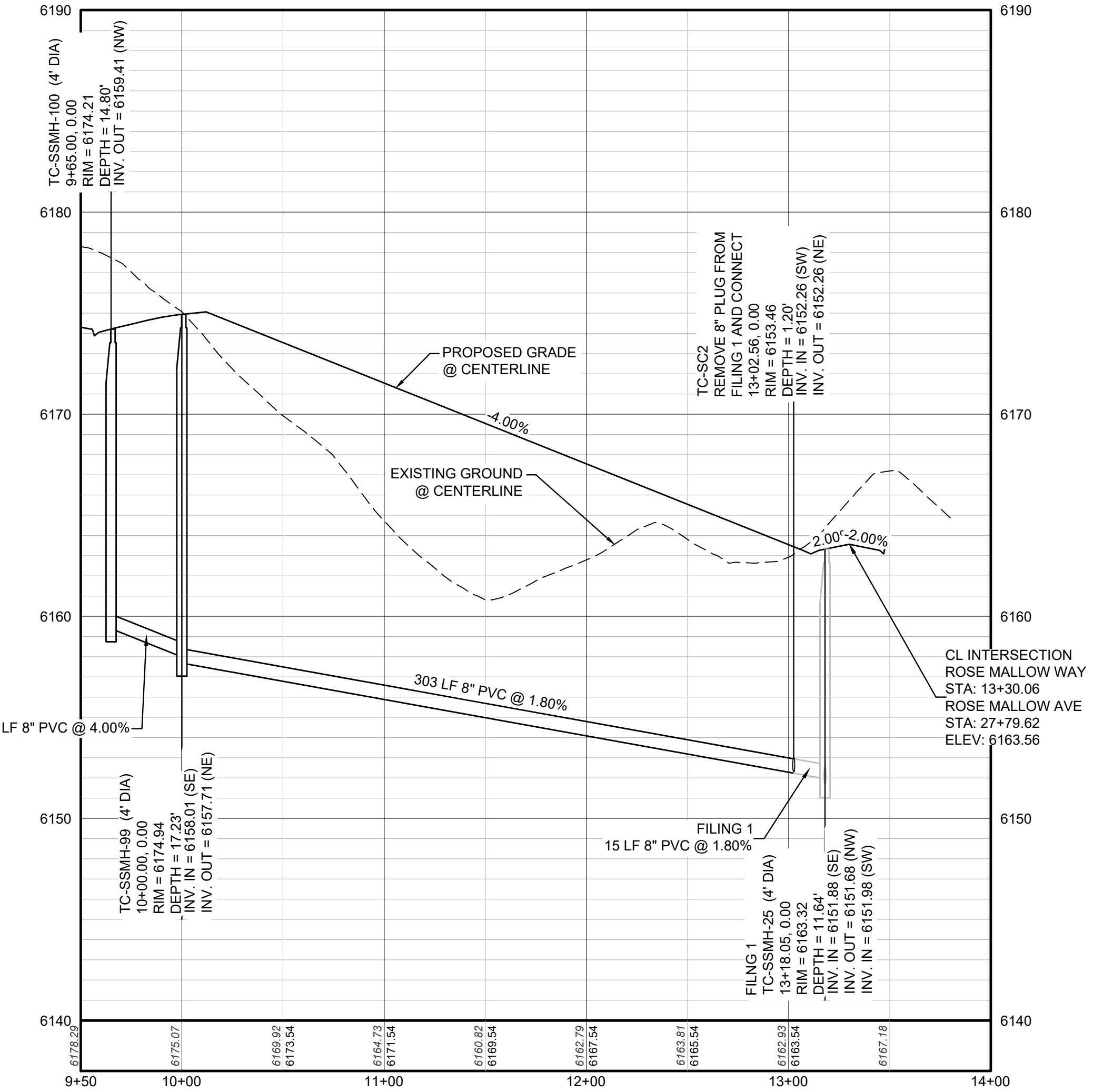


PLAN: ROSE MALLOW WAY STA: 9+50.00 TO 14+00.00  
HORIZONTAL SCALE: 1" = 50'



KEYMAP  
N.T.S.  
LEGEND

②	BLOCK NUMBER	△	PROPOSED RANGE POINT
Ⓐ	LOT TYPE	---	CENTERLINE
6	LOT NUMBER	---	RIGHT-OF-WAY
⊕	PROPOSED BUTTERFLY VALVE	---	PROPERTY LINE
⊞	PROPOSED CAP WITH END OF LINE BLOWOFF	---	EDGE OF PAVEMENT
⊞	PROPOSED REDUCER	→	PROPOSED DIRECTION OF FLOW
⊞	PROPOSED VALVE	1.0%	PROPOSED SLOPE & DIRECTION
⊞	PROPOSED FIRE HYDRANT	---	EXISTING 5' CONTOUR
⊞	PROPOSED WL FITTING WITH THRUST BLOCK	---	EXISTING 1' CONTOUR
⊞	PROPOSED FLARED END SECTION	---	PROPOSED 5' CONTOUR
⊞	PROPOSED LOW POINT BLOW-OFF	---	PROPOSED 1' CONTOUR
⊞	PROPOSED AIR VALVE	---	PROPOSED STORM DRAIN
⊞	FUTURE PHASE VALVE	---	PROPOSED SEWER LINE WITH MANHOLE
⊞	FUTURE FIRE HYDRANT	---	PROPOSED SEWER LATERAL
⊞	PROPOSED LIGHT POLE	---	PROPOSED WATER LINE
⊞	PROPOSED SIDEWALK	---	PROPOSED WATER LATERAL W/ METER
⊞	PROPOSED SIDEWALK RAMP	---	SECTION LINE
10.00	EXISTING ELEVATION	---	FILING BOUNDARY
10.00	PROPOSED DESIGN ELEVATION	---	FO
⊞	PROPOSED STORM DRAIN INLET	---	EXISTING FIBER
⊞	PROPOSED STORM DRAIN MANHOLE	---	OH
		---	EXISTING OVERHEAD POWER
		---	EXISTING TELEPHONE LINE



PROFILE: ROSE MALLOW WAY STA: 9+50.00 TO 14+00.00  
HORIZONTAL: 1" = 50'  
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ABBREVIATIONS

AD	ANGLE DIFFERENCE	MH	MANHOLE
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BENCHMARK  
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PREPARED UNDER THE SUPERVISION OF  
BRIAN P. WILSON  
COLORADO P.E. 0050067

10333 E. Dry Creek Rd., Suite 240, Englewood, CO 80112  
Tel: (720) 482-9528 Fax: (720) 482-9546

**CVL CONSULTANTS**

HR 935 LLC  
7353 South Alton Way, CENTENNIAL, CO 80112

TRAILS AT CROWFOOT  
FILING 8 CONSTRUCTION DRAWINGS  
SANITARY SEWER PLAN AND PROFILE  
ROSE MALLOW WAY

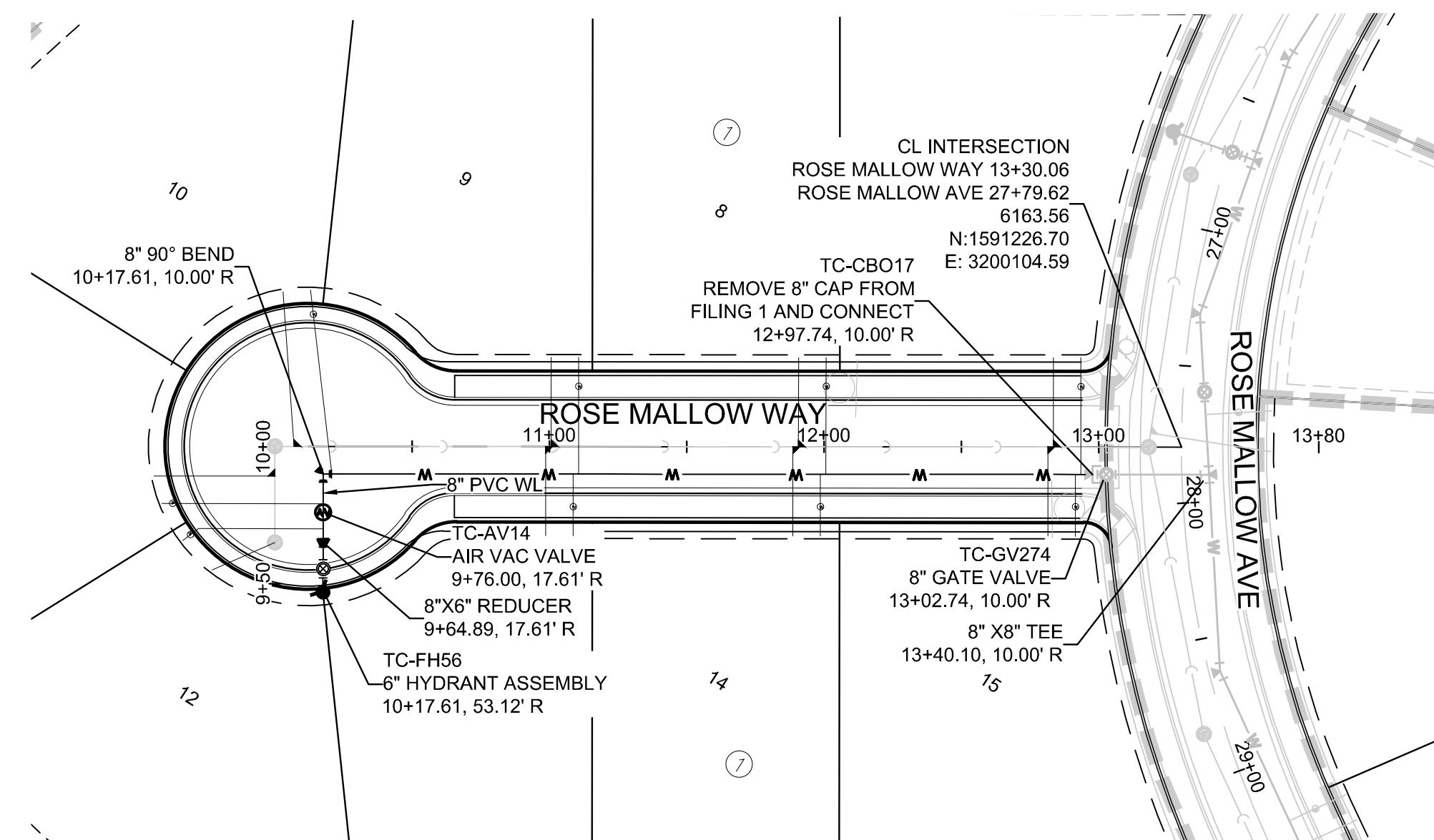
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DATE: MAY 2020

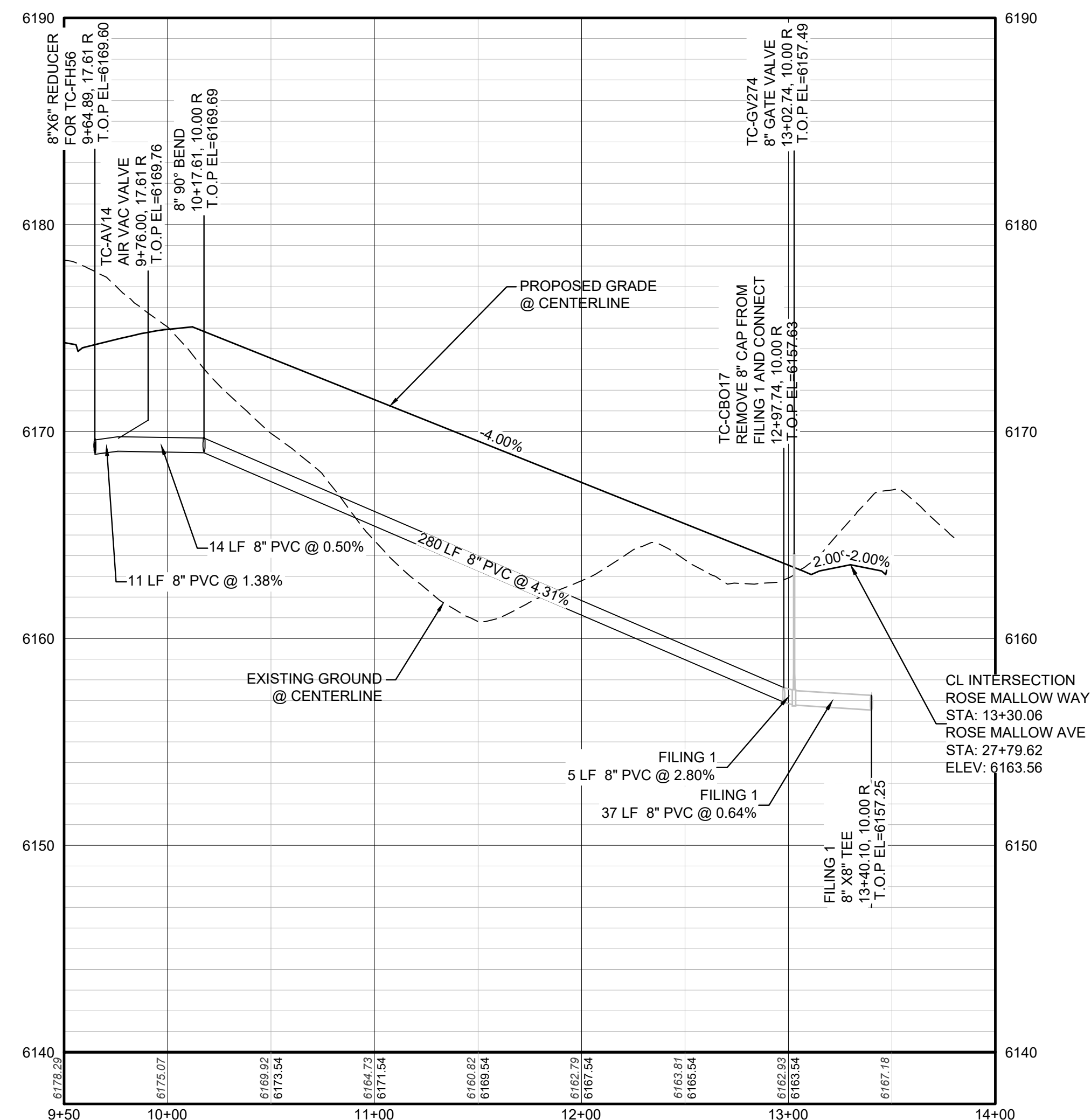
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No.	Revisions	Date	Init.	Appr.	Date

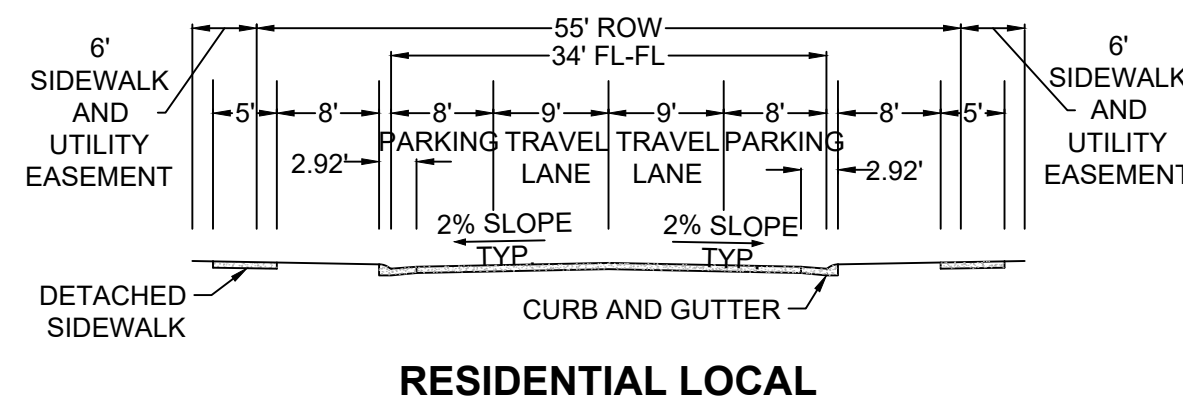




PLAN: ROSE MALLOW WAY STA: 9+50.00 TO 14+00.00  
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PROFILE: ROSE MALLOW WAY STA: 9+50.00 TO 14+00.00  
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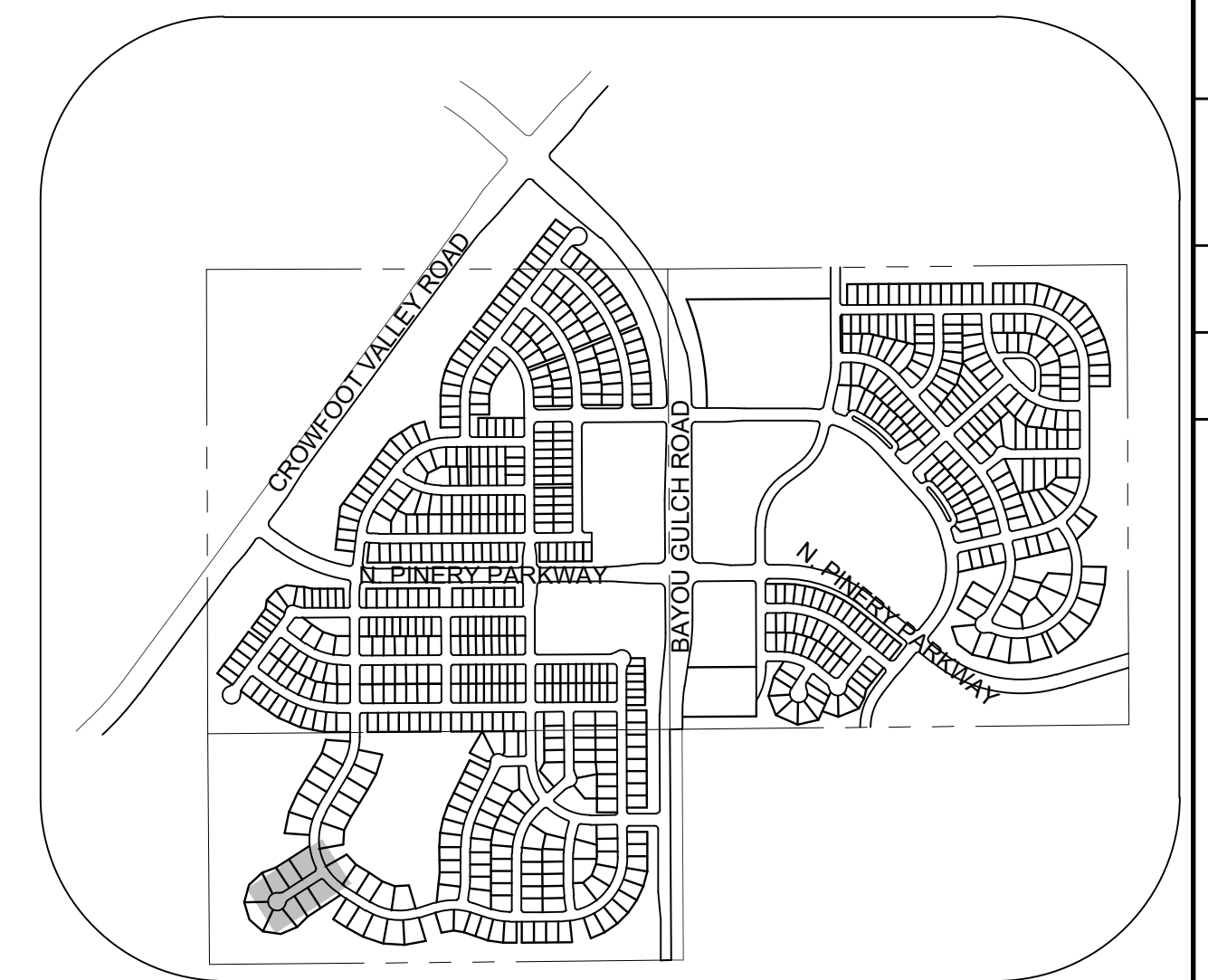


RESIDENTIAL LOCAL

**BENCHMARK**  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

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PREPARED UNDER THE SUPERVISION OF  
  
BRIAN P. WILSON  
COLORADO P.E. 0050067



KEYMAP  
N.T.S.  
LEGEND

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Ⓜ	PROPOSED LIGHT POLE	---	PROPOSED SEWER LATERAL
Ⓜ	PROPOSED SIDEWALK	---	PROPOSED WATER LINE
Ⓜ	PROPOSED SIDEWALK RAMP	---	PROPOSED WATER LATERAL W/ METER
10.00	EXISTING ELEVATION	---	SECTION LINE
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Ⓜ	PROPOSED STORM DRAIN INLET	---	EXISTING FIBER
Ⓜ	PROPOSED STORM DRAIN MANHOLE	---	EXISTING OVERHEAD POWER
		---	EXISTING TELEPHONE LINE

ABBREVIATIONS

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**CVL CONSULTANTS**

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7353 South Alton Way, CENTENNIAL, CO 80112

TRAILS AT CROWFOOT  
FILING 8 CONSTRUCTION DRAWINGS  
WATER PLAN & PROFILE  
ROSE MALLOW WAY

SCALE: AS SHOWN  
FILE NO: 8130283701

DRAWN BY: RRR  
CHECKED BY: BPW  
DATE: MAY 2020

SHEET NUMBER: 5

No. Revisions: [Table with columns for No., Date, Init., Appr., Date]

N:\PROJECTS\SSR\ENGINEERING\SSR\ROSE MALLOW WAY WATER DWG. CDDVA\_5202020\_12.01.PM

CALL 811  
TWO WORKING DAYS  
BEFORE YOU DIG  
UNCC 1-800-922-1987  
UNIVERSITY NOTIFICATION CENTER OF COLORADO



**INSPECTION POLICY:**

- ALL SERVICE INSPECTIONS MUST BE SCHEDULED WITH THE DISTRICT OFFICE AT LEAST 24 HOURS IN ADVANCE OF THE REQUESTED INSPECTION.
- IF THE CONTRACTOR IS NOT READY FOR INSPECTION WHEN THE INSPECTOR ARRIVES AT THE SITE, A RE-INSPECTION WILL HAVE TO BE SCHEDULED IN ACCORDANCE WITH NOTE 1 ABOVE AND A RE-INSPECTION FEE CHARGED.
- SHOULD THE SERVICE LINES BE DAMAGED BY LATER CONSTRUCTION, AN INSPECTION OF THE REPAIR WILL BE REQUIRED IN ACCORDANCE WITH NOTES 1 AND 2 ABOVE.
- THE CONTRACTOR SHALL LEAVE ALL PIPE AND FITTINGS EXPOSED FOR THE INSPECTOR TO OBSERVE. INSPECTORS WILL NOT ENTER ANY EXCAVATIONS TO CHECK MATERIALS. THE TOP LAYER OF BEDDING CAN BE ADDED AFTER THE INSPECTION HAS BEEN COMPLETED.
- ALL EXCAVATIONS SHALL BE IN ACCORDANCE WITH OSHA STANDARDS.
- LOTS WITHOUT BUILDING ADDRESSES OR LOT AND BLOCK NUMBERS BEFORE DISTRICT INSPECTION OR METER SET WILL FAIL AUTOMATICALLY.
- CONTRACTOR MUST BE PRESENT AT TIME OF INSPECTION UNLESS COORDINATED WITH DISTRICT INSPECTOR.

**INSTALLATION NOTES:**

- SEWER**
- ACCEPTABLE PIPE MATERIALS ARE TO BE SDR 35 PVC PIPE, ABS PIPE AND PVC SCHD 40 PIPE. APPROVED BEDDING IS TO BE SQUEEGEE.
  - NO-HUB CLAMPS SHALL BE USED TO JOIN 2 MALE PIPE ENDS WITH A MAXIMUM DEFLECTION OF 3".
  - MINIMUM GRADE SHALL BE 2%.
  - INSTALLATION SHALL INCLUDE NO MORE THAN 3 BENDS. 90° BENDS ARE NOT ALLOWED. SOLVENT WELDED PIPE WILL NOT BE ALLOWED.
  - CLEAN-OUTS SHALL BE INSTALLED AT 100' INTERVALS AND EVERY CHANGE IN DIRECTION. CLEAN-OUTS ARE NOT REQUIRED FOR SERVICES LESS THAN 100' UNLESS THERE ARE CHANGES IN DIRECTION. PROVIDE DUAL CLEAN-OUT WITHIN 5 FEET OF FOUNDATION.
  - STRESSING OF THE PIPE BETWEEN FITTINGS WILL NOT BE ALLOWED.
  - SEWER SERVICE LINE SHALL NOT BE LOCATED UNDER CONCRETE SURFACE.
  - ALL SERVICES WILL BE PERMANENTLY MARKED ON CURB FACE AS FOLLOWS:  
"X" FOR SANITARY SEWER SERVICE  
"W" FOR WATER SERVICES

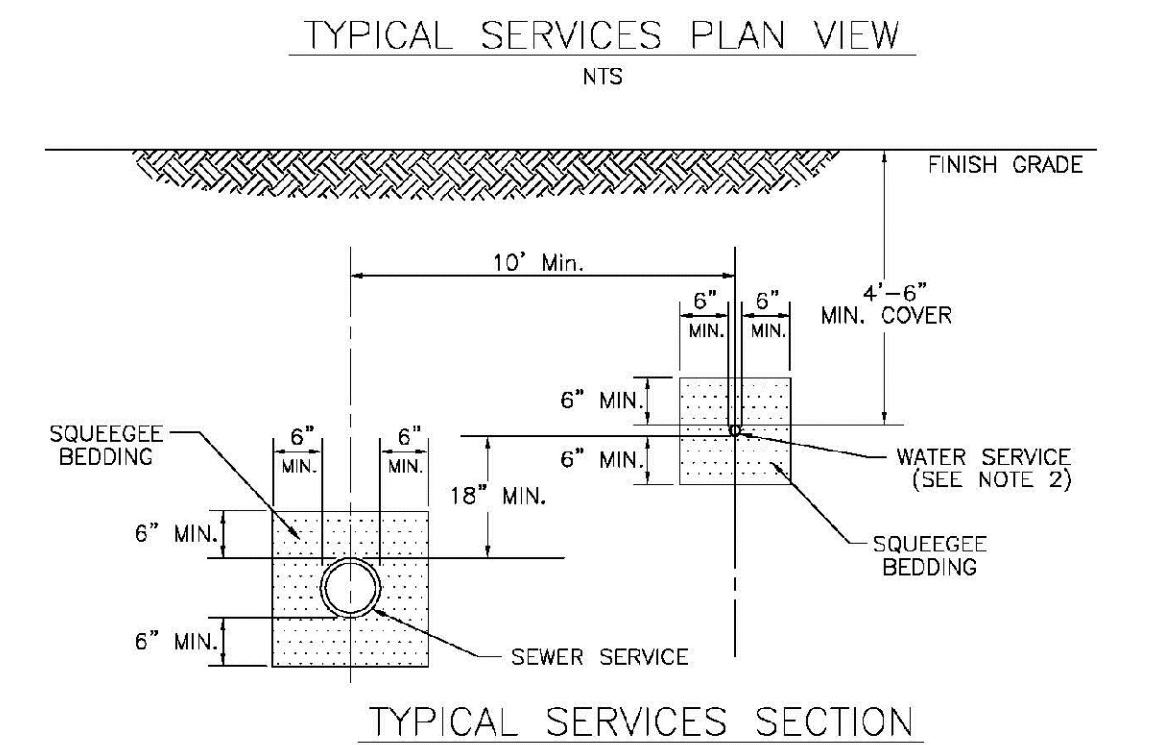
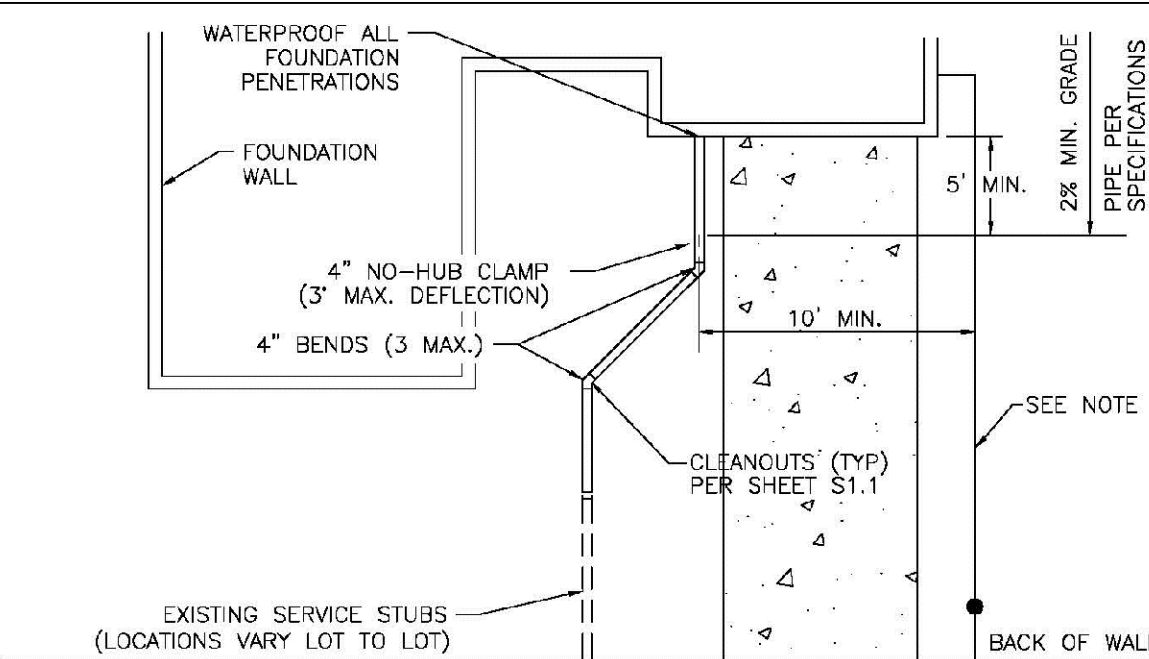
**PARKER WATER & SANITATION DISTRICT  
DISTRICT POLICIES & INSTALLATION  
NOTES FOR SEWER SERVICES**

SCALE: NONE DATE: 2/98

APPROVED: PVR 01/02 10/16  
1/08 01/16  
1/16

DIRECTOR OF ENGINEERING

SHEET S1.1



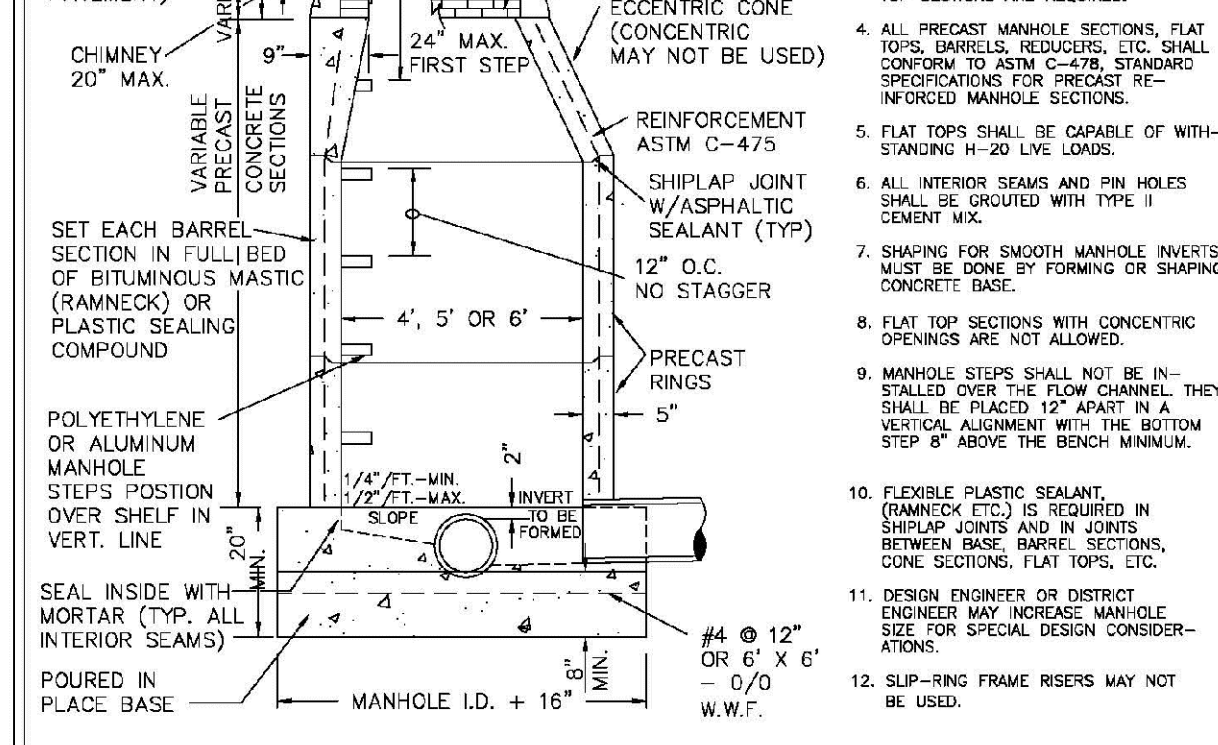
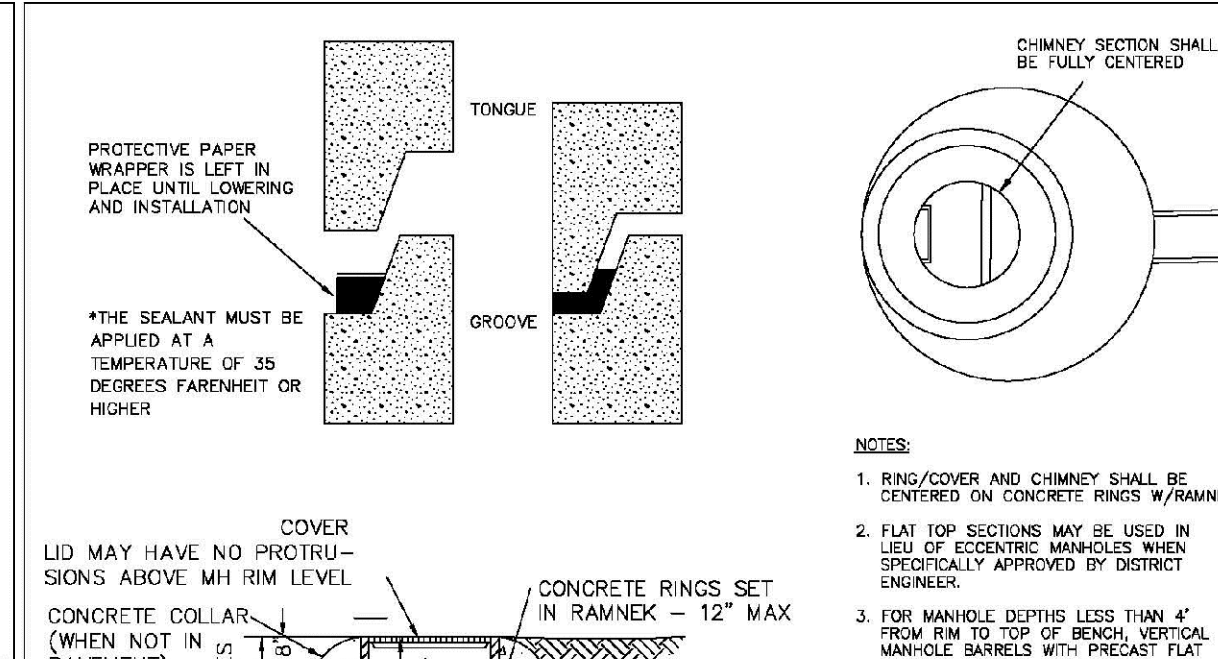
**PARKER WATER & SANITATION DISTRICT  
TYPICAL SEWER SERVICES**

SCALE: NONE DATE: 2/98

APPROVED: PVR 2/00 01/16  
01/02 01/16  
10/16

DIRECTOR OF ENGINEERING

SHEET S1.2



**PARKER WATER & SANITATION DISTRICT  
PARKER MANHOLE  
ECCENTRIC CONE**

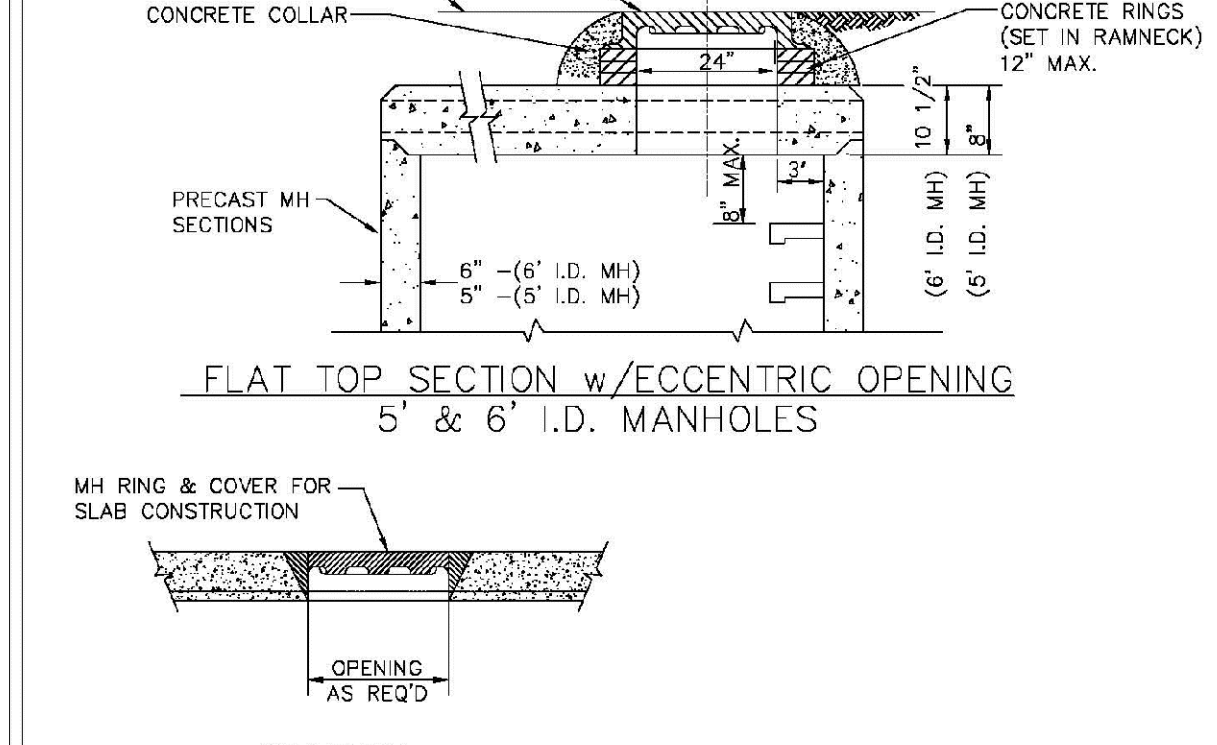
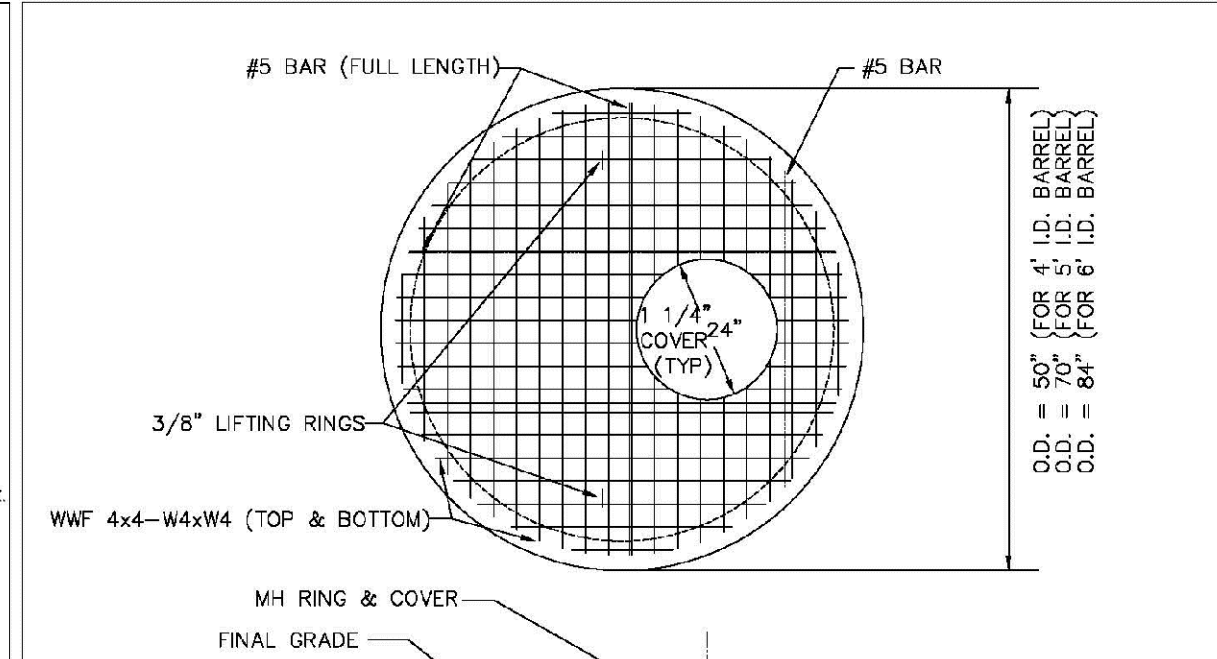
PIPE I.D.	MANHOLE I.D.
18" & SMALLER	4'-0"
21" TO 48"	5'-0"
54"	6'-0"
60" & LARGER	SPECIAL DESIGN

