

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 AND SANITATION DISTRICT AND THE DISTRICT ENGINEER.
2. ALL WATER MAINS SHALL BE PER PWSO 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 PWSO 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 PERMATAX 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 ENCASMENT.
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.

N:\PROJECTS\SSR\BENCHM\ENGINEERING\SSR\SSR\WATER AND SANITATION\FIG 13 COVER.DWG, CDDVA, 3/13/2018 2:13 PM

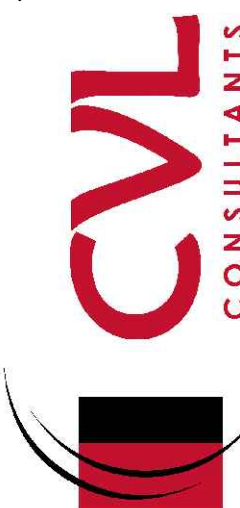
CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
UNCC 1-800-922-1987
UTILITY NOTIFICATION
CENTER OF COLORADO

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.

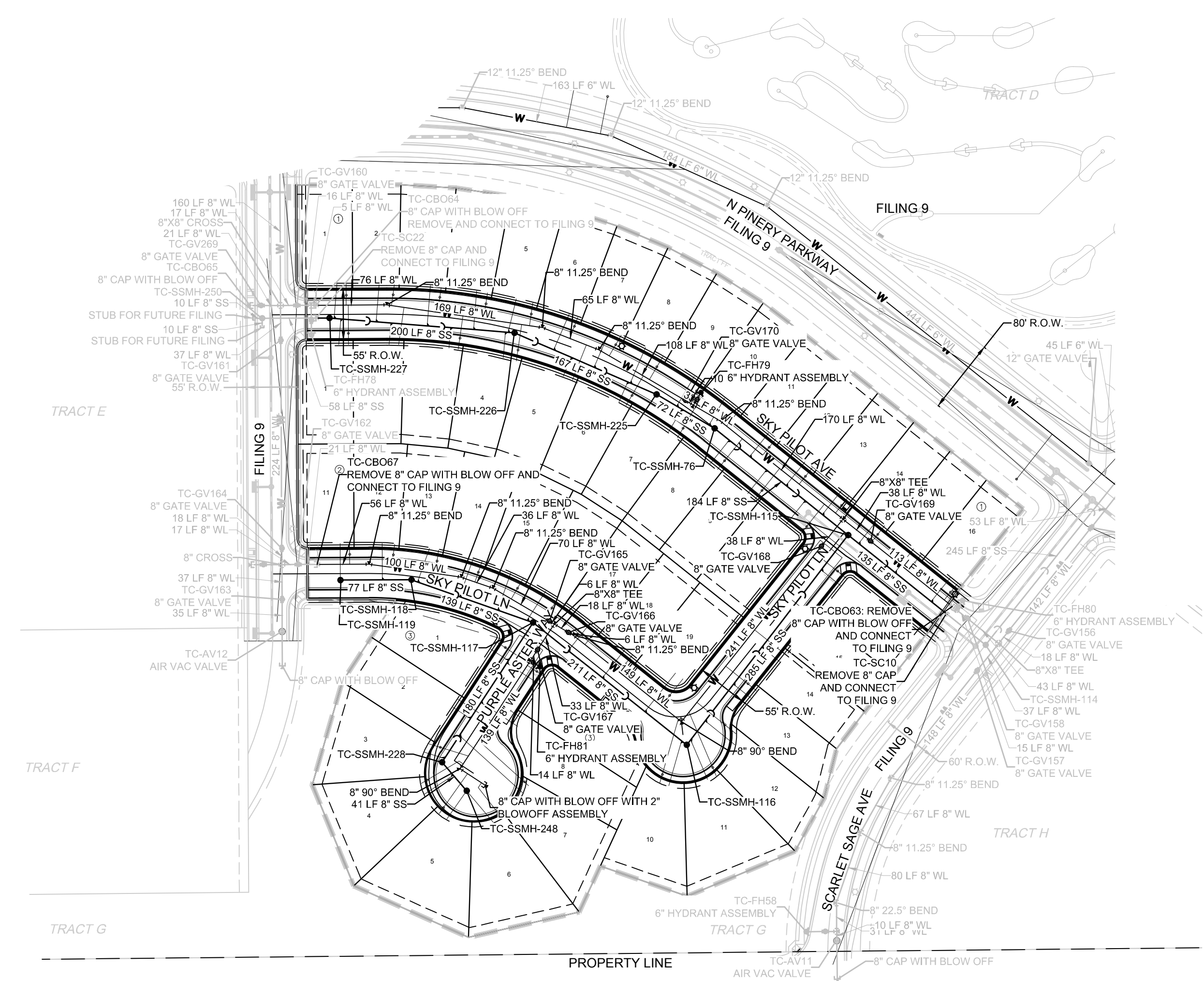
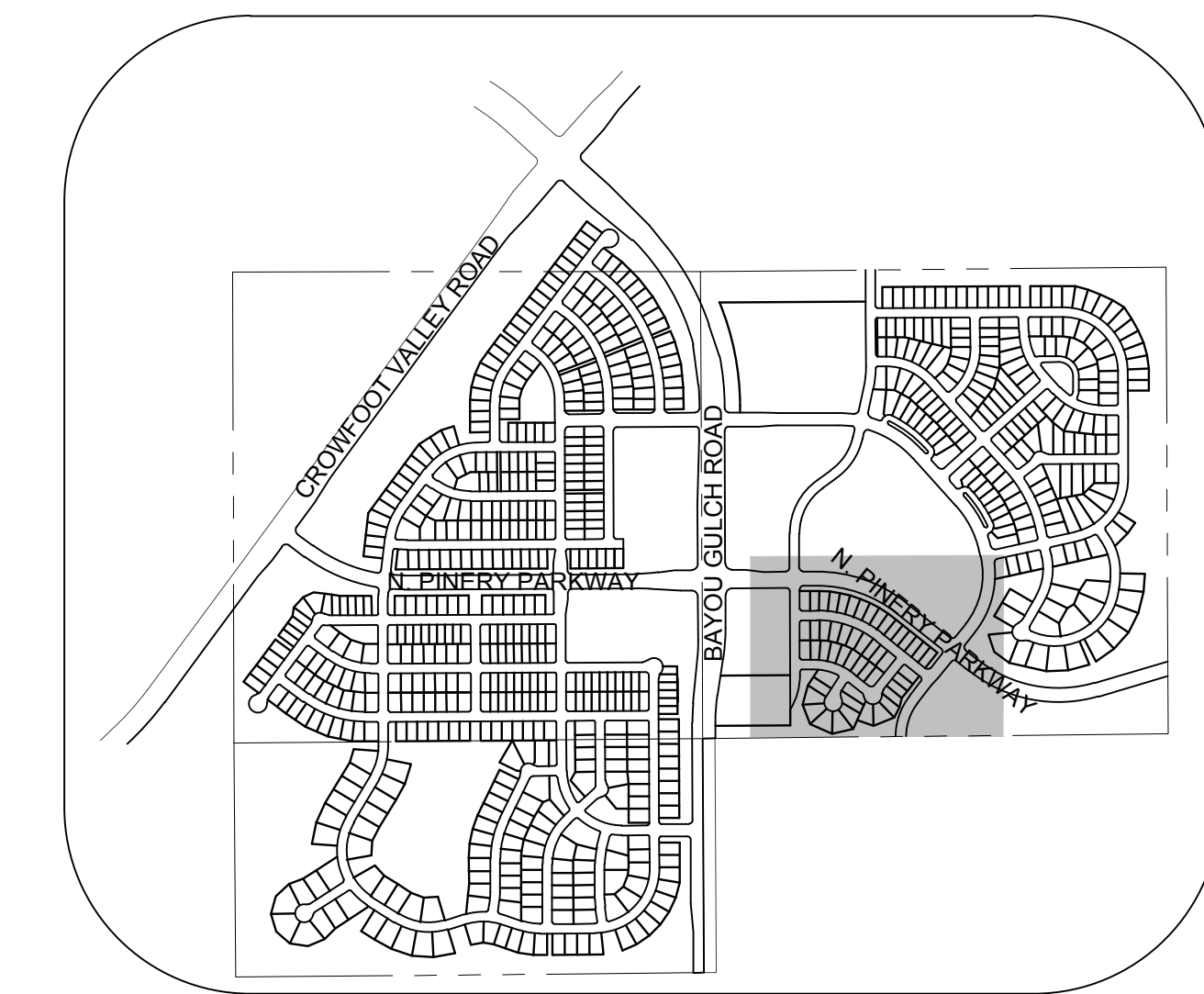
BASIS OF BEARINGS:
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06"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

PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON
COLORADO P.E. 0050067

SHEET NUMBER	DRAWN BY: KJD	CHECKED BY: JJ	DATE: SEPTEMBER 2017	SCALE:	AS SHOWN	FILE NO:	8130283701
				TRAILS AT CROWFOOT FILING 13 CONSTRUCTION DRAWINGS PARKER WATER AND SANITATION NOTES			
2	HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112			 <p>10338 E. Dry Creek Rd. Denver, CO 80110 Englewood, CO 80110 Tel: (720) 482-9526 Fax: (720) 482-9546</p>			
	Revisions		No.	Date	Appr.	Date	