SCALE: NONE DATE: 2/98

APPROVED: PVR 4/01 10/16  
01/02 01/16  
1/16

DIRECTOR OF ENGINEERING

SHEET S3.1



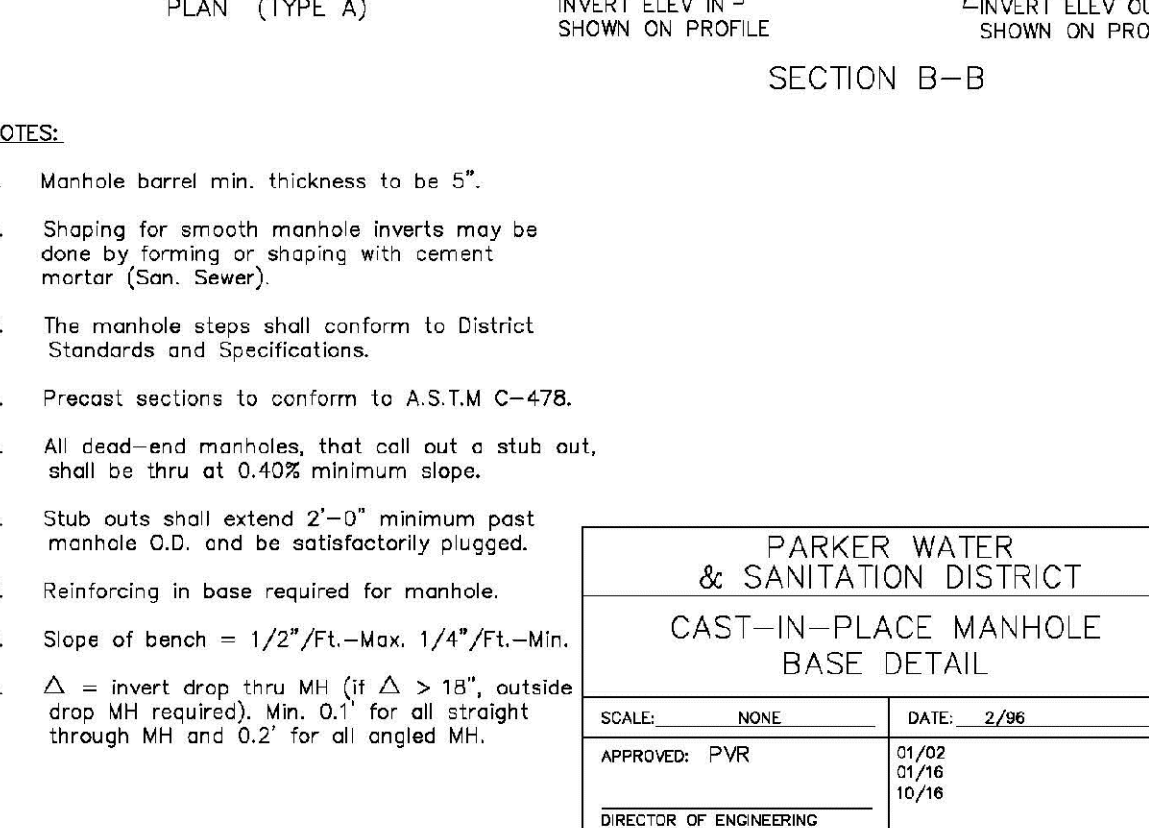
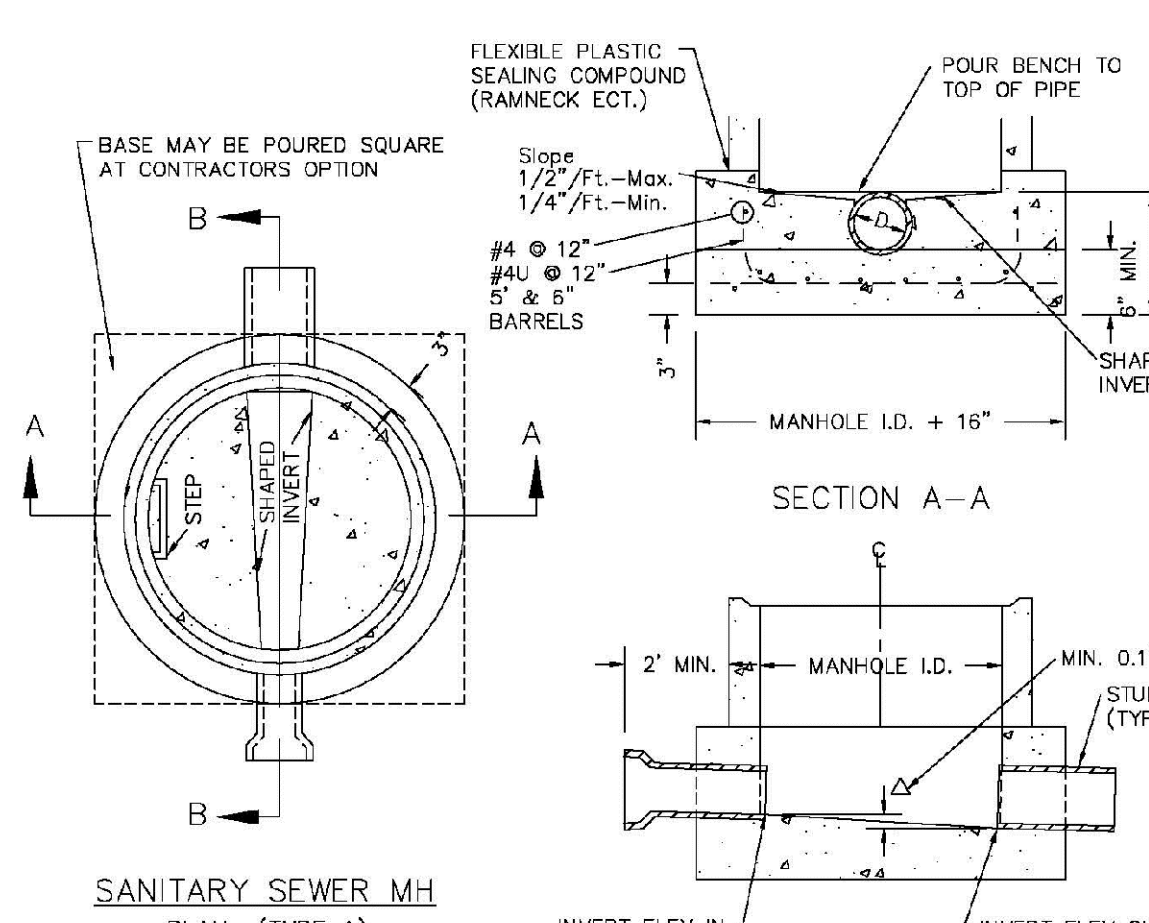
**PARKER WATER & SANITATION DISTRICT  
PRECAST MANHOLE - 5' & 6' I.D.  
WITH ECCENTRIC CONE**

SCALE: NONE DATE: 2/98

APPROVED: PVR 01/02 01/16  
01/16 10/16

DIRECTOR OF ENGINEERING

SHEET S3.3



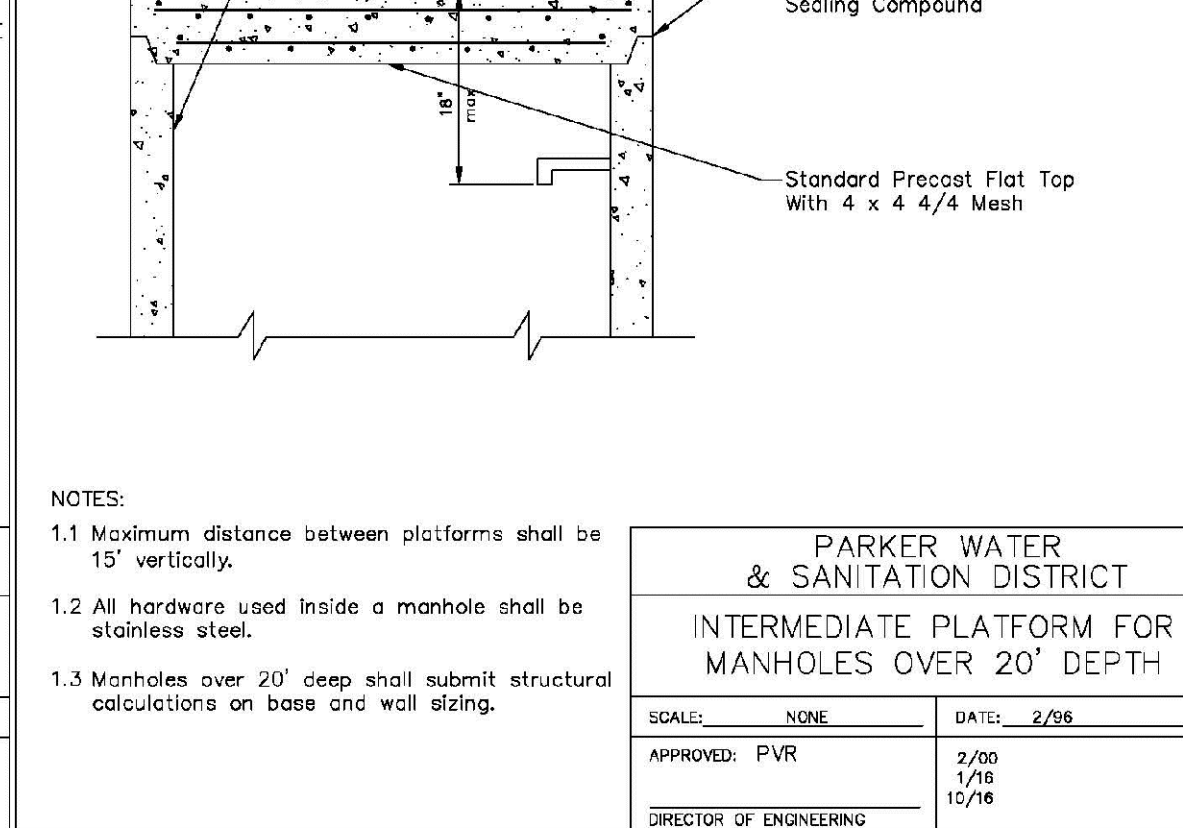
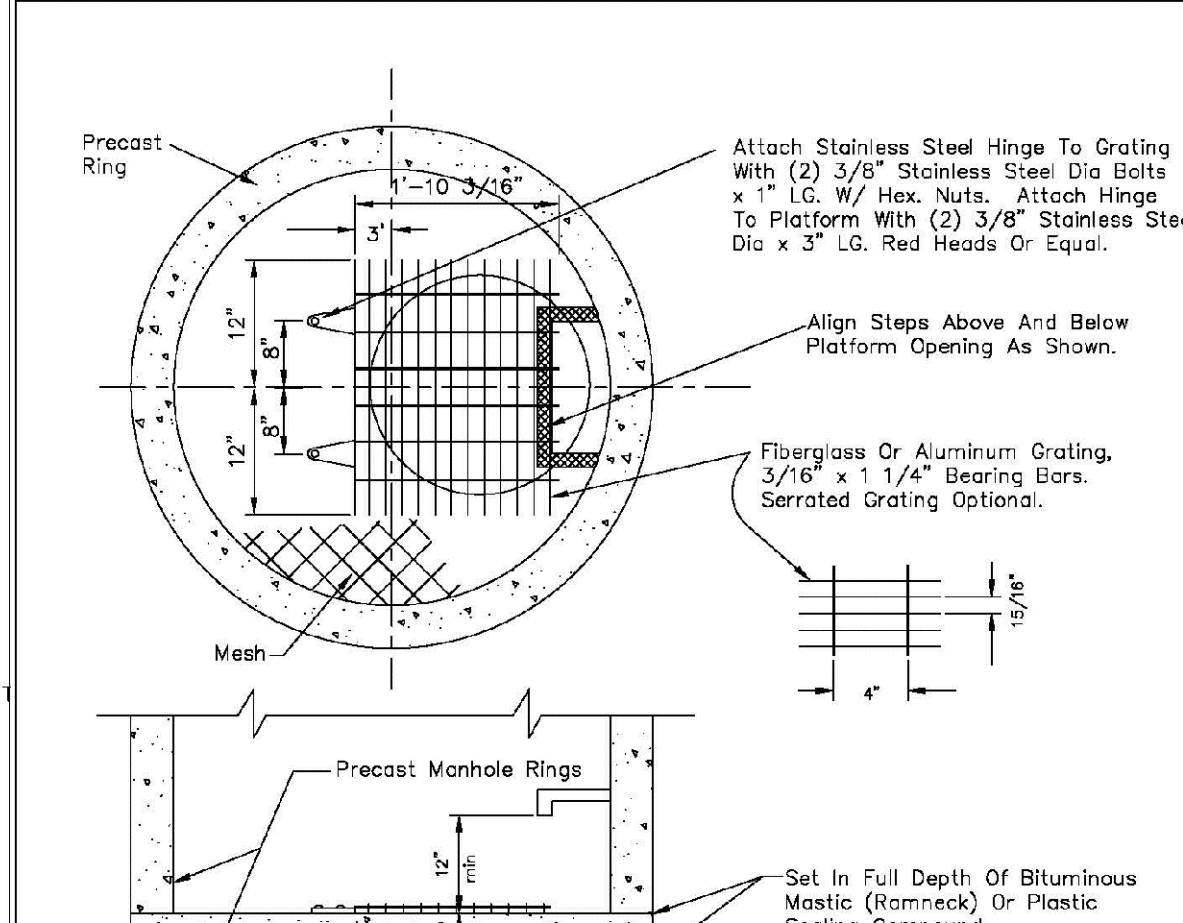
**PARKER WATER & SANITATION DISTRICT  
CAST-IN-PLACE MANHOLE  
BASE DETAIL**

SCALE: NONE DATE: 2/98

APPROVED: PVR 01/02 01/16  
01/16 10/16

DIRECTOR OF ENGINEERING

SHEET S3.5



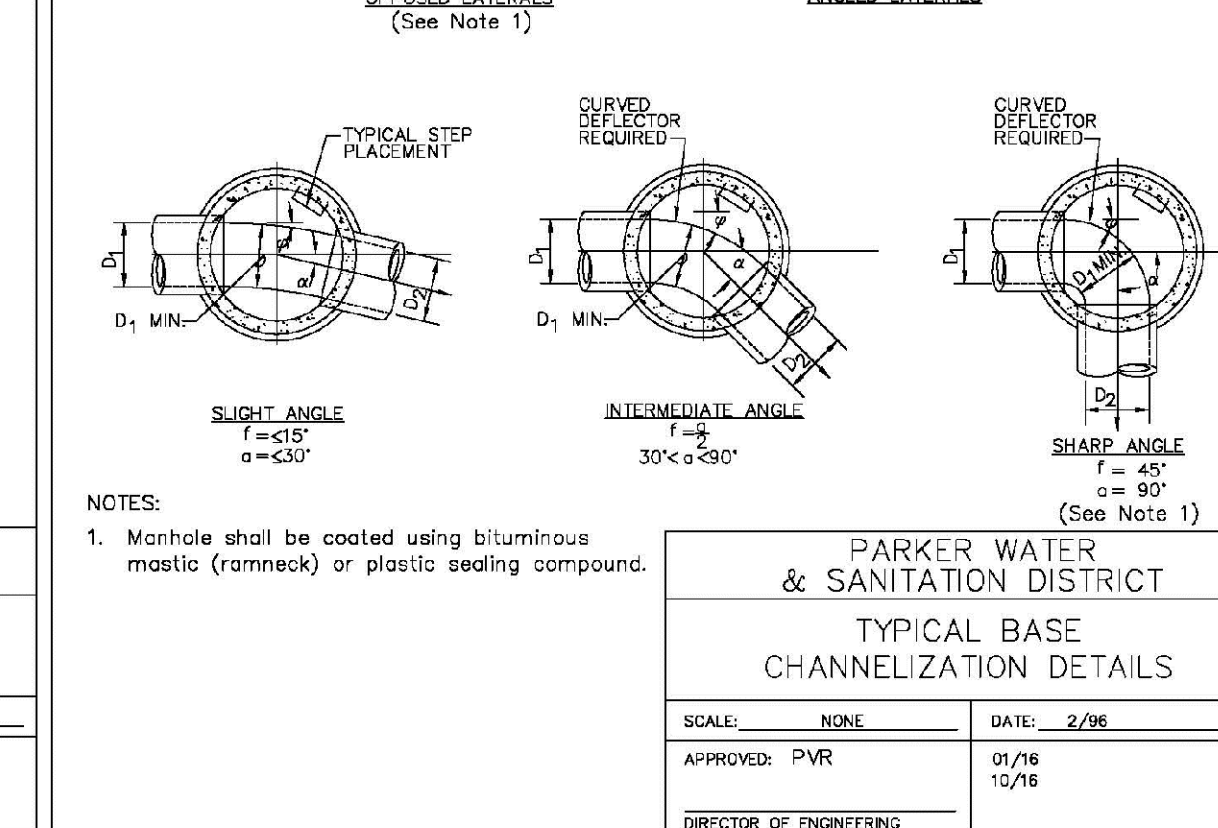
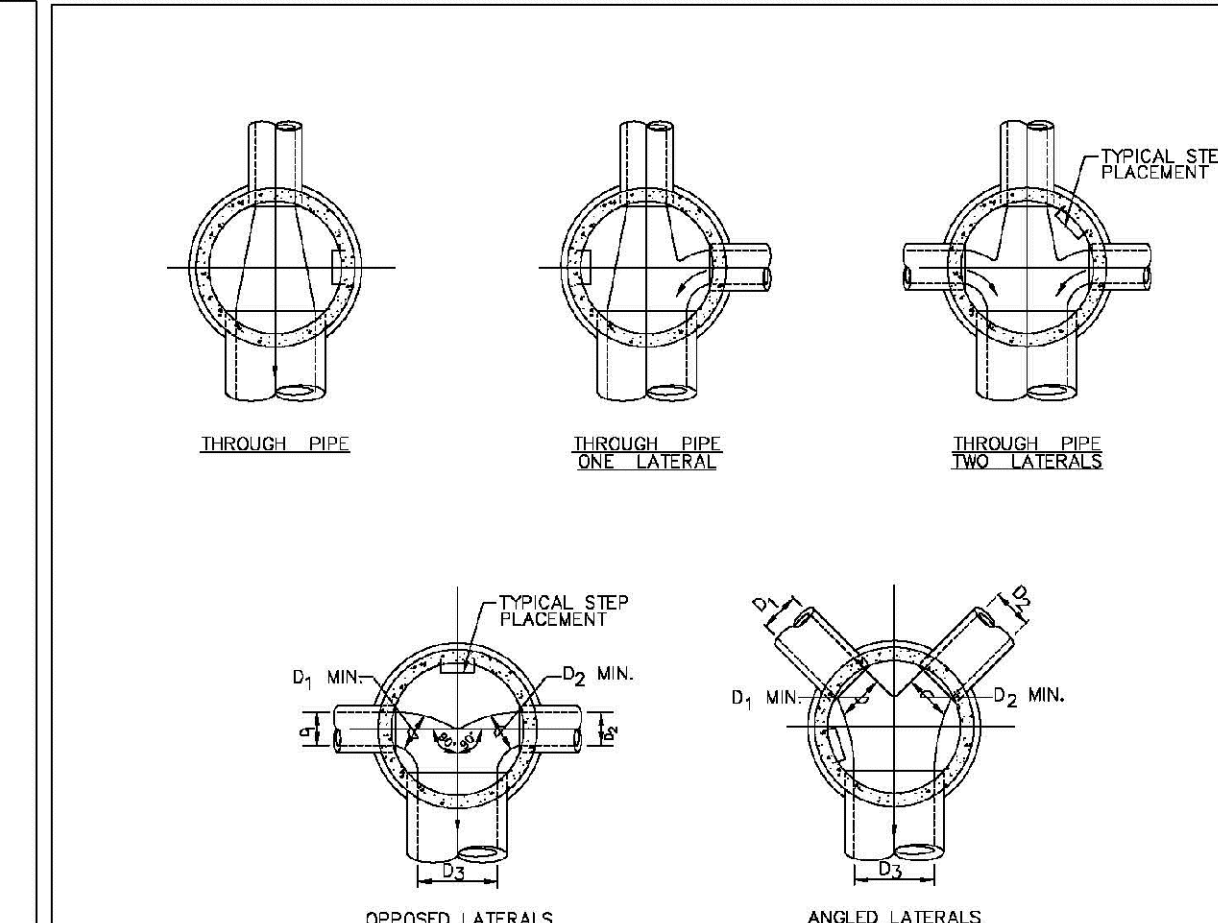
**PARKER WATER & SANITATION DISTRICT  
INTERMEDIATE PLATFORM FOR  
MANHOLES OVER 20' DEPTH**

SCALE: NONE DATE: 2/98

APPROVED: PVR 2/00 01/16  
01/02 01/16  
10/16

DIRECTOR OF ENGINEERING

SHEET S3.6



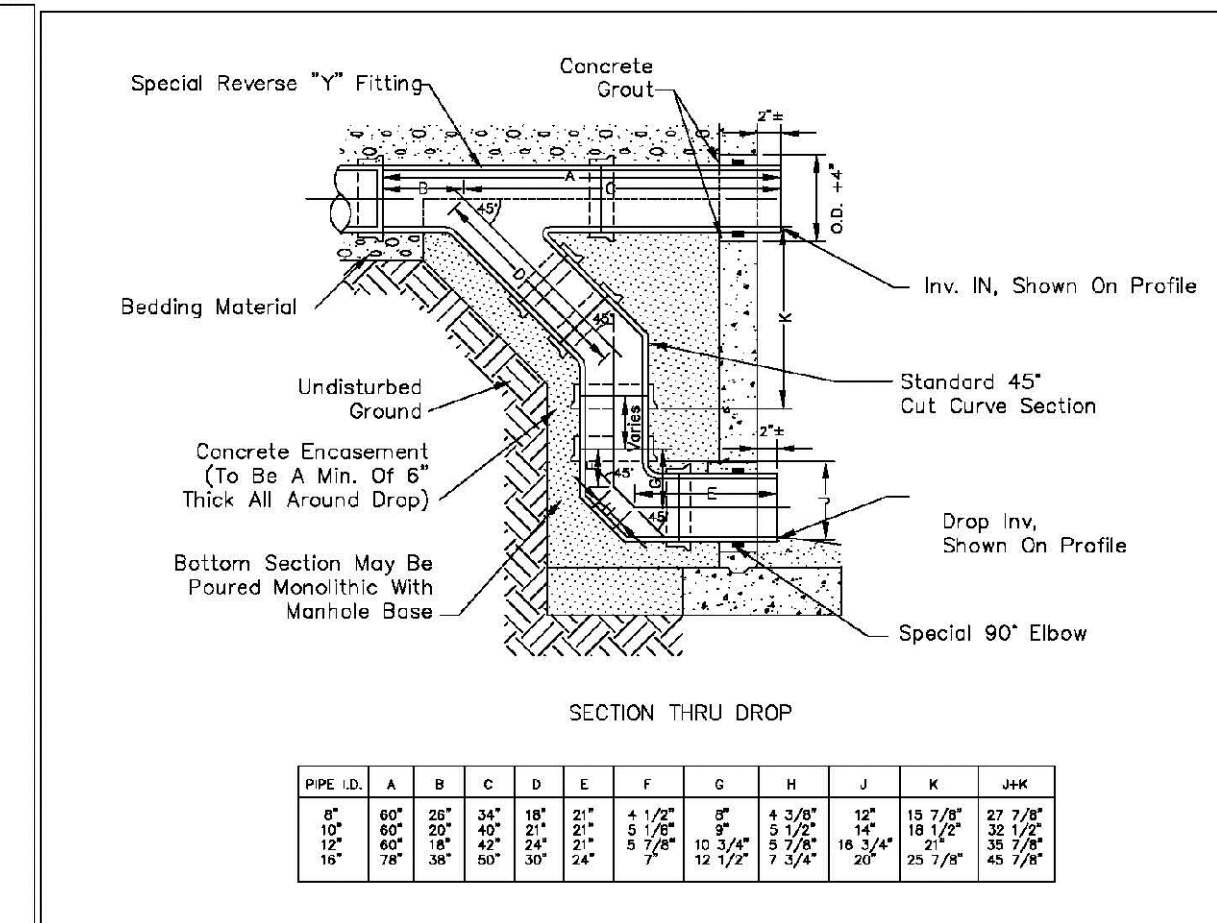
**PARKER WATER & SANITATION DISTRICT  
TYPICAL BASE  
CHANNELIZATION DETAILS**

SCALE: NONE DATE: 2/98

APPROVED: PVR 01/16 10/16

DIRECTOR OF ENGINEERING

SHEET S3.7



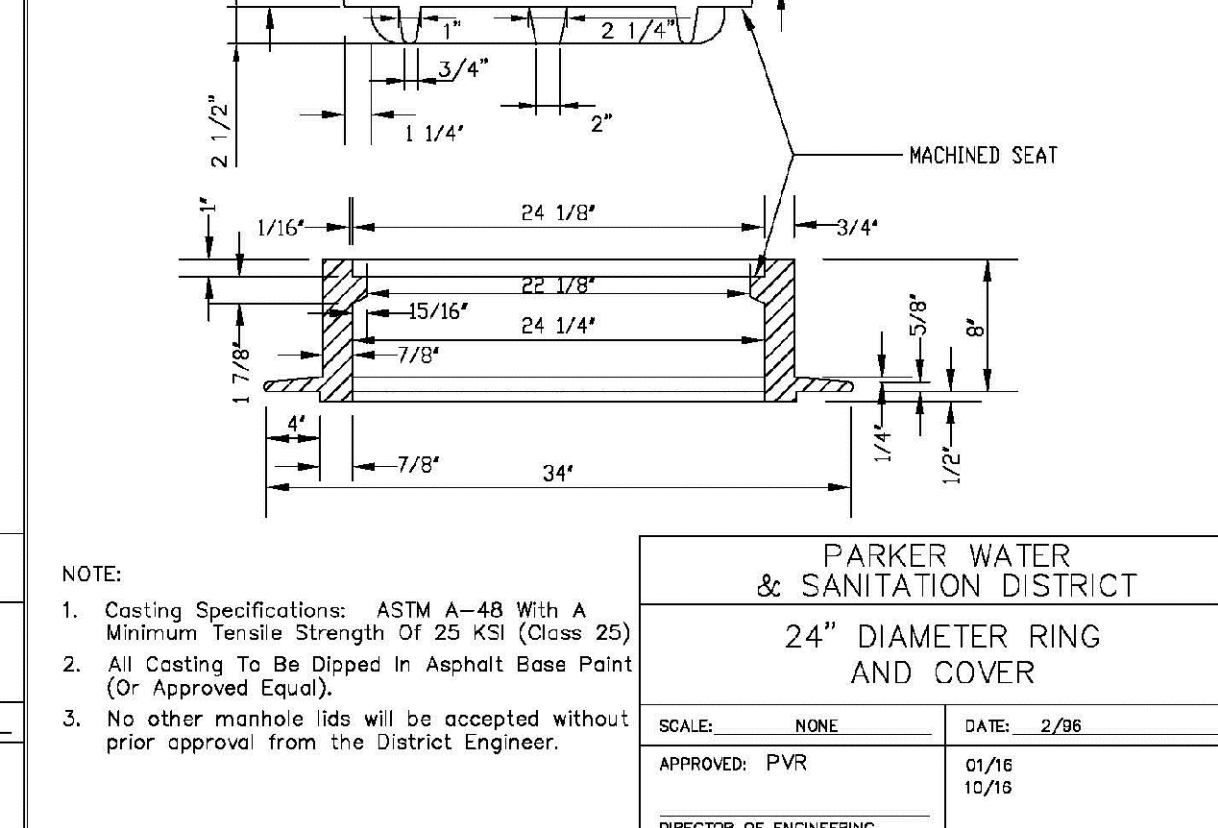
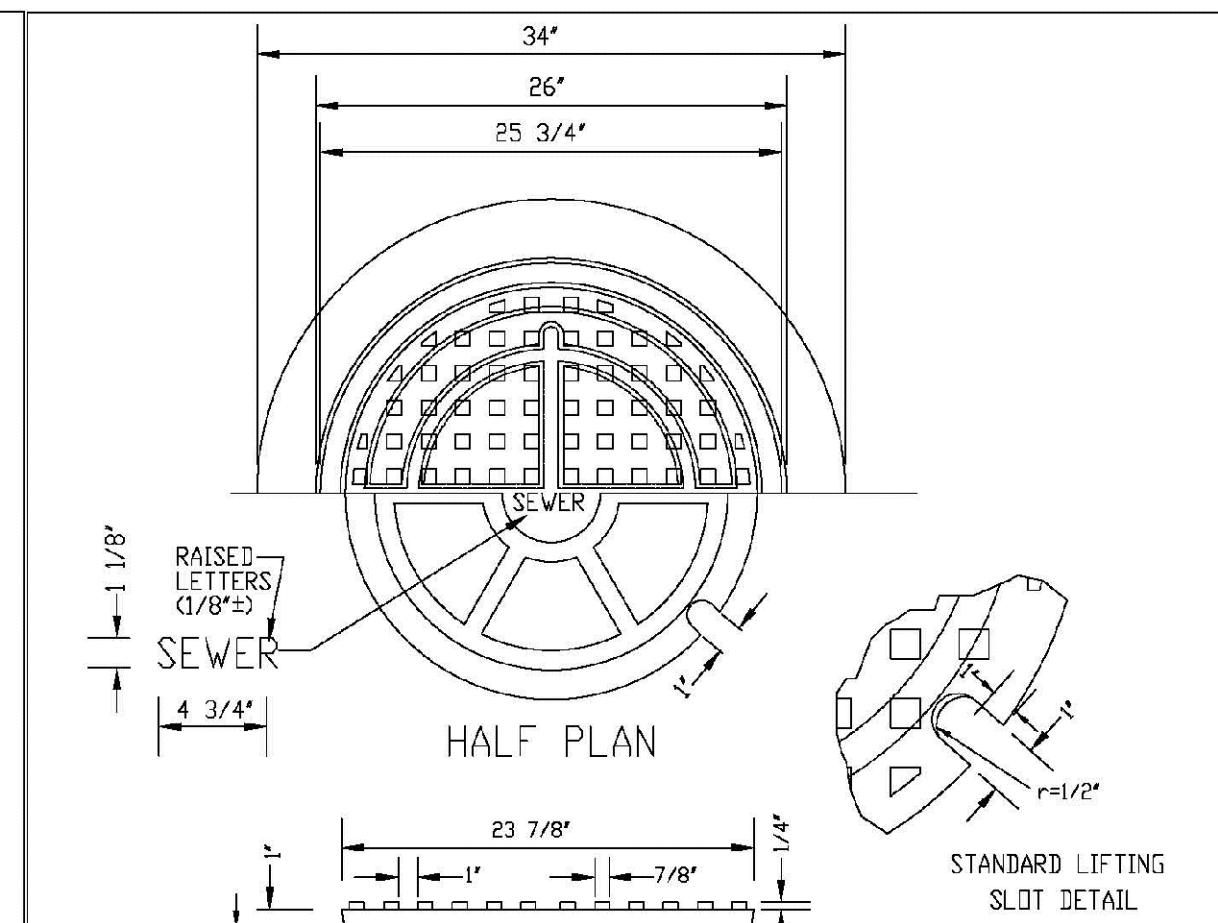
**PARKER WATER & SANITATION DISTRICT  
OUTSIDE DROP MANHOLE  
CONSTRUCTION**

SCALE: NONE DATE: 2/98

APPROVED: PVR 01/16 10/16

DIRECTOR OF ENGINEERING

SHEET S3.8



**PARKER WATER & SANITATION DISTRICT  
24" DIAMETER RING  
AND COVER**

SCALE: NONE DATE: 2/98

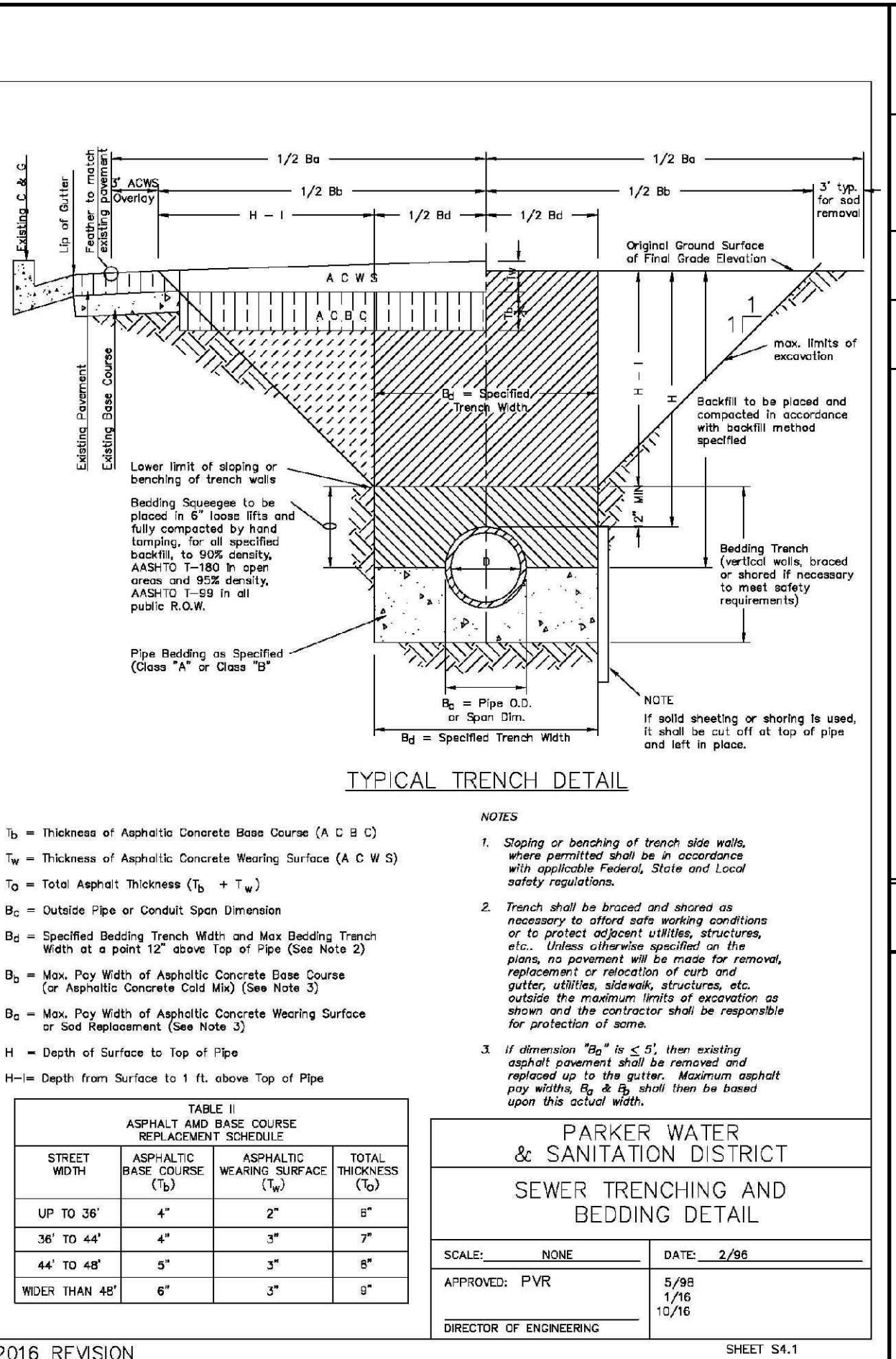
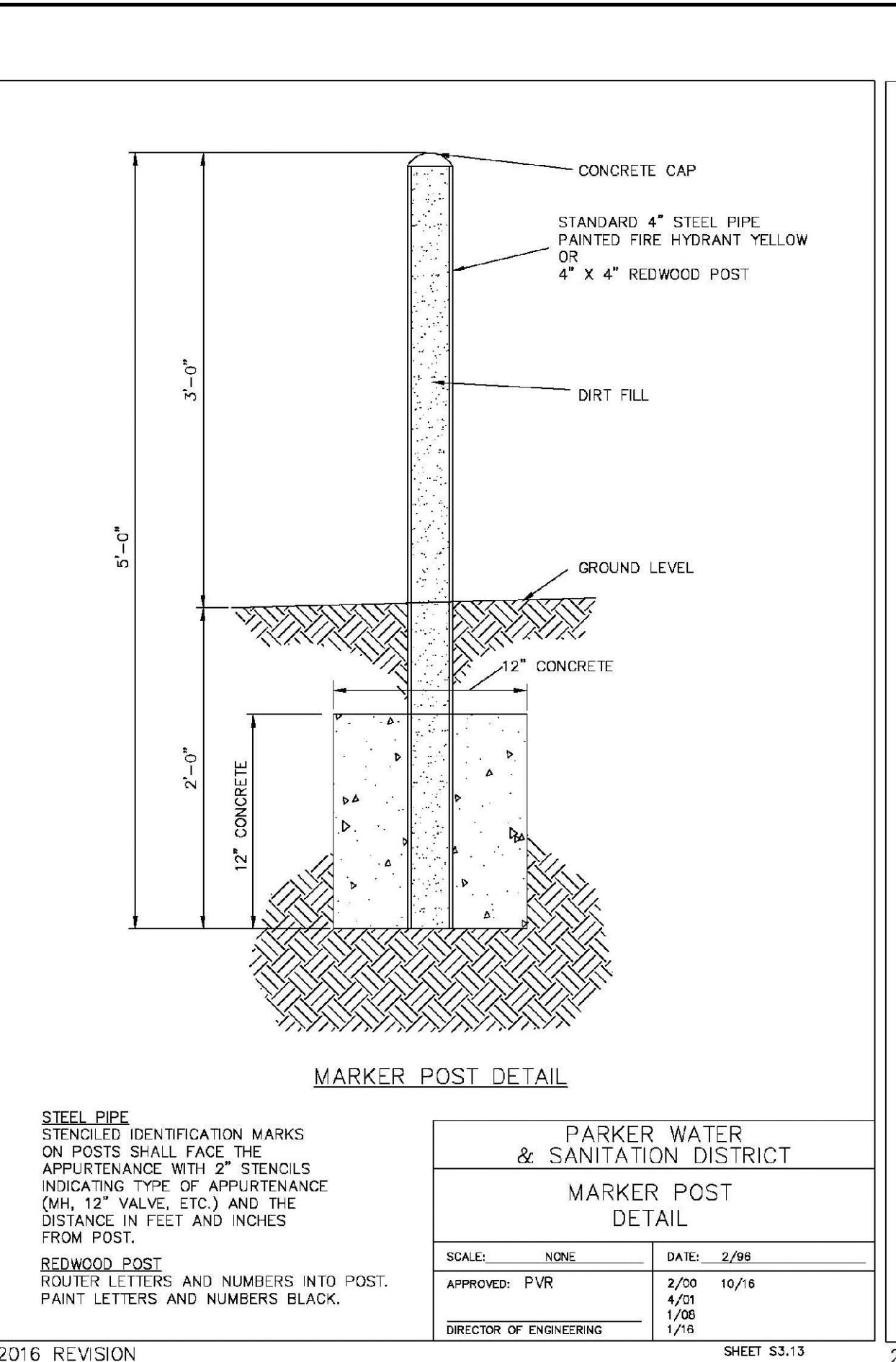
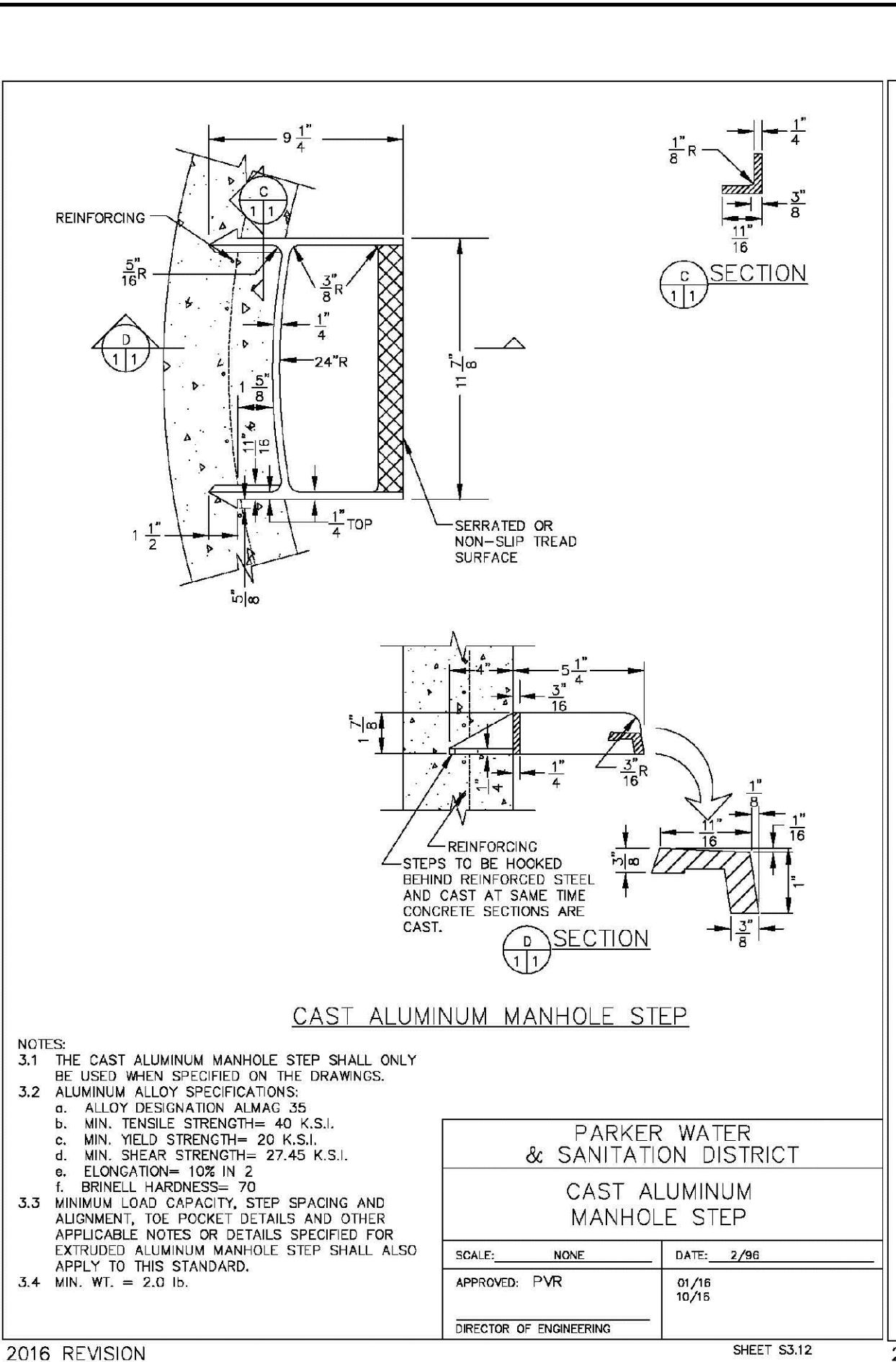
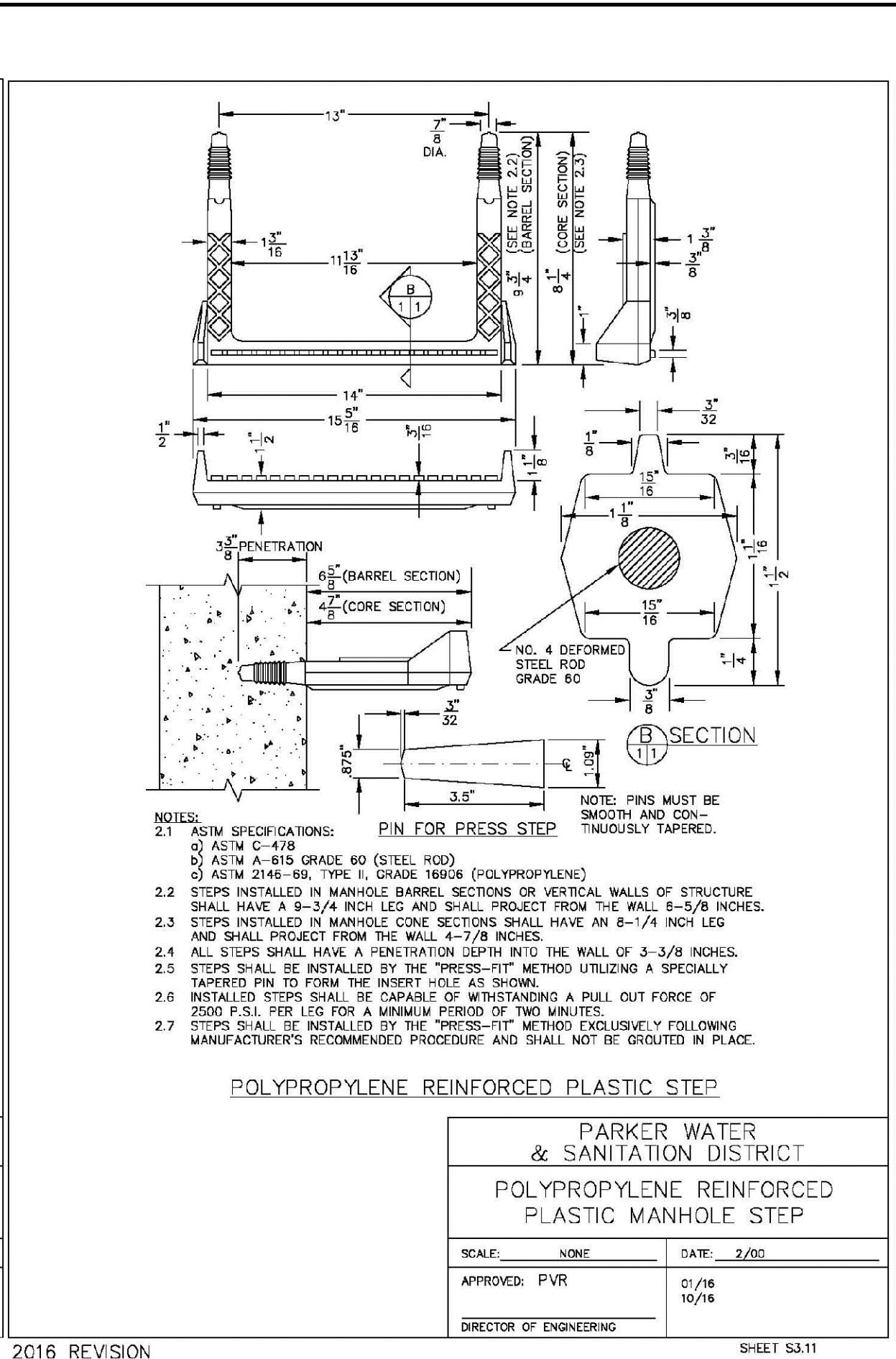
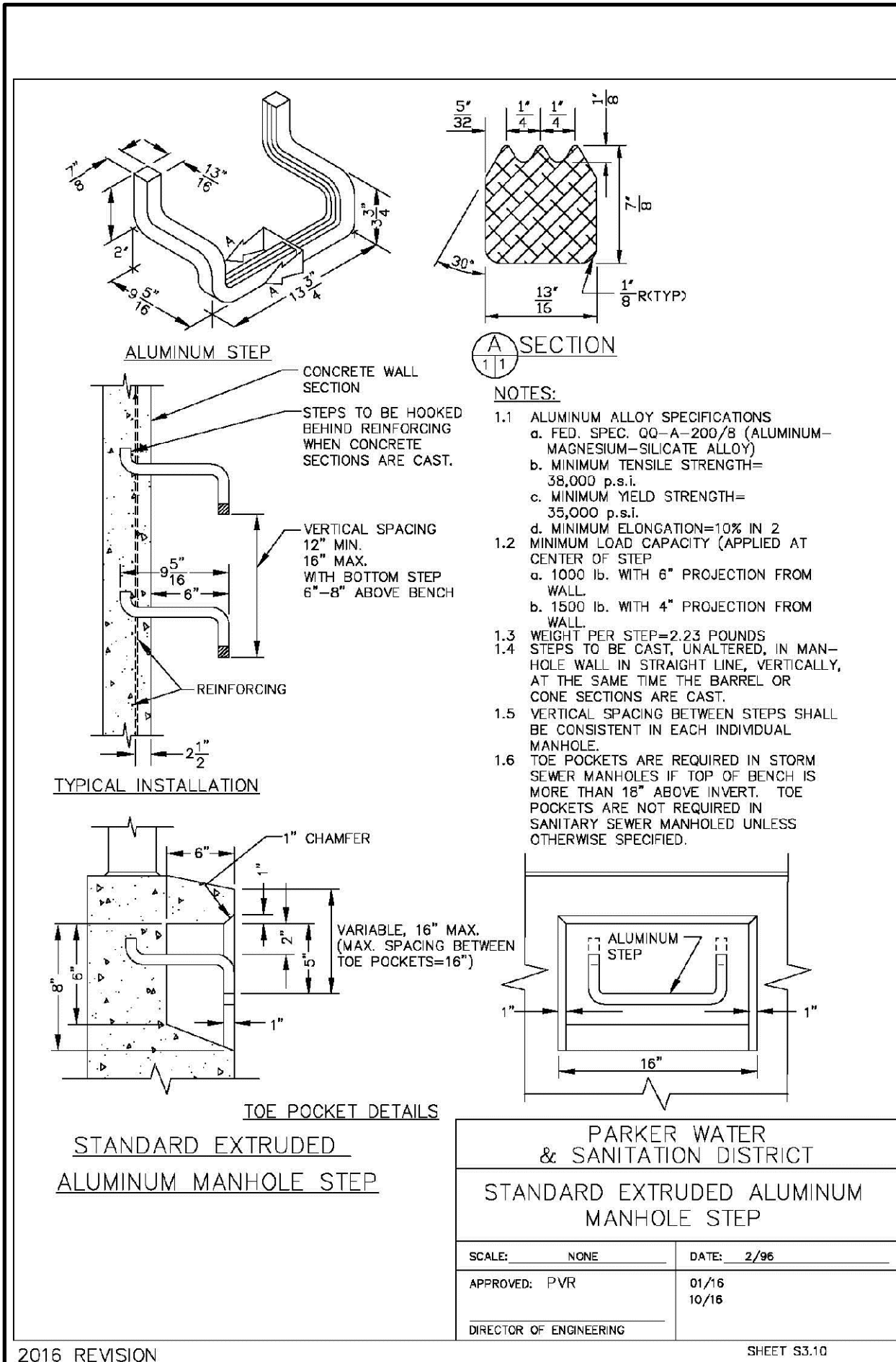
APPROVED: PVR 01/16 10/16

DIRECTOR OF ENGINEERING

SHEET S3.9

10333 E. Dry Creek Rd. Suite 240 Englewood, CO 80112 Tel: (720) 482-9529 Fax: (720) 482-9546	10333 E. Dry Creek Rd. Suite 240 Englewood, CO 80112 Tel: (720) 482-9529 Fax: (720) 482-9546	10333 E. Dry Creek Rd. Suite 240 Englewood, CO 80112 Tel: (720) 482-9529 Fax: (720) 482-9546	10333 E. Dry Creek Rd. Suite 240 Englewood, CO 80112 Tel: (720) 482-9529 Fax: (720) 482-9546
DATE	DATE	DATE	DATE
APPR.	APPR.	APPR.	APPR.
INIT.	INIT.	INIT.	INIT.
NO.	NO.	NO.	NO.
REVISIONS	REVISIONS	REVISIONS	REVISIONS
<b>CVL CONSULTANTS</b>			
<p><b>HR 935 LLC</b> 7352 South Alton Way CENTENNIAL, CO 80112</p>			
<p><b>TRAILS AT CROWFOOT FILING 8 CONSTRUCTION DRAWINGS SANITARY SEWER DETAILS</b></p>			
SCALE: AS SHOWN	FILE NO: 8130283701	DATE: MAY 2020	
DRAWN BY: JF	CHECKED BY: BPW	DATE: MAY 2020	
<b>6</b>			





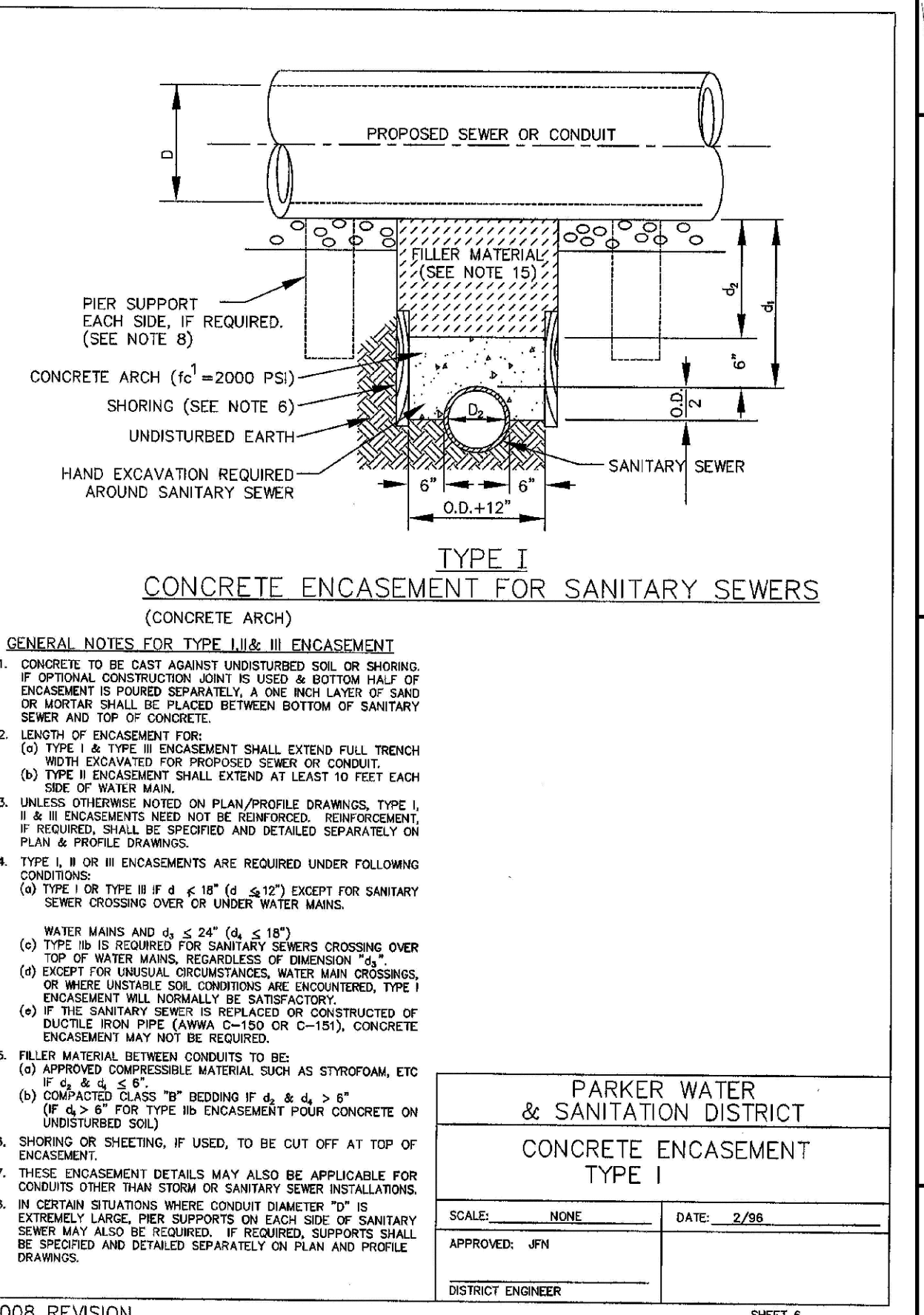
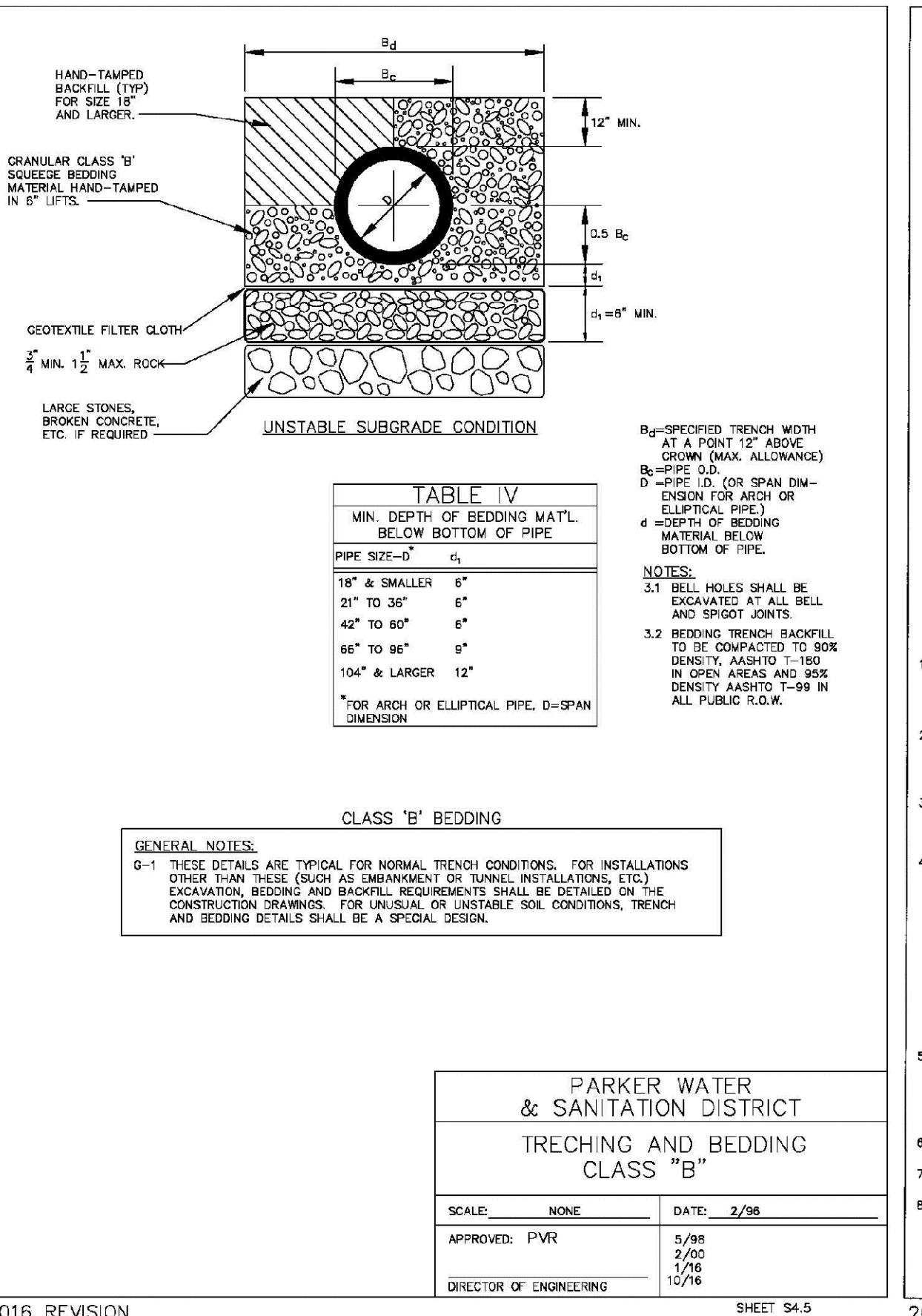
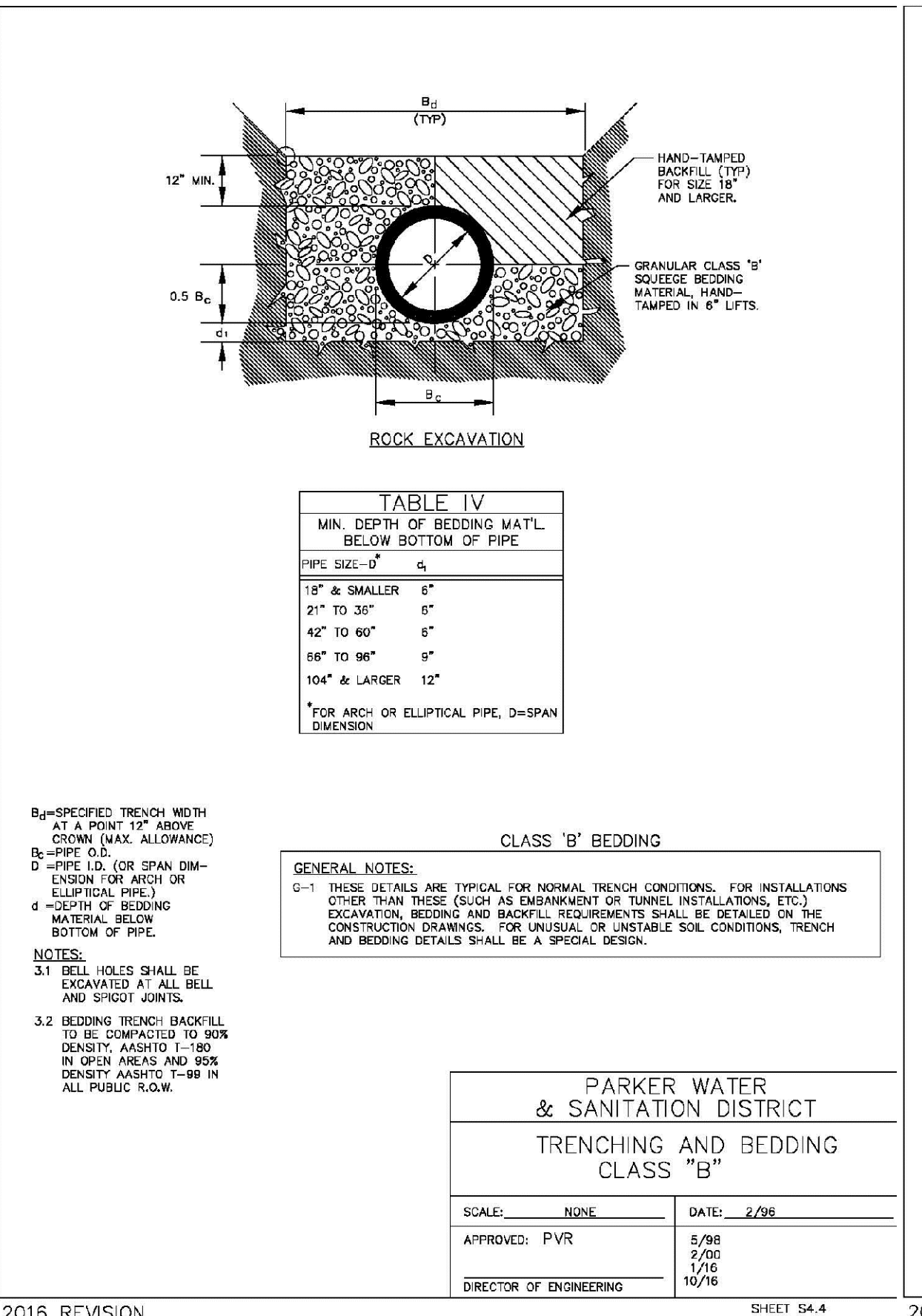
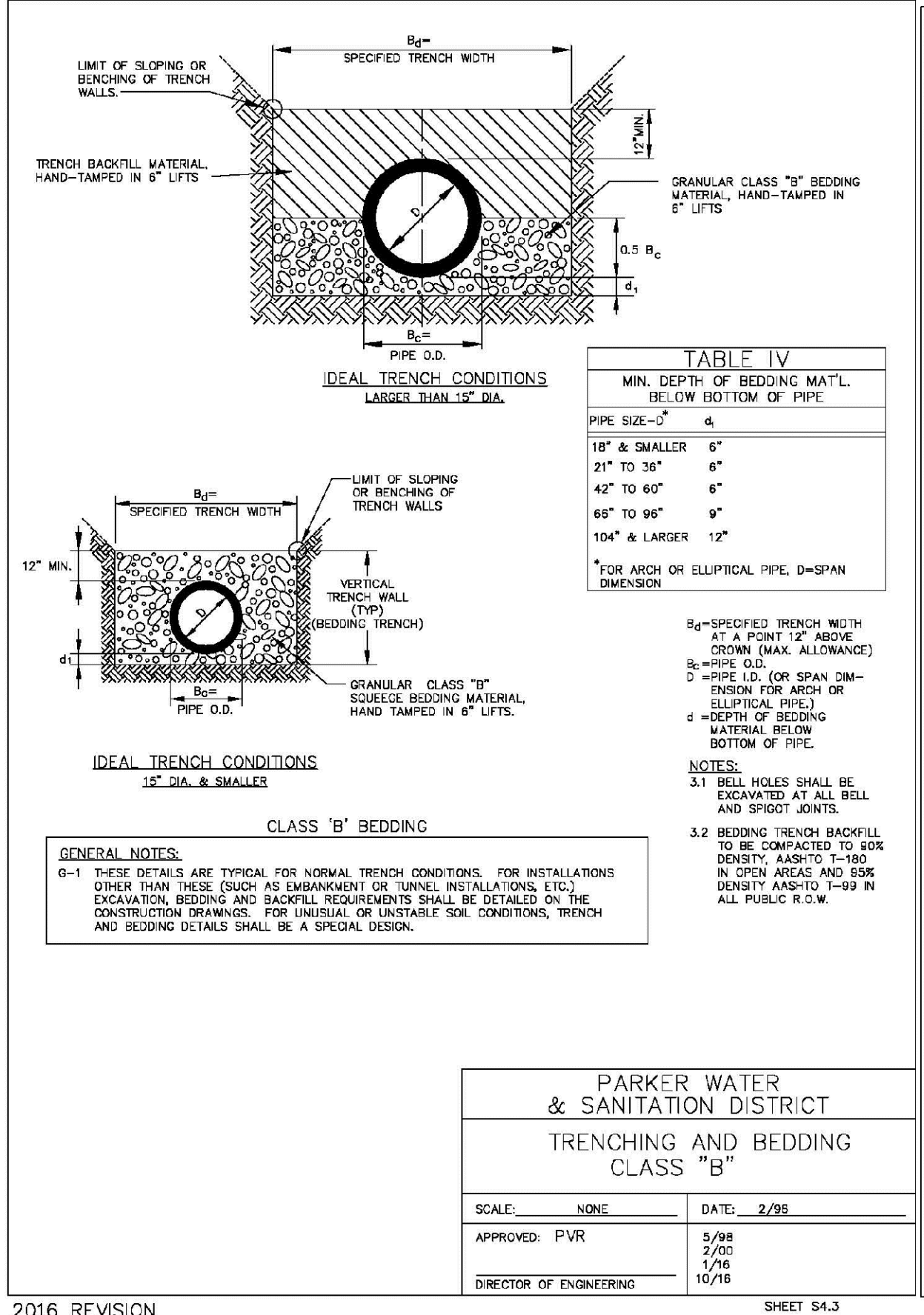
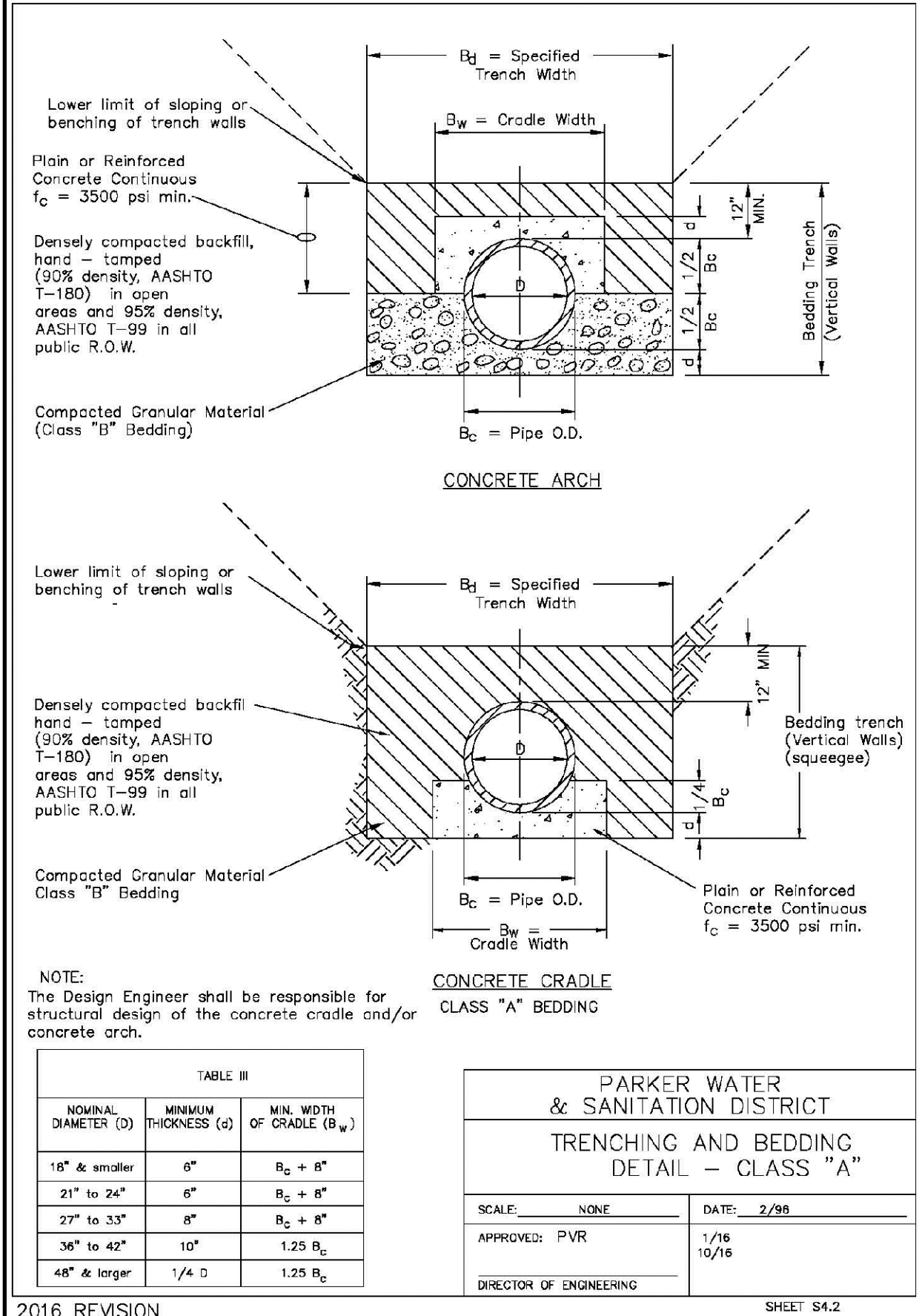
2015 REVISION

2016 REVISION

2016 REVISION

2016 REVISION

2016 REVISION



2016 REVISION

2016 REVISION

2016 REVISION

2016 REVISION

2008 REVISION

10335 E. Dry Creek Rd.  
Suite 240  
Englewood, CO 80112  
Tel: (720) 482-9526  
Fax: (720) 482-9546

**CVL CONSULTANTS**

HR 955 LLC  
7353 South Alton Way  
CENTENNIAL, CO 80112

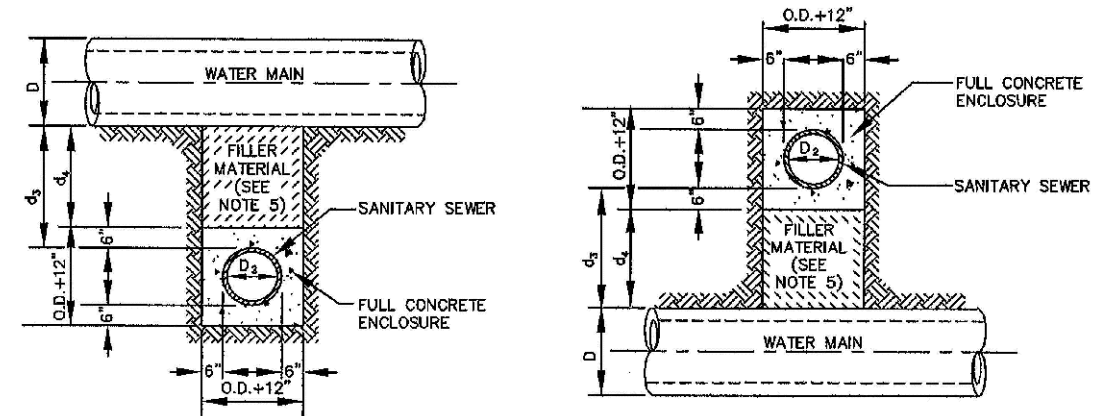
TRAILS AT CROWFOOT  
FILING 8 CONSTRUCTION DRAWINGS  
SANITARY SEWER DETAILS

SCALE: AS SHOWN  
FILE NO: 8130283701  
DRAWN BY: JF  
CHECKED BY: BPW  
DATE: MAY 2020

SHEET NUMBER: 7

No.	Revisions	Date	Init.	Appr.	Date





**TYPE II**  
CONCRETE ENCASMENT FOR SANITARY SEWERS CROSSING OVER OR UNDER WATER MAIN

**GENERAL NOTES FOR TYPE I, II & III ENCASMENT**

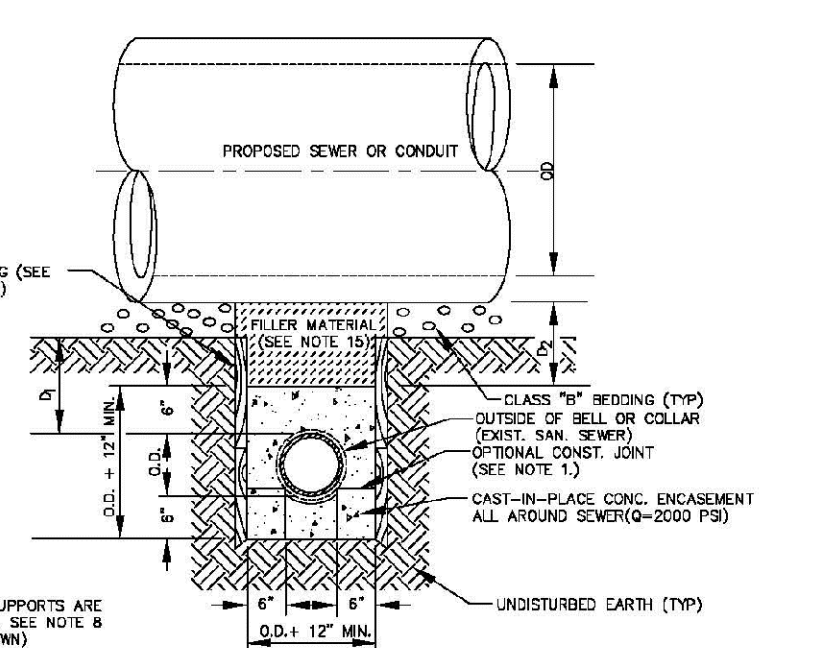
- CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED & BOTTOM HALF OF ENCASMENT IS POURED SEPARATELY, A ONE INCH LAYER OF SAND OR MORTAR SHALL BE PLACED BETWEEN BOTTOM OF SANITARY SEWER AND TOP OF CONCRETE.
- LENGTH OF ENCASMENT FOR:
  - TYPE I & TYPE II ENCASMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
  - TYPE III ENCASMENT SHALL EXTEND AT LEAST TO FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I, II & III ENCASMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I, II OR III ENCASMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
  - TYPE I OR TYPE II IF  $d_s \leq 18"$  ( $d_s \leq 12"$  EXCEPT FOR SANITARY SEWERS CROSSING OVER OR UNDER WATER MAINS).
  - TYPE II IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS, REGARDLESS OF DIMENSION  $d_s$ .
  - EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS OR WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASMENT WILL NORMALLY BE SATISFACTORY.
  - IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF SUCTILE IRON PIPE (AWWA C-152 OR C-191), CONCRETE ENCASMENT MAY NOT BE REQUIRED.
- FILLER MATERIAL BETWEEN CONDUITS TO BE:
  - APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF  $d_s \leq 4"$ ,  $d_c \leq 6"$ .
  - COMPACTED CLASS "B" BEDDING IF  $d_s \geq 4"$ ,  $d_c \geq 6"$  (IF  $d_s > 6"$  FOR TYPE III ENCASMENT POUR CONCRETE ON UNDISTURBED SOIL).
- SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASMENT.
- THESE ENCASMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS. IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, FEW SUPPORTS ON EACH SIDE OF SANITARY SEWER MAY ALSO BE REQUIRED. IF REQUIRED, SUPPORTS SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN AND PROFILE DRAWINGS.

PARKER WATER & SANITATION DISTRICT  
**CONCRETE ENCASMENT TYPE II**

SCALE: NONE      DATE: 2/96

APPROVED: JFN      5/98  
4/01  
DISTRICT ENGINEER

SHEET 7



**TYPE III**  
CONCRETE ENCASMENT FOR SANITARY SEWERS

**GENERAL NOTES FOR TYPE I, II & III ENCASMENT**

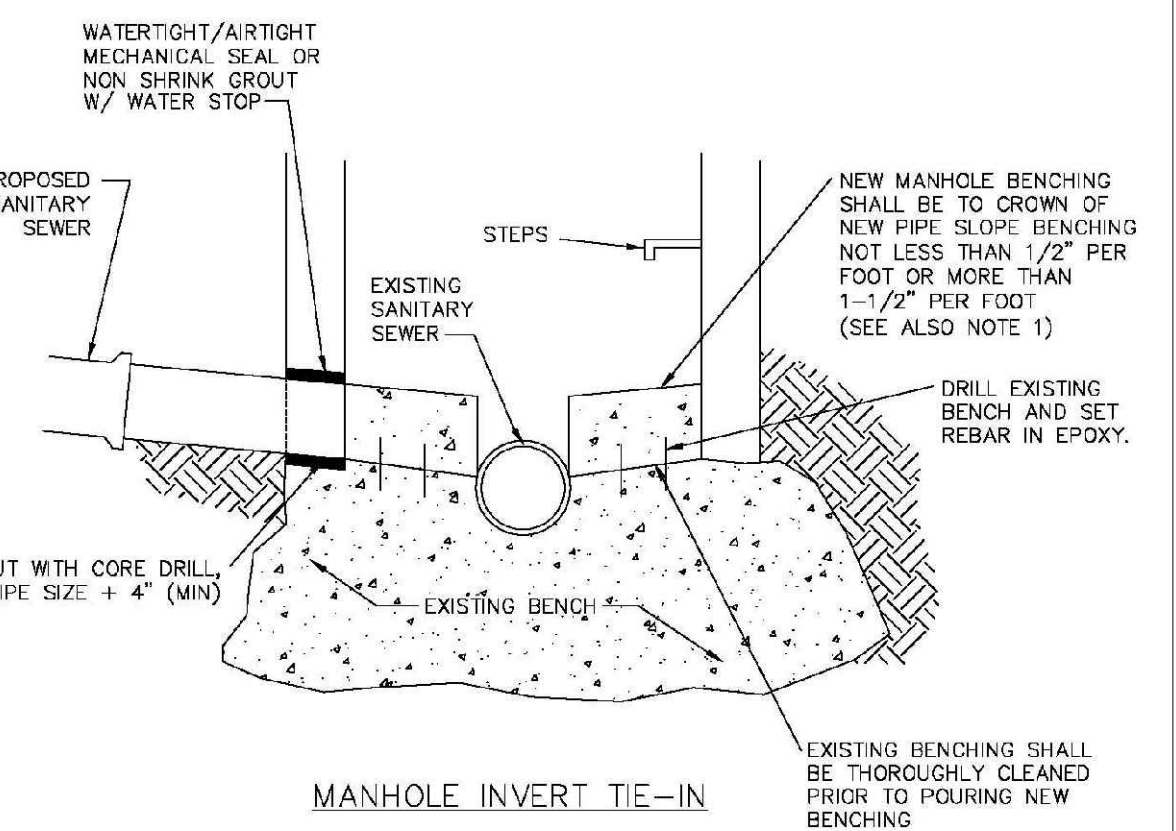
- CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED & BOTTOM HALF OF ENCASMENT IS POURED SEPARATELY, A ONE INCH LAYER OF SAND OR MORTAR SHALL BE PLACED BETWEEN BOTTOM OF SANITARY SEWER AND TOP OF CONCRETE.
- LENGTH OF ENCASMENT FOR:
  - TYPE I & TYPE II ENCASMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
  - TYPE III ENCASMENT SHALL EXTEND AT LEAST TO FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I, II & III ENCASMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, TO BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I, II OR III ENCASMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
  - TYPE I OR TYPE II IF  $d_s \leq 18"$  ( $d_s \leq 12"$  EXCEPT FOR SANITARY SEWERS CROSSING OVER OR UNDER WATER MAINS).
  - TYPE III IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS, REGARDLESS OF DIMENSION  $d_s$ .
  - TYPE III IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS, REGARDLESS OF DIMENSION  $d_s$ .
  - EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS OR WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASMENT WILL NORMALLY BE SATISFACTORY.
  - IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF SUCTILE IRON PIPE (AWWA C-152 OR C-191), CONCRETE ENCASMENT MAY NOT BE REQUIRED.
- FILLER MATERIAL BETWEEN CONDUITS TO BE:
  - APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF  $d_s \leq 4"$ ,  $d_c \leq 6"$ .
  - COMPACTED CLASS "B" BEDDING IF  $d_s \geq 4"$ ,  $d_c \geq 6"$  (IF  $d_s > 6"$  FOR TYPE III ENCASMENT POUR CONCRETE ON UNDISTURBED SOIL).
- SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASMENT.
- THESE ENCASMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS. IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, FEW SUPPORTS ON EACH SIDE OF SANITARY SEWER MAY ALSO BE REQUIRED. IF REQUIRED, SUPPORTS SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN AND PROFILE DRAWINGS.

PARKER WATER & SANITATION DISTRICT  
**CONCRETE ENCASMENT TYPE III**

SCALE: NONE      DATE: 2/96

APPROVED: PVR      5/98  
1/98  
DISTRICT ENGINEER

SHEET 8A.8



**NOTES**

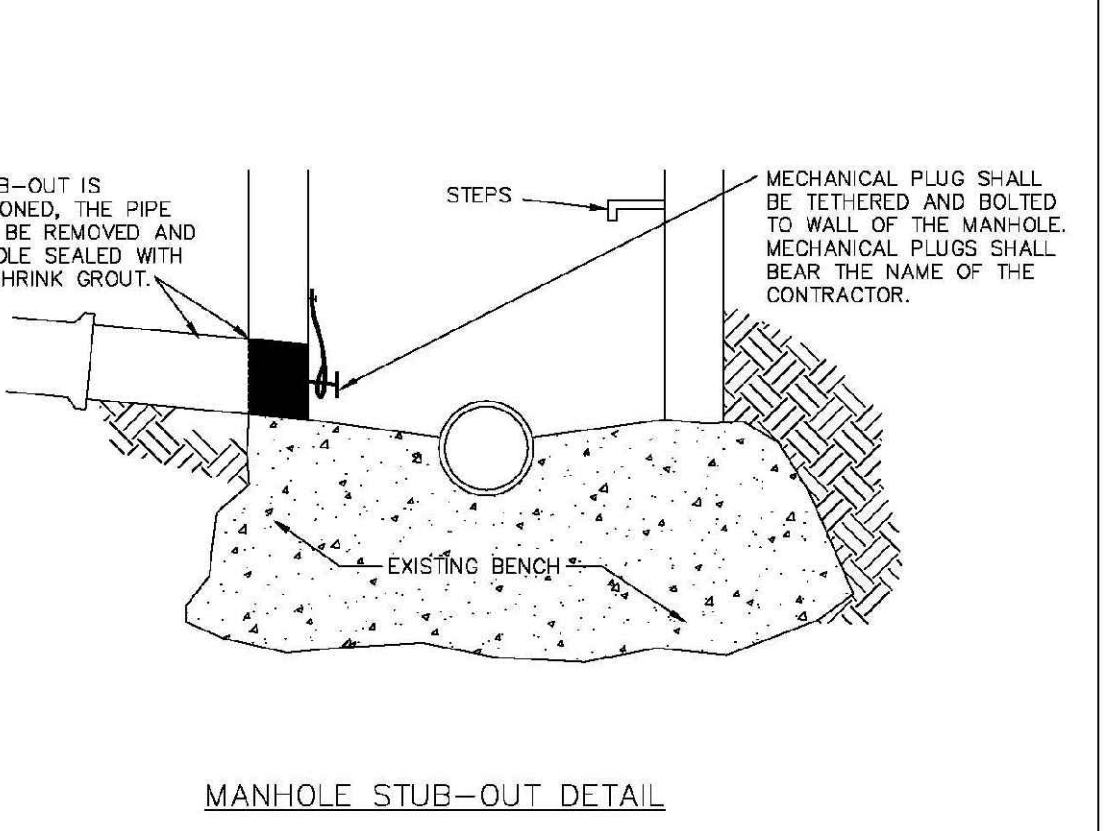
- NEW BENCH SHALL INCLUDE REINFORCEMENT TO CONTROL CONCRETE CRACKING.