SERVICE TABLE			
FILING, BLOCK, LOT	STREET	SANITARY STATIONING	WATER STATIONING
F13.B1.L1	SKY PILOT AVE	10+67.60	10+80.72
F13.B1.L2	SKY PILOT AVE	11+12.83	11+29.28
F13.B1.L3	SKY PILOT AVE	11+68.67	11+78.66
F13.B1.L4	SKY PILOT AVE	12+19.65	12+28.49
F13.B1.L5	SKY PILOT AVE	12+57.17	12+77.64
F13.B1.L6	SKY PILOT AVE	13+10.34	13+22.42
F13.B1.L7	SKY PILOT AVE	13+58.55	13+68.28
F13.B1.L8	SKY PILOT AVE	14+01.64	14+18.08
F13.B1.L9	SKY PILOT AVE	14+58.33	14+67.60
F13.B1.L10	SKY PILOT AVE	14+98.56	15+14.05
F13.B1.L11	SKY PILOT AVE	15+54.04	15+64.05
F13.B1.L12	SKY PILOT AVE	16+04.04	16+14.05
F13.B1.L13	SKY PILOT AVE	16+54.04	16+64.05
F13.B1.L14	SKY PILOT AVE	17+04.04	17+14.05
F13.B1.L15	SKY PILOT AVE	17+54.04	17+64.05
F13.B1.L16	SKY PILOT AVE	18+04.04	18+14.05
F13.B2.L1	SKY PILOT AVE	10+74.77	10+82.84
F13.B2.L2	SKY PILOT AVE	11+28.82	11+42.61
F13.B2.L3	SKY PILOT AVE	11+94.64	12+06.19
F13.B2.L4	SKY PILOT AVE	12+54.18	12+69.28
F13.B2.L5	SKY PILOT AVE	13+31.39	13+41.44
F13.B2.L6	SKY PILOT AVE	13+98.60	14+10.45
F13.B2.L7	SKY PILOT AVE	14+64.67	14+75.21
F13.B2.L8	SKY PILOT AVE	15+25.65	15+35.65
F13.B2.L9	SKY PILOT AVE	15+77.09	15+87.09
F13.B2.L10	SKY PILOT LN	16+30.21	16+48.82
F13.B2.L11	SKY PILOT LN	10+72.98	10+82.98
F13.B2.L12	SKY PILOT LN	11+18.40	11+27.54
F13.B2.L13	SKY PILOT LN	11+57.15	11+74.22
F13.B2.L14	SKY PILOT LN	12+06.11	12+16.77
F13.B2.L15	SKY PILOT LN	12+50.83	12+58.98
F13.B2.L16	SKY PILOT LN	12+84.70	13+00.78
F13.B2.L17	SKY PILOT LN	13+40.68	13+50.63
F13.B2.L18	SKY PILOT LN	13+87.63	13+97.63
F13.B2.L19	SKY PILOT LN	14+46.09	14+58.40
F13.B3.L1	PURPLE ASTER WAY	11+49.96	11+59.96
F13.B3.L2	PURPLE ASTER WAY	10+75.49	10+85.49
F13.B3.L3	PURPLE ASTER WAY	10+28.00	10+40.43
F13.B3.L4	PURPLE ASTER WAY	10+20.20	10+18.00
F13.B3.L5	PURPLE ASTER WAY	9+99.01	10+08.41
F13.B3.L6	PURPLE ASTER WAY	9+99.01	9+90.50
F13.B3.L7	PURPLE ASTER WAY	10+53.64	10+60.58
F13.B3.L8	PURPLE ASTER WAY	10+96.13	11+06.13
F13.B3.L9	PURPLE ASTER WAY	11+46.96	11+56.96
F13.B3.L10	SKY PILOT LN	14+82.17	14+80.54
F13.B3.L11	SKY PILOT LN	14+88.52	14+93.60
F13.B3.L12	SKY PILOT LN	15+04.06	15+07.42
F13.B3.L13	SKY PILOT LN	15+49.92	15+59.92
F13.B3.L14	SKY PILOT LN	15+99.92	16+09.92
F13.B3.L15	SKY PILOT LN	16+49.92	16+59.92
F13.B3.L16	SKY PILOT LN	17+04.92	17+14.92



KEYMAP N.T.S. LEGEND

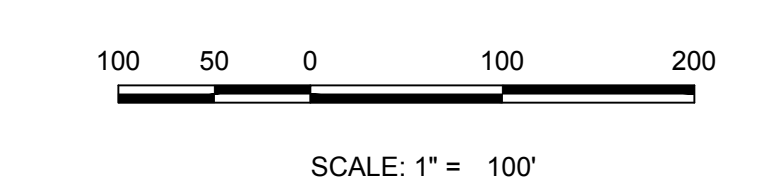
②	BLOCK NUMBER	△	PROPOSED RANGE POINT
Ⓐ	LOT TYPE	---	CENTERLINE
6	LOT NUMBER	---	RIGHT-OF-WAY
⊕	PROPOSED BUTTERFLY VALVE	---	PROPERTY LINE
⊞	PROPOSED CAP WITH END OF LINE BLOWOFF	---	EDGE OF PAVEMENT
⊞	PROPOSED REDUCER	→	PROPOSED DIRECTION OF FLOW
⊞	PROPOSED VALVE	1.0%	PROPOSED SLOPE & DIRECTION
⊞	PROPOSED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

THE TOWN OF PARKER REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE TOWN'S STANDARDS AND APPROVED VARIANCES, SUBJECT TO THESE PLANS BEING STAMPED, SIGNED, 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 PLANS(S), SPECIAL REVIEW(S), GRADING PERMIT, AND/OR OTHER PERMITS ARE COMPLETE, APPROVED AND ON FILE WITH THE TOWN OF PARKER.



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 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: _____ DATE _____
(DISTRICT REPRESENTATIVE)

APPROVED FOR CONSTRUCTION:
PARKER WATER AND SANITATION DISTRICT

BY: _____ DATE _____
(DISTRICT ENGINEER)

BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.069032, 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.

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 _____
(NOTE: UNDERGROUND FIRE LINE (UFL) SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENTS OF NFP242 WHEN SUBMITTING FOR REVIEW.)

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

10339 E. Dry Creek Rd.
Suite 410
Englewood, Colorado 80150
Tel: (720) 482-9526
Fax: (720) 482-9548

CVL CONSULTANTS

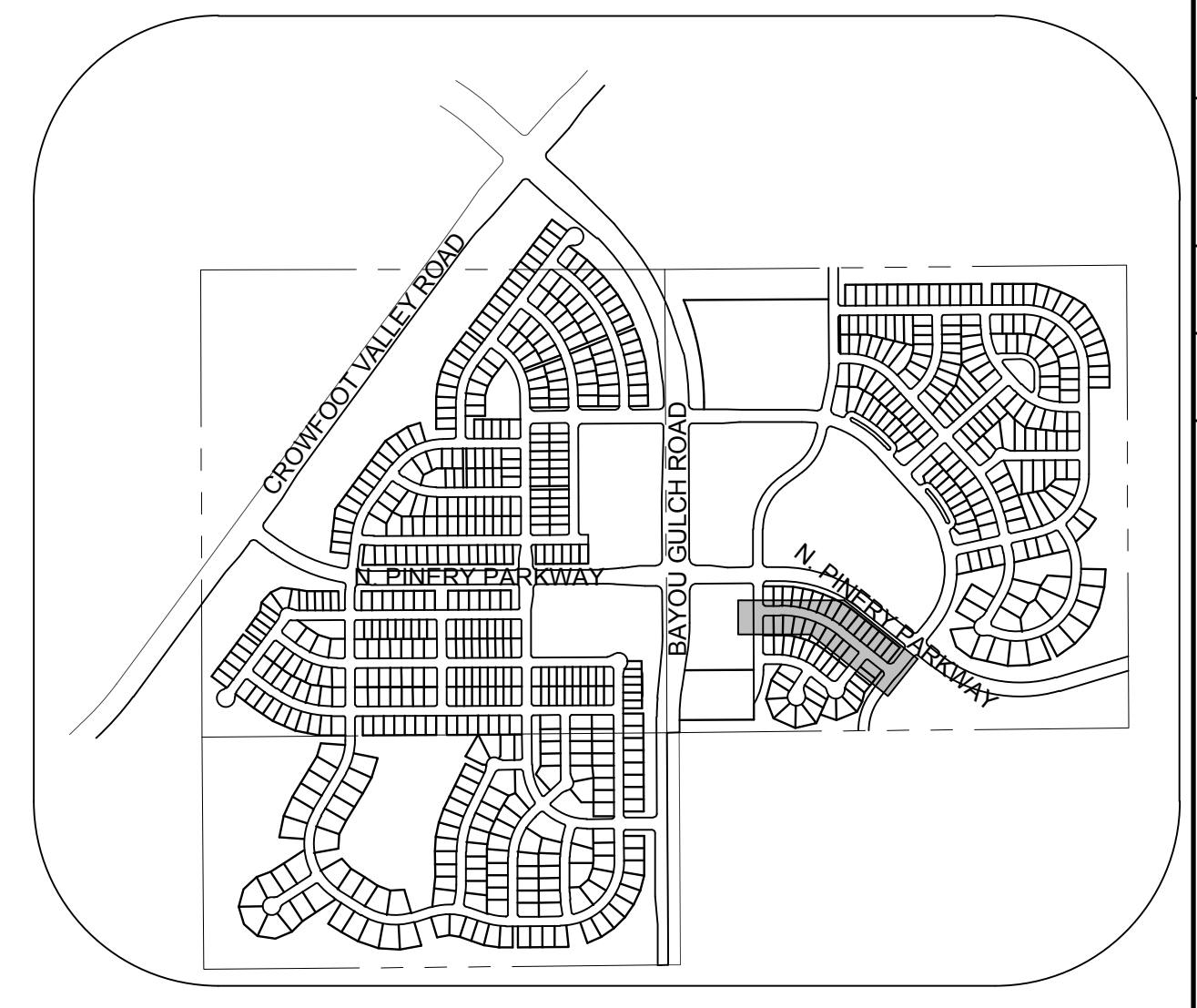
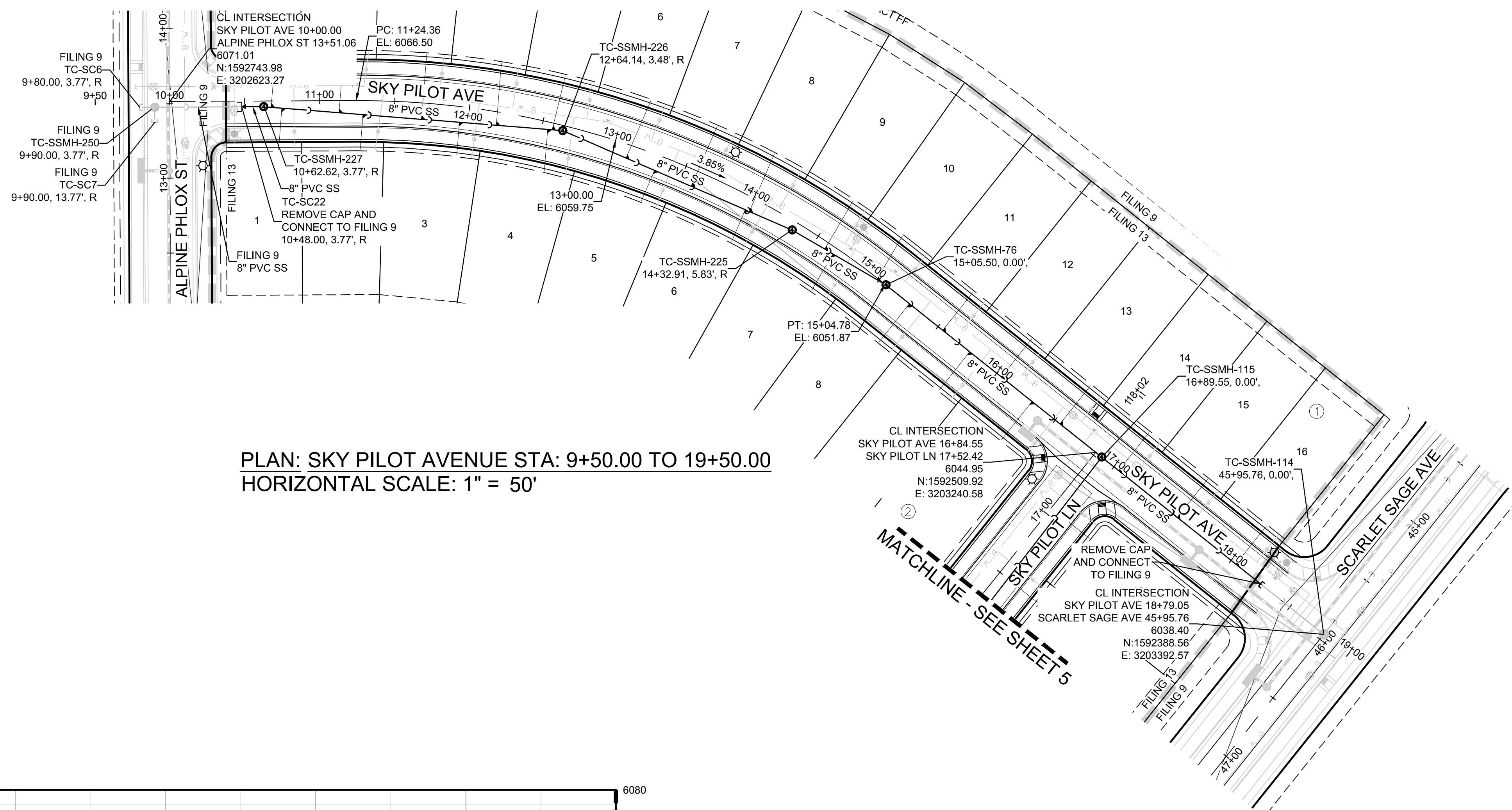
HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 13 CONSTRUCTION DRAWINGS
AREA UTILITY PLAN

SCALE: AS SHOWN
FILE NO: 8130283701

DRAWN BY: JLR
CHECKED BY: JJJ
DATE: SEPTEMBER 2017

SHEET NUMBER **3**



PLAN: SKY PILOT AVENUE STA: 9+50.00 TO 19+50.00
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 WL FITTING WITH THRUST BLOCK	---	EXISTING 5' CONTOUR
⊕	PROPOSED FLARED END SECTION	---	EXISTING 1' CONTOUR
⊕	PROPOSED LOW POINT BLOW-OFF	---	PROPOSED 5' CONTOUR
⊕	PROPOSED AIR VALVE	---	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	---	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	---	EXISTING FIBER OPTIC LINE
⊕	PROPOSED STORM DRAIN MANHOLE	---	EXISTING OVERHEAD POWER
		---	EXISTING TELEPHONE LINE

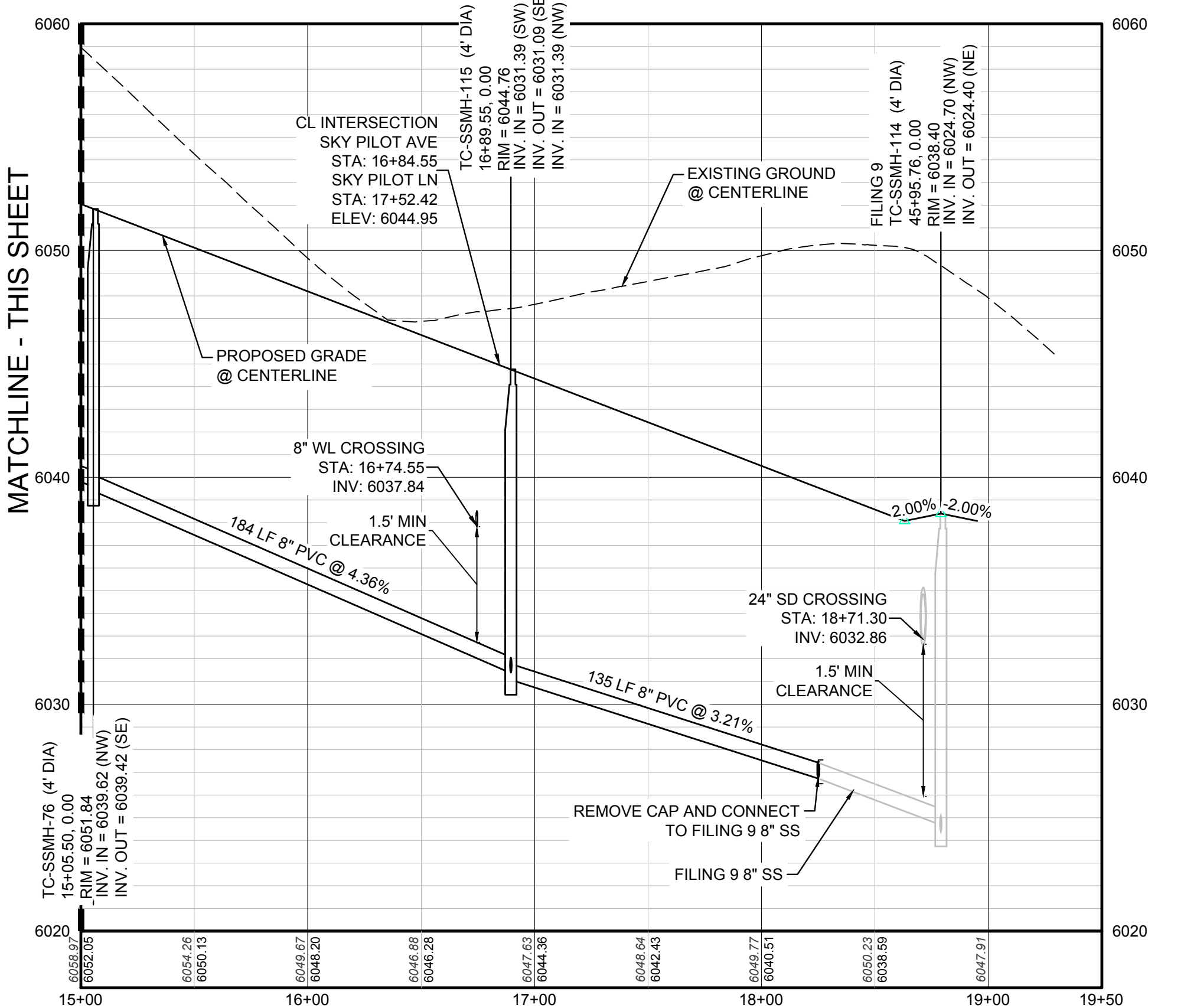
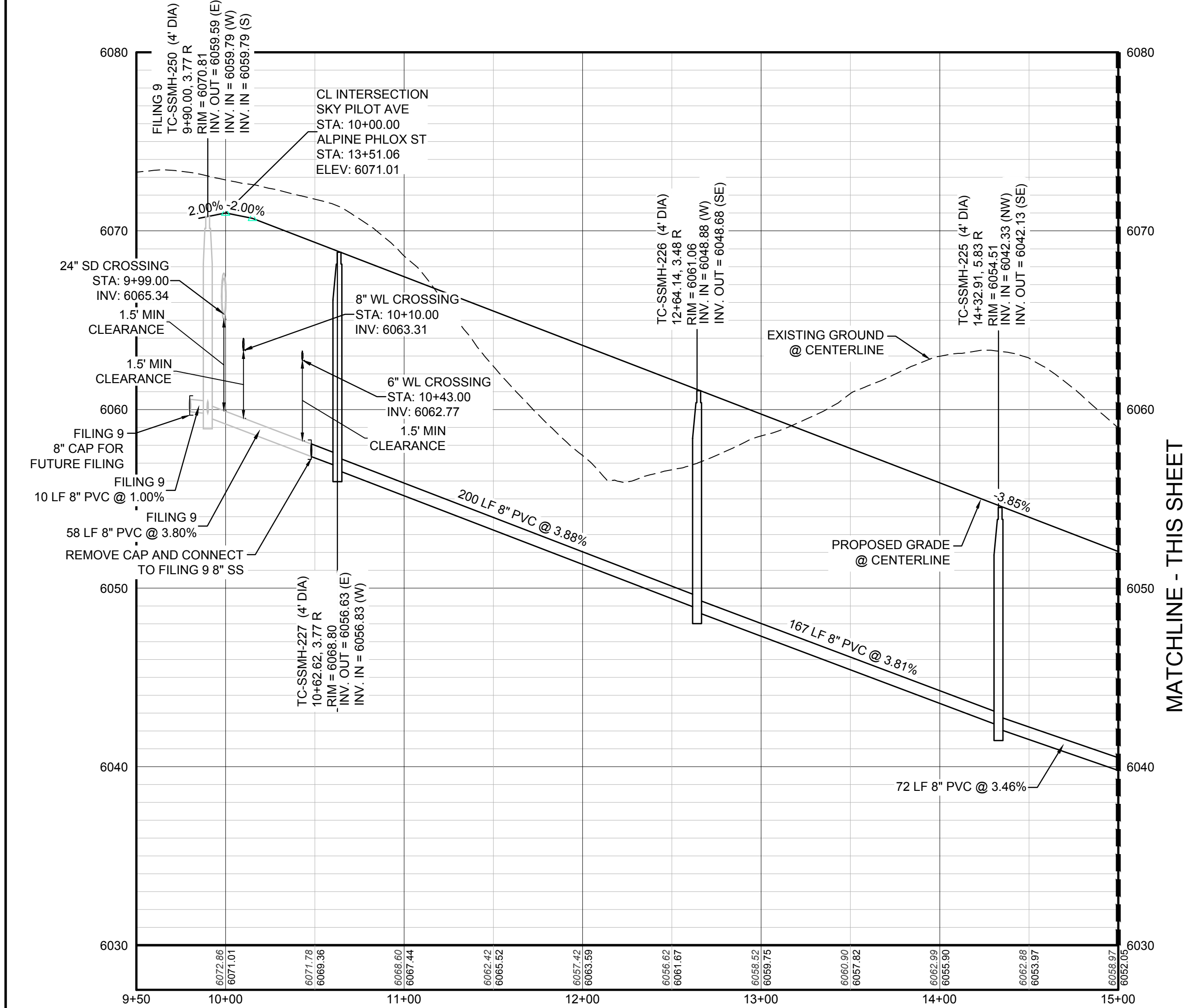
ABBREVIATIONS

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	RCPC	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

1. SEE SHEET 3 - AREA UTILITY PLAN FOR SANITARY SERVICE TABLES.

PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON
COLORADO P.E. 0050067



PROFILE: SKY PILOT AVENUE STA: 15+00.00 TO 19+50.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