PARKER WATER & SANITATION DISTRICT  
**MANHOLE INVERT TIE-IN DETAIL**

SCALE: NONE      DATE: 2/96

APPROVED: PVR      5/98  
1/98  
DIRECTOR OF ENGINEERING

SHEET 8A.9



**NOTES**

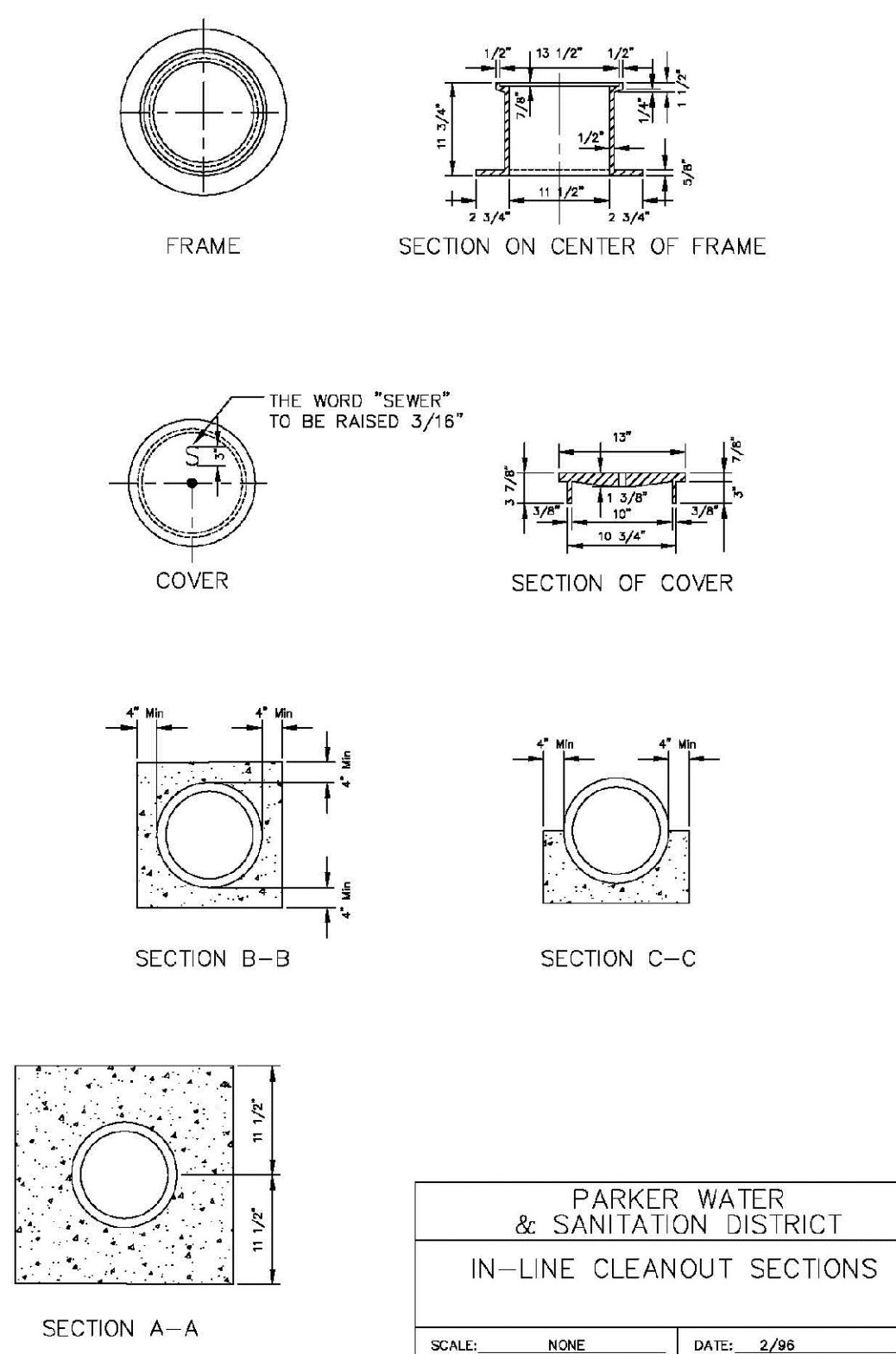
- IF STUB-OUT IS ABANDONED, THE PIPE SHALL BE REMOVED AND THE HOLE SEALED WITH NON-SHRINK GROUT.
- MECHANICAL PLUG SHALL BE TETHERED AND BOLTED TO WALL OF THE MANHOLE. MECHANICAL PLUGS SHALL BEAR THE NAME OF THE CONTRACTOR.

PARKER WATER & SANITATION DISTRICT  
**MANHOLE STUB-OUT DETAIL**

SCALE: NONE      DATE: 2/96

APPROVED: PVR      5/98  
10/16  
DIRECTOR OF ENGINEERING

SHEET 8A.10

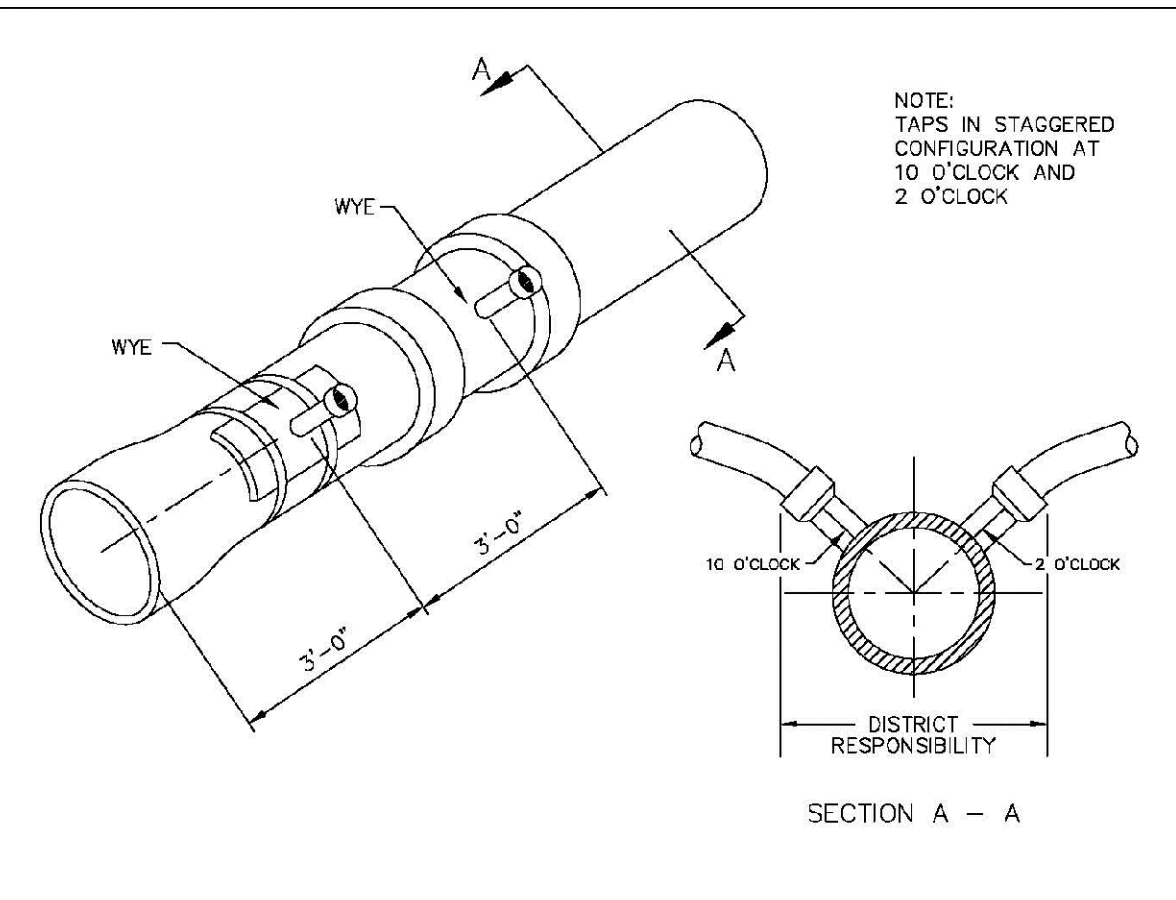


PARKER WATER & SANITATION DISTRICT  
**IN-LINE CLEANOUT SECTIONS**

SCALE: NONE      DATE: 2/96

APPROVED: PVR      2/00  
7/98  
10/16  
DIRECTOR OF ENGINEERING

SHEET 8A.12



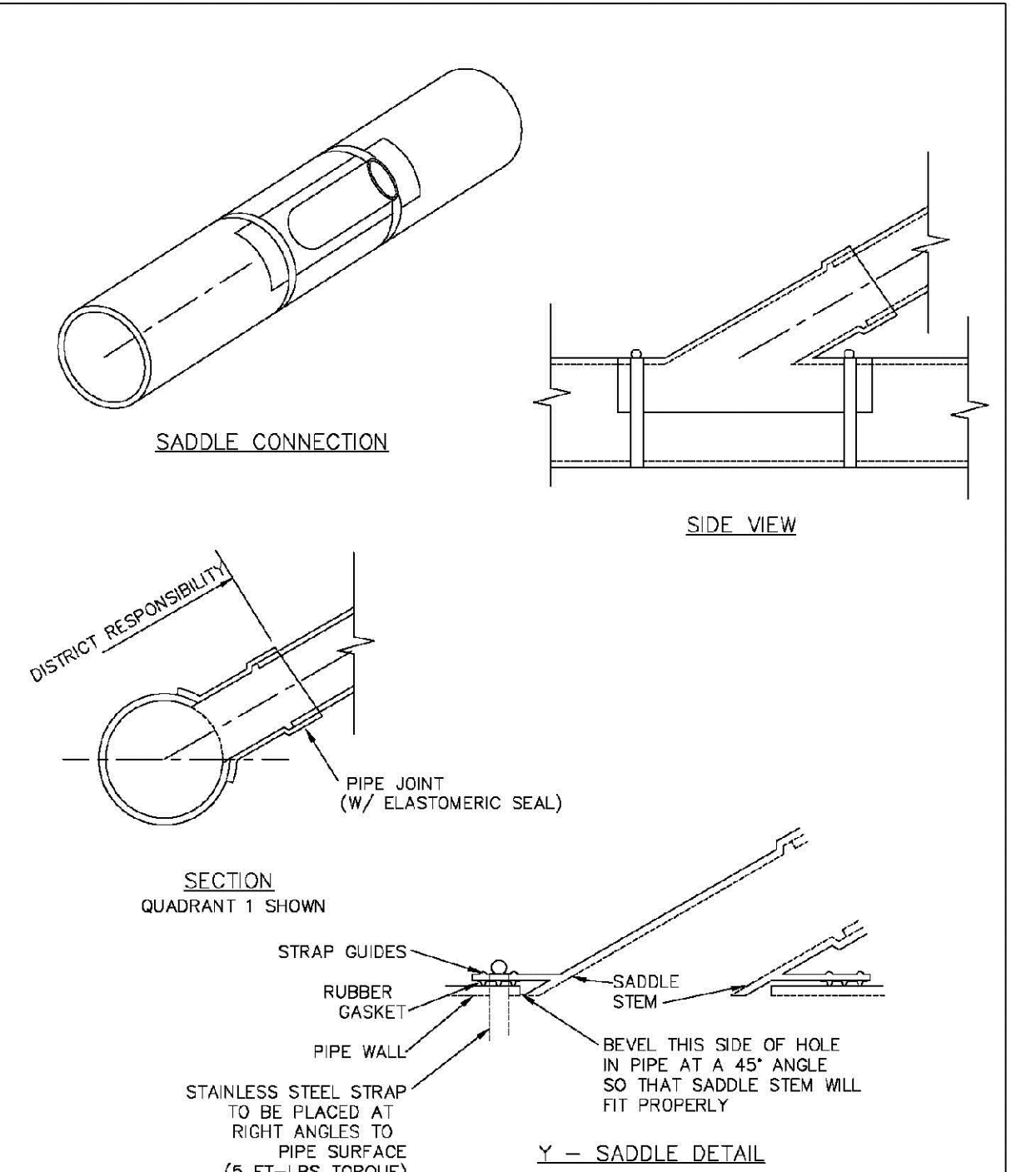
Sewer service connections shall be positioned at either the 2 o'clock or the 10 o'clock position on the circumference of the sewer main. On new installations, tee or wye fittings shall be used. When tapping into existing sewer main, a saddle connection and approved coring method shall be used. The minimum distance between service connections made along the pipe shall be 3 feet. The minimum distance from either the bell or spigot end of a pipe shall be 3 feet. The minimum distance from the center of a manhole to a service connection shall be either 7 feet or the transition point from the manhole trench to the normal pipe trench, whichever is greater. A maximum of 4 sewer service connections shall be allowed per 20 foot length of pipe. In all cases, a specific soils investigation should be conducted to assure that the external loading will be within allowable limits regardless of the number of taps involved.

PARKER WATER & SANITATION DISTRICT  
**DOMESTIC SEWER TAPPING DETAIL**

SCALE: NONE      DATE: 2/96

APPROVED: PVR      4/01  
1/08  
DIRECTOR OF ENGINEERING

SHEET 8A.13



**NOTES:**

- SADDLE FITTINGS TO BE PER ASTM D3034.
- CONNECTION SHALL BE Y - SADDLE WITH TWO BONDS.

PARKER WATER & SANITATION DISTRICT  
**P.V.C. SADDLE CONNECTION DETAIL**

SCALE: NONE      DATE: 2/96

APPROVED: PVR      1/98  
10/98  
DIRECTOR OF ENGINEERING

SHEET 8A.14

No.	Date	Appr.	Date

10335 E. Dry Creek Rd.  
Suite 240  
Englewood, CO 80112  
Tel: (720) 482-9528  
Fax: (720) 482-9546

**CVL**  
CONSULTANTS

HR 935 LLC  
7355 South Alton Way  
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT  
FILING 8 CONSTRUCTION DRAWINGS  
SANITARY SEWER DETAILS

SCALE: AS SHOWN      FILE NO: 8130283701

DRAWN BY: JF      CHECKED BY: BPW      DATE: MAY 2020

SHEET NUMBER: 8

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**INSPECTION POLICY:**

1. ALL SERVICE INSPECTIONS MUST BE SCHEDULED AT LEAST 24 HOURS IN ADVANCE OF THE REQUESTED INSPECTION.
2. SERVICE INSPECTIONS WILL OCCUR BETWEEN 1:00 P.M. AND 3:00 P.M. SPECIFIC INSPECTION TIMES ARE NOT AVAILABLE.
3. IF THE CONTRACTOR IS NOT READY FOR INSPECTION WHEN THE INSPECTOR ARRIVES AT THE SITE OR SERVICE FAILS, A RE-INSPECTION WILL HAVE TO BE SCHEDULED IN ACCORDANCE WITH NOTES 1 AND 2 ABOVE AND A RE-INSPECTION FEE CHARGED.
4. SHOULD THE SERVICE LINES BE DAMAGED BY LATER CONSTRUCTION, AN INSPECTION OF THE REPAIR WILL BE REQUIRED IN ACCORDANCE WITH NOTES 1 AND 2 ABOVE.
5. THE CONTRACTOR SHALL LEAVE ALL PIPE AND FITTINGS EXPOSED FOR THE INSPECTOR TO OBSERVE. INSPECTORS WILL NOT ENTER ANY EXCAVATIONS TO CHECK MATERIALS. THE TOP LAYER OF BEDDING CAN BE ADDED AFTER THE INSPECTION HAS BEEN COMPLETED.
6. ALL EXCAVATIONS SHALL BE IN ACCORDANCE WITH OSHA STANDARDS.
7. LOTS WITHOUT BUILDING ADDRESSES BEFORE DISTRICT INSPECTION OR METER SET WILL FAIL AUTOMATICALLY.
8. CONTRACTOR MUST BE PRESENT AT TIME OF INSPECTION, UNLESS COORDINATED WITH DISTRICT INSPECTOR.

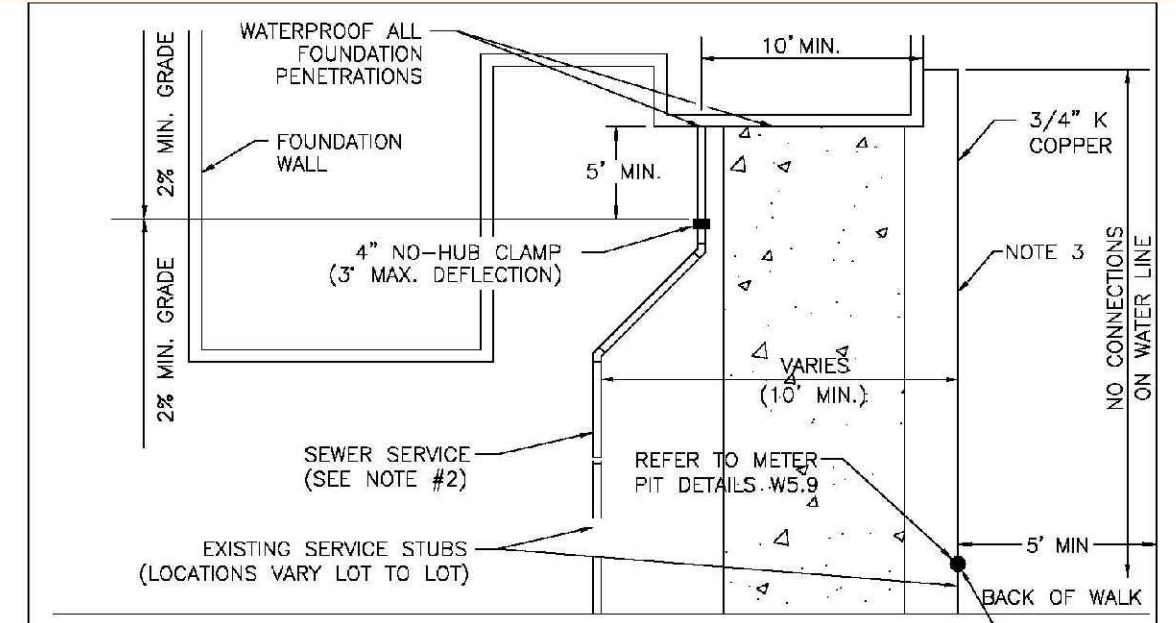
**INSTALLATION NOTES:**

- WATER**
1. ACCEPTABLE PIPE MATERIALS SHALL BE K-COPPER TUBING. (3/4" MIN.)
  2. APPROVED BEDDING TO BE SQUEEGEE.
  3. ONLY ONE COUPLING WILL BE ALLOWED BETWEEN THE STUB-IN AND BUILDING. COMPRESSION COUPLINGS WILL NOT BE ALLOWED ON NEW CONSTRUCTION. SILVER SOLDERED JOINTS MUST BE USED ON SERVICES LARGER THAN 3/4". SILVER SOLDERED JOINTS MUST BE INSPECTED BY PWSO PRIOR TO BURIAL. FLARED COUPLINGS WILL BE ALLOWED ON ALL SERVICES 3/4" AND SMALLER.
  4. A WATER SERVICE WHICH CROSSES A SEWER SERVICE CAN DO SO ONLY AT A 45-90° ANGLE. WATER SERVICES SHALL BE LOCATED A MINIMUM OF 18" ABOVE SEWER SERVICE.
  5. WATER SERVICE FOUNDATION PENETRATIONS SHALL BE WATERPROOFED USING MASTIC OR OTHER APPROVED METHOD. GRAWL SPACE REQUIRES CONTINUOUS COPPER WITH A 1" BURY.
  6. CURB STOP MUST BE PLUMB AND CENTERED OVER THE NUT. IT SHOULD BE STRAPPED TO THE METER PIT (RESIDENTIAL INSTALLATIONS) OR CENTERED OVER THE EASEMENT LINE (COMMERCIAL INSTALLATIONS). THE ASSEMBLY MUST BE AT OR SLIGHTLY ABOVE FINISHED GRADE.
  7. MOVED CURB BOXES MUST BE INSPECTED BY PWSO PRIOR TO BURIAL.
  8. WATERLINE MUST BE ATTACHED TO A SUPPORT BOARD THAT IS MOUNTED TO THE WALL.
  9. NO VOIDS ALLOWED UNDER WATERLINES FROM STOP BOX TO FOUNDATION.
  10. CURBSTOP BOXES AND METER PITS CANNOT BE IN DRIVEWAYS.
  11. ONLY 3/4" (JUMPER) PIPES (RESIDENCES) ARE ALLOWED. (JUMPER) PIPES WILL BE REMOVED PRIOR TO METER SET DATE.
  12. ALL SERVICES WILL BE PERMANENTLY MARKED ON CURB FACE AS FOLLOWS:  
 "X" FOR SANITARY SEWER SERVICE  
 "Y" FOR WATER SERVICES
  13. NO SPLICES OR FLARED COUPLINGS ALLOWED ON SERVICES LARGER THAN 3/4". SILVER SOLDERED JOINTS MUST BE USED IN MOVING STOPBOXES ON SERVICES LARGER THAN 3/4". SILVER SOLDERED JOINTS MUST BE INSPECTED BY PWSO PRIOR TO BURIAL. FLARED COUPLINGS WILL BE ALLOWED ON ALL SERVICES 3/4" AND SMALLER.

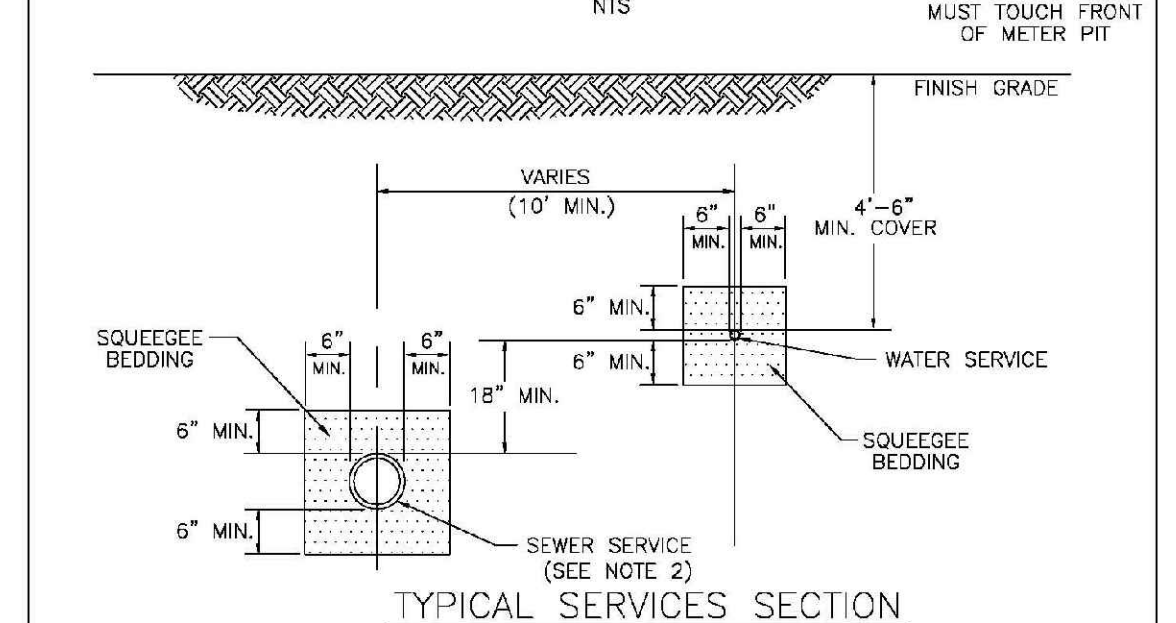
PARKER WATER & SANITATION DISTRICT DISTRICT POLICIES & INSTALLATION NOTES FOR WATER SERVICES	
ROAD / LINE	DATE
APPROVED:	1/04
PVR	1/16
DIRECTOR OF ENGINEERING	10/16

2016 REVISION

SHEET W1.1



TYPICAL SERVICES PLAN VIEW



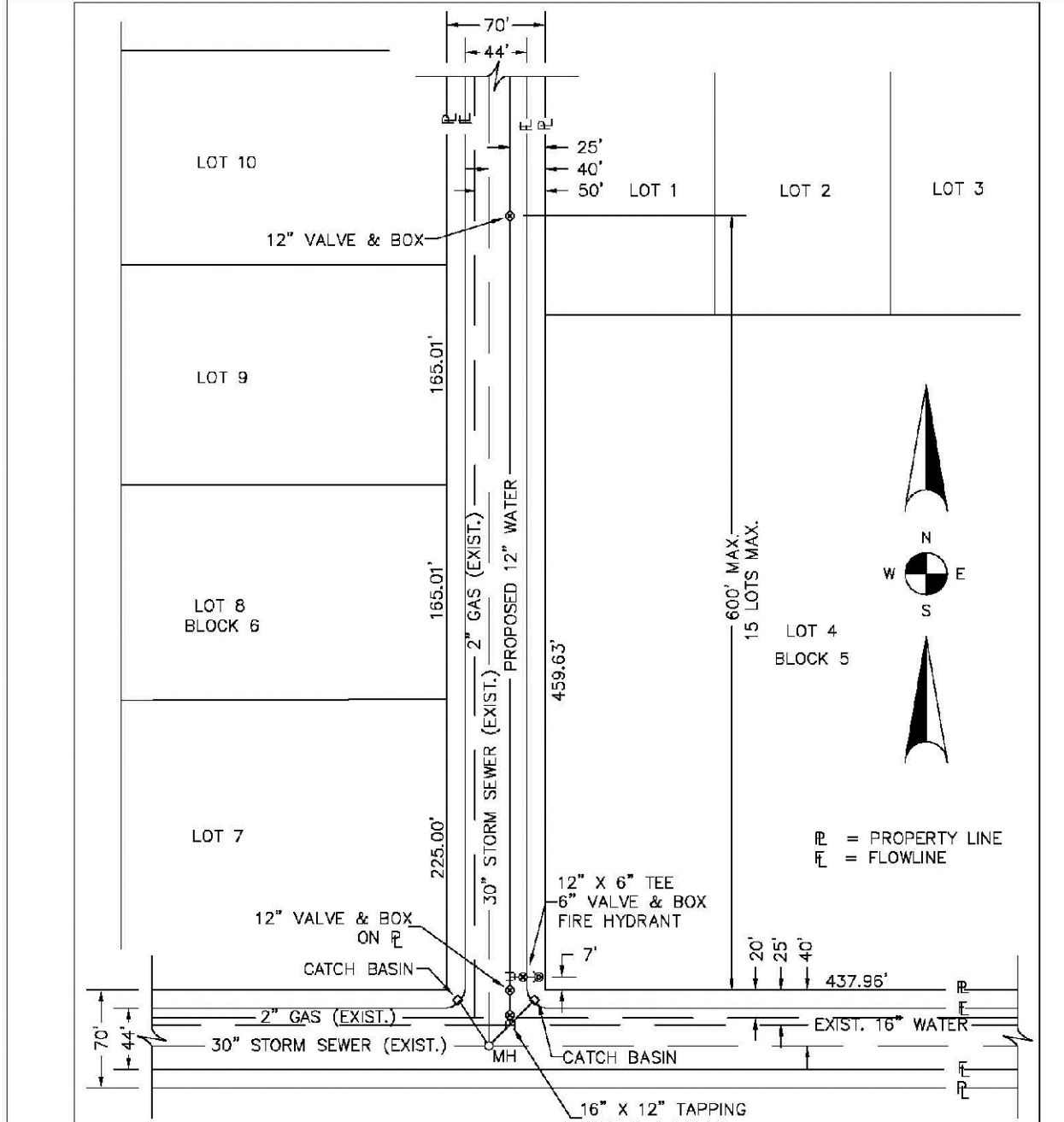
TYPICAL SERVICES SECTION

- NOTE**
1. SEE SHEET W1.1 FOR DISTRICT POLICIES AND INSTALLATION NOTES.
  2. REFER TO SEWER SERVICES DETAIL SHEET S1.2.
  3. 4" PVC SLEEVES REQUIRED FOR SERVICE LINES UNDER CONCRETE SURFACE.

PARKER WATER & SANITATION DISTRICT TYPICAL WATER SERVICES	
SCALE	DATE
APPROVED:	1/04 10/16
PVR	10/16
DIRECTOR OF ENGINEERING	10/16

2016 REVISION

SHEET W1.2



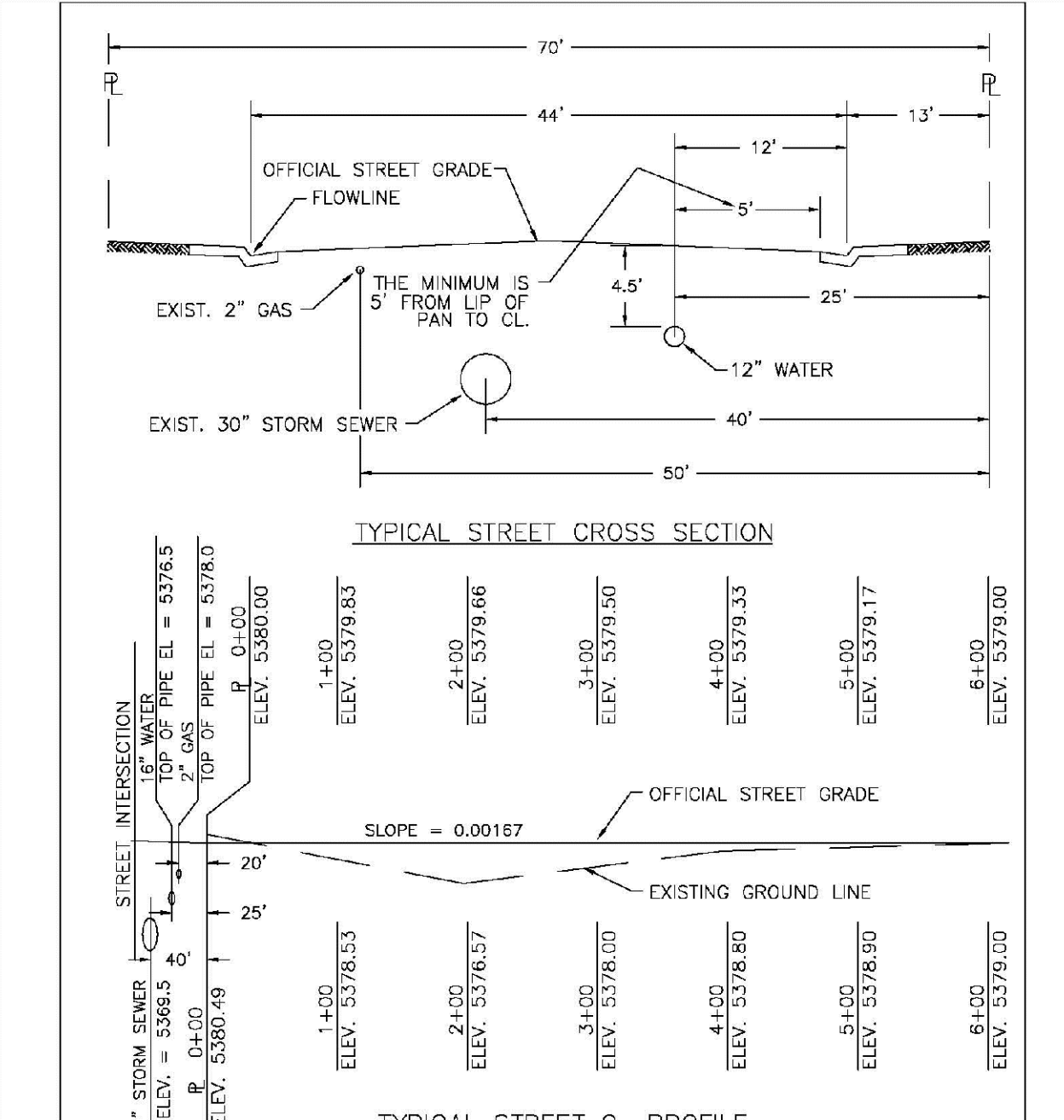
TYPICAL PLAN

- NOTES:**
1. SEE TYPICAL STREET CROSS SECTION - TYPICAL STREET Q PROFILE DRAWING.
  2. ALL FIRE HYDRANTS TO BE LOCATED AT POINTS OTHER THAN CORNER INTERSECTIONS SHALL BE INSTALLED AT A LOT LINE EXTENDED.

PARKER WATER & SANITATION DISTRICT WATER DISTRIBUTION SYSTEM TYPICAL PLAN	
SCALE	DATE
APPROVED:	1/16 10/16
PVR	10/16
DIRECTOR OF ENGINEERING	10/16

2016 REVISION

SHEET W2.1



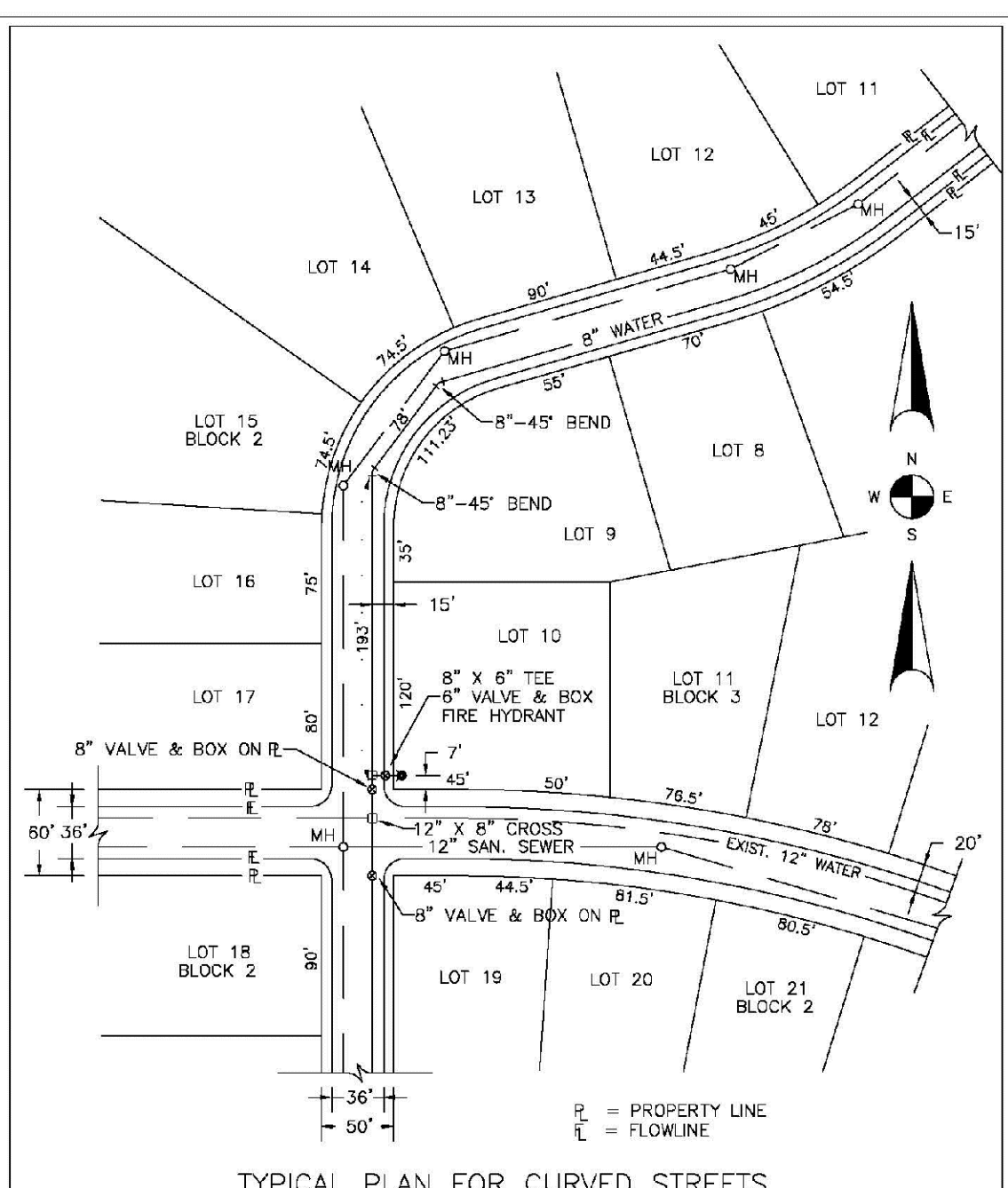
TYPICAL STREET CROSS SECTION

- NOTE:**
1. FOR USE ON ALL DUCTILE IRON AND PVC WATER MAINS.
  2. LOCATOR STATION POSITION MAY BE MODIFIED AT THE DISCRETION OF THE DISTRICT ENGINEER.
  3. A CONTINUITY TEST WILL BE REQUIRED PRIOR TO PERMANENT ACCEPTANCE.

PARKER WATER & SANITATION DISTRICT TYPICAL STREET CROSS SECTION TYPICAL STREET Q PROFILE	
SCALE	DATE
APPROVED:	1/16 10/16
PVR	10/16
DIRECTOR OF ENGINEERING	10/16

2016 REVISION

SHEET W2.2



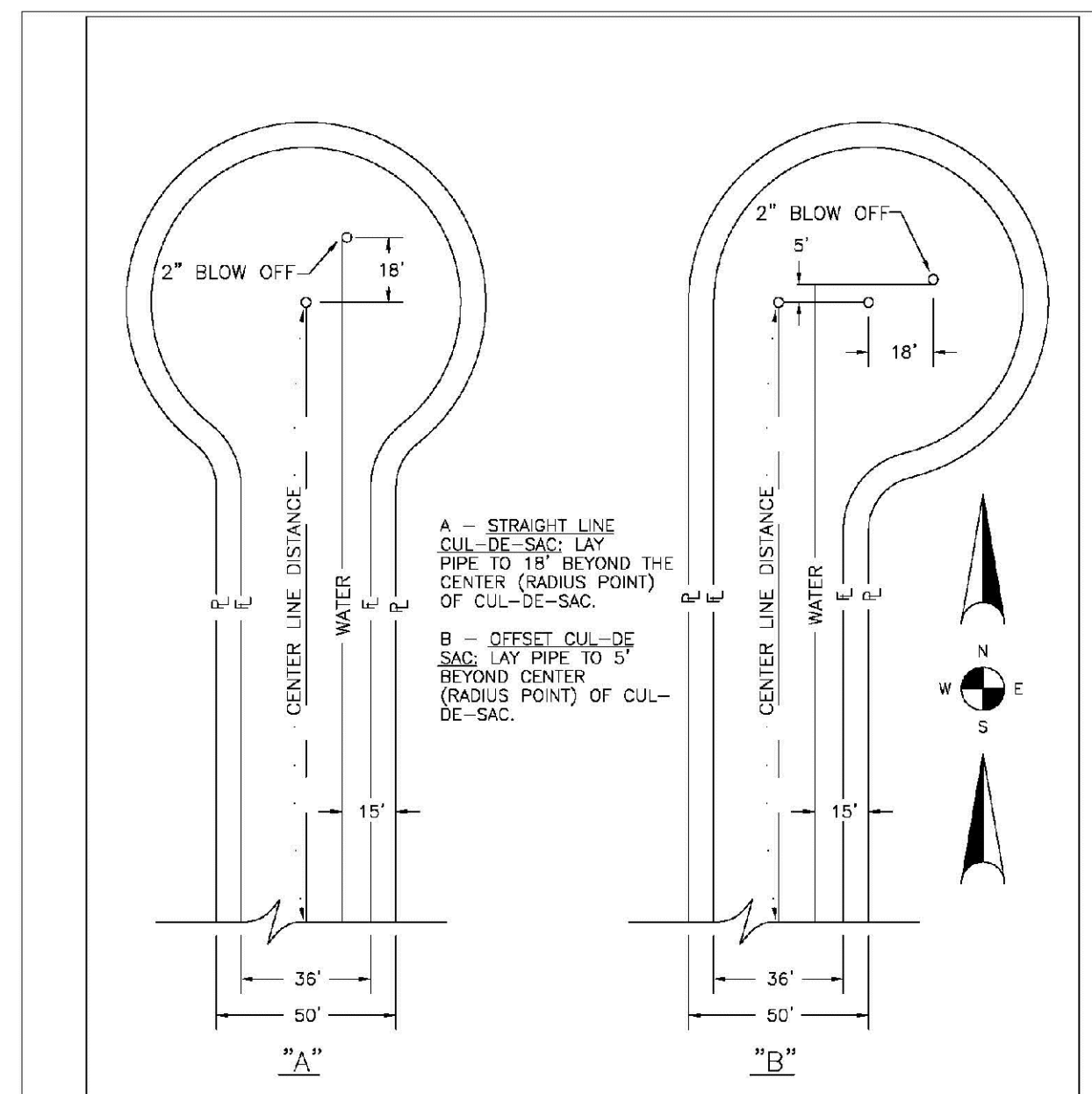
TYPICAL PLAN FOR CURVED STREETS

- NOTE:** WATER AND SEWER MAY NEVER BE CLOSER THAN 10' HORIZONTALLY AND MUST MAINTAIN A MINIMUM OF 5' FROM THE LIP OF PAV ON THE GUTTER.