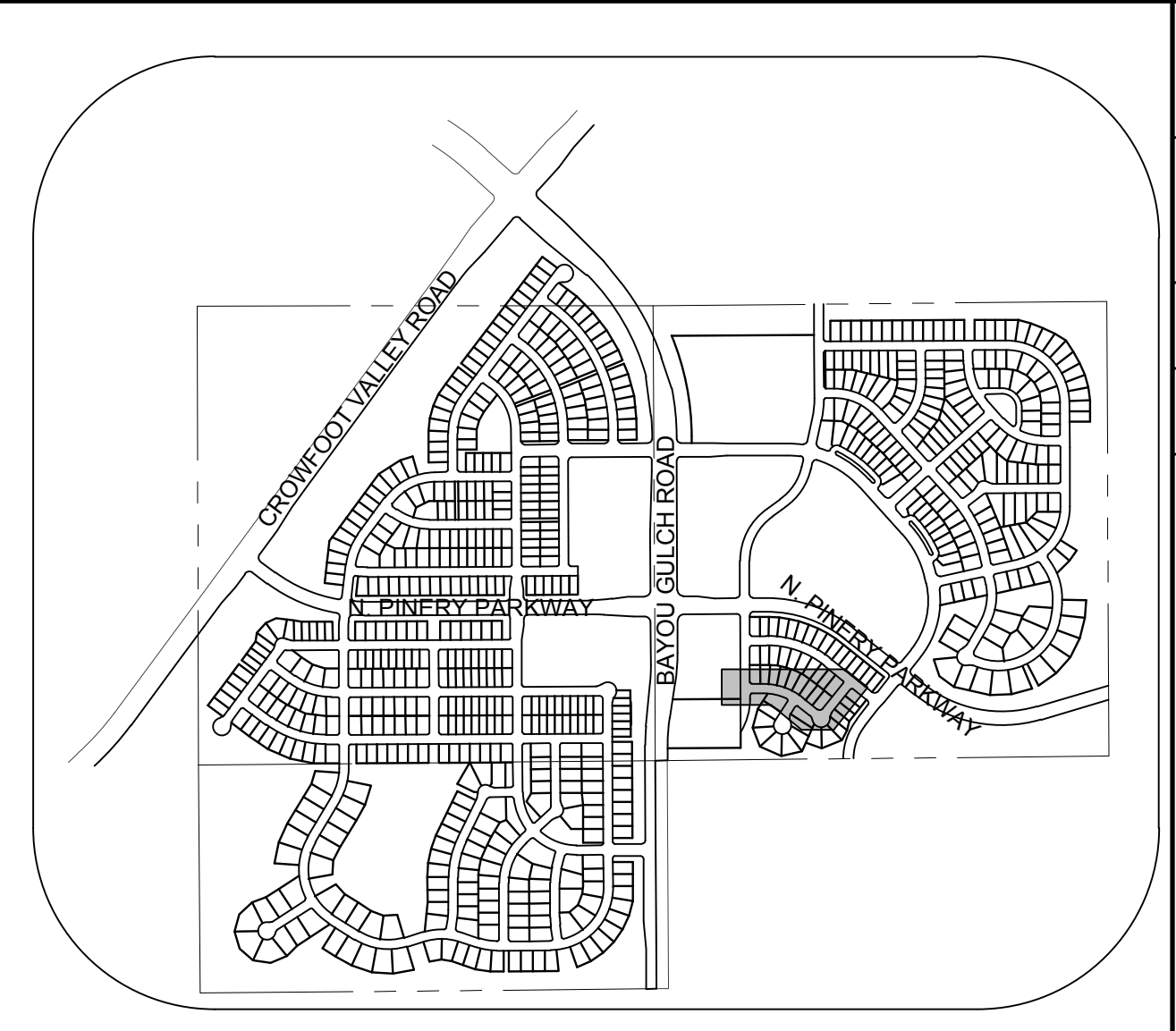
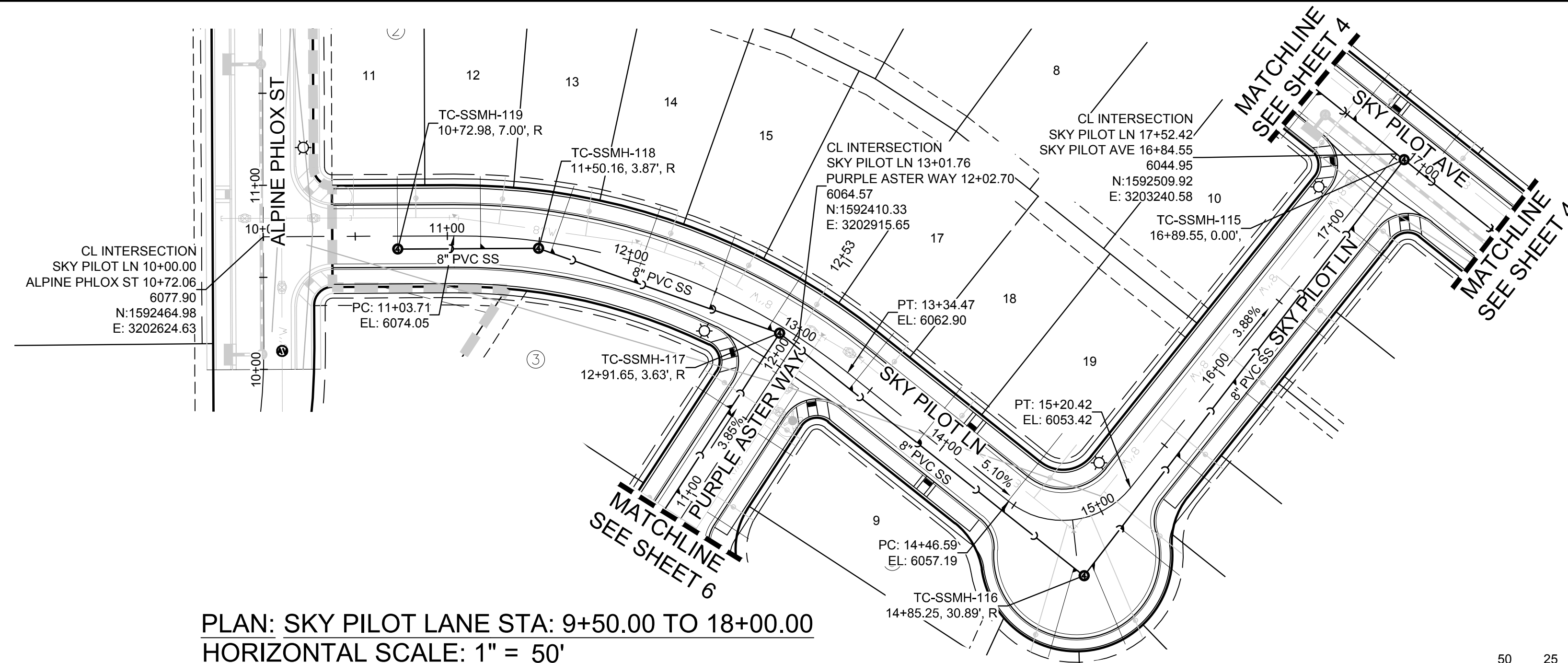
BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.069032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

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.

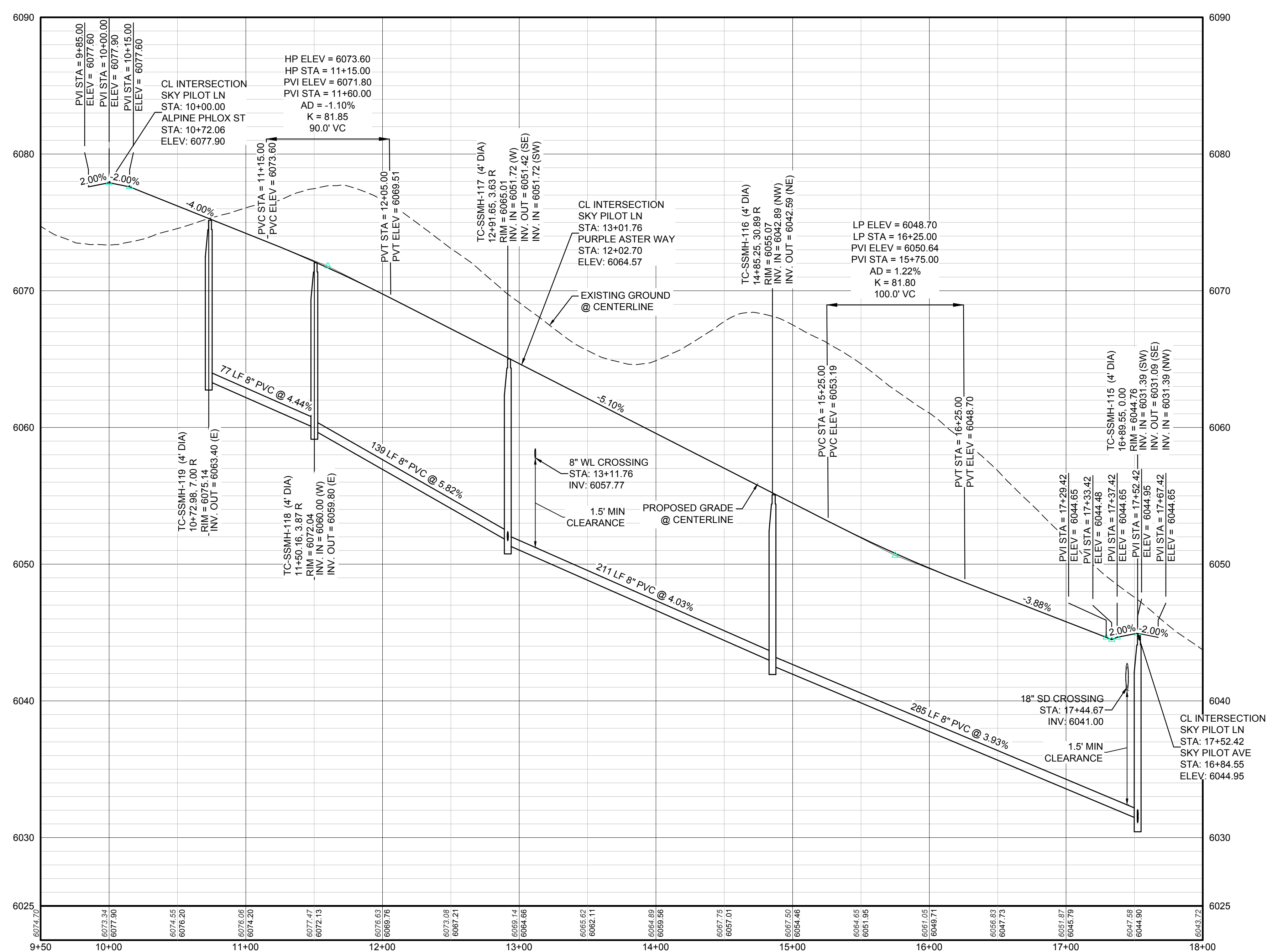
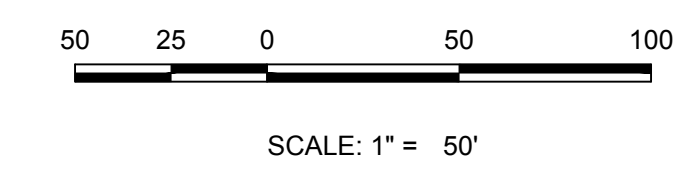
CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
UNCC 1-800-922-1987