PARKER WATER & SANITATION DISTRICT WATER DISTRIBUTION SYSTEM TYPICAL PLAN FOR CURVED STREETS	
SCALE	DATE
APPROVED:	1/16 10/16
PVR	10/16
DIRECTOR OF ENGINEERING	10/16

2016 REVISION

SHEET W2.3



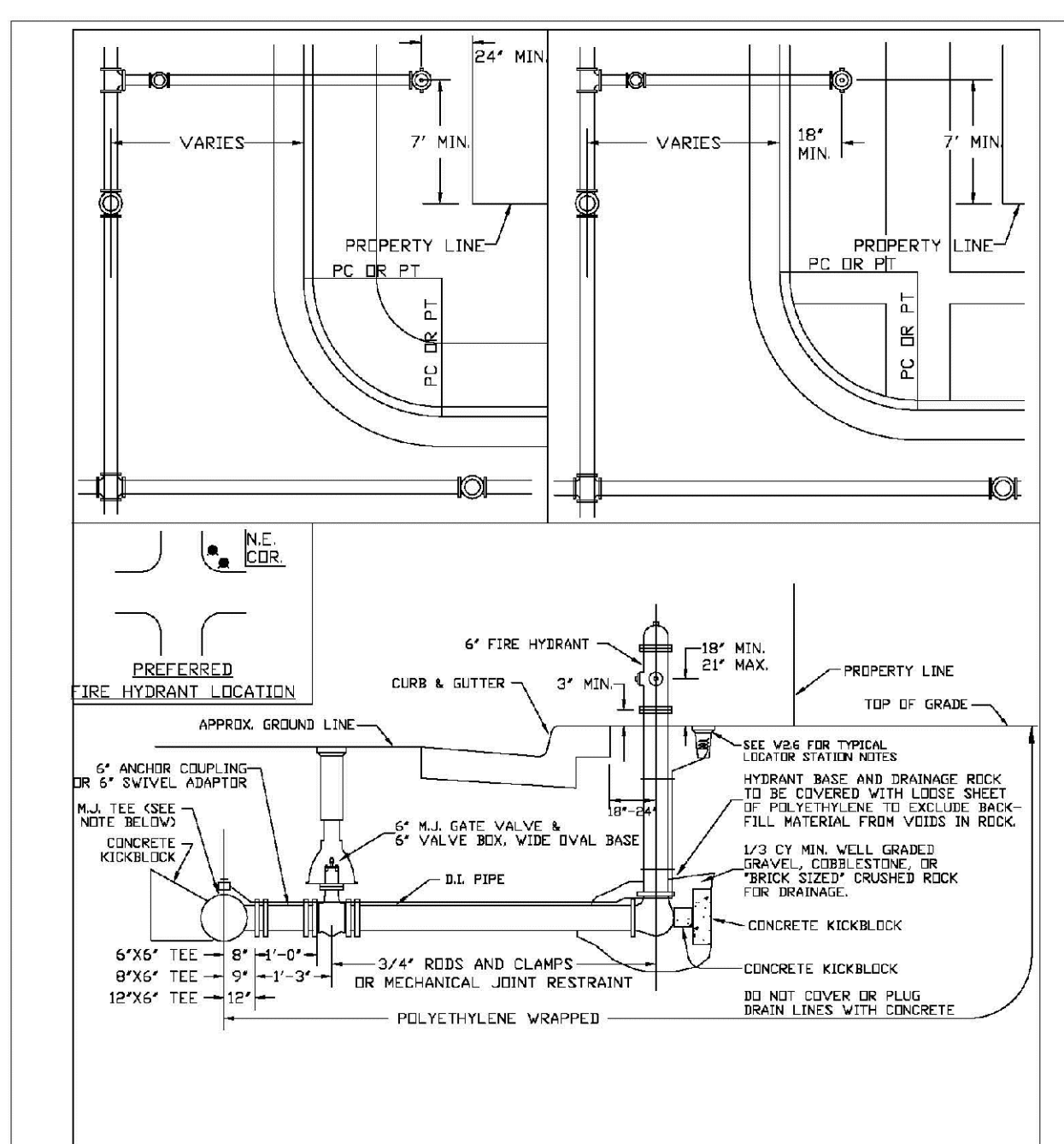
TYPICAL PLAN FOR CUL-DE-SACS

- NOTE:**
- A - STRAIGHT LINE CUL-DE-SAC: LAY PIPE TO 15' BEYOND THE CENTER (RADIUS POINT) OF CUL-DE-SAC.
  - B - OFFSET CUL-DE-SAC: LAY PIPE TO 5' BEYOND CENTER (RADIUS POINT) OF CUL-DE-SAC.

PARKER WATER & SANITATION DISTRICT WATER DISTRIBUTION SYSTEM TYPICAL PLAN FOR CUL-DE-SACS	
SCALE	DATE
APPROVED:	1/16 10/16
PVR	10/16
DIRECTOR OF ENGINEERING	10/16

2016 REVISION

SHEET W2.4



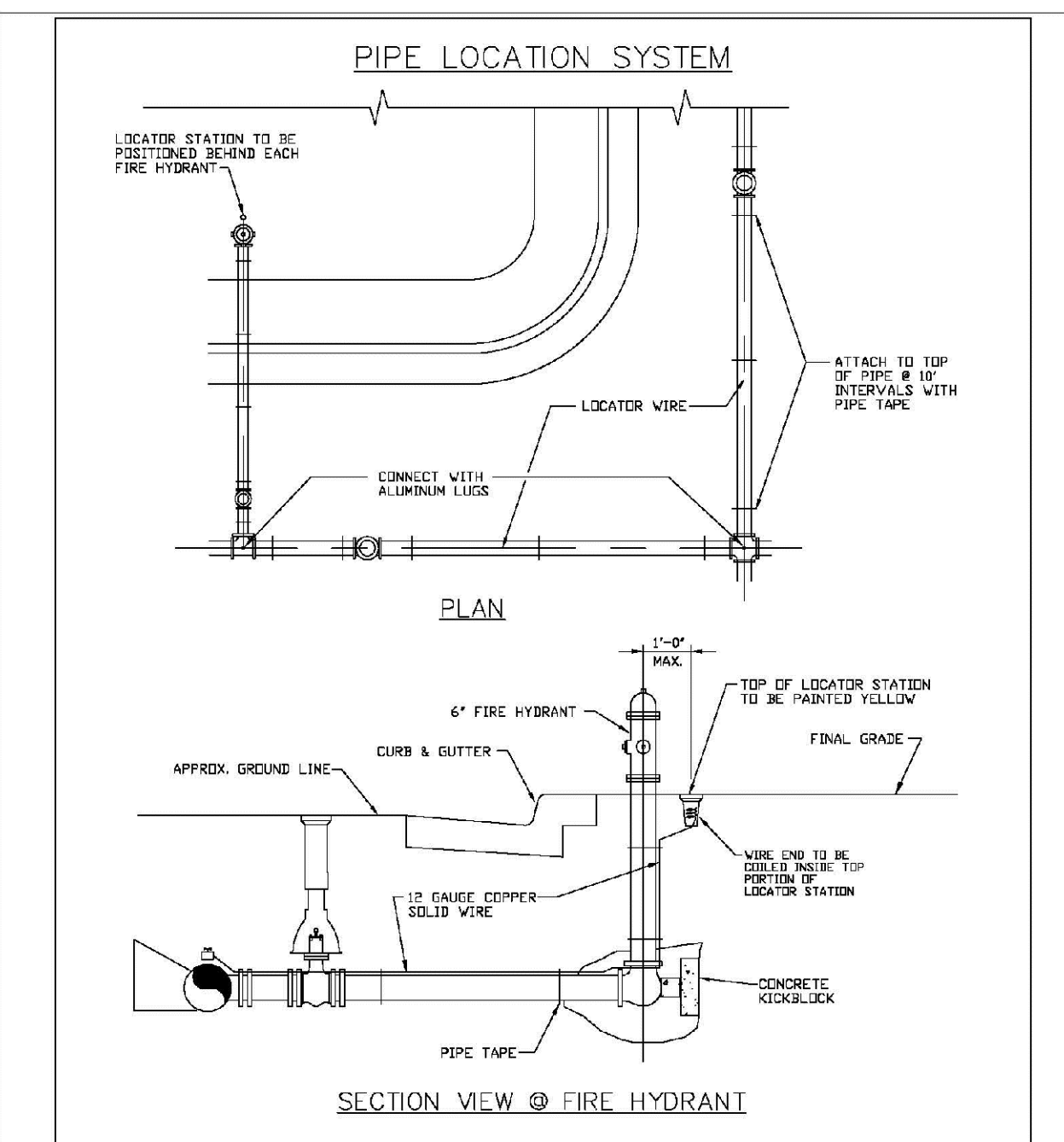
PARKER WATER & SANITATION DISTRICT  
FIRE HYDRANTS  
LOCATION & INSTALLATION

- NOTES:**
1. ALTERNATE TO THE ABOVE: FASTEN PLUG VALVE DIRECTLY TO A 6" RIGID (SEE SCHEDULED DRAWING 'T1').
  2. NO HORIZONTAL OR VERTICAL BENDS ARE ALLOWED IN FIRE HYDRANT BRANCH.
  3. NO PORTION OF FIRE HYDRANT MAY BE EXTENDED TO NEAR WALK AREA.

PARKER WATER & SANITATION DISTRICT FIRE HYDRANTS LOCATION & INSTALLATION	
SCALE	DATE
APPROVED:	4/07 10/16
PVR	10/16
DIRECTOR OF ENGINEERING	10/16

2016 REVISION

SHEET W2.5



PARKER WATER & SANITATION DISTRICT  
LOCATOR WIRE DETAILS

- NOTES:**
1. FOR USE ON ALL DUCTILE IRON AND PVC WATER MAINS.
  2. LOCATOR STATION POSITION MAY BE MODIFIED AT THE DISCRETION OF THE DISTRICT ENGINEER.
  3. A CONTINUITY TEST WILL BE REQUIRED PRIOR TO PERMANENT ACCEPTANCE.

PARKER WATER & SANITATION DISTRICT LOCATOR WIRE DETAILS	
SCALE	DATE
APPROVED:	4/07 10/16
PVR	10/16
DIRECTOR OF ENGINEERING	10/16

2016 REVISION

SHEET W2.6

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DRAWN BY: JF	SCALE: AS SHOWN	FILE NO: 8130283701	DATE: MAY 2020
	CHECKED BY: BPW	FILE NO: 8130283701	

No.	Revisions	Date	Init.	Appr.	Date

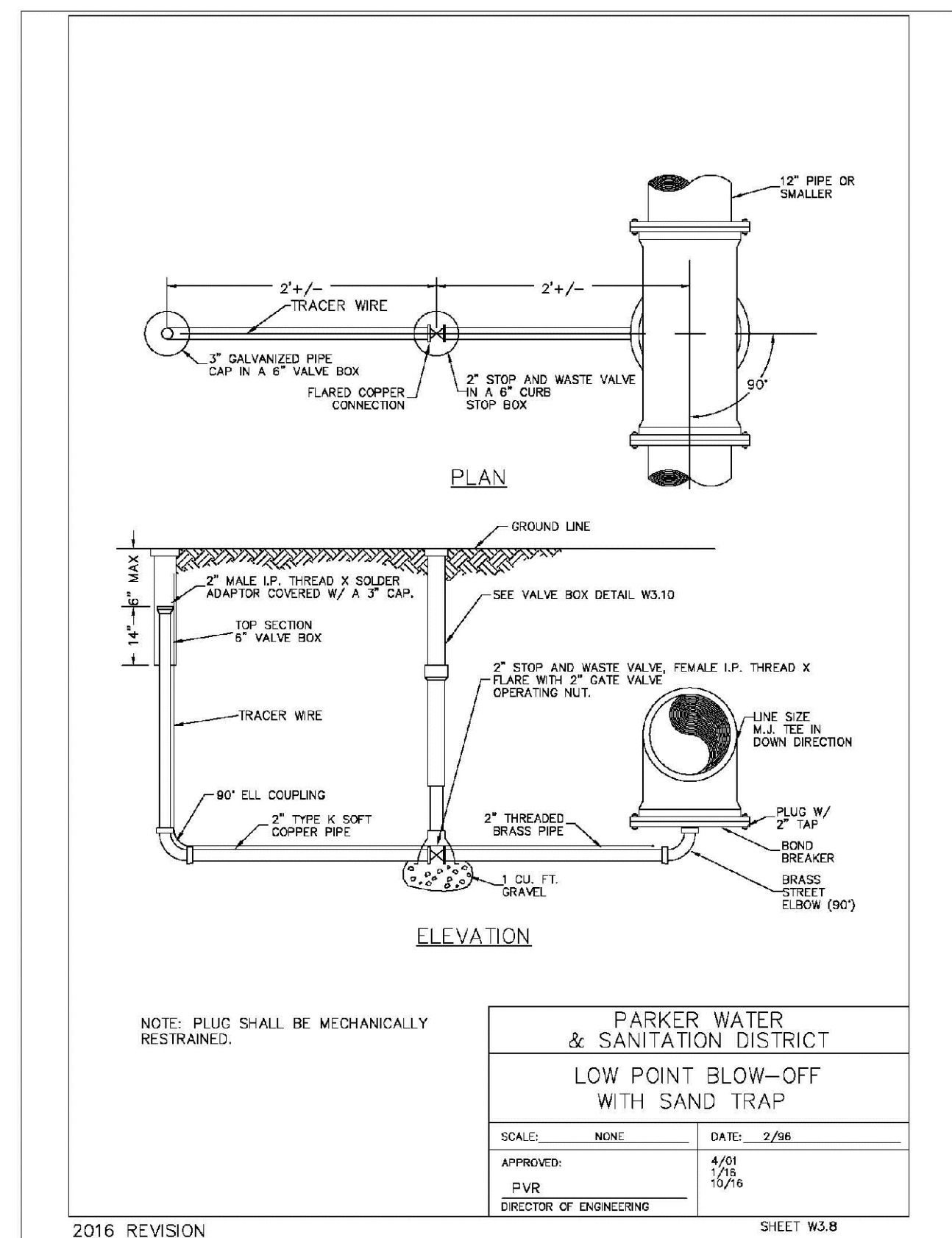
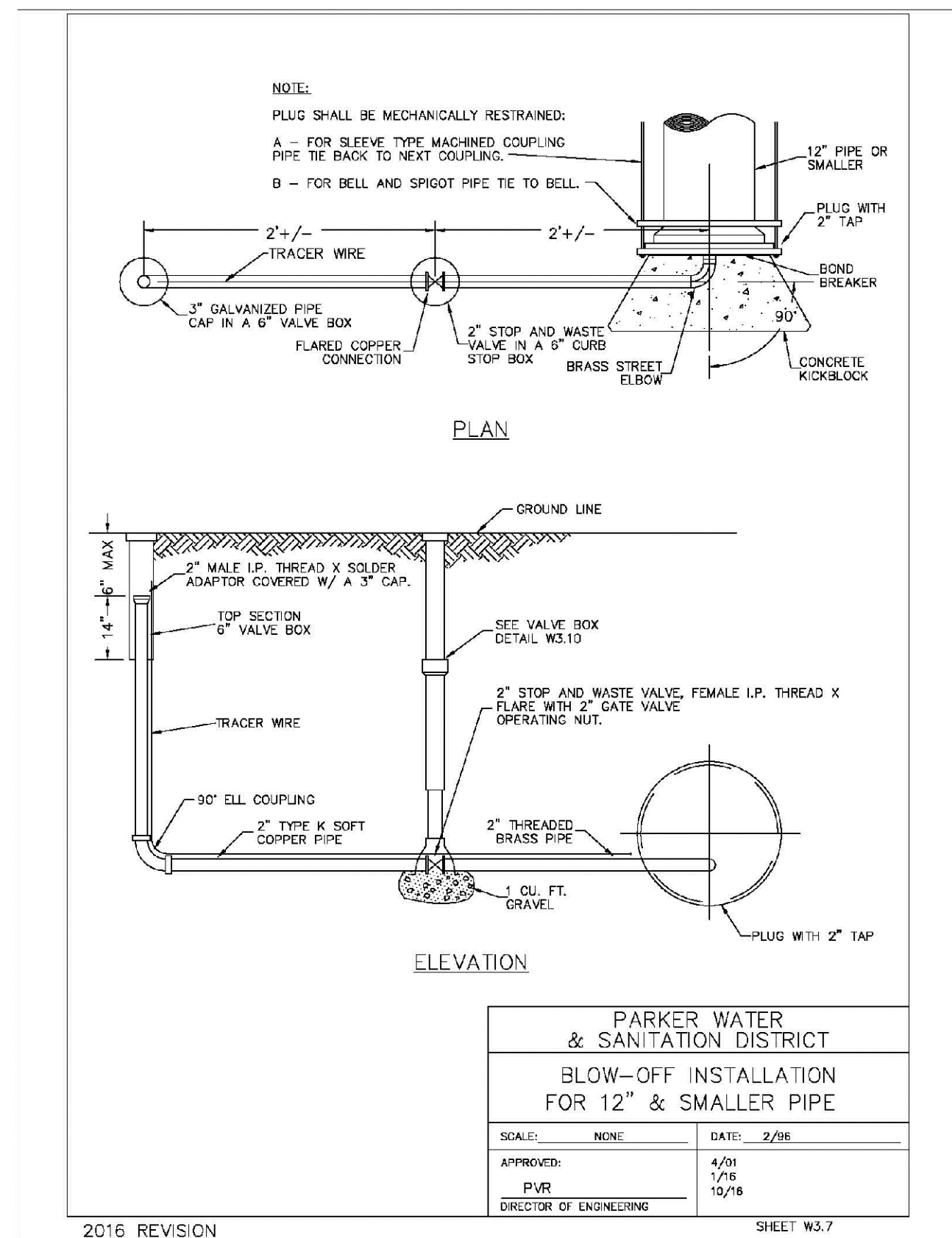
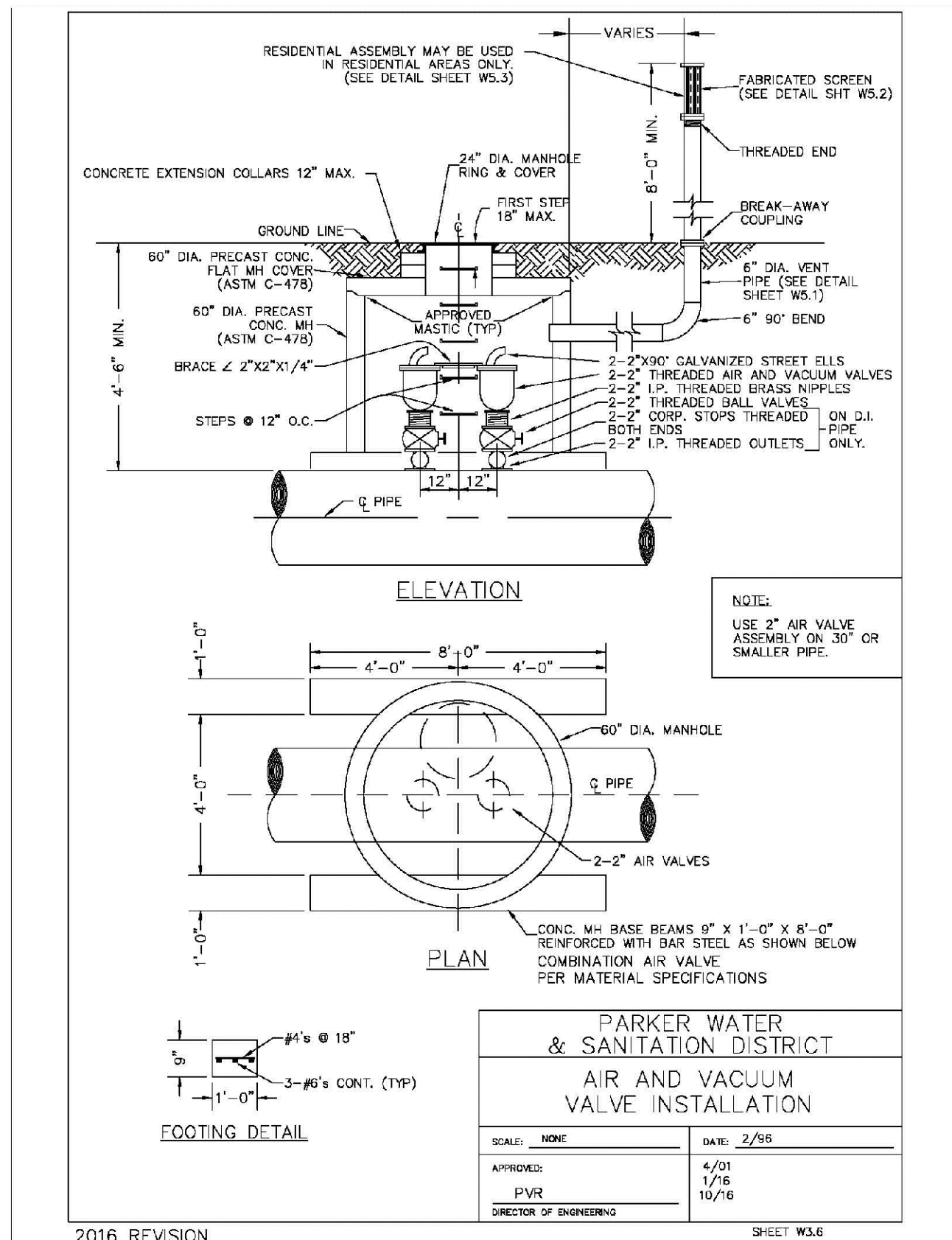
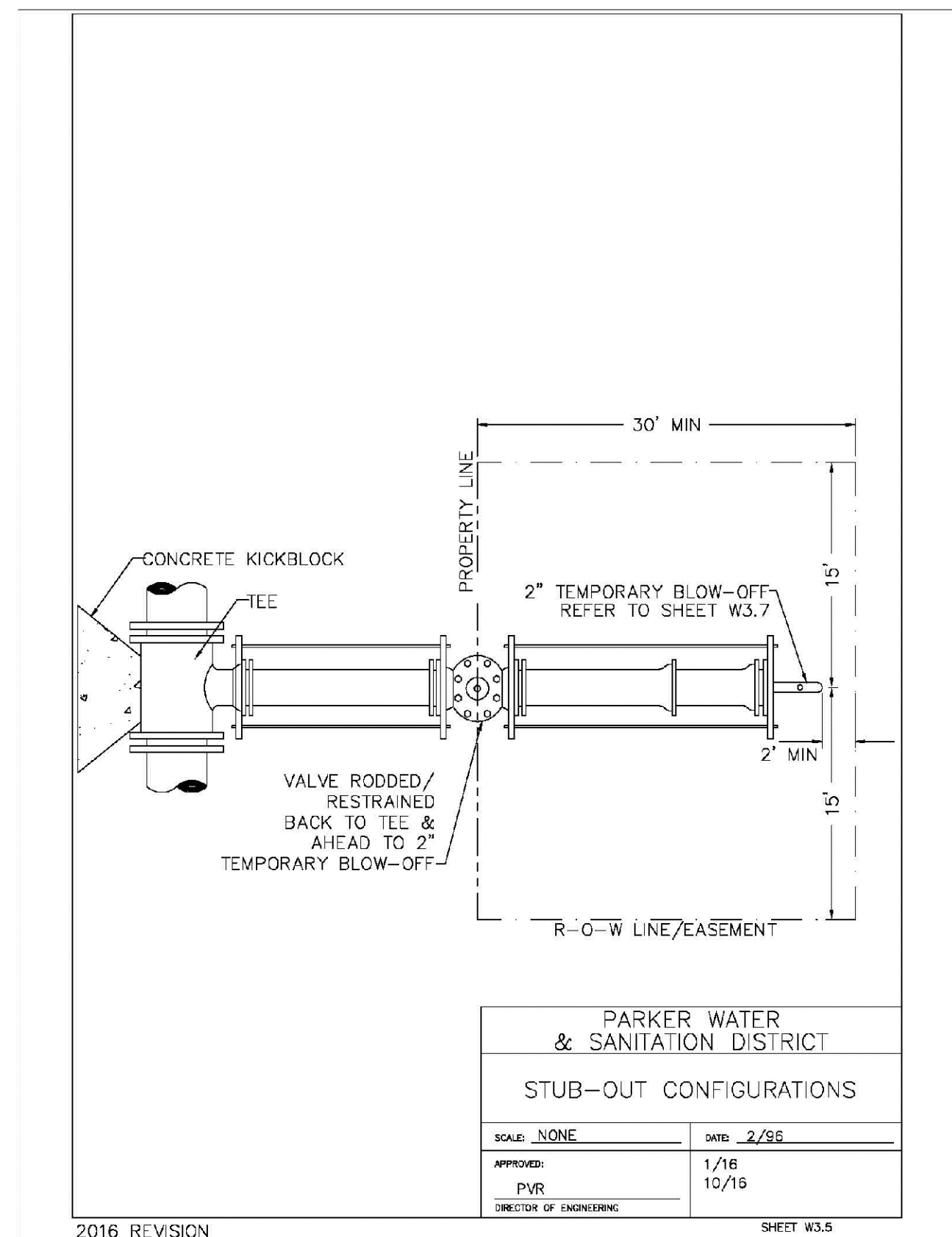
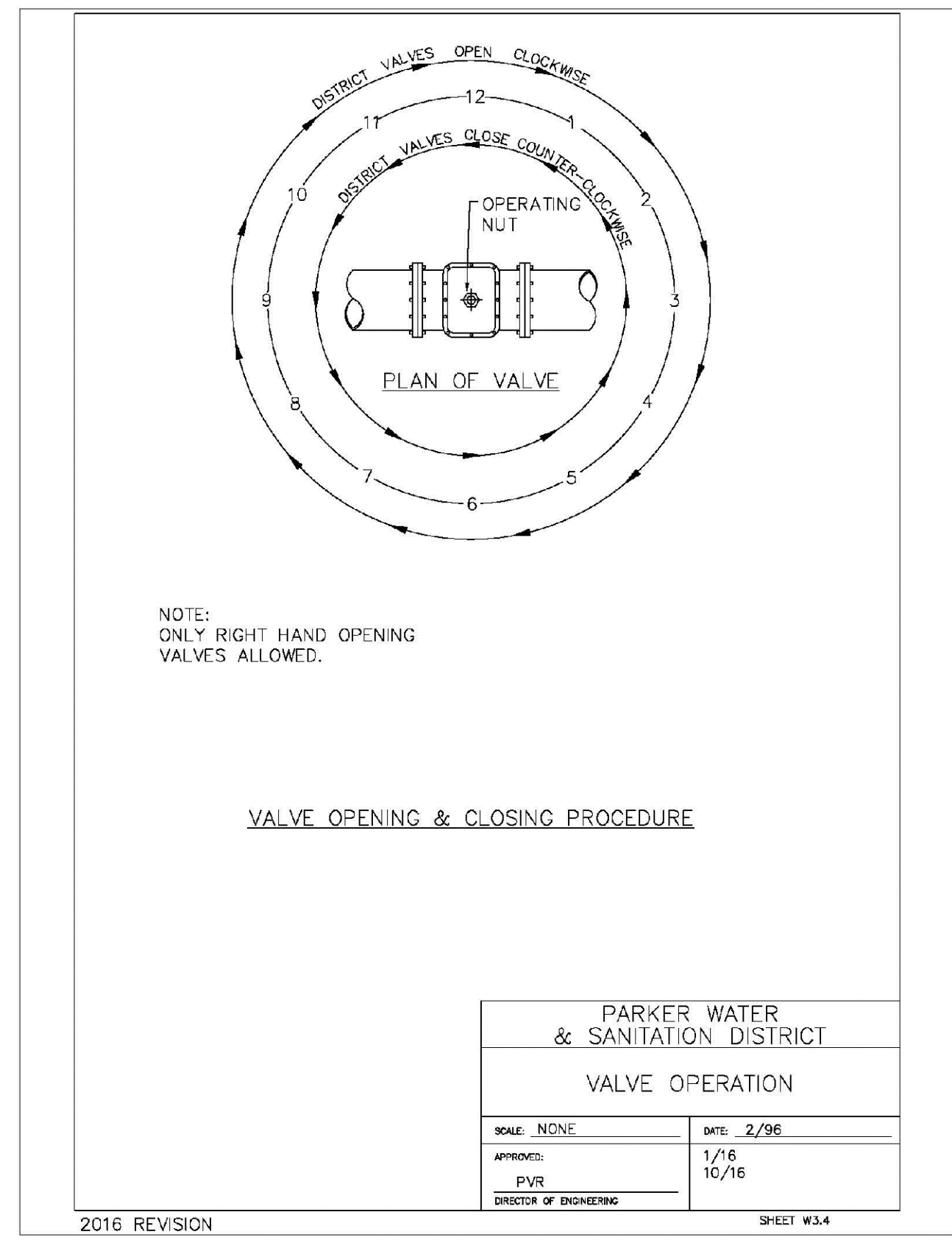
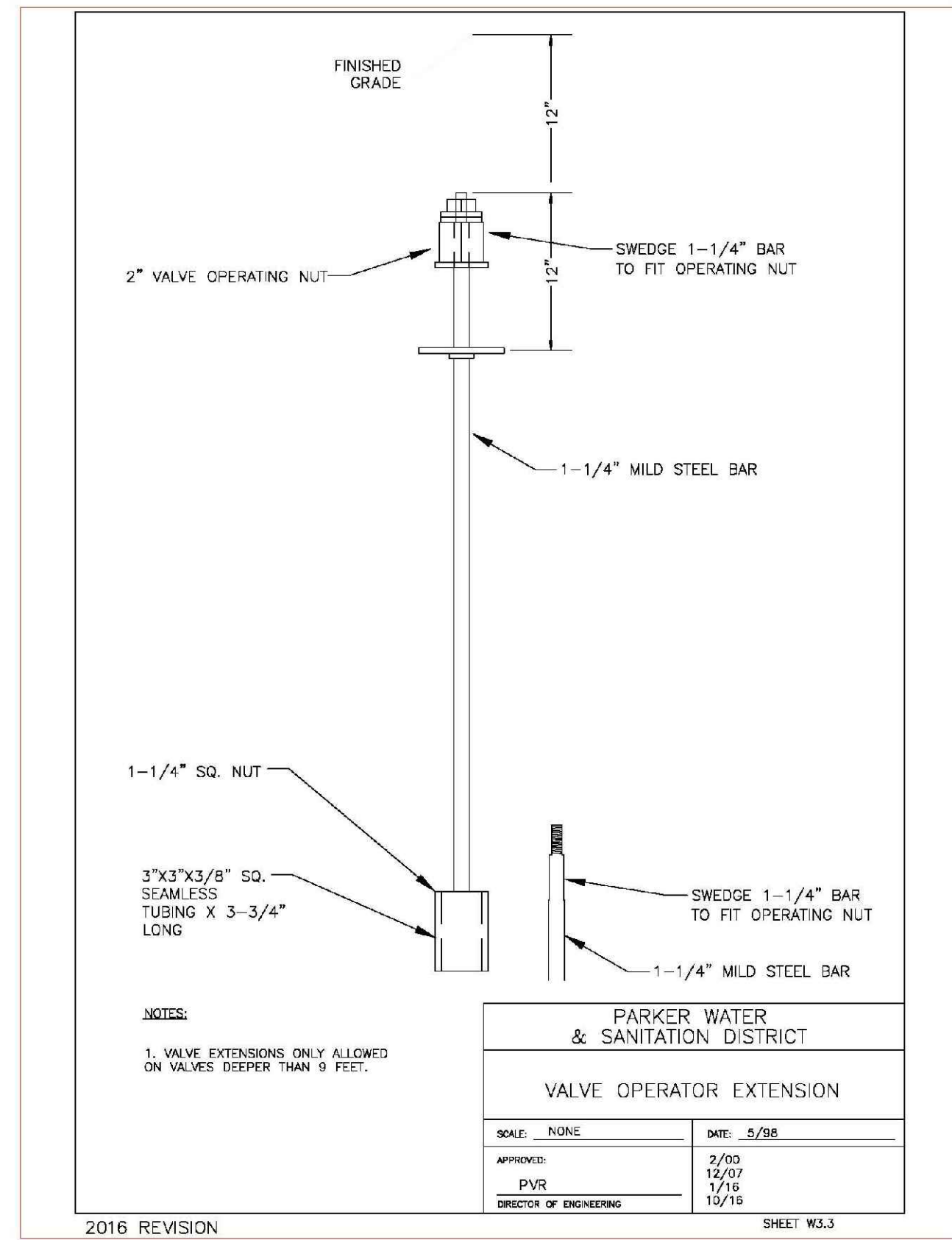
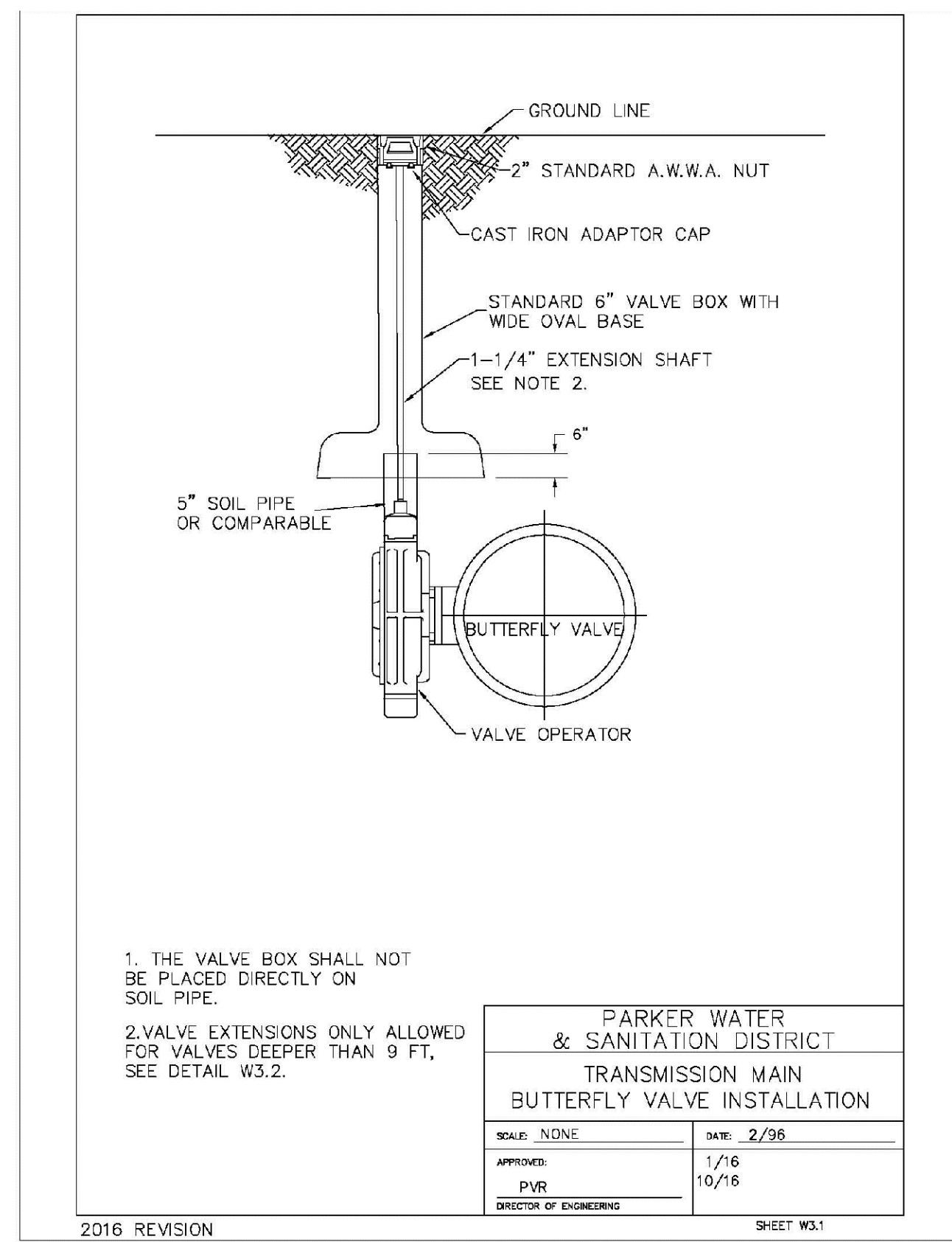
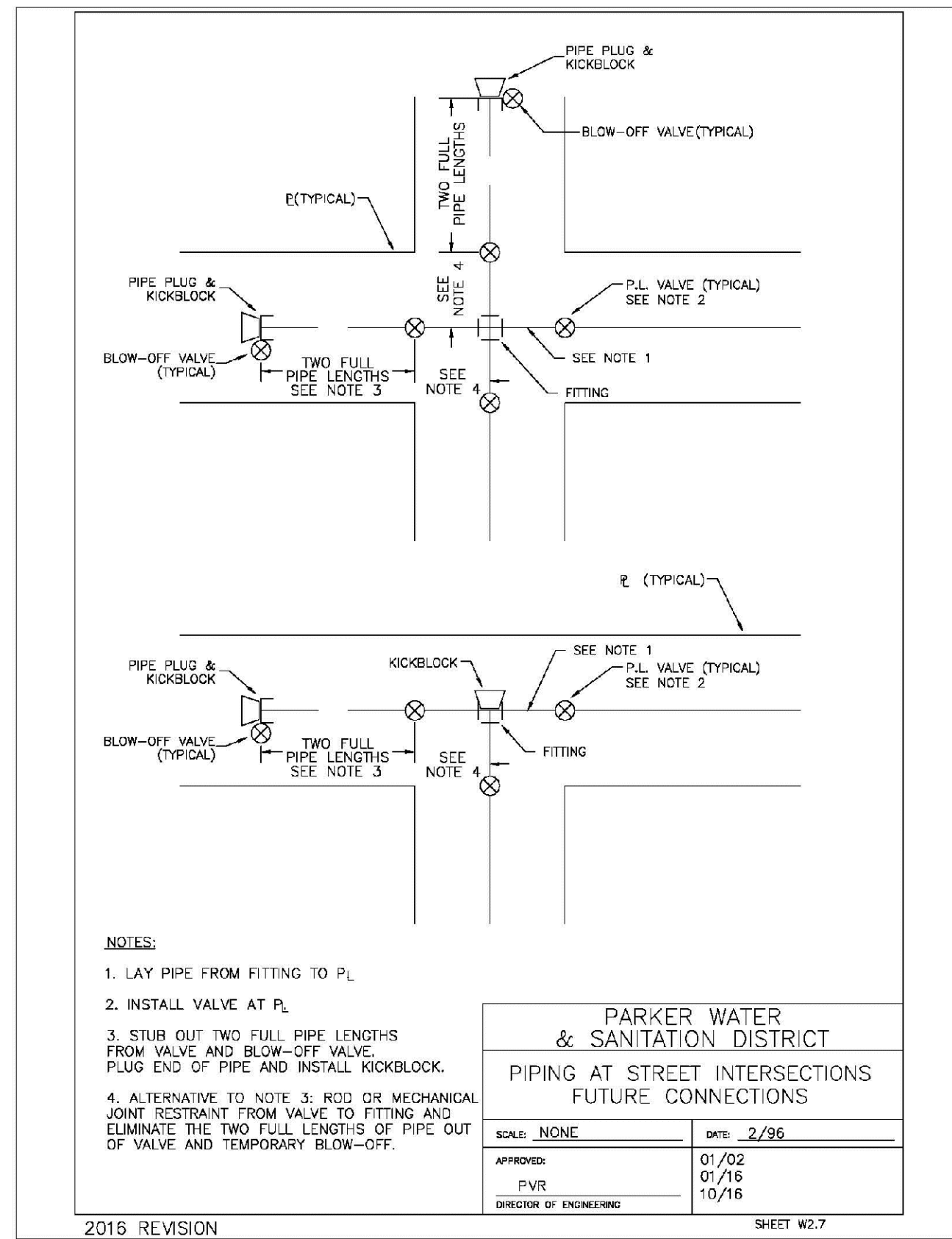
  

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Fax: (720) 482-9546

**CVL**  
CONSULTANTS

HR 935 LLC  
7355 South Alton Way  
CENTENNIAL, CO 80112





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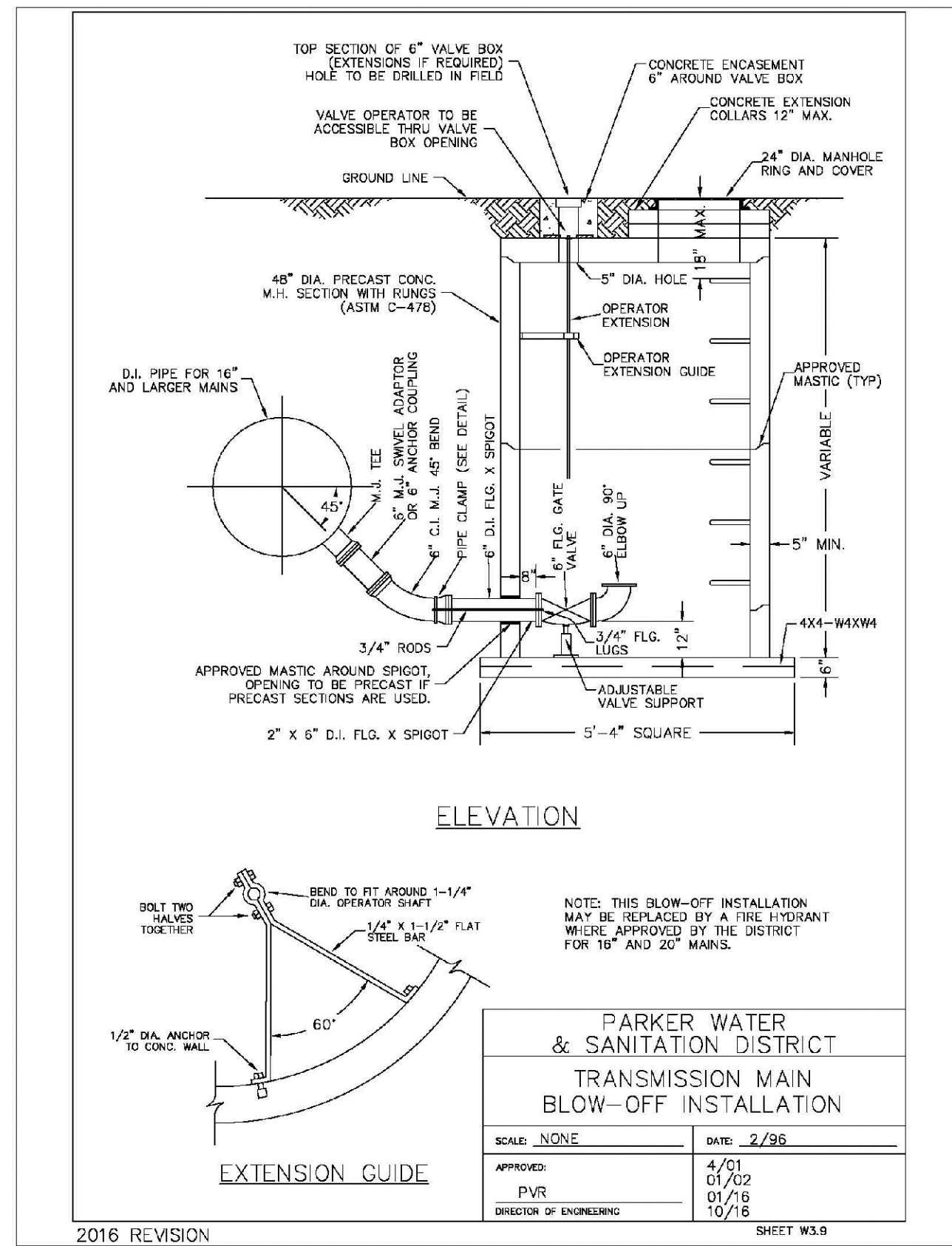
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 CENTENNIAL, CO 80112

**TRAILS AT CROWFOOT**  
**FILING 8 CONSTRUCTION DRAWINGS**  
**WATER DETAILS**

SCALE:	AS SHOWN	FILE NO.:	8130283701
DRAWN BY:	JF	CHECKED BY:	BPV
DATE:	MAY 2020		

**SHEET NUMBER 10**





ELEVATION

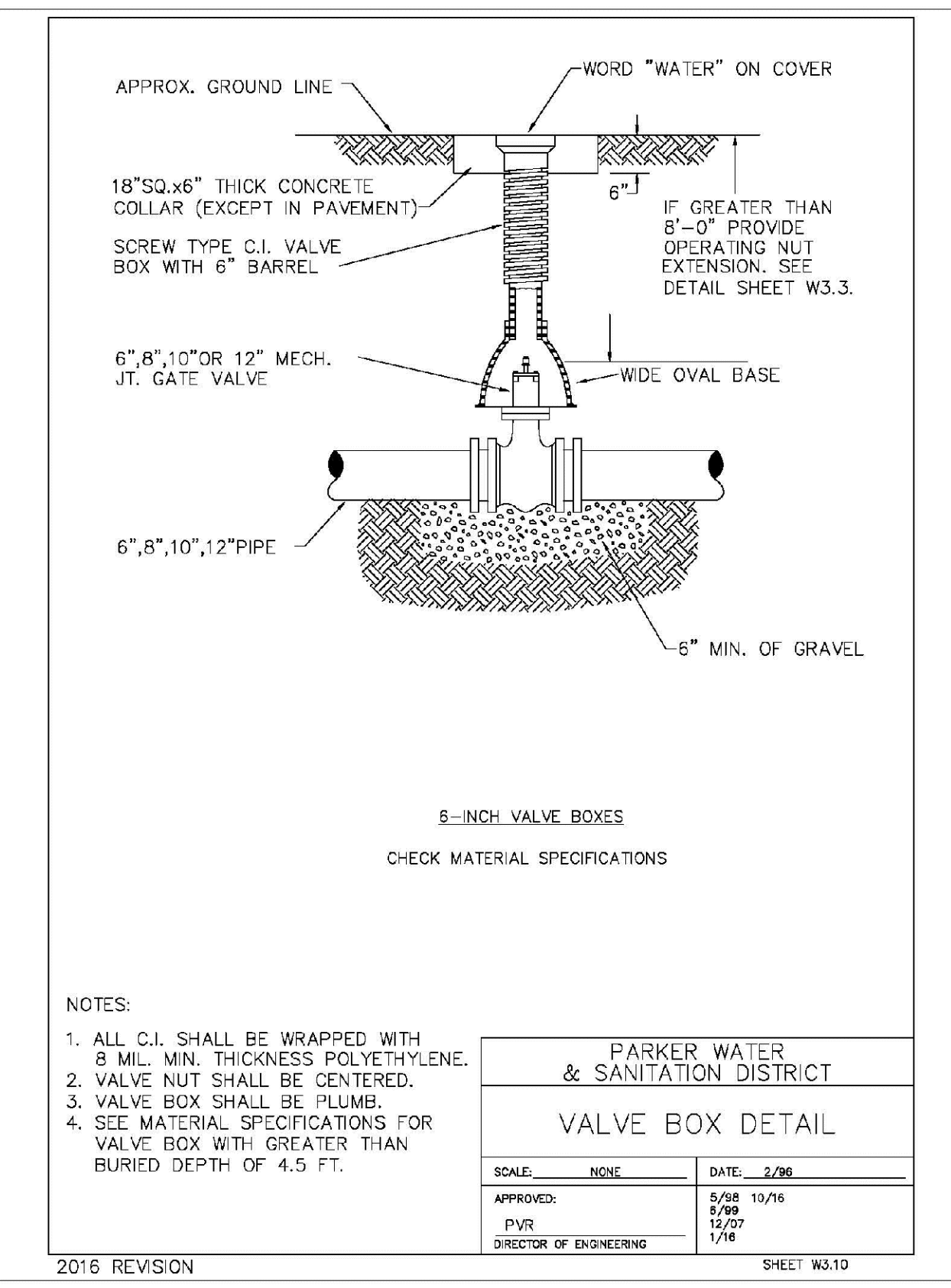
EXTENSION GUIDE

PARKER WATER & SANITATION DISTRICT  
TRANSMISSION MAIN  
BLOW-OFF INSTALLATION

SCALE: NONE DATE: 2/95

APPROVED: 4/01  
PVR 01/02  
DIRECTOR OF ENGINEERING 01/16 10/16

2016 REVISION



6-INCH VALVE BOXES  
CHECK MATERIAL SPECIFICATIONS

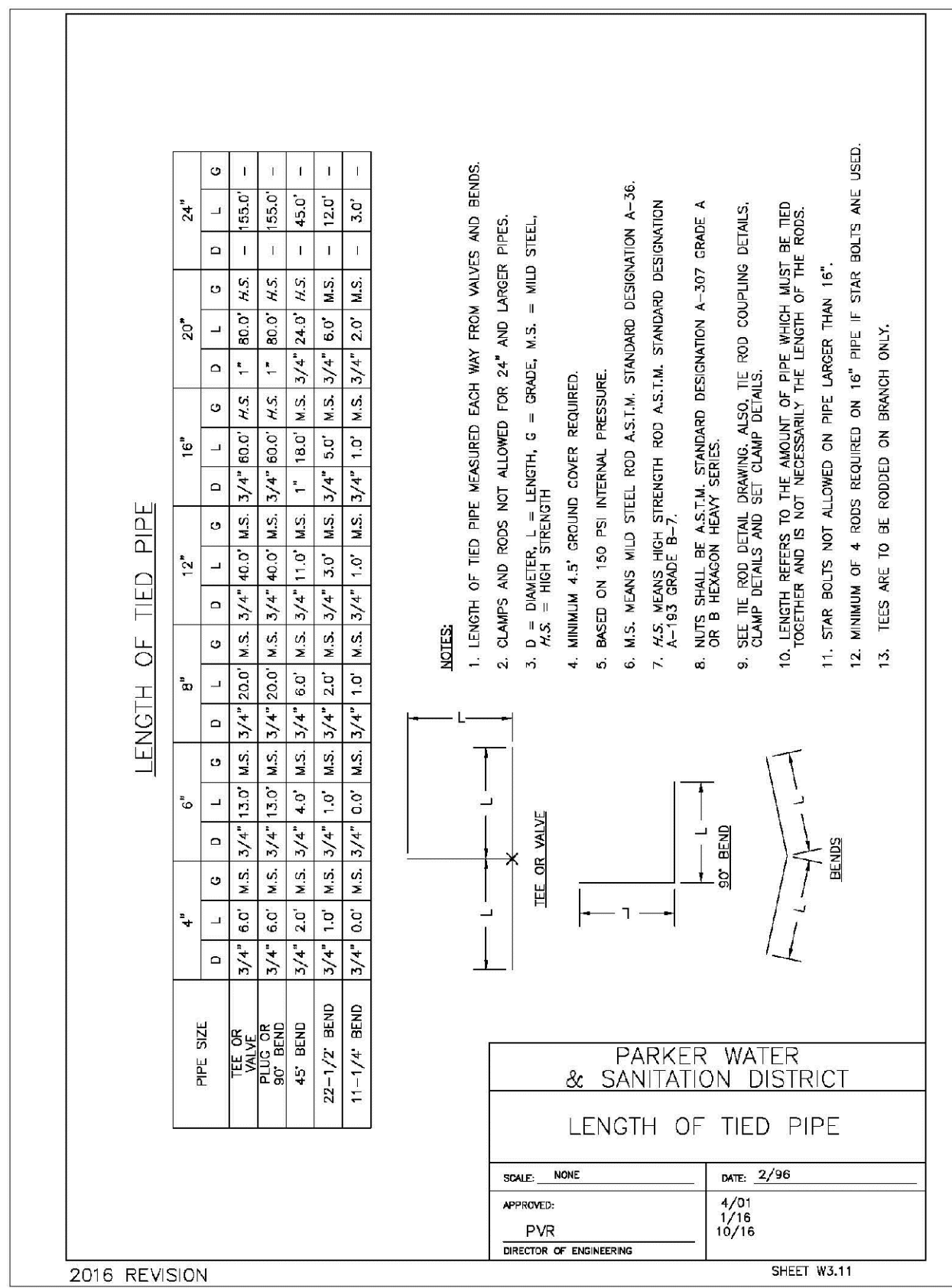
NOTES:  
1. ALL C.I. SHALL BE WRAPPED WITH 8 MIL. MIN. THICKNESS POLYETHYLENE.  
2. VALVE NUT SHALL BE CENTERED.  
3. VALVE BOX SHALL BE PLUMB.  
4. SEE MATERIAL SPECIFICATIONS FOR VALVE BOX WITH GREATER THAN BURIED DEPTH OF 4.5 FT.

PARKER WATER & SANITATION DISTRICT  
VALVE BOX DETAIL

SCALE: NONE DATE: 2/96

APPROVED: 5/96 10/16  
PVR 12/07 10/16  
DIRECTOR OF ENGINEERING

2016 REVISION



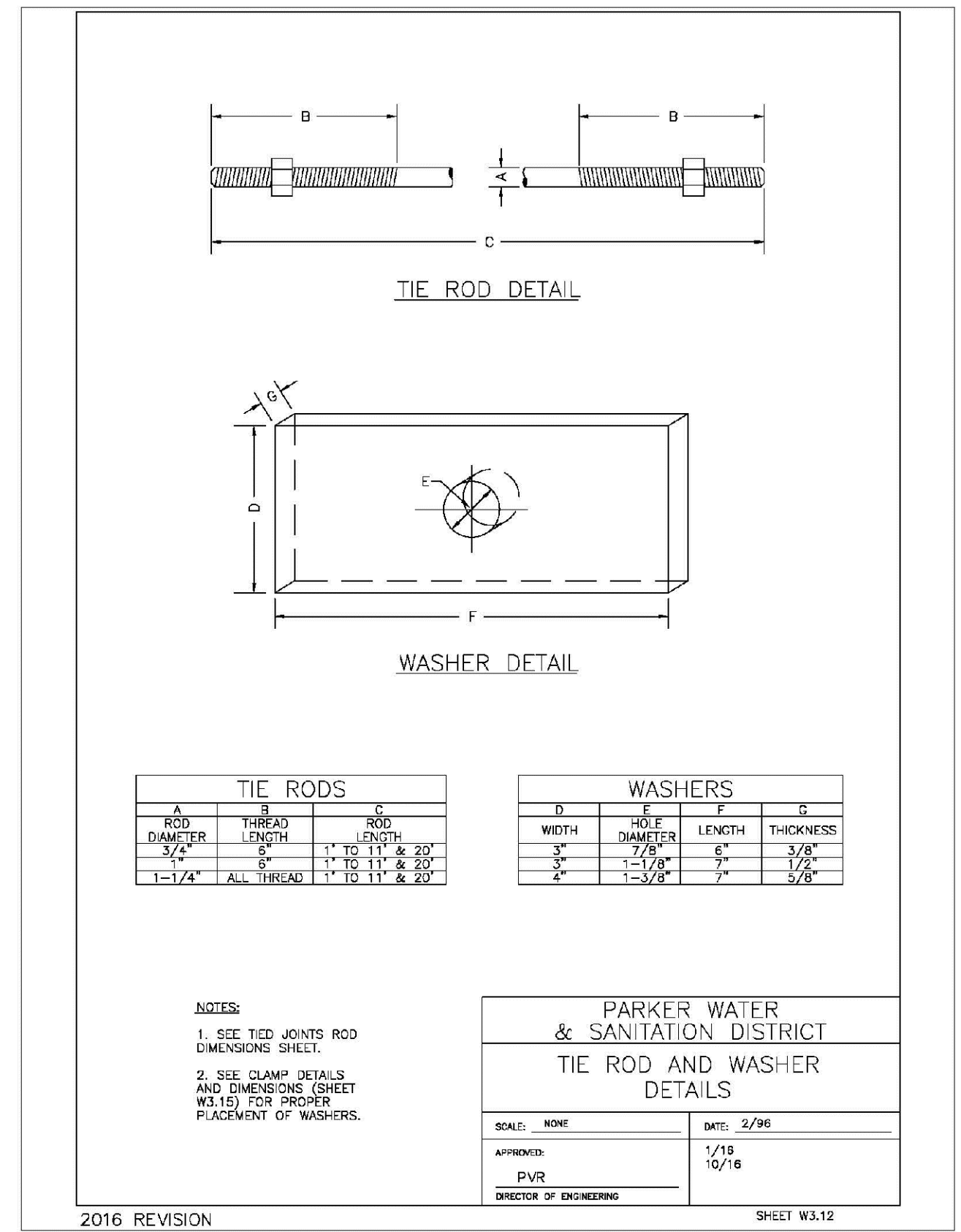
LENGTH OF TIED PIPE

PARKER WATER & SANITATION DISTRICT  
LENGTH OF TIED PIPE

SCALE: NONE DATE: 2/96

APPROVED: 4/01 10/16  
PVR 10/16 10/16  
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TIE ROD DETAIL

WASHER DETAIL

TIE RODS

ROD DIAMETER	ROD LENGTH	ROD HOLE LENGTH
3/4"	1'-11 1/2"	8'-20"
1"	1'-10 1/2"	8'-20"
1-1/4"	ALL THREAD	10'-11 1/2" & 20"

WASHERS

D	F	G
3"	7/8"	3/8"
4"	1-1/8"	7/8"
4"	1-3/8"	7/8"

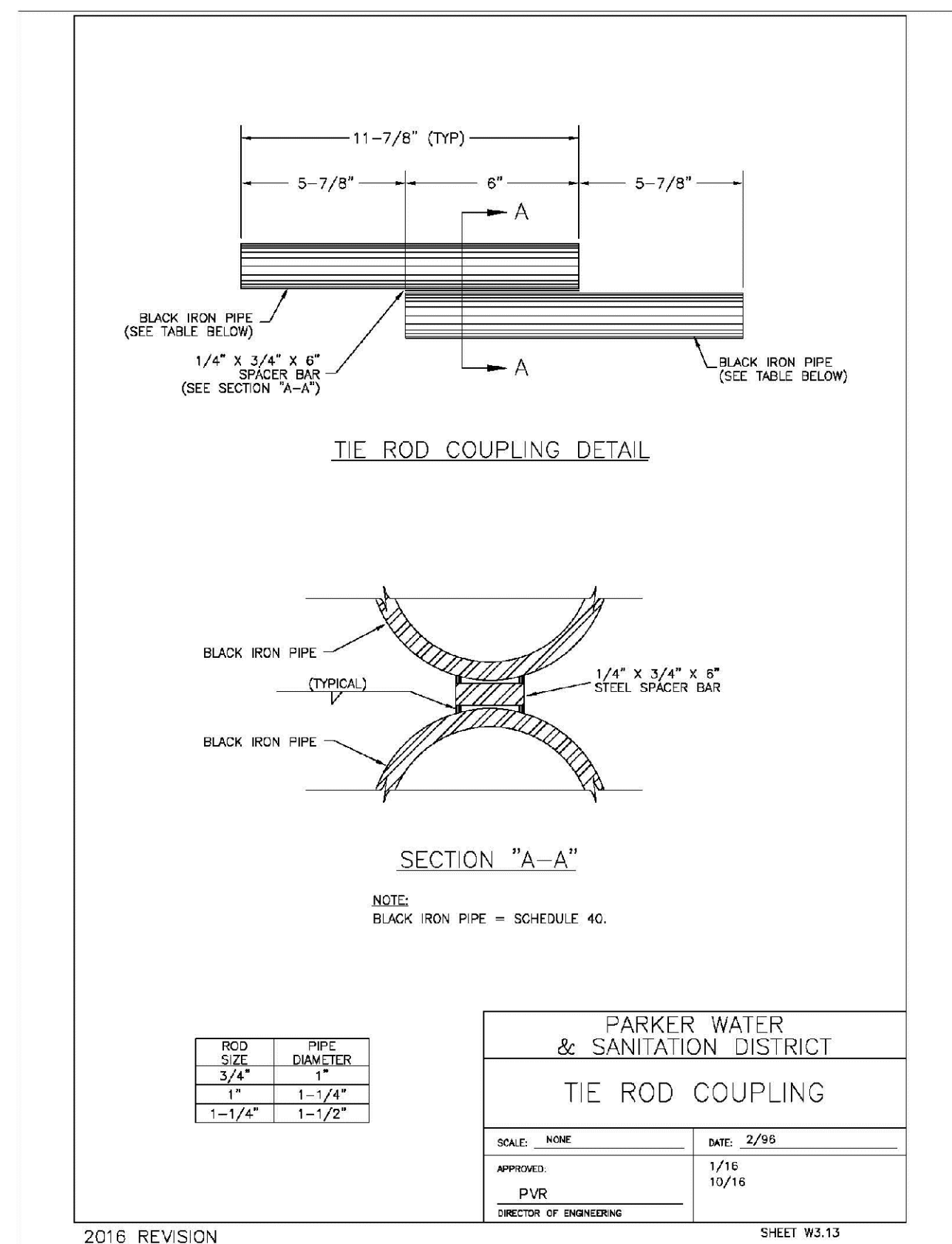
NOTES:  
1. SEE TIED JOINTS ROD DIMENSIONS SHEET.  
2. SEE CLAMP DETAILS AND DIMENSIONS SHEET (W3.15) FOR PROPER PLACEMENT OF WASHERS.

PARKER WATER & SANITATION DISTRICT  
TIE ROD AND WASHER DETAILS

SCALE: NONE DATE: 2/96

APPROVED: 1/16 10/16  
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2016 REVISION



TIE ROD COUPLING DETAIL

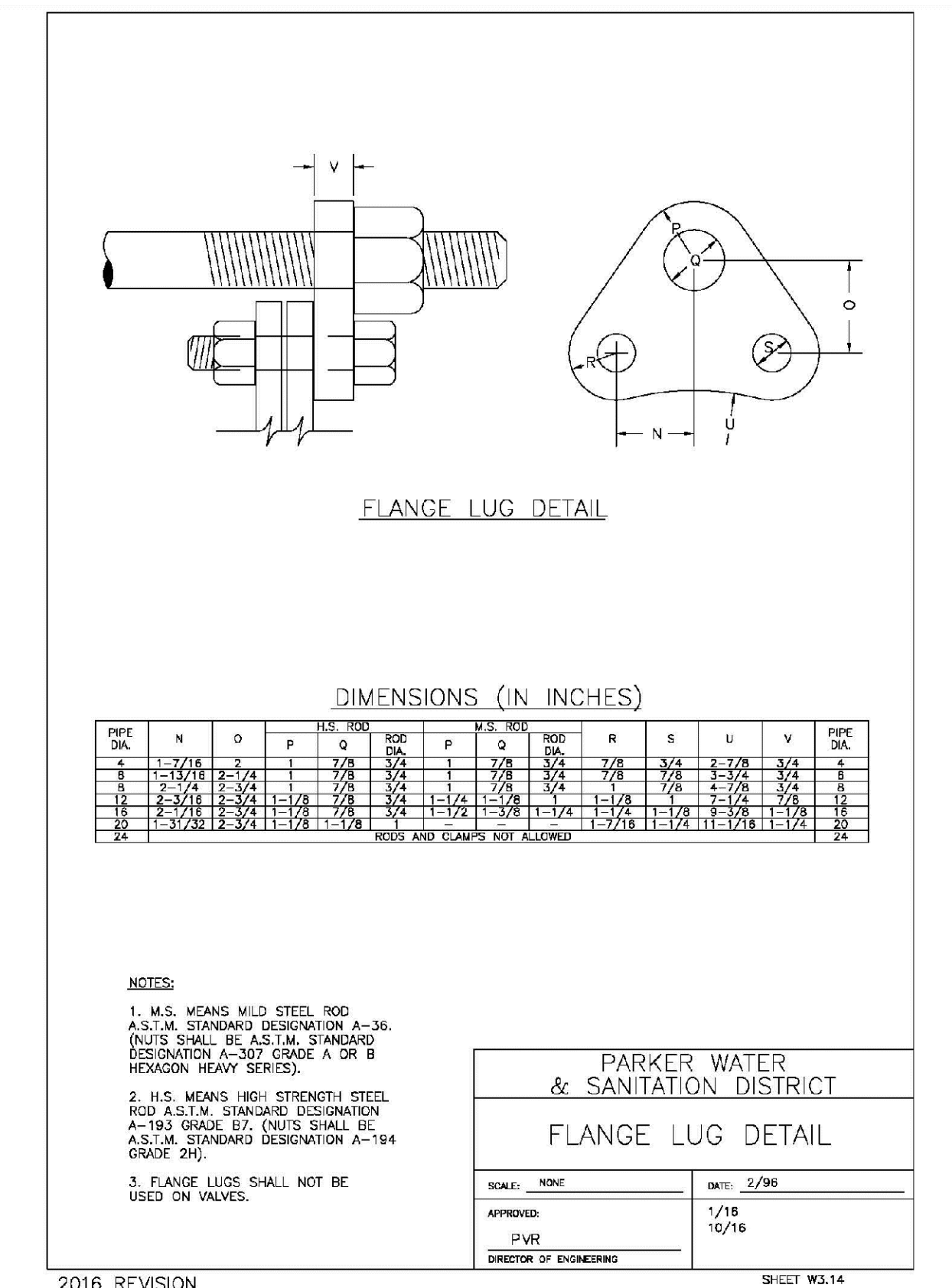
SECTION "A-A"

PARKER WATER & SANITATION DISTRICT  
TIE ROD COUPLING

SCALE: NONE DATE: 2/95

APPROVED: 1/16 10/16  
PVR 10/16  
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2016 REVISION



FLANGE LUG DETAIL

DIMENSIONS (IN INCHES)

PIPE DIA.	N	O	P	Q	R	S	T	U	V	PIPE DIA.
4	1-1/2	1	1/2	3/2	1	1/2	3/4	7/8	3/4	4
6	2-1/2	1-1/2	1	1/2	3/4	1	7/8	7/8	3/4	6
8	3-1/2	2-1/2	1-1/2	1	1/2	1	1-1/2	7/8	3/4	8
10	4-1/2	3-1/2	2-1/2	1-1/2	1	1-1/2	1-1/2	7/8	3/4	10
12	5-1/2	4-1/2	3-1/2	2-1/2	1-1/2	1-1/2	1-1/2	7/8	3/4	12
14	6-1/2	5-1/2	4-1/2	3-1/2	2-1/2	1-1/2	1-1/2	7/8	3/4	14
16	7-1/2	6-1/2	5-1/2	4-1/2	3-1/2	2-1/2	1-1/2	7/8	3/4	16
18	8-1/2	7-1/2	6-1/2	5-1/2	4-1/2	3-1/2	2-1/2	7/8	3/4	18
20	9-1/2	8-1/2	7-1/2	6-1/2	5-1/2	4-1/2	3-1/2	7/8	3/4	20
24	11-1/2	10-1/2	9-1/2	8-1/2	7-1/2	6-1/2	5-1/2	7/8	3/4	24

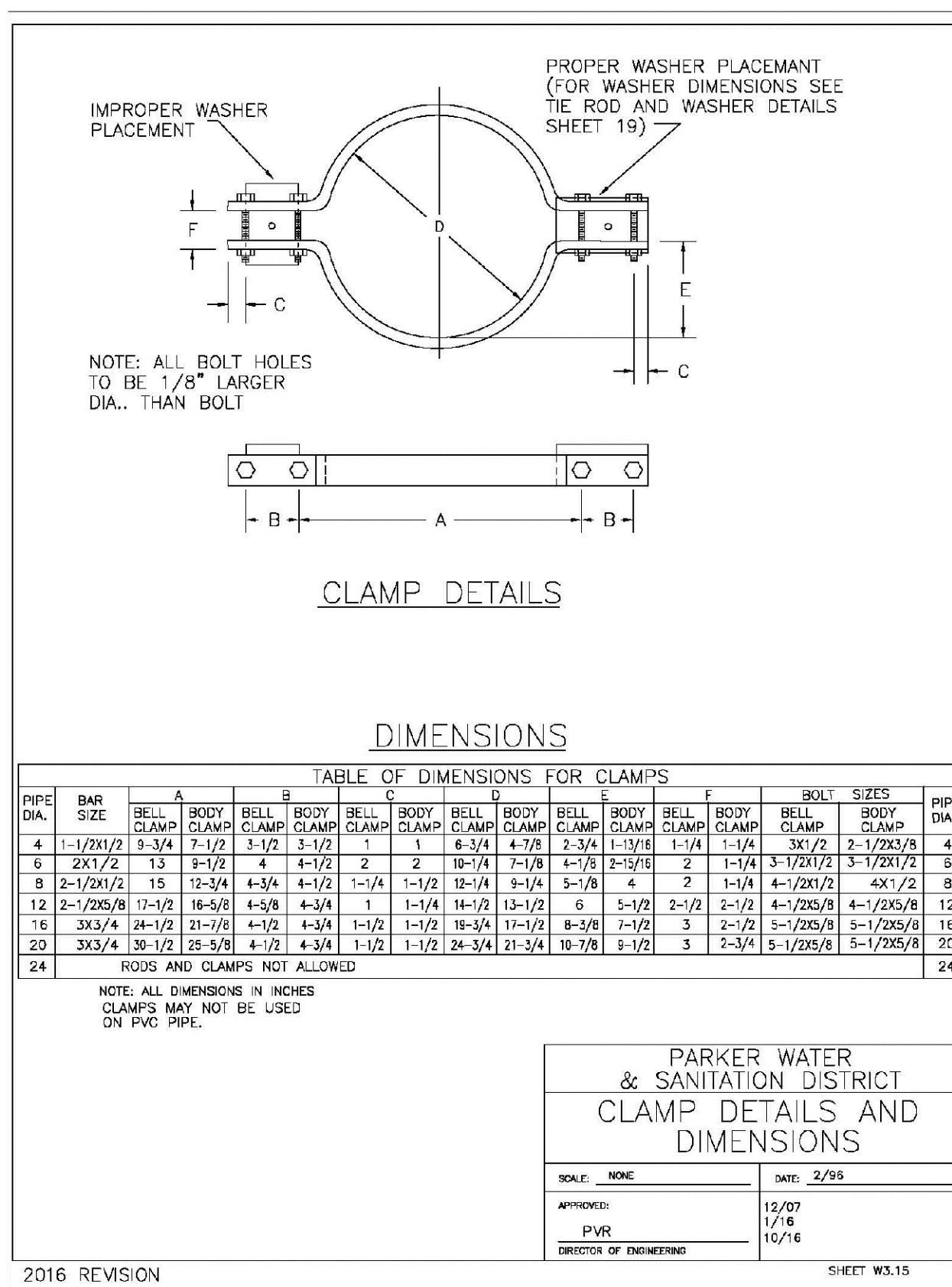
NOTES:  
1. M.S. MEANS MILD STEEL ROD A.S.T.M. STANDARD DESIGNATION A-36 (NUTS SHALL BE A.S.T.M. STANDARD DESIGNATION A-193 GRADE B7 (NUTS SHALL BE A.S.T.M. STANDARD DESIGNATION A-194 GRADE 2H).  
2. H.S. MEANS HIGH STRENGTH STEEL ROD A.S.T.M. STANDARD DESIGNATION A-193 GRADE B7 (NUTS SHALL BE A.S.T.M. STANDARD DESIGNATION A-194 GRADE 2H).  
3. FLANGE LUGS SHALL NOT BE USED ON VALVES.

PARKER WATER & SANITATION DISTRICT  
FLANGE LUG DETAIL

SCALE: NONE DATE: 2/96

APPROVED: 12/07 10/16  
PVR 10/16  
DIRECTOR OF ENGINEERING

2016 REVISION



CLAMP DETAILS

DIMENSIONS

TABLE OF DIMENSIONS FOR CLAMPS

PIPE DIA.	BAR SIZE	A	B	C	D	E	F	G	H	I	J	PIPE DIA.	
4	1-1/2	3-3/4	7-1/2	3-1/2	5-1/2	1	1	6-3/4	4-7/8	1-3/4	1-1/4	1-1/4	4
6	2-1/2	5-1/2	11-1/2	5-1/2	7-1/2	2	2	10-1/4	7-1/8	2-1/8	2-1/8	2-1/8	6
8	3-1/2	7-1/2	15-1/2	7-1/2	11-1/2	3	3	14-1/4	9-1/4	3-1/4	3-1/4	3-1/4	8
10	4-1/2	9-1/2	19-1/2	9-1/2	15-1/2	4	4	18-1/4	11-1/4	4-1/4	4-1/4	4-1/4	10
12	5-1/2	11-1/2	23-1/2	11-1/2	19-1/2	5	5	22-1/4	13-1/4	5-1/4	5-1/4	5-1/4	12
14	6-1/2	13-1/2	27-1/2	13-1/2	23-1/2	6	6	26-1/4	15-1/4	6-1/4	6-1/4	6-1/4	14
16	7-1/2	15-1/2	31-1/2	15-1/2	27-1/2	7	7	30-1/4	17-1/4	7-1/4	7-1/4	7-1/4	16
18	8-1/2	17-1/2	35-1/2	17-1/2	31-1/2	8	8	34-1/4	19-1/4	8-1/4	8-1/4	8-1/4	18
20	9-1/2	19-1/2	39-1/2	19-1/2	35-1/2	9	9	38-1/4	21-1/4	9-1/4	9-1/4	9-1/4	20
24	11-1/2	23-1/2	47-1/2	23-1/2	43-1/2	11	11	46-1/4	25-1/4	11-1/4	11-1/4	11-1/4	24

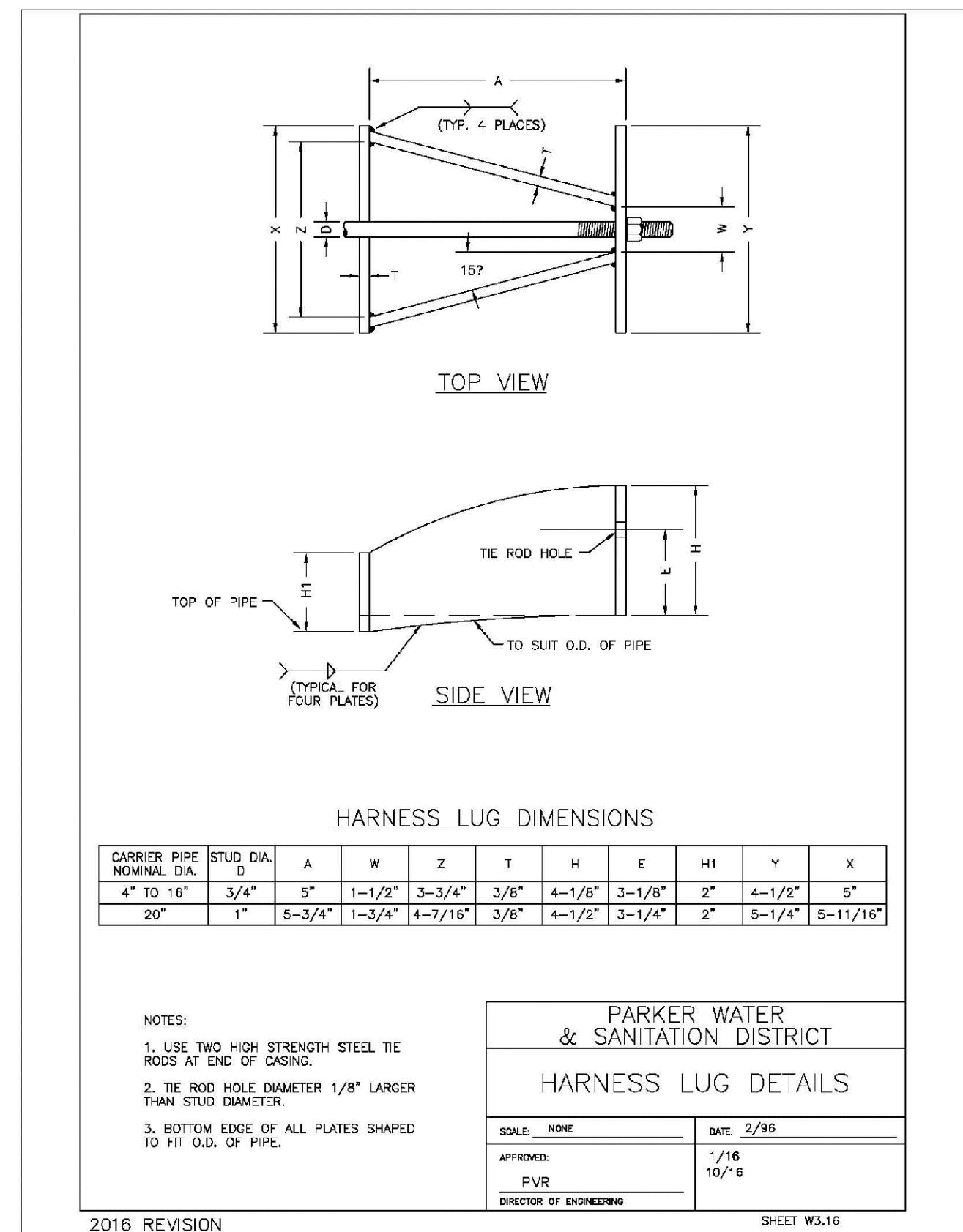
NOTES:  
1. ALL DIMENSIONS IN INCHES  
CLAMPS MAY NOT BE USED ON PVC PIPE.

PARKER WATER & SANITATION DISTRICT  
CLAMP DETAILS AND DIMENSIONS

SCALE: NONE DATE: 2/95

APPROVED: 12/07 10/16  
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TOP VIEW

SIDE VIEW

HARNESS LUG DIMENSIONS

CARRIER PIPE NOMINAL DIA.	PIPE STUD DIA.	A	W	Z	T	H	E	HI	Y	X
4" TO 16"	3/4"	5"	1-1/2"	3-3/4"	3/8"	4-1/8"	3-1/8"	2"	4-1/2"	5"
20"	1"	5-3/4"	1-3/4"	4-3/16"	3/8"	4-1/2"	3-1/4"	2"	5-1/4"	5-11/16"

NOTES:  
1. USE TWO HIGH STRENGTH STEEL TIE RODS AT END OF CASING.  
2. THE ROD HOLE DIAMETER 1/8" LARGER THAN STUD DIAMETER.  
3. BOTTOM EDGE OF ALL PLATES SHAPED TO FIT O.D. OF PIPE.

PARKER WATER & SANITATION DISTRICT  
HARNESS LUG DETAILS

SCALE: NONE DATE: 2/95

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TRAILS AT CROWFOOT  
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WATER DETAILS

SCALE: AS SHOWN  
DRAWN BY: JF  
CHECKED BY: BPV  
DATE: MAY 2020

FILE NO: 8130283701

No.	Revisions	Date	Init.	Appr.	Date

SHEET NUMBER: 11



**MECHANICAL JOINT RESTRAINT**

NOMINAL PIPE SIZE	NO. OF BOLTS	NO. OF WEDGES	W INCHES	J INCHES	F INCHES	M INCHES
4"	2	2				
6"	5	3	11.12	9.5	7.00	0.88
8"	8	4	13.37	11.75	9.15	1.00
10"	9	5	15.62	14.00	11.20	1.00
12"	8	8	17.88	16.25	13.30	1.25

NOTES:  
1. DIMENSIONS FOR 16" AND 20" D.I. PIPE NOT SHOWN.

**PARKER WATER & SANITATION DISTRICT  
MECHANICAL JOINT RESTRAINT DETAILS**

SCALE: NONE	DATE: 2/96
APPROVED: PVR	12/07
DIRECTOR OF ENGINEERING	1/18

2016 REVISION SHEET W3.17

**11-1/4", 22-1/2", 45" & 90" BENDS**

**DEAD END**

**TYPICAL CROSS SECTION**

**TEE**

SIZE OF	BENDS			TEE OR DEAD END
	11-1/4"	22-1/2"	45"	90"
4"	1.00	1.00	1.00	1.00
6"	1.00	1.25	2.25	4.00
8"	1.00	2.00	4.00	7.50
10"	1.50	3.50	12.50	23.00
12"	2.00	5.00	18.50	36.50
24"	3.50	15.00	45.00	93.00

NOTES:  
1. ALL VALVES, TEES, BENDS AND PLUGS SHALL BE RESTRAINED AND KICKBLOCKED.  
2. BEARING SURFACES SHOWN IN CHART ARE MINIMUM.  
3. BASED ON 150 PSI PIPE PRESSURE PLUS WATER HAMMER:  
1. 6" AND 8" WATER HAMMER = 120 PSI  
2. 10", 12" AND 14" WATER HAMMER = 110 PSI  
3. 16", 20" AND 24" WATER HAMMER = 70 PSI  
4. SOIL BEARING CAPACITY = 3,000 LBS./SQ. FT.

**PARKER WATER & SANITATION DISTRICT  
CONCRETE KICKBLOCKS BEARING SURFACES AND INSTALLATION**

SCALE: NONE	DATE: 2/96
APPROVED: PVR	4/01
DIRECTOR OF ENGINEERING	1/18

2016 REVISION SHEET W3.18

**24" DIAMETER RING AND COVER**

NOTE:  
1. Coating Specifications: ASTM A-48 With A Minimum Tensile Strength Of 28 KSI (Class 25)  
2. All Casting to be Done in Anhydrous Base Plant (Or Approved Equivalent)

**PARKER WATER & SANITATION DISTRICT  
24" DIAMETER RING AND COVER**

SCALE: NONE	DATE: 6/05
APPROVED: PVR	12/07
DIRECTOR OF ENGINEERING	15/18

2016 REVISION SHEET W3.19

**ACCESS MANHOLE AND AIR VALVE ASSEMBLY**

NOTE:  
1. USE 2" AIR VALVE ASSEMBLY ON 30" OR SMALLER PIPE.  
2. SEE SHEET W3.6 FOR CONCRETE MANHOLE BASE BEAMS AND AIR/VACUUM VALVE DETAILS.

**PARKER WATER & SANITATION DISTRICT  
ACCESS MANHOLE ASSEMBLY**

SCALE: NONE	DATE: 2/96
APPROVED: PVR	4/01
DIRECTOR OF ENGINEERING	1/18

2016 REVISION SHEET W3.20

**STANDARD TRENCH SECTION**

PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
10"	2'-0"	3'-0"
12"	2'-2"	3'-2"
14"	2'-4"	3'-4"
16"	2'-6"	3'-6"
18"	2'-8"	3'-8"
20"	3'-0"	4'-0"
24"	3'-6"	4'-6"

**STREET CUT PATCH**

**PARKER WATER & SANITATION DISTRICT  
TYPICAL TRENCH SECTION PIPE PROTECTION**

SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/18
DIRECTOR OF ENGINEERING	10/16

2016 REVISION SHEET W4.1

**PIPE BEDDING**

(c) Installation of Bedding and Pipes After completion of the trench excavation and proper preparation of the foundation, six inches (6") of bedding material shall be placed on the trench bottom for support under the pipe. Bedding shall be dug deep enough to provide a minimum of two inches (2") of clearance between the bed and bedding material. All pipe shall be installed in such a manner as to insure full support of the pipe barrel over its entire length. After the pipe is adjusted for line and grade and the joint is made, the bedding material shall be carefully placed and tamped under the haunches of the pipe and in the previously dug bed holes.

Tamping is herein defined as the act of placing approved bedding material under the haunches of the pipe, paying particular attention to voids, bed holes and silt holes. The purpose of tamping is to ensure uniform support for the pipe.

The limits of bedding shall be from six inches (6") below the bottom of the pipe to twelve inches (12") above the top of the pipe. Approved bedding may then be installed to the groundline. See Chapter 2 of these Standards for details for a typical trench cross section.

Composition of bedding is not required. The only requirement is sufficient tamping to achieve uniform support under the pipe. See Sheet W4.1 of the Standards for details for a typical trench cross section.

(d) Bedding Material: the bedding material shall be a clean well-graded sand or squeegee sand and shall conform to the following limits when tested by means of laboratory tests:

**Well-Graded Sand for (24-inch or larger diameter)**

Sieve Size	Total Percent Retained by Weight
3/8 inch	100
No. 4	70-100
No. 6	35-60
No. 10	20-50
No. 20	5-25
No. 30	0-10
No. 100	0-3

**Squeegee Sand for use with 20-inch or smaller**

Sieve Size	Total Percent Retained by Weight
3/8 inch	100
No. 200	0-3

If approved by the District, fines from the trench walls and spots pits may be used to provide uniform support for the pipe. No rock or stone larger than that allowed by the sieve analysis, or any other detrimental materials, shall be placed closer to the pipe than six inches (6"). Approved bedding materials shall be stockpiled on the jobsite to be used in the event natural materials become unsatisfactory. The District reserves the right to require the use of the specified bedding material at any time.