PROFILE: SKY PILOT AVENUE STA: 9+50.00 TO 15+00.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

10333 E. Dry Creek Rd. Suite 410 Englewood, CO 80151 Tel: (720) 482-9526 Fax: (720) 482-9548	10333 E. Dry Creek Rd. Suite 410 Englewood, CO 80151 Tel: (720) 482-9526 Fax: (720) 482-9548
HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112	HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112
TRAILS AT CROWFOOT FILING 13 CONSTRUCTION DRAWINGS SANITARY SEWER PLAN AND PROFILE SKY PILOT AVENUE	TRAILS AT CROWFOOT FILING 13 CONSTRUCTION DRAWINGS SANITARY SEWER PLAN AND PROFILE SKY PILOT AVENUE
SCALE: AS SHOWN FILE NO: 8130283701	SCALE: AS SHOWN FILE NO: 8130283701
DRAWN BY: JLR CHECKED BY: JLU DATE: SEPTEMBER 2017	DRAWN BY: JLR CHECKED BY: JLU DATE: SEPTEMBER 2017
SHEET NUMBER 4	SHEET NUMBER 4
Revisions	Revisions
No.	No.
Date	Date
Init.	Init.
Appr.	Appr.
Date	Date



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	5615	EXISTING 5' CONTOUR
⊕	PROPOSED WL FITTING WITH THRUST BLOCK	5616	EXISTING 1' CONTOUR
⊕	PROPOSED FLARED END SECTION	5620	PROPOSED 5' CONTOUR
⊕	PROPOSED LOW POINT BLOW-OFF	5607	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	---	EXISTING FIBER
⊕	PROPOSED STORM DRAIN INLET	---	FO
⊕	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
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CR	ELEVATION	RCP	REINFORCED CONCRETE PIPE
EP	EDGE OF PAVEMENT	ROW	RIGHT OF WAY
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EVP	END VERTICAL PROFILE	SD	STORM DRAIN
FG	FINISHED GROUND	SL	SECTION LINE
FH	FIRE HYDRANT	SS	SANITARY SEWER
FL	FLOW LINE	STA	STATION
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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

1. SEE SHEET 3 - AREA UTILITY PLAN FOR SANITARY SERVICE TABLES.

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UNCC 1-800-922-1987

PROFILE: SKY PILOT LN STA: 9+50.00 TO 18+00.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

BENCHMARK
THE DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.069032, BEING A 3-3/4" 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

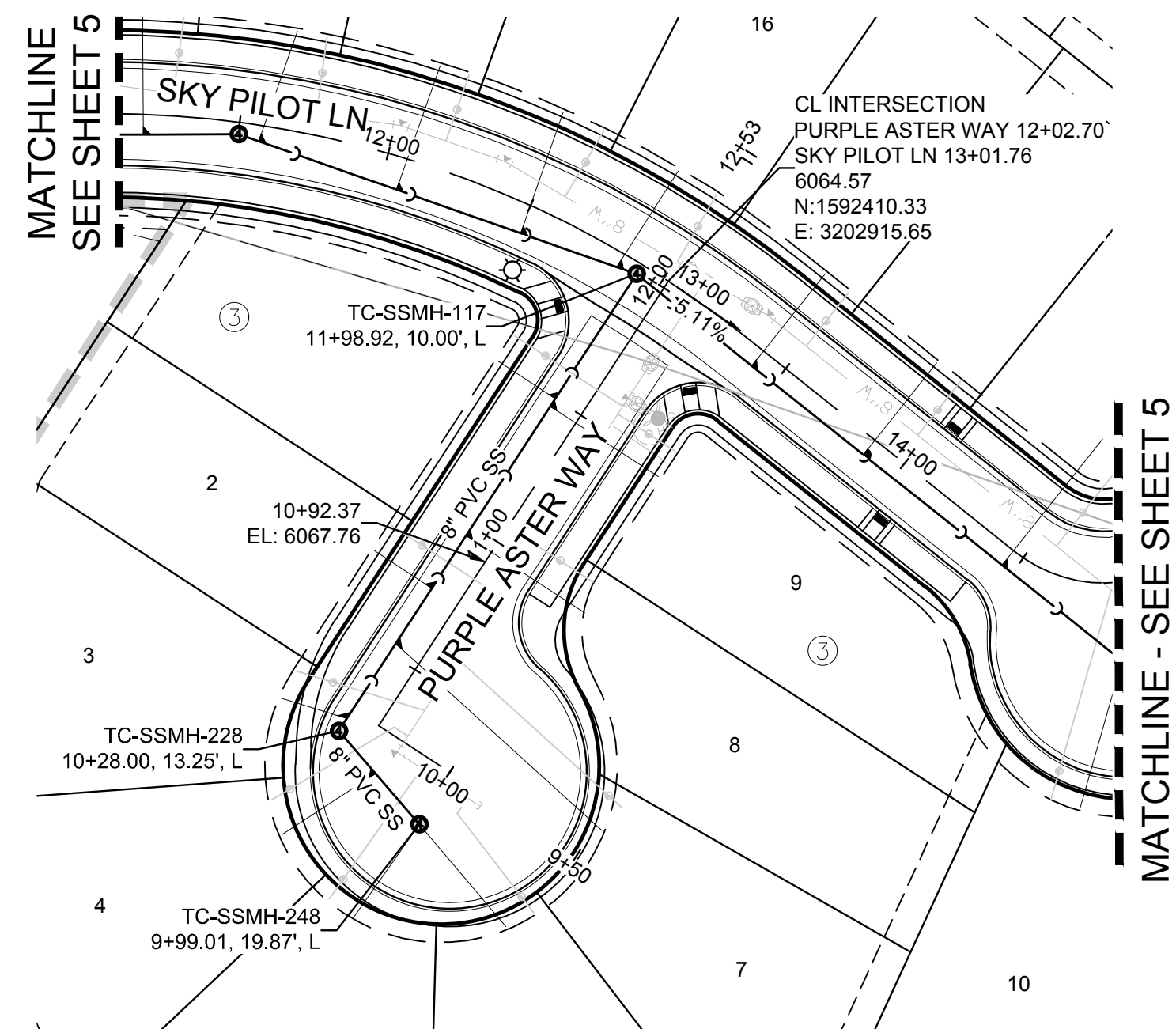
BRIAN P. WILSON
COLORADO P.E. 0050067

SHEET NUMBER	5			
	TRAILS AT CROWFOOT FILING 13 CONSTRUCTION DRAWINGS SANITARY SEWER PLAN AND PROFILE SKY PILOT LANE			
DRAWN BY:	JLR			
CHECKED BY:	JJJ			
DATE:	SEPTEMBER 2017			
SCALE:	AS SHOWN			
FILE NO.:	8130283701			
Revisions	No.	Date	Appr.	Date

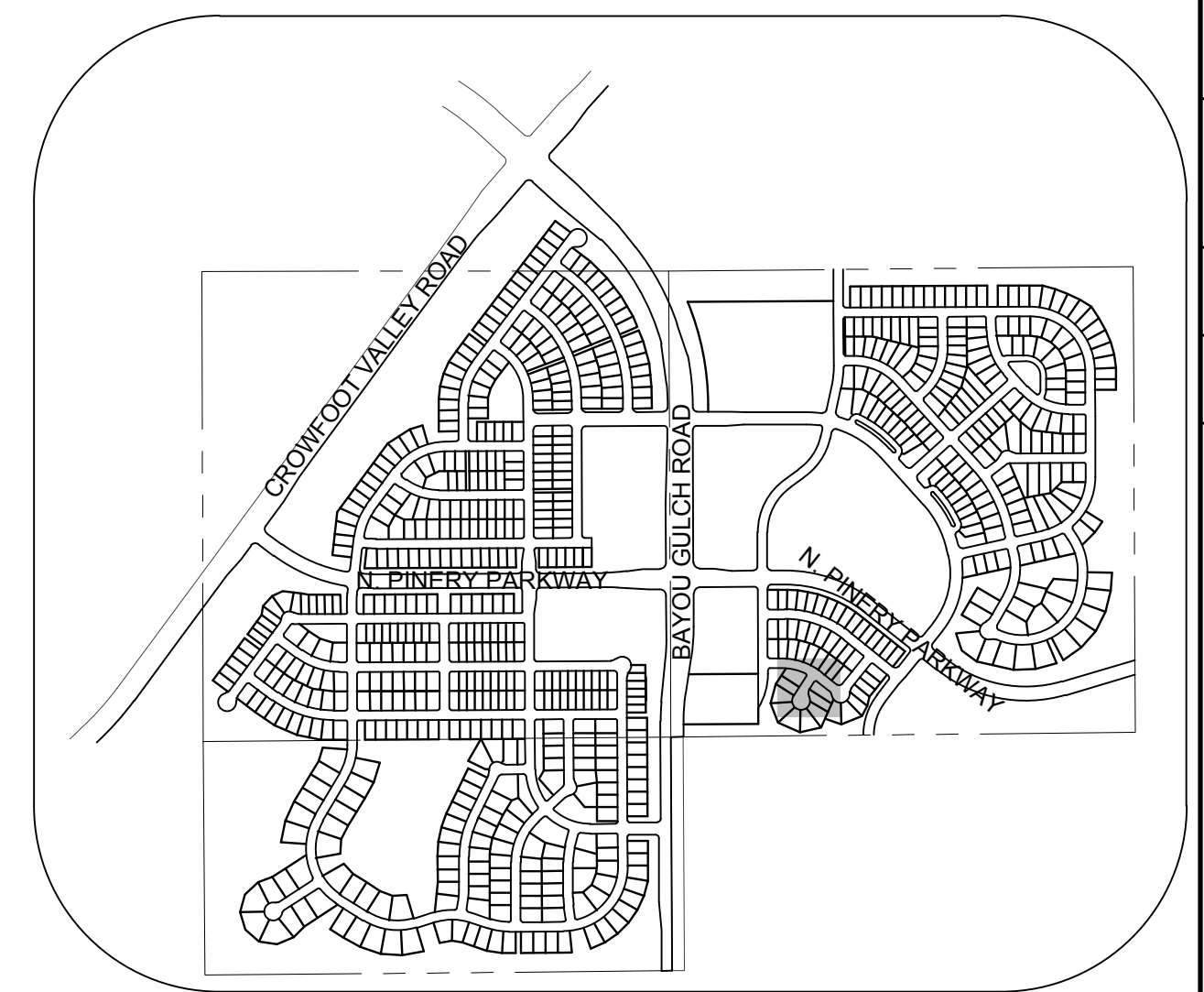
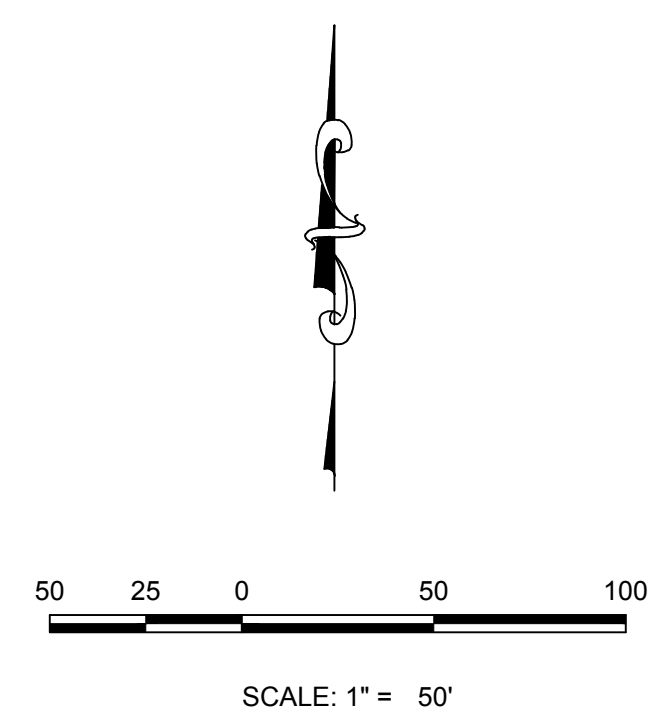
10333 E. Dry Creek Rd., Suite 410
Englewood, Colorado 80110
Tel: (720) 482-9526
Fax: (720) 482-9548

CVL
CONSULTANTS

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

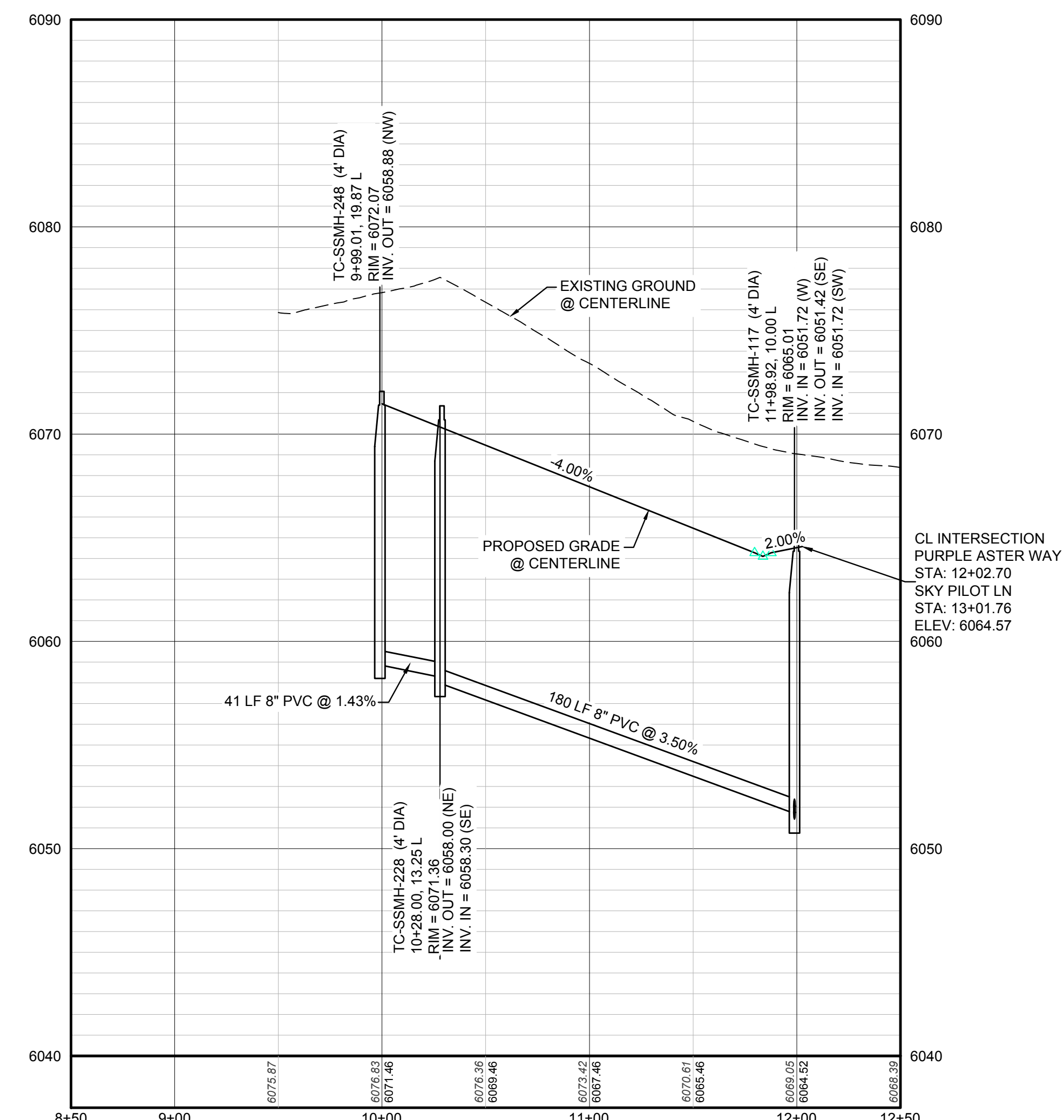


PLAN: PURPLE ASTER WAY STA: 8+50.00 TO 12+50.00
HORIZONTAL SCALE: 1" = 50'



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	5615	EXISTING 5' CONTOUR
⊕	PROPOSED WL FITTING WITH THRUST BLOCK	5616	EXISTING 1' CONTOUR
⊕	PROPOSED FLARED END SECTION	5620	PROPOSED 5' CONTOUR
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⊕	PROPOSED AIR VALVE	---	PROPOSED STORM DRAIN
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⊕	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	---	EXISTING FIBER OPTIC LINE
---	PROPOSED STORM DRAIN INLET	---	EXISTING OVERHEAD POWER
⊕	PROPOSED STORM DRAIN MANHOLE	---	EXISTING TELEPHONE LINE



PROFILE: PURPLE ASTER WAY STA: 8+50.00 TO 12+50.00
HORIZONTAL: 1" = 50'
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ABBREVIATIONS

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CRR	CURB RETURN RADIUS	ROBC	REINFORCED CONCRETE BOX CULVERT
CR	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

1. SEE SHEET 3 - AREA UTILITY PLAN FOR SANITARY SERVICE TABLES.

PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON
COLORADO P.E. 0050067

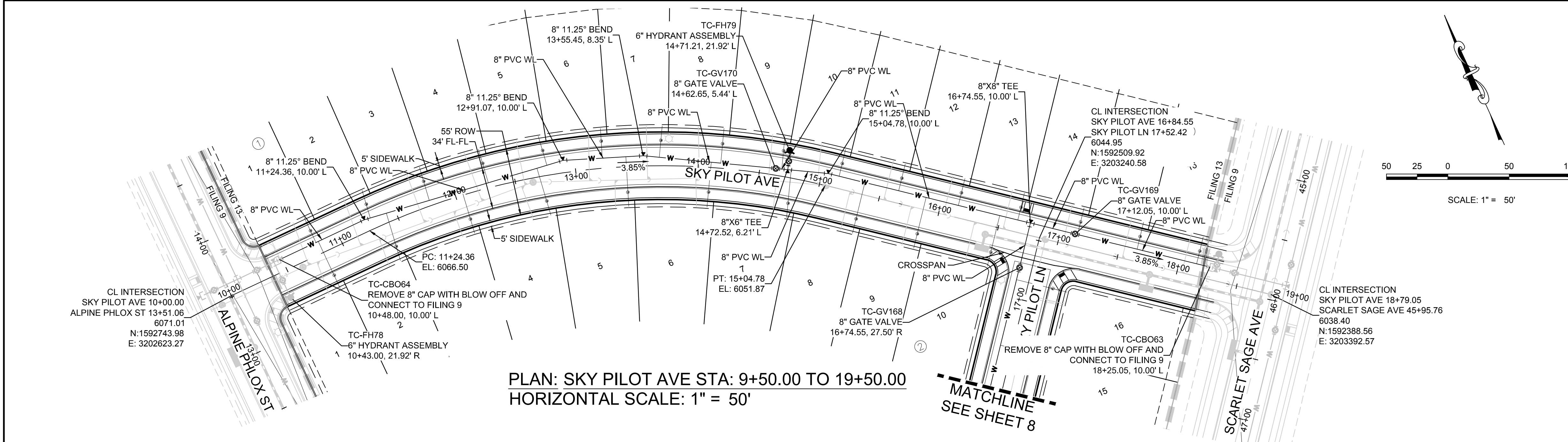
BENCHMARK
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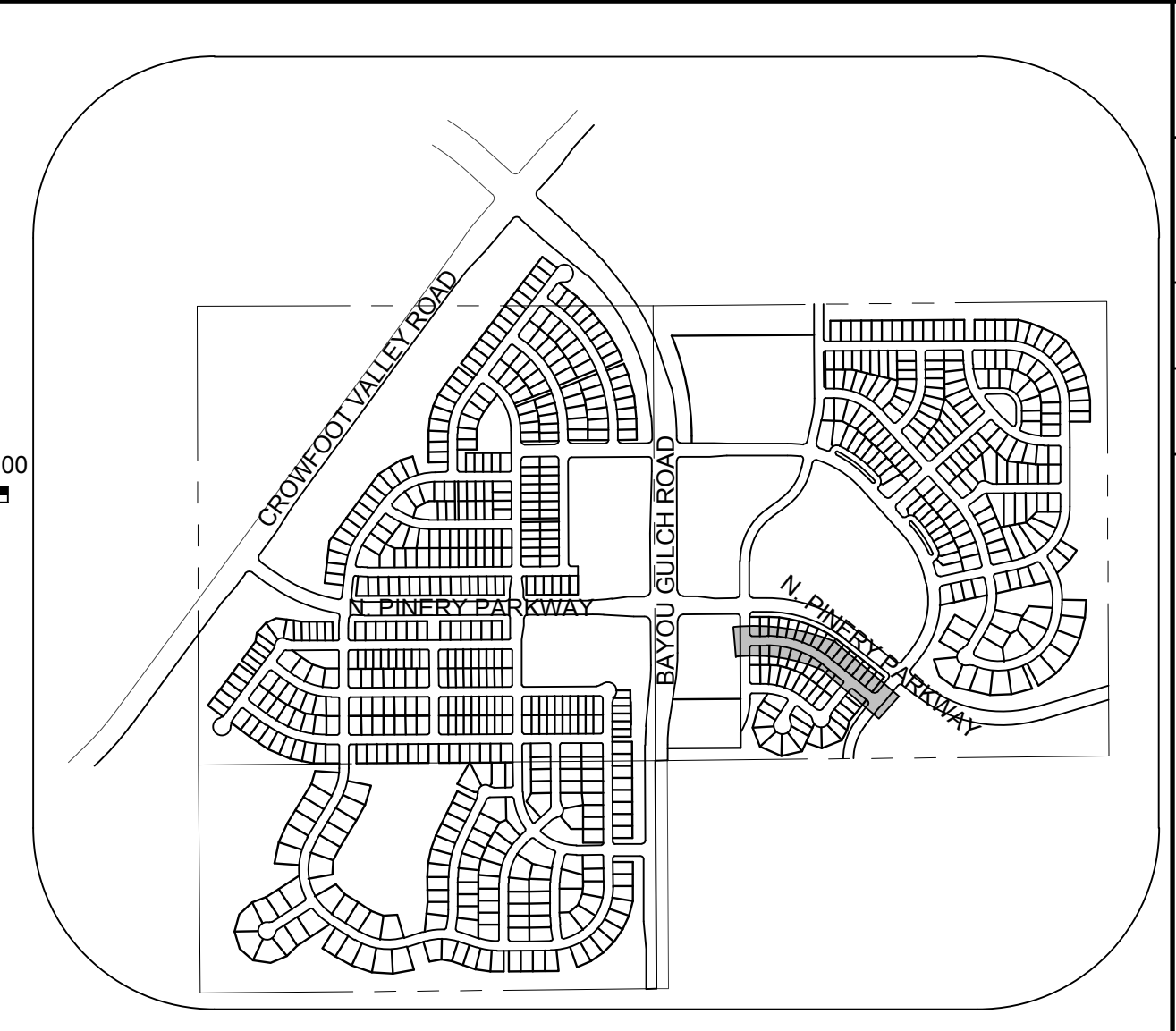
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UTILITY NOTIFICATION
CENTER OF COLORADO