**PARKER WATER & SANITATION DISTRICT  
PIPE BEDDING**

SCALE: NONE	DATE: 2/95
APPROVED: PVR	5/08
DIRECTOR OF ENGINEERING	2/00
	1/18
	10/16

2016 REVISION SHEET W4.2

**WATERLINE ENCASEMENT**

NOTE:  
1. ALL CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3,000 PSI USING TYPE 1 PORTLAND CEMENT AND 3/4" AGGREGATE. ALL CONCRETE SHALL HAVE 5-7% ENTRAINED AIR CONTENT AND A MAXIMUM SLUMP OF 4".  
2. ALL REINFORCEMENT SHALL CONFORM TO ASTM A615 GRADE 60.  
3. ALL REINFORCEMENT SHALL HAVE 2" MIN. CONCRETE COVER.  
4. THE SUBGRADE SHALL BE COMPACTED TO 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY PRIOR TO FORMING THE STRUCTURE.  
5. PIPE SHALL BE WRAPPED WITH FELT LAYER BEFORE ENCASEMENT.

**PARKER WATER & SANITATION DISTRICT  
WATERLINE ENCASEMENT**

SCALE: NONE	DATE: 5/08
APPROVED: PVR	1/16
DIRECTOR OF ENGINEERING	10/18

2016 REVISION SHEET W4.3

**BORED CROSSINGS BENEATH CONDUITS**

**FORMULA FOR FINDING C:**

$$C = B + (2)(1.5) \left[ \frac{B}{2} + A + F \right]$$

**FORMULA FOR FINDING L:**

$$L = \frac{C}{\sin \phi}$$

**PARKER WATER & SANITATION DISTRICT  
BORED CROSSINGS BENEATH CONDUITS**

SCALE: NONE	DATE: 2/96
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	10/16

2016 REVISION SHEET W4.4

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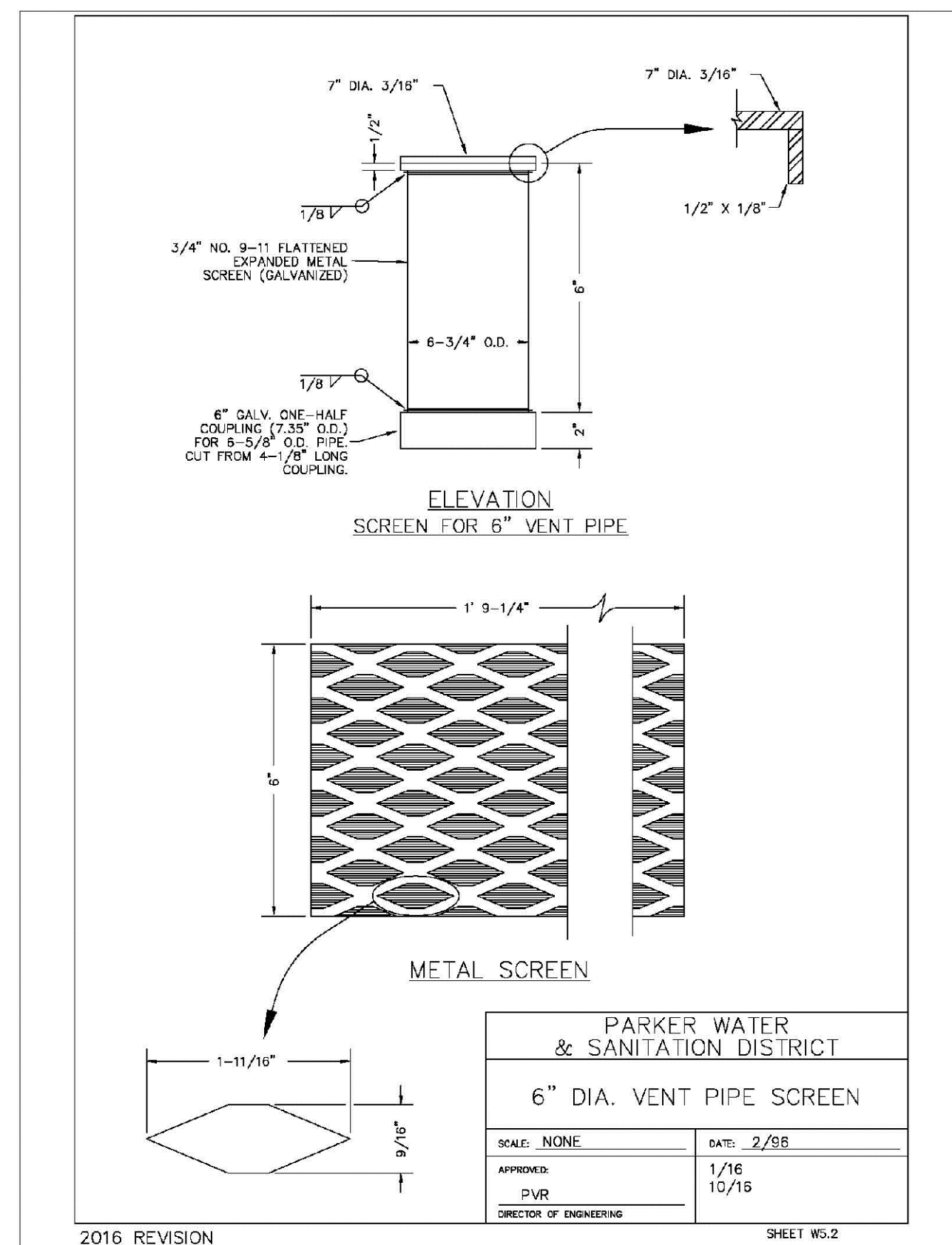
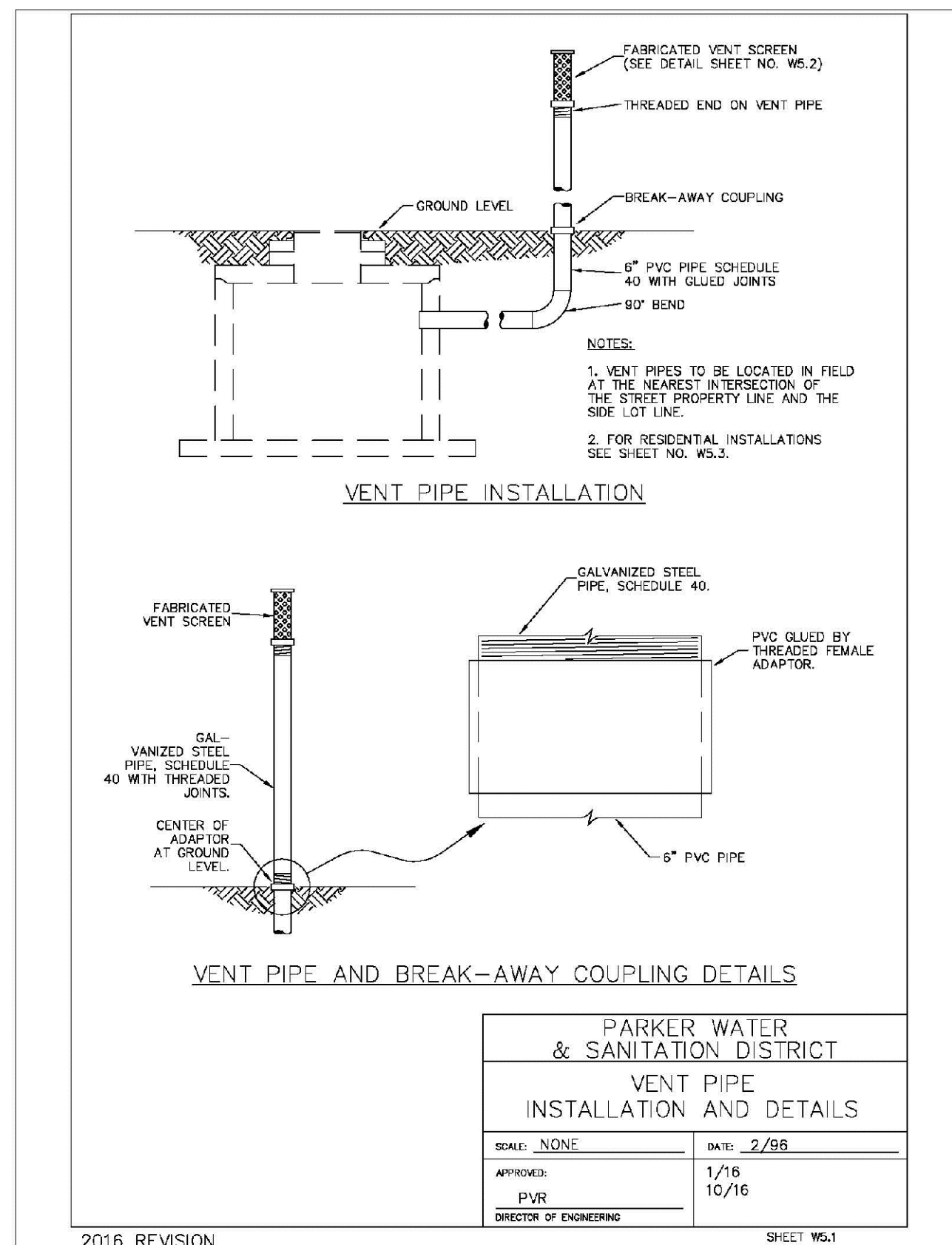
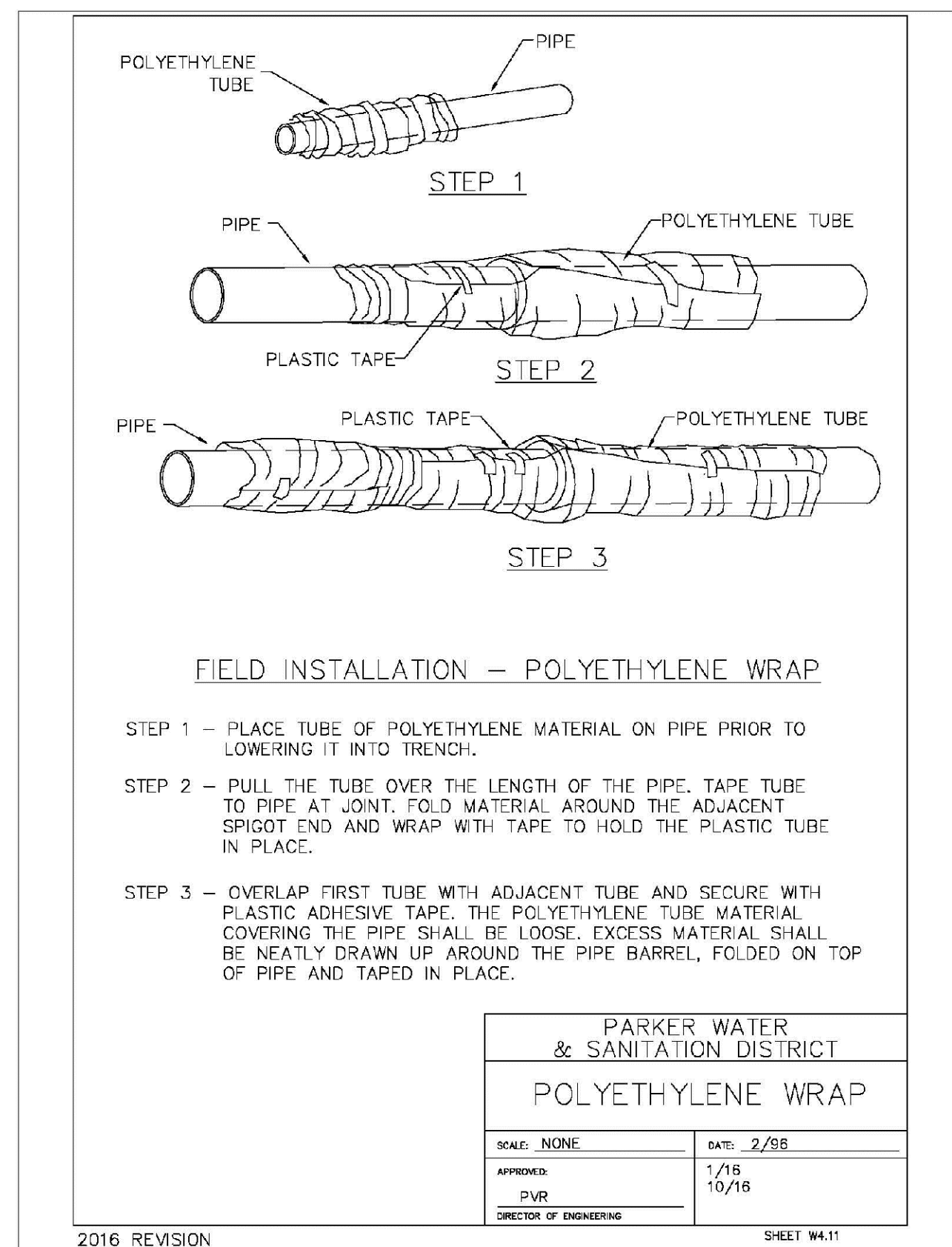
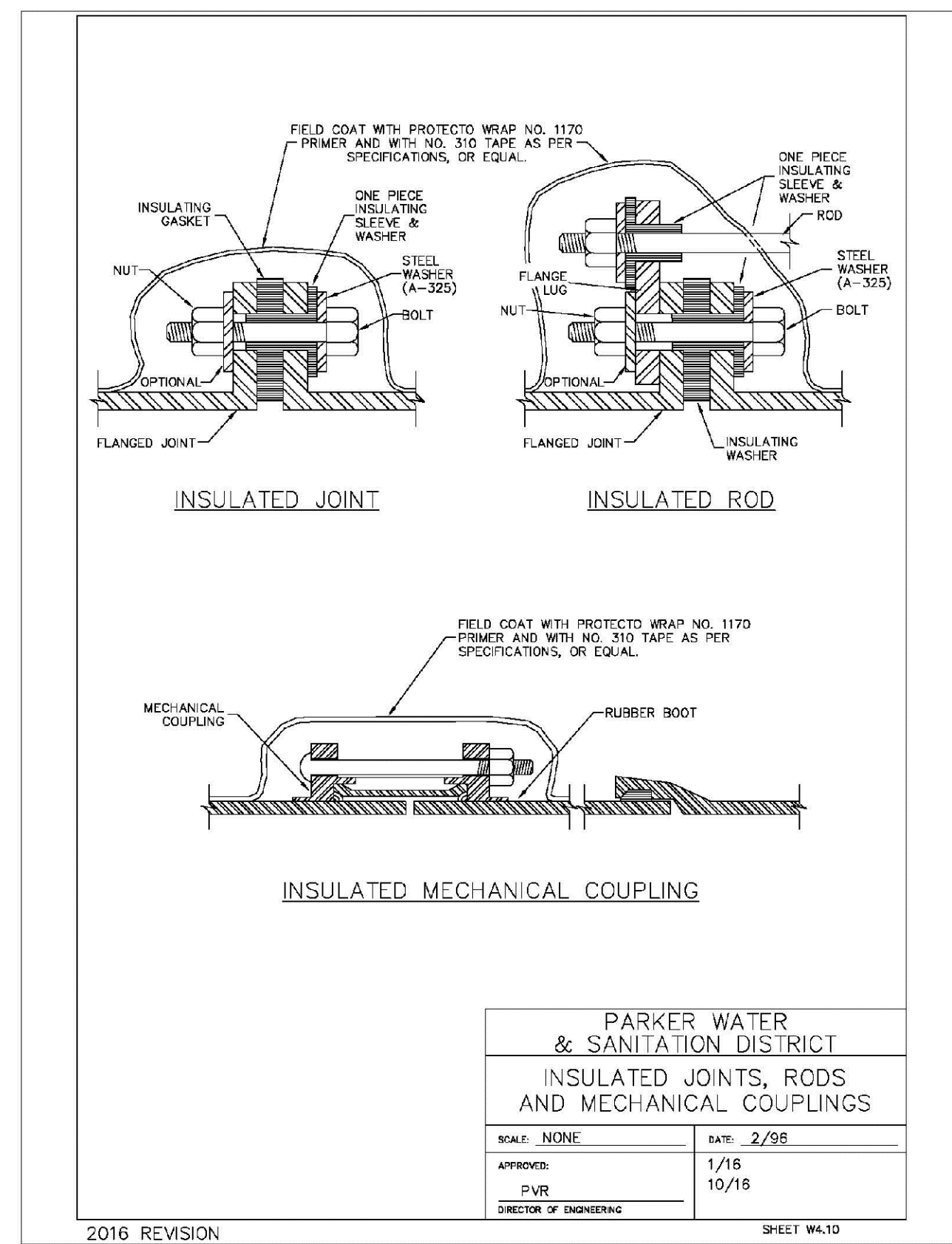
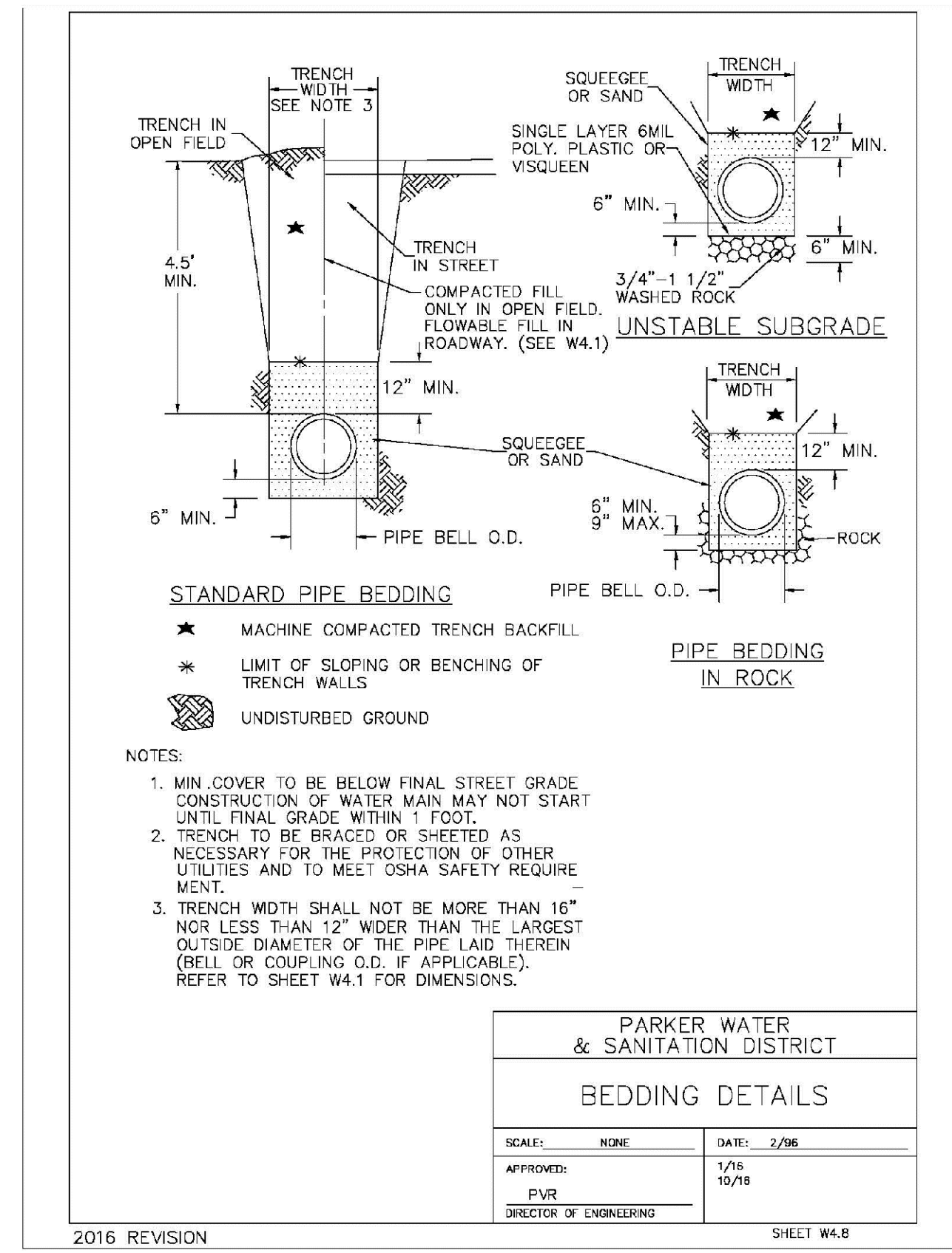
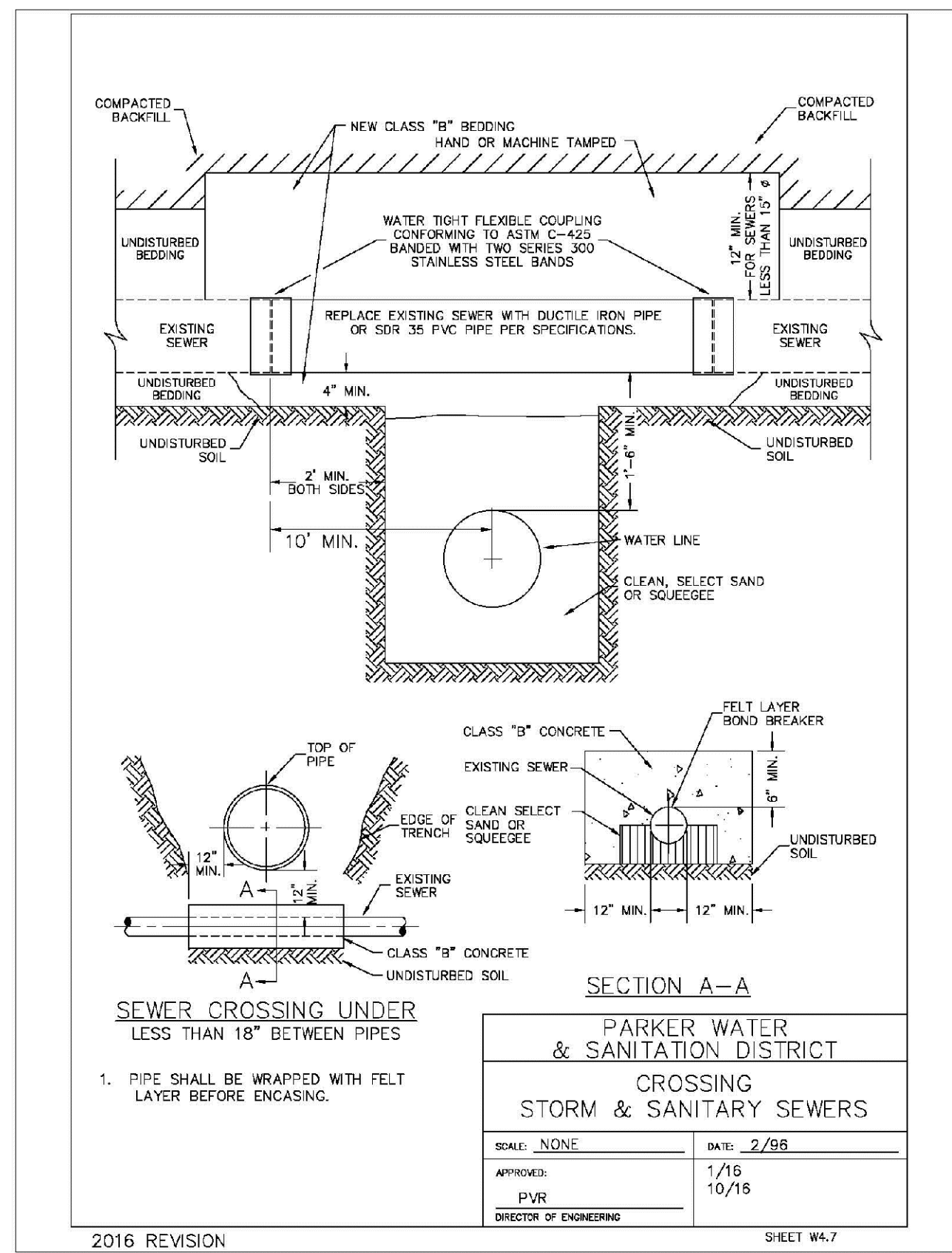
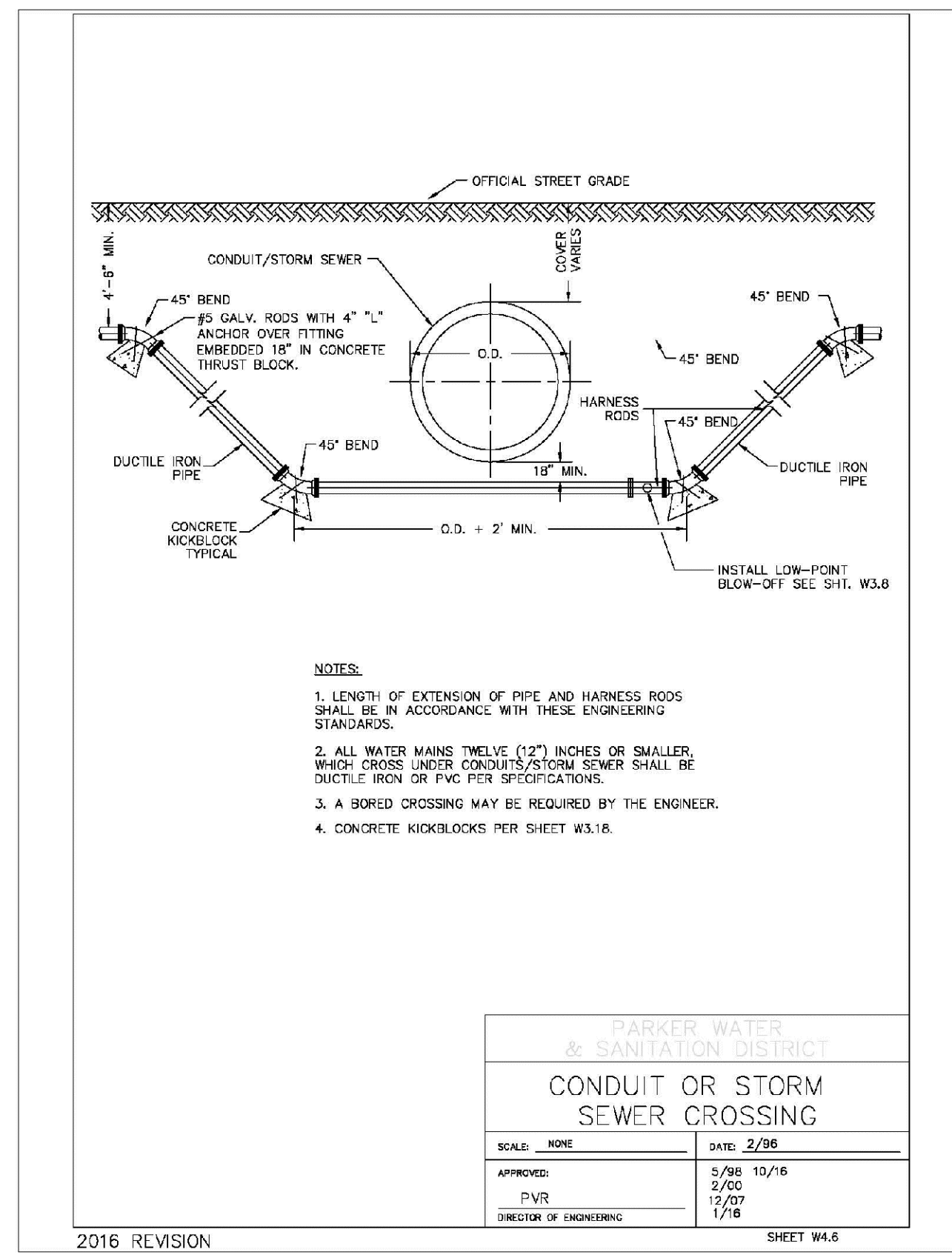
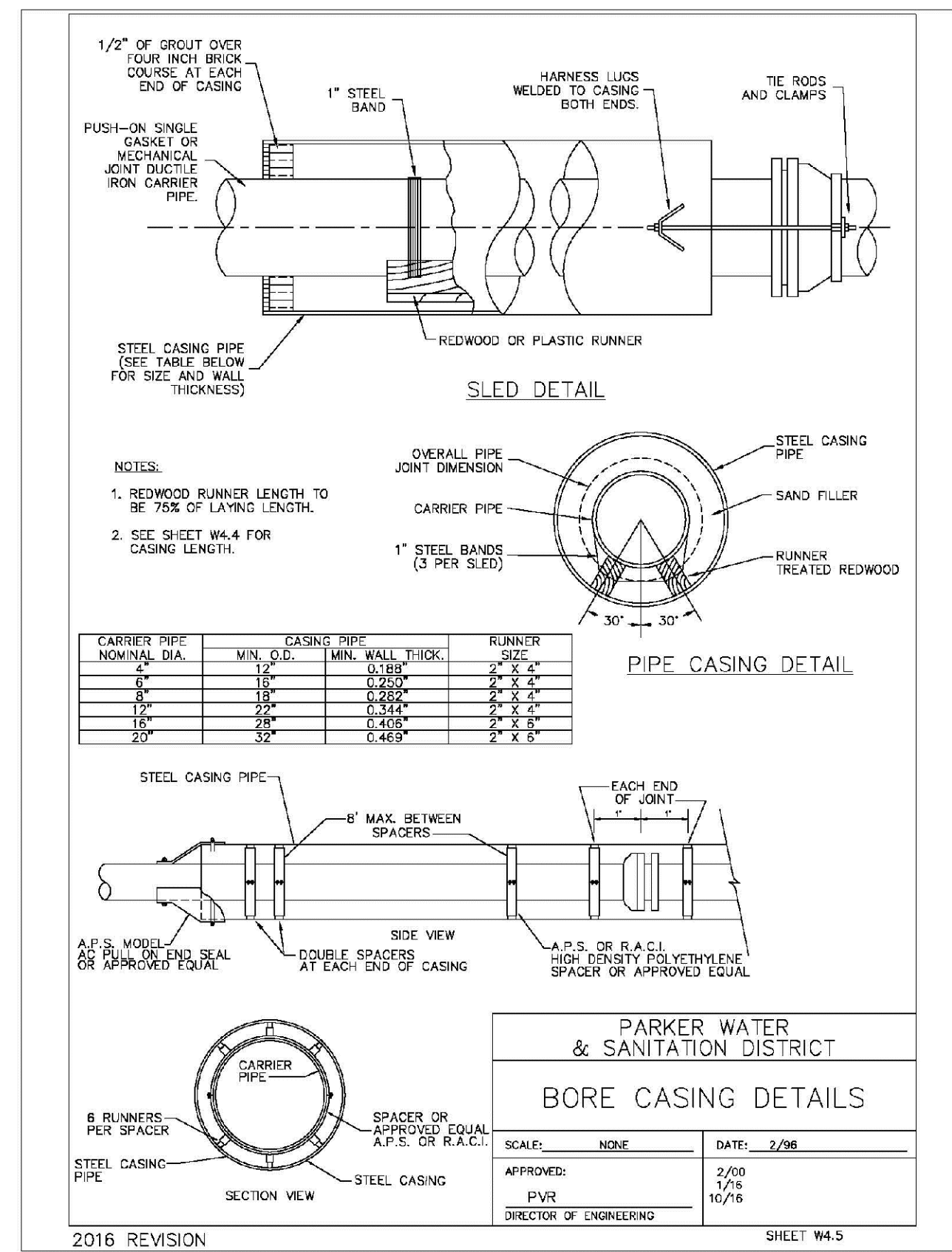
**CVL CONSULTANTS**