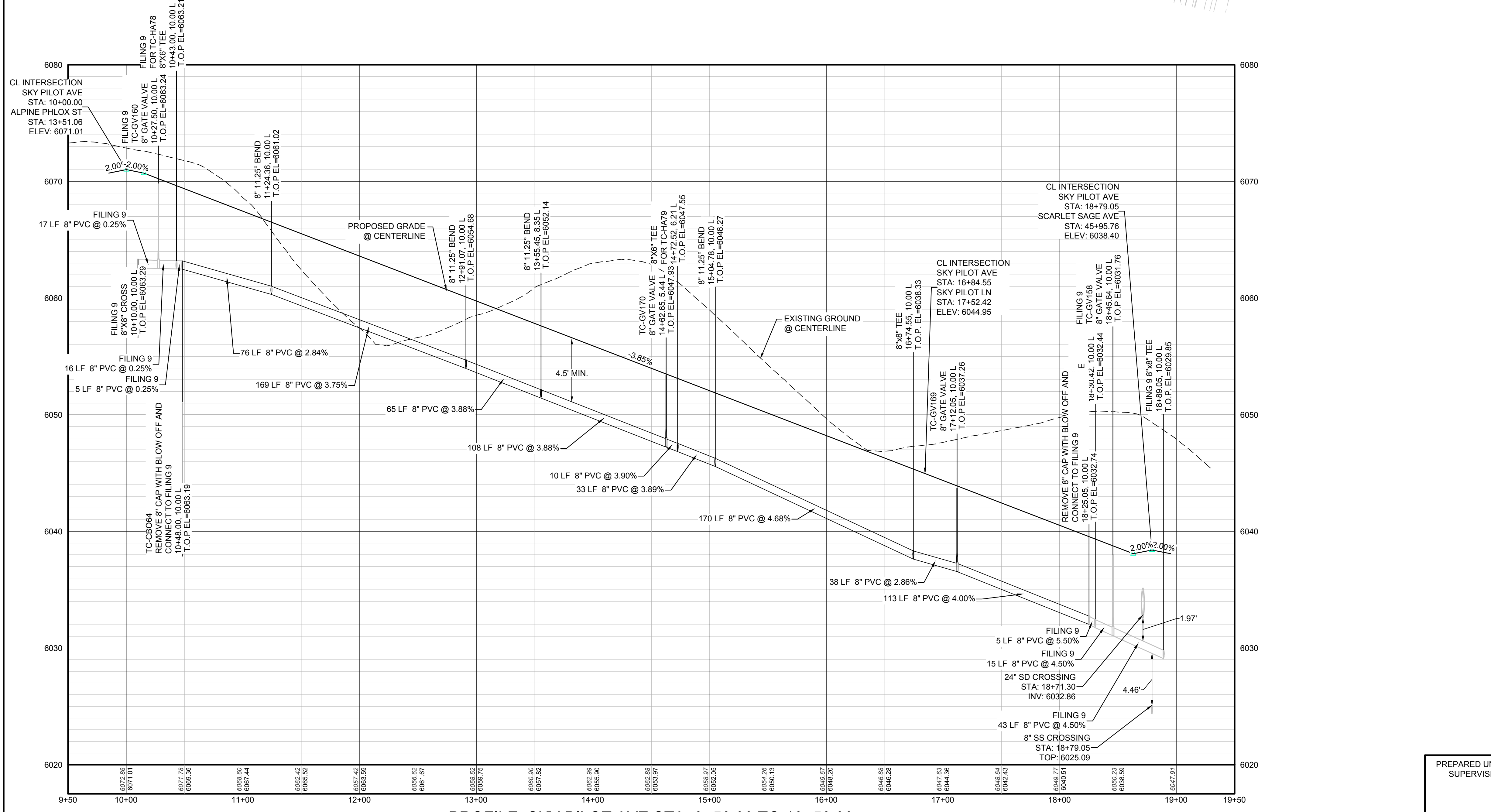
SHEET NUMBER	DRAWN BY: JLR	SCALE: AS SHOWN	FILE NO: 8130283701	DATE: SEPTEMBER 2017	Revisions	Appr.	Date
				CHECKED BY: JLJ	No.		
6	TRAILS AT CROWFOOT FILING 13 CONSTRUCTION DRAWINGS SANITARY SEWER PLAN AND PROFILE PURPLE ASTER WAY			10333 E. Dry Creek Rd. Suite 410 Englewood, Colorado 80150 Tel: (720) 482-9526 Fax: (720) 482-9546 CVL CONSULTANTS HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112			



PLAN: SKY PILOT AVE STA: 9+50.00 TO 19+50.00
HORIZONTAL SCALE: 1" = 50'



KEYMAP
N.T.S.
LEGEND

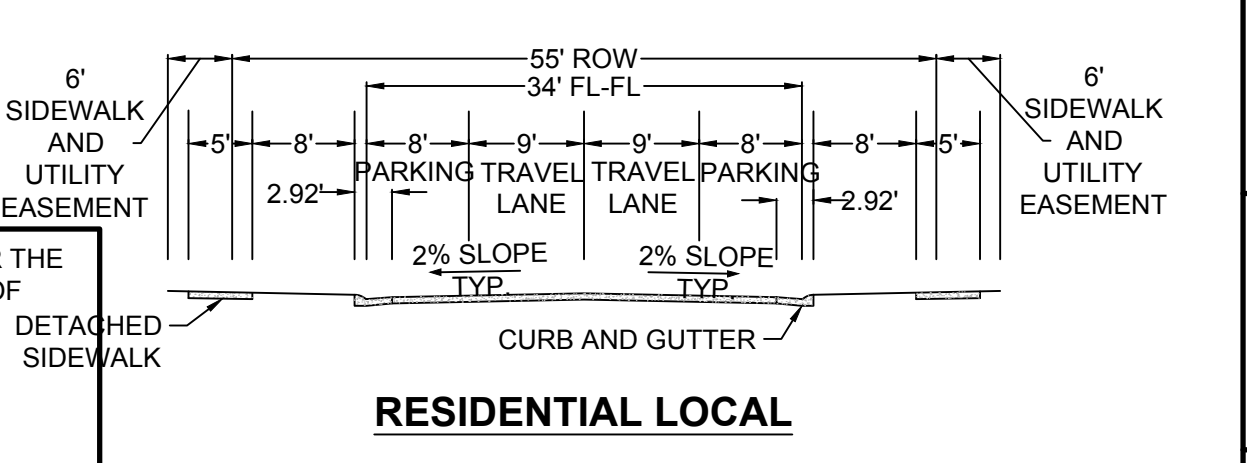


PROFILE: SKY PILOT AVE STA: 9+50.00 TO 19+50.00
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⊕	PROPOSED VALVE	—————	PROPOSED SLOPE & DIRECTION
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⊙	PROPOSED LIGHT POLE	—————	PROPOSED WATER LATERAL W/ METER
⊞	PROPOSED SIDEWALK	—————	PROPOSED WATER LATERAL
⊞	PROPOSED SIDEWALK RAMP	—————	SECTION LINE
10.00	EXISTING ELEVATION	—————	FILING BOUNDARY
10.00	PROPOSED DESIGN ELEVATION	—————	EXISTING FIBER OPTIC LINE
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LF	LINEAR FEET	WSE	WATER SURFACE ELEVATION



RESIDENTIAL LOCAL
1. SEE SHEET 3 - AREA UTILITY PLAN FOR WATER SERVICE TABLES.

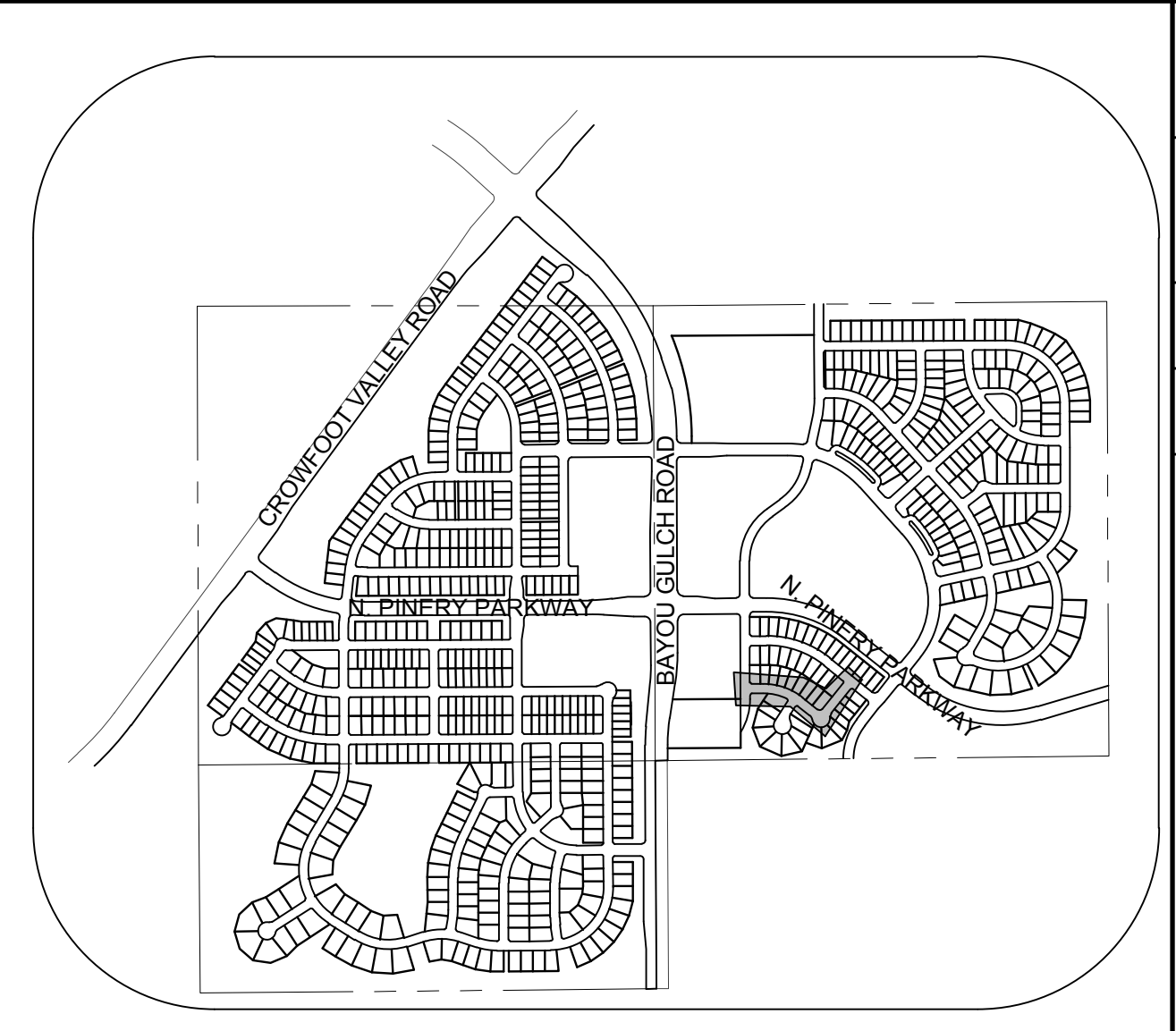
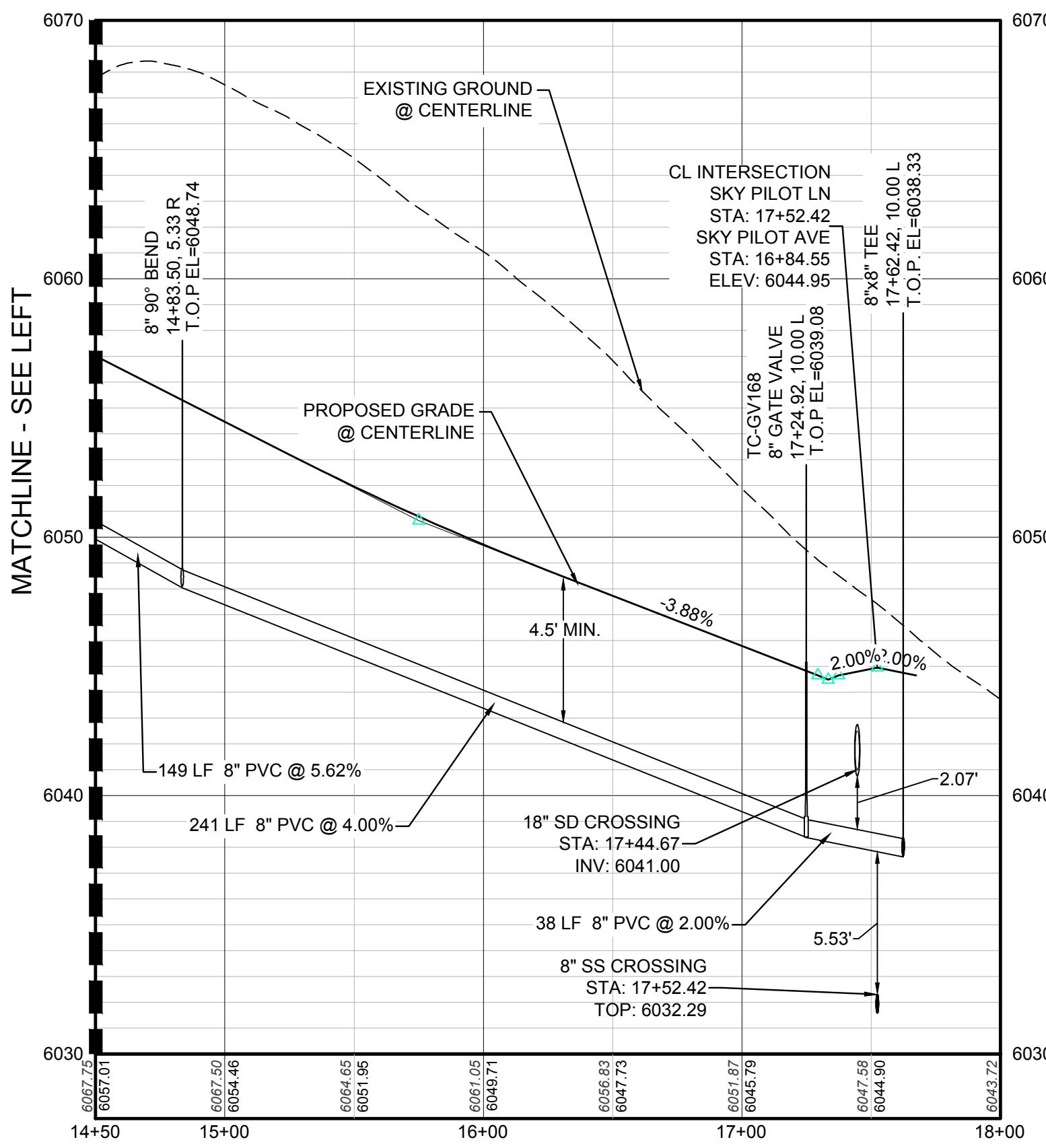
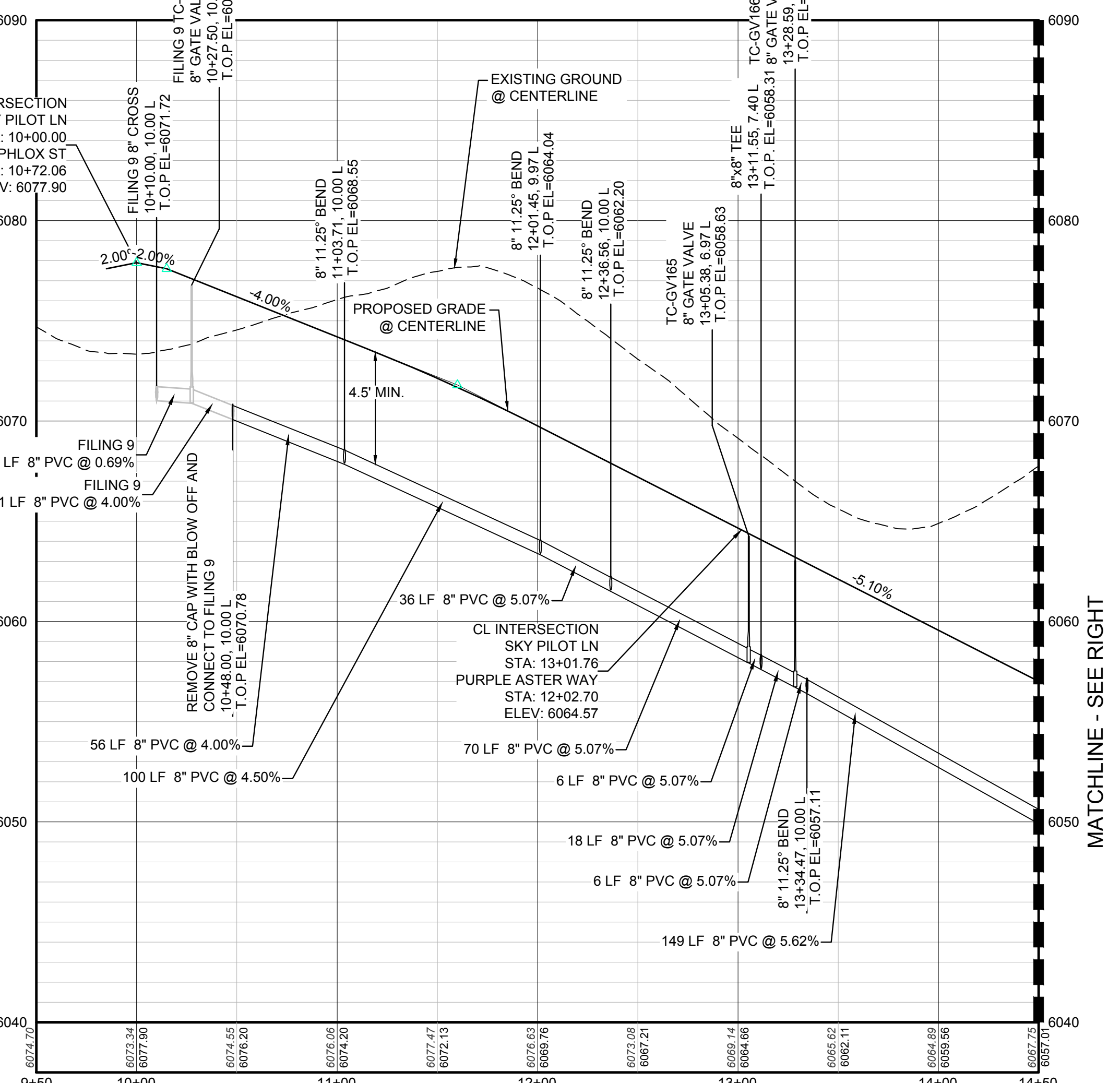