HR 935 LLC  
7355 South Alton Way  
CENTENNIAL, CO 80112

**TRAILS AT CROWFOOT  
FILING 8 CONSTRUCTION DRAWINGS  
WATER DETAILS**

SCALE: AS SHOWN	FILE NO: 8130283701
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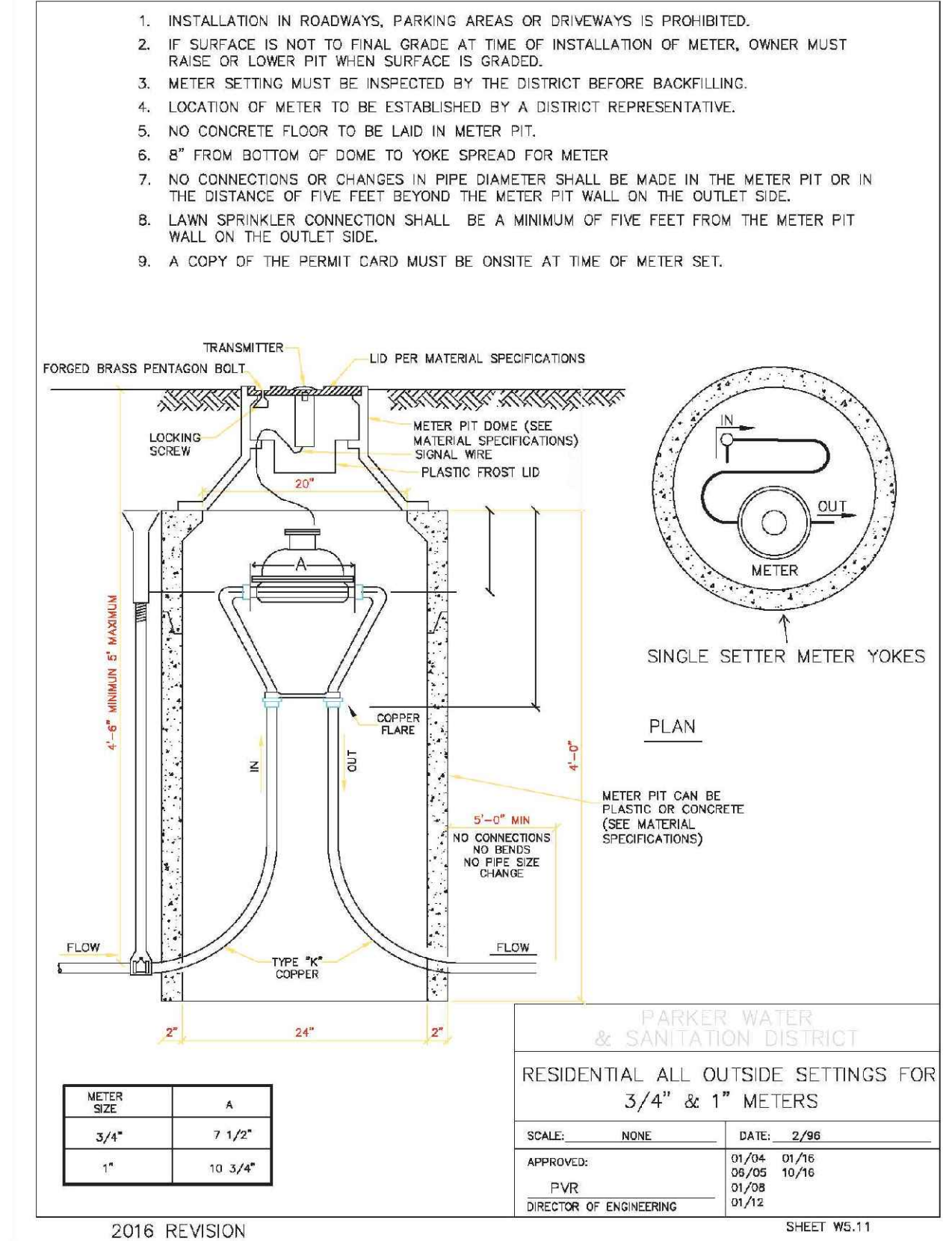
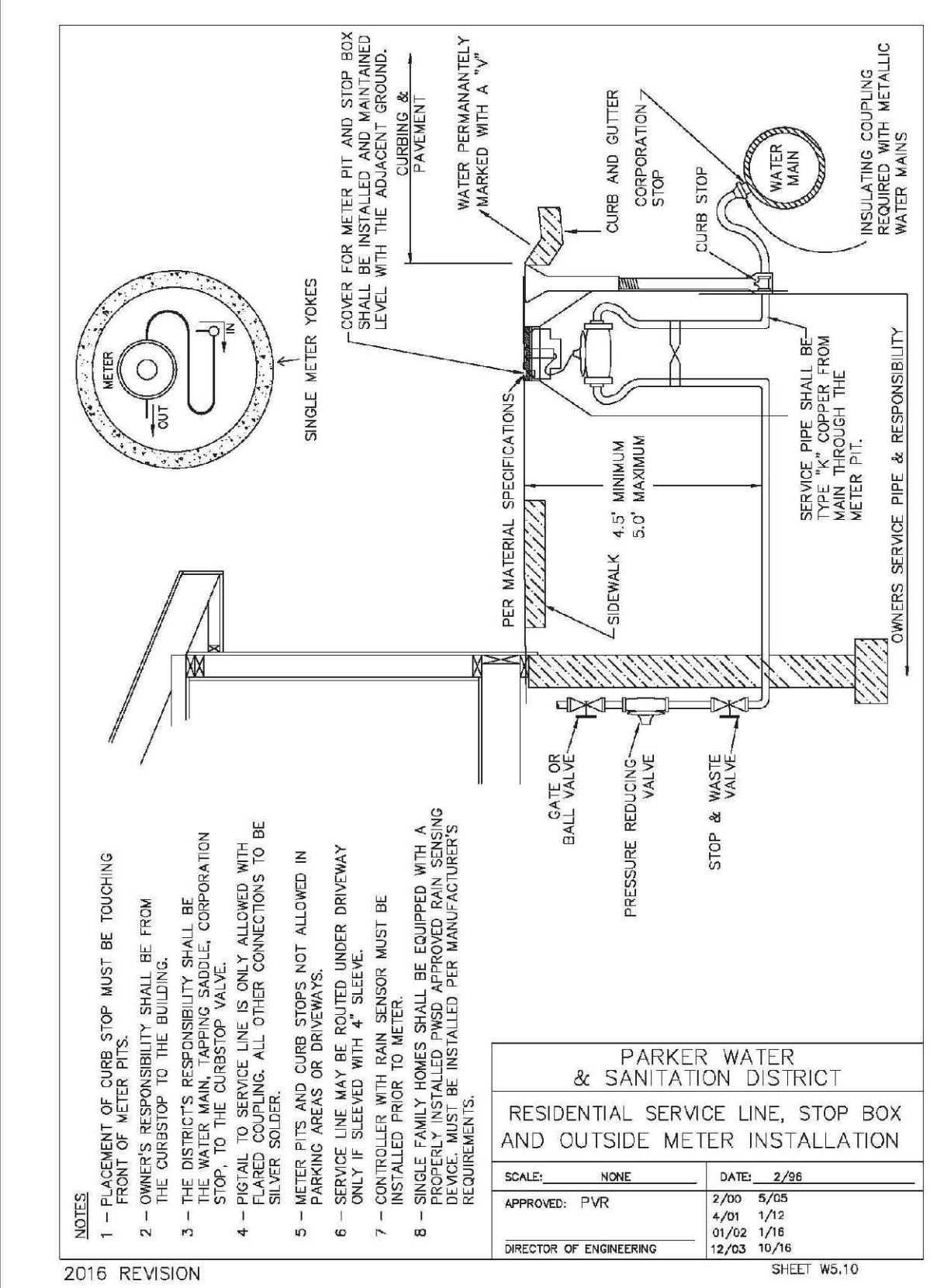
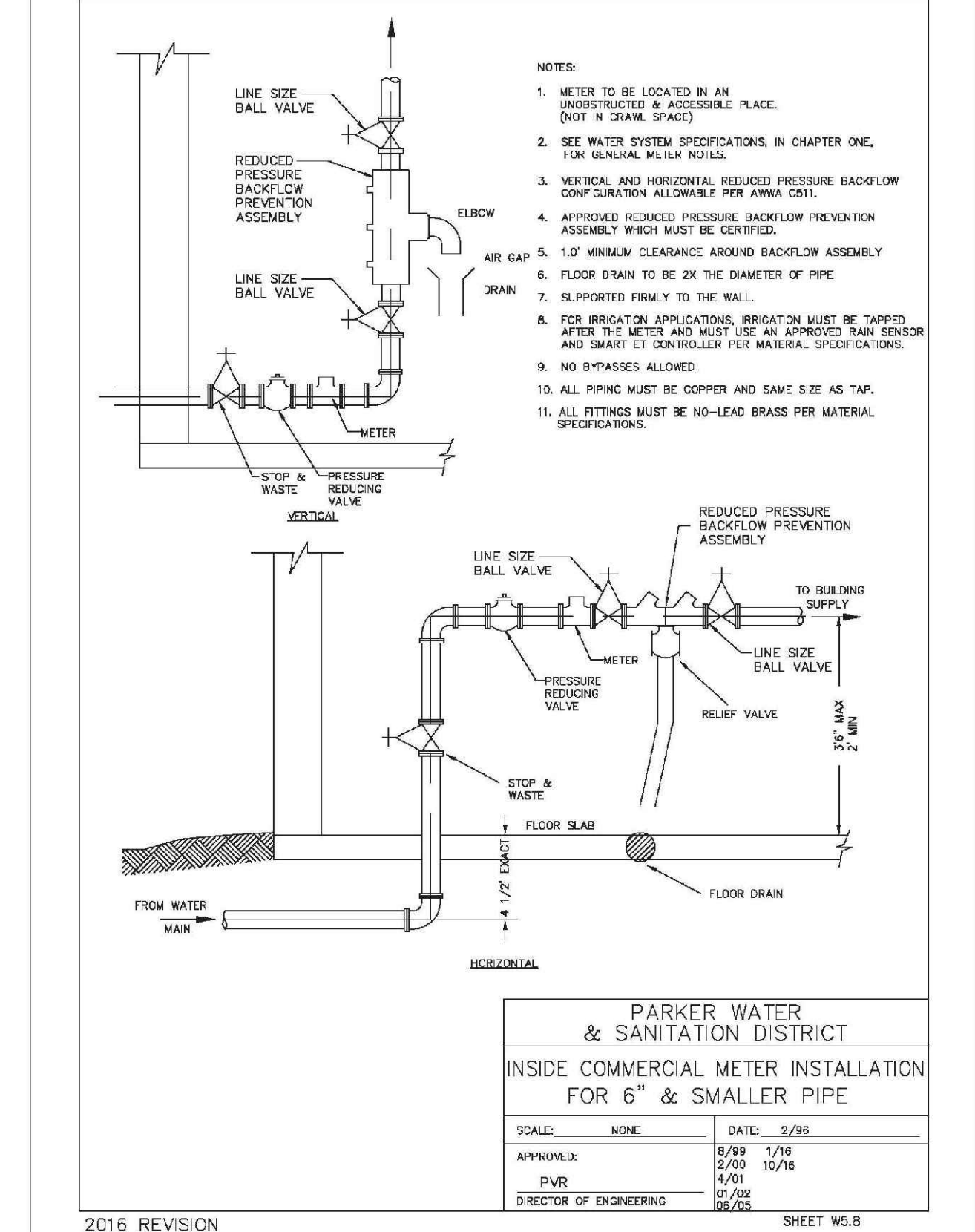
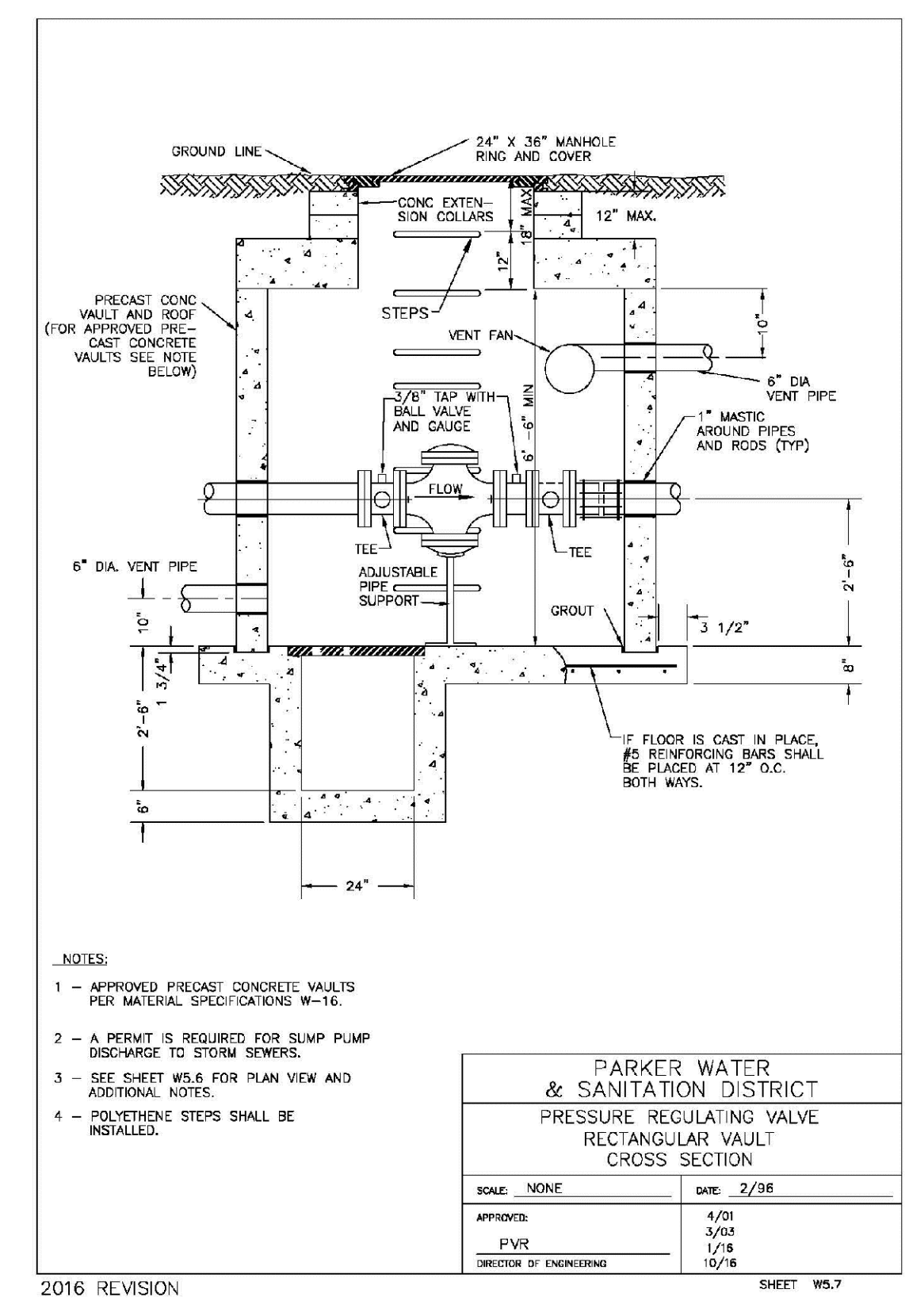
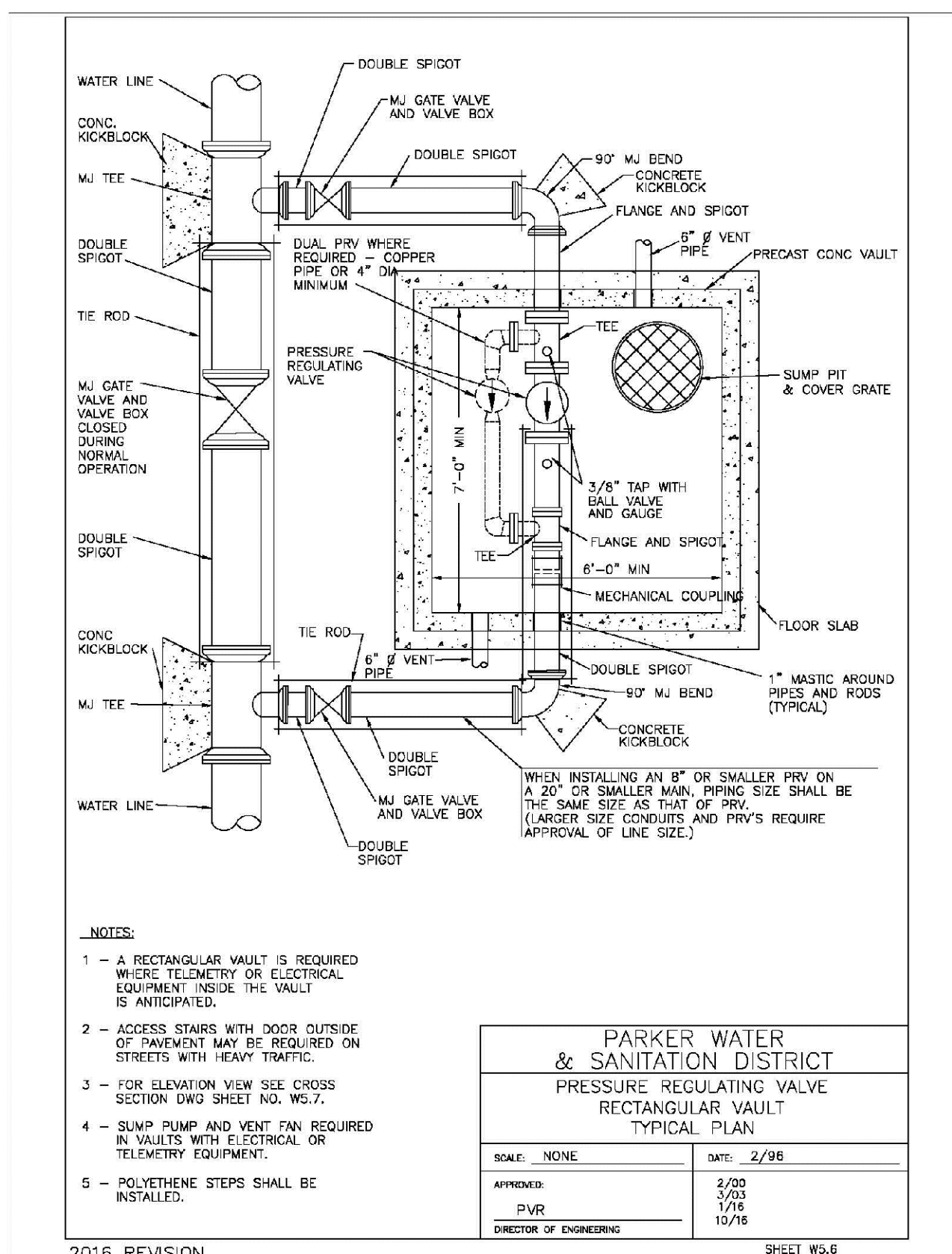
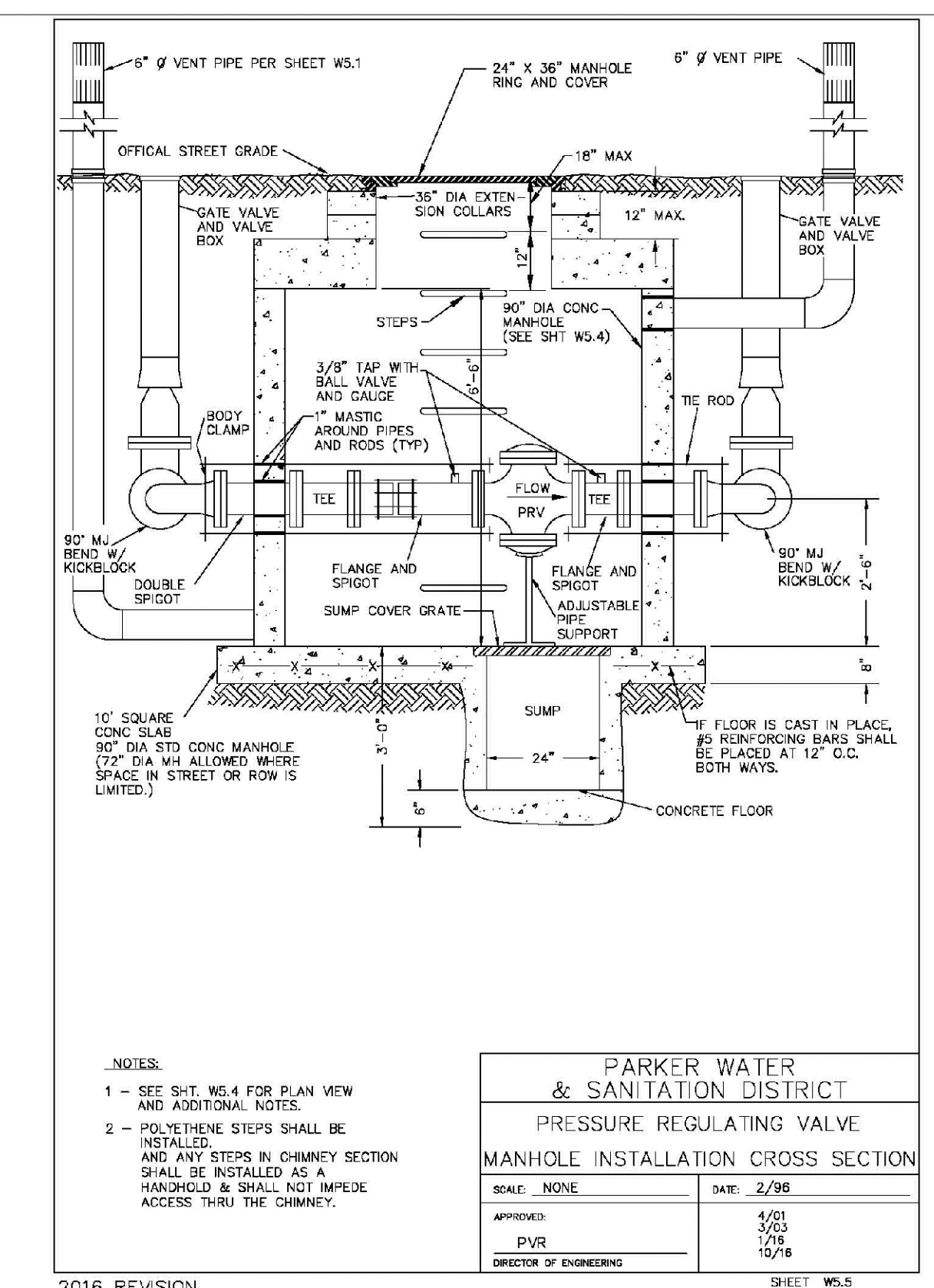
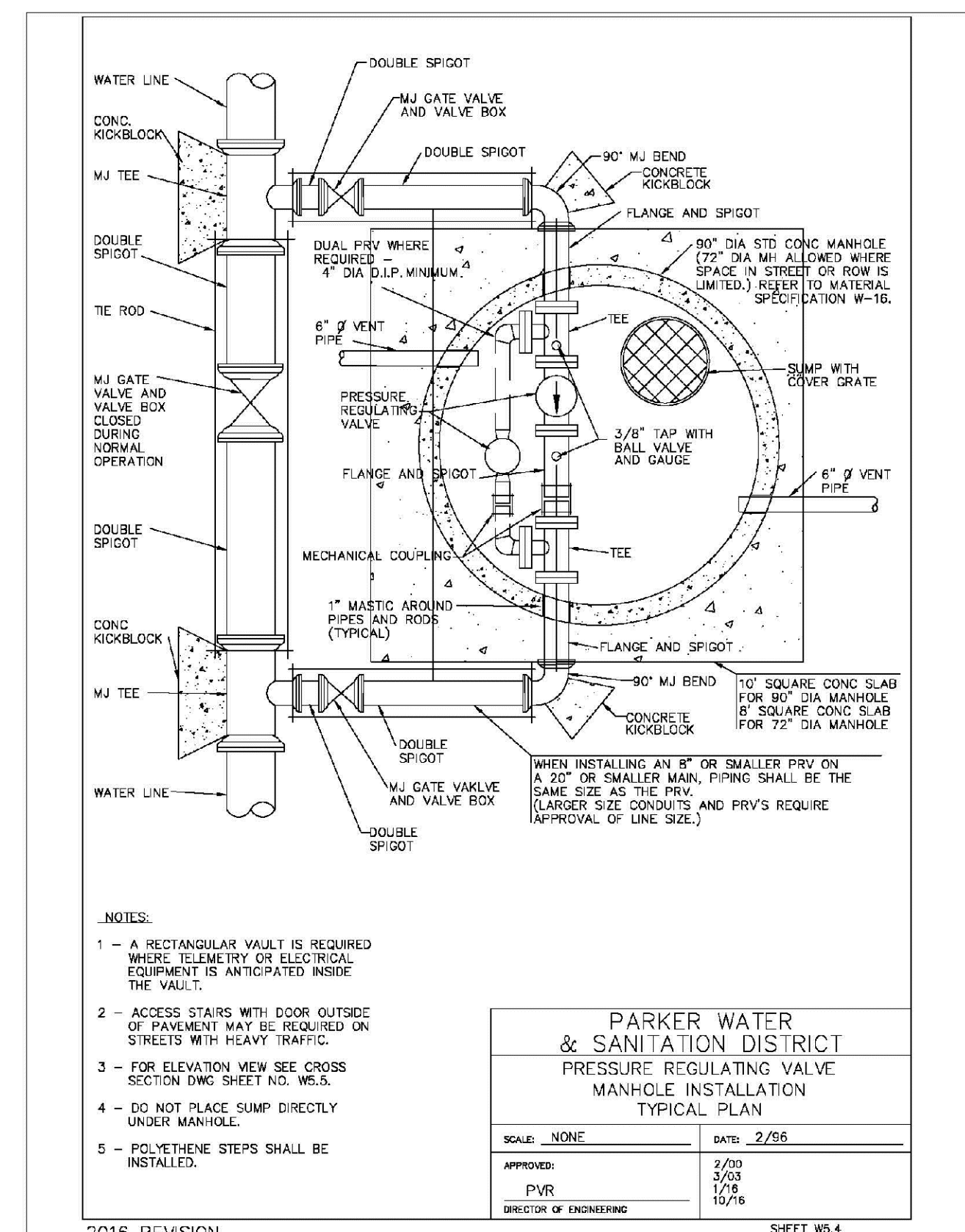
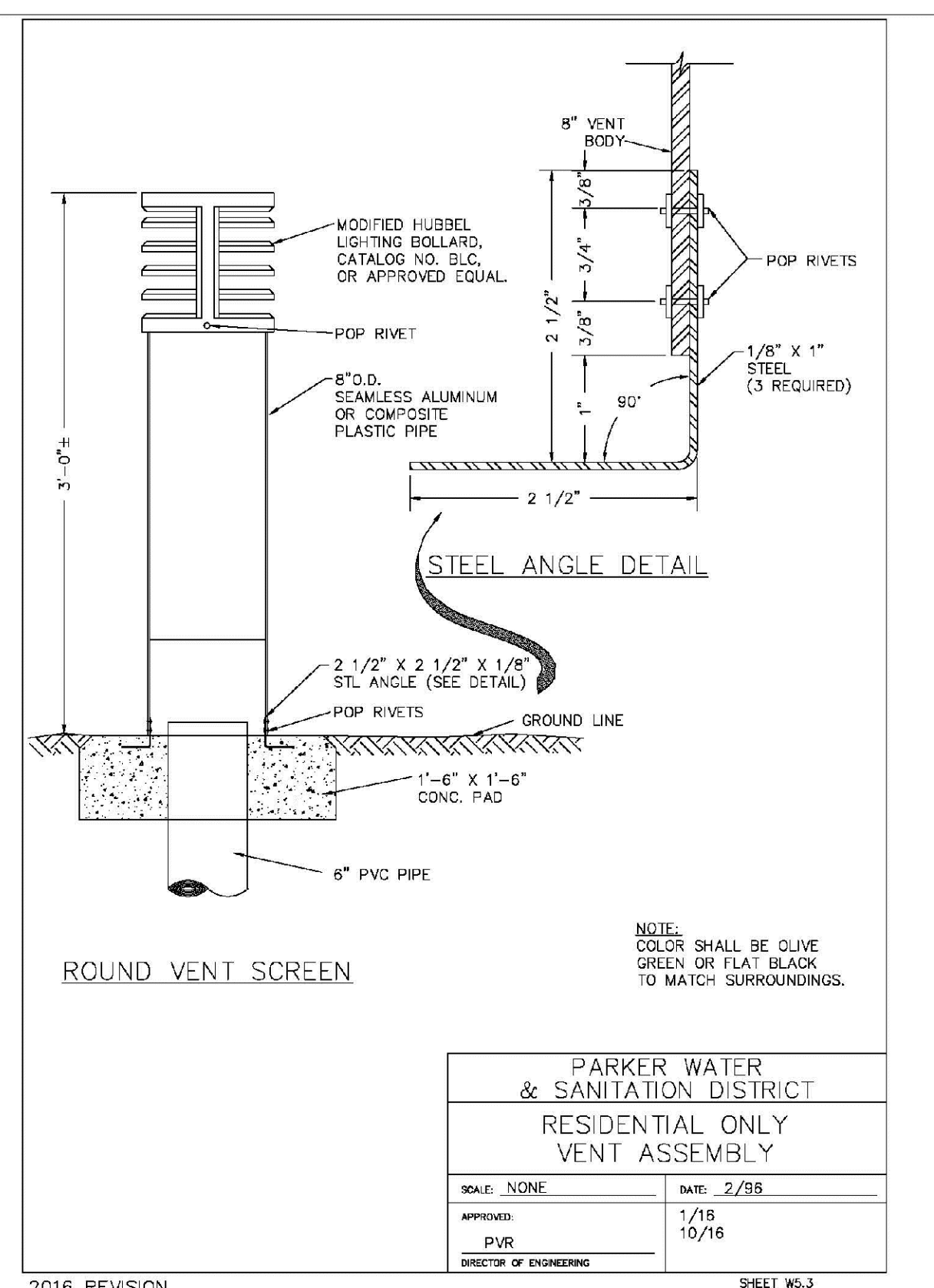


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				PROJECT: TRAILS AT CROWFOOT FILING 8 CONSTRUCTION DRAWINGS WATER DETAILS	HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112						



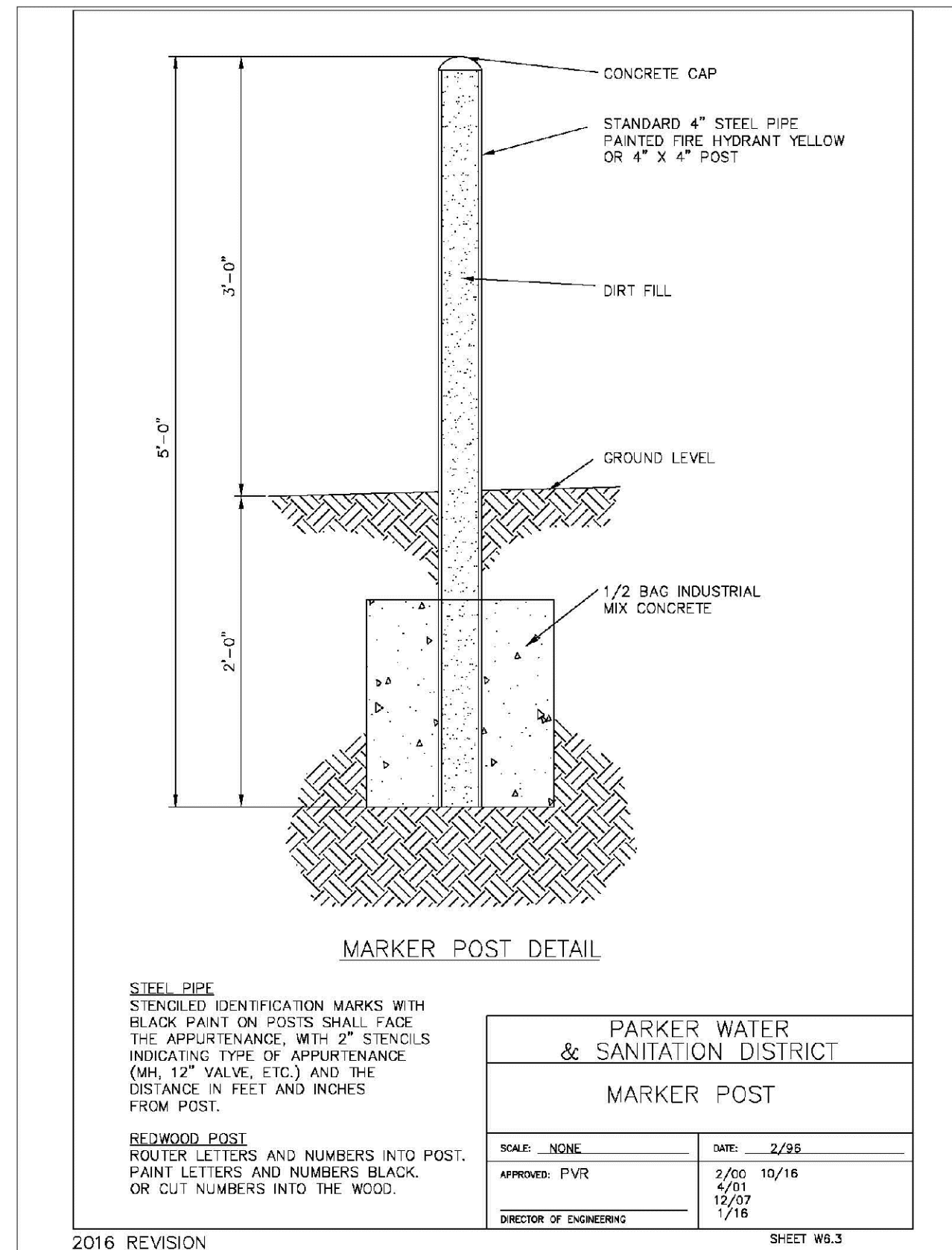
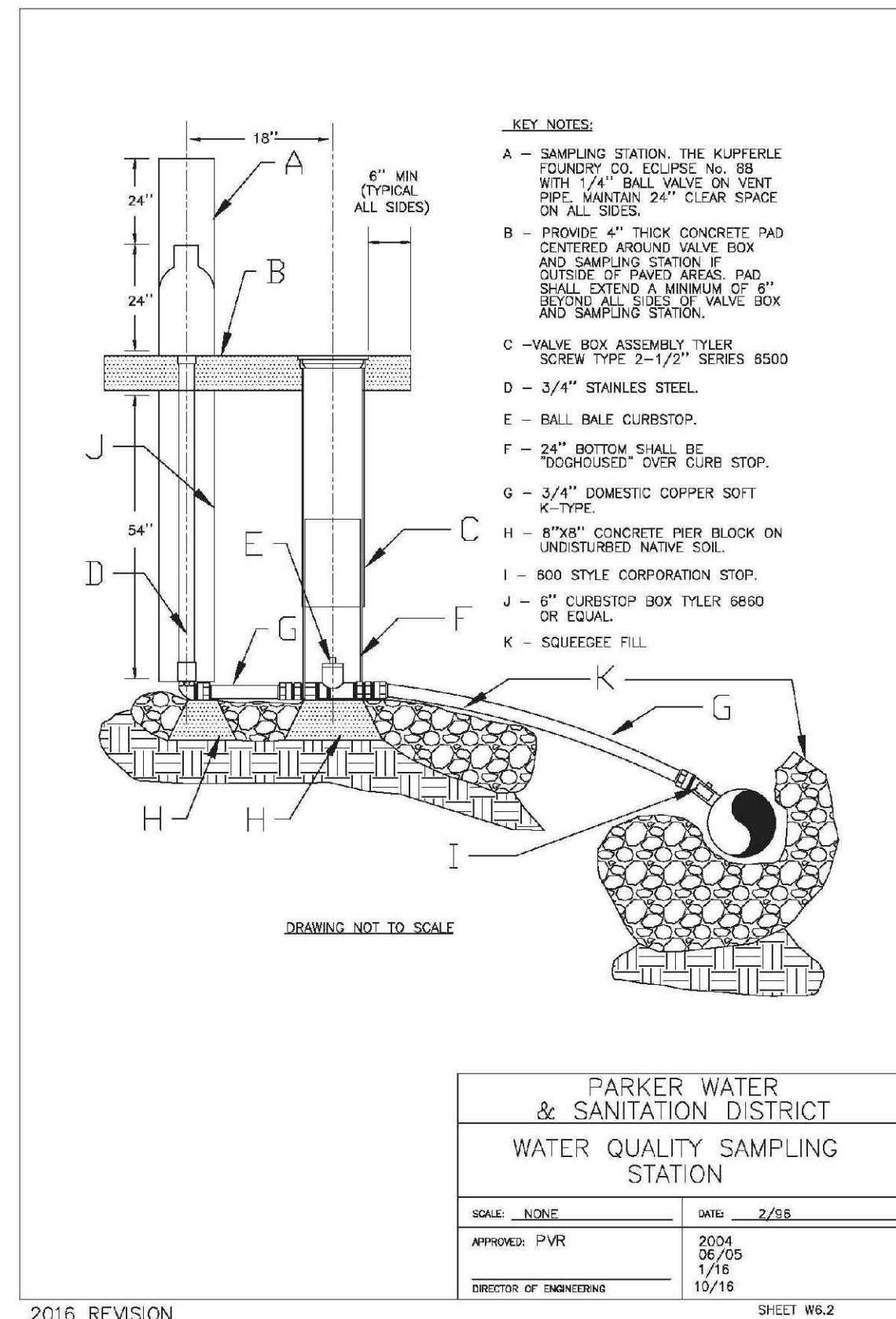
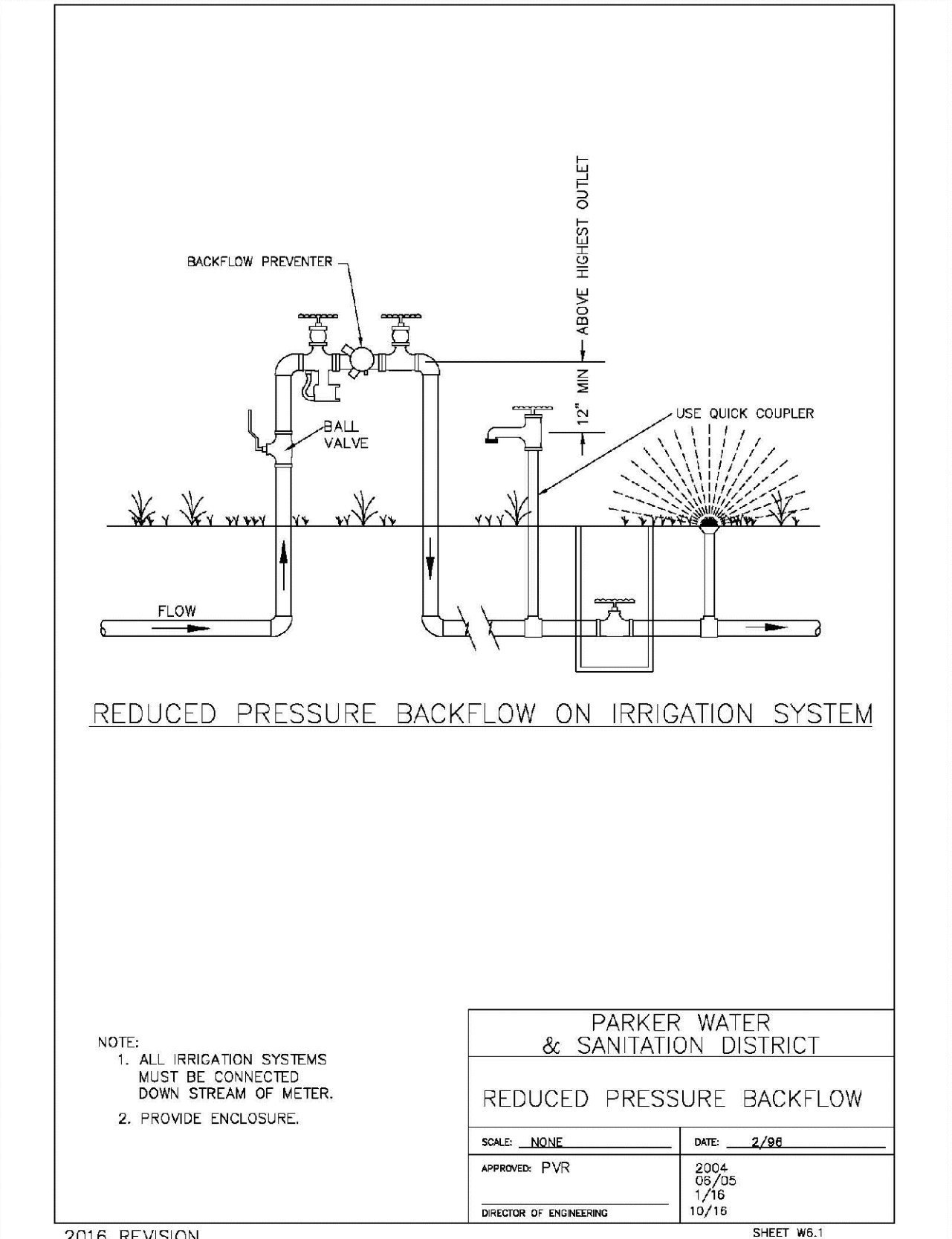
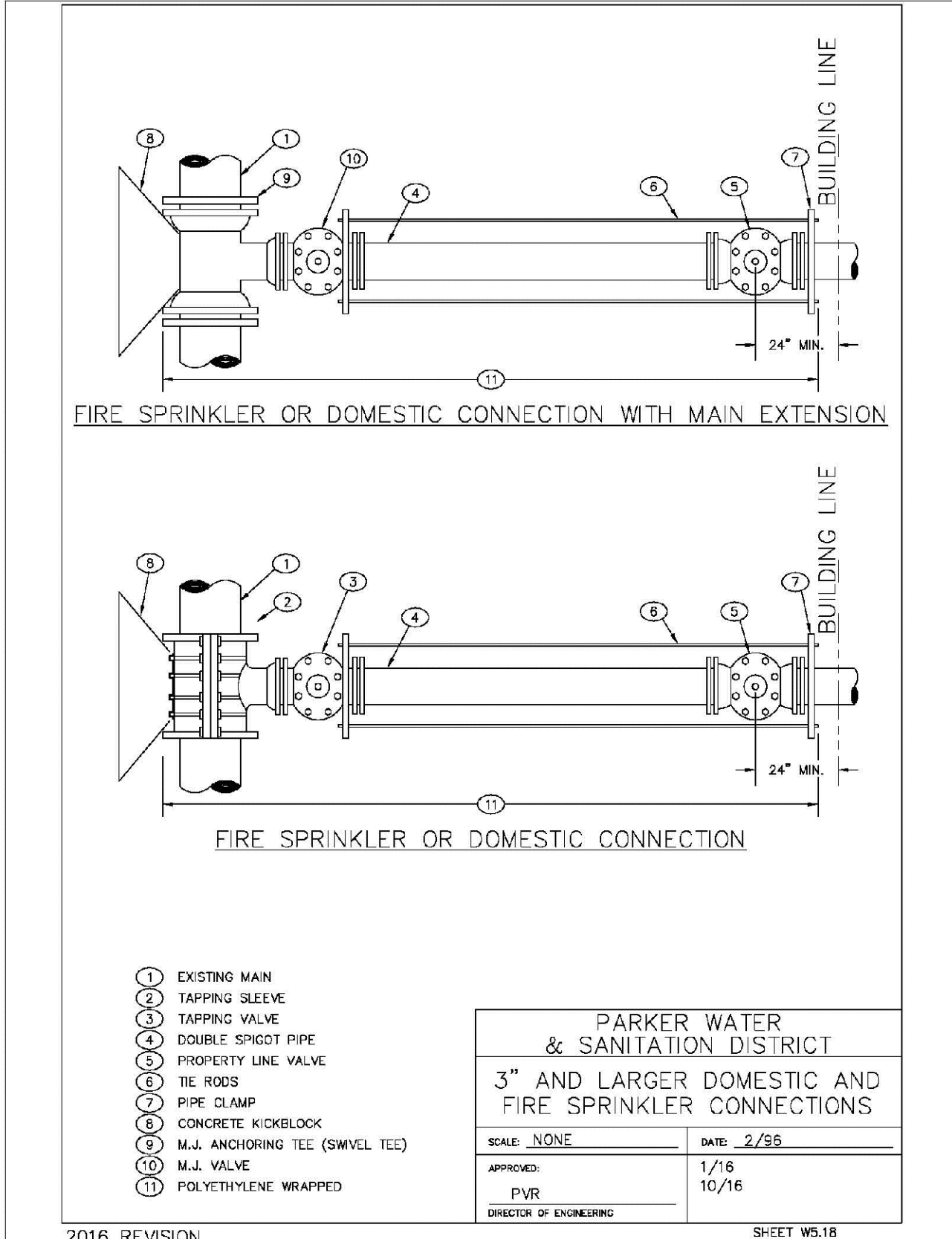
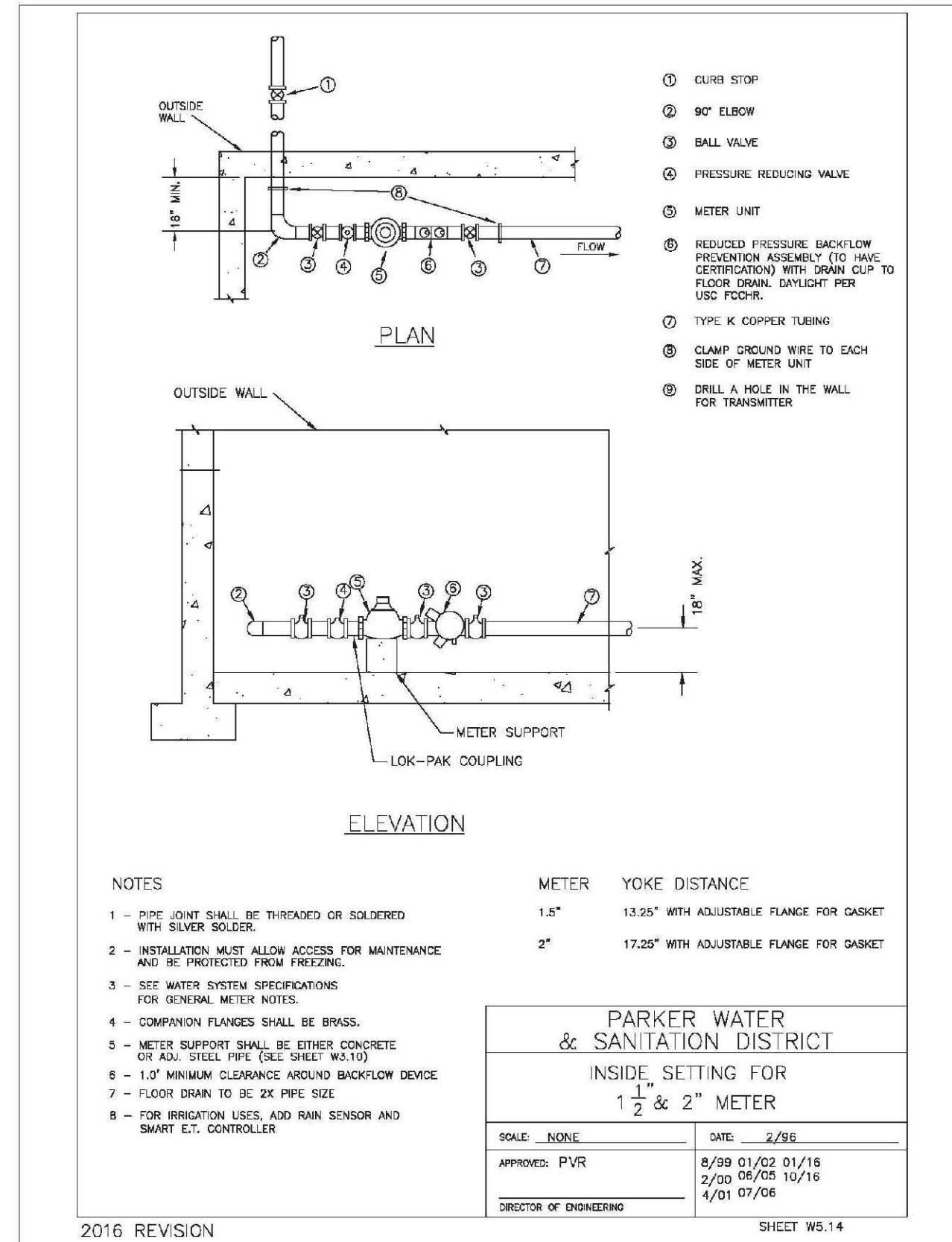
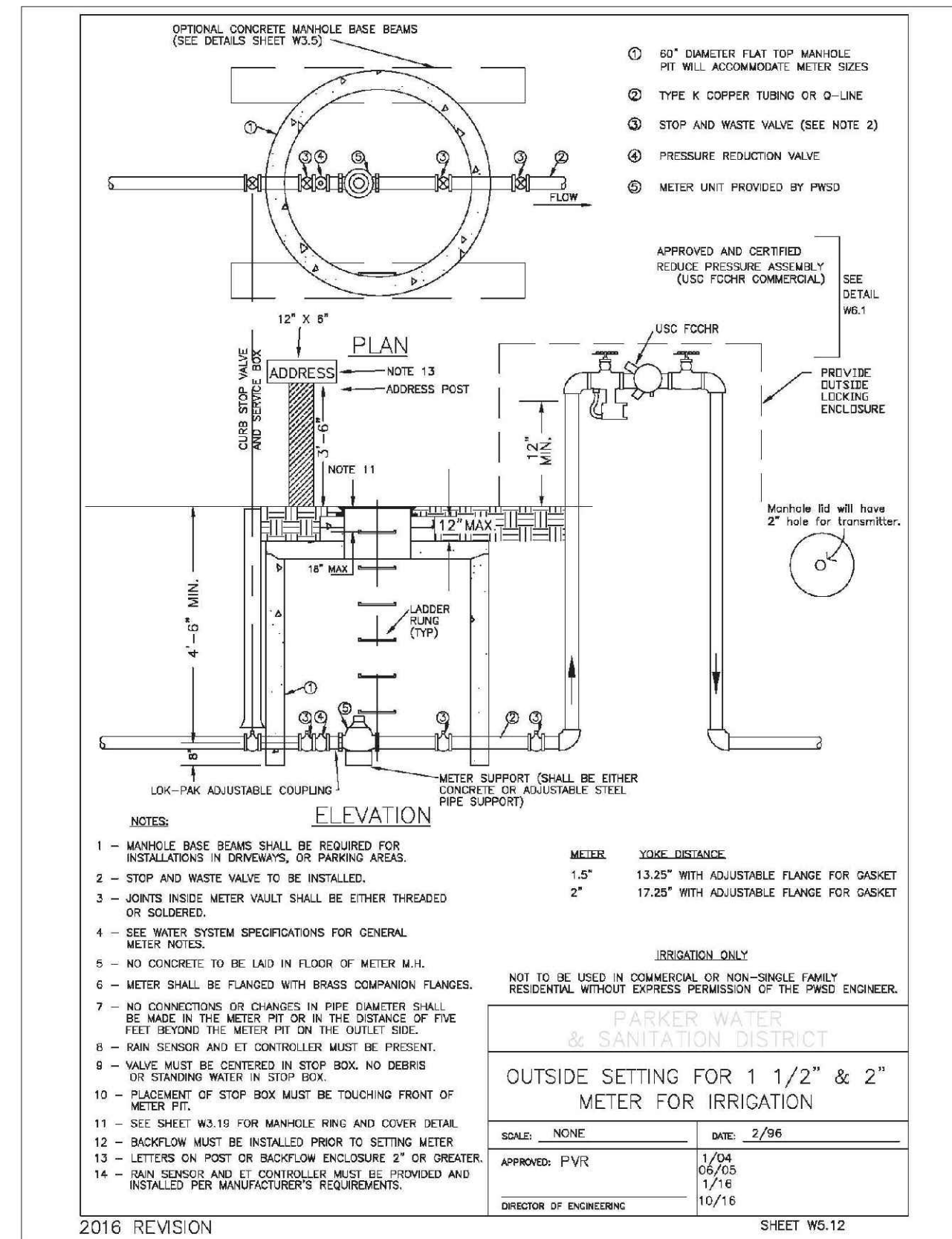


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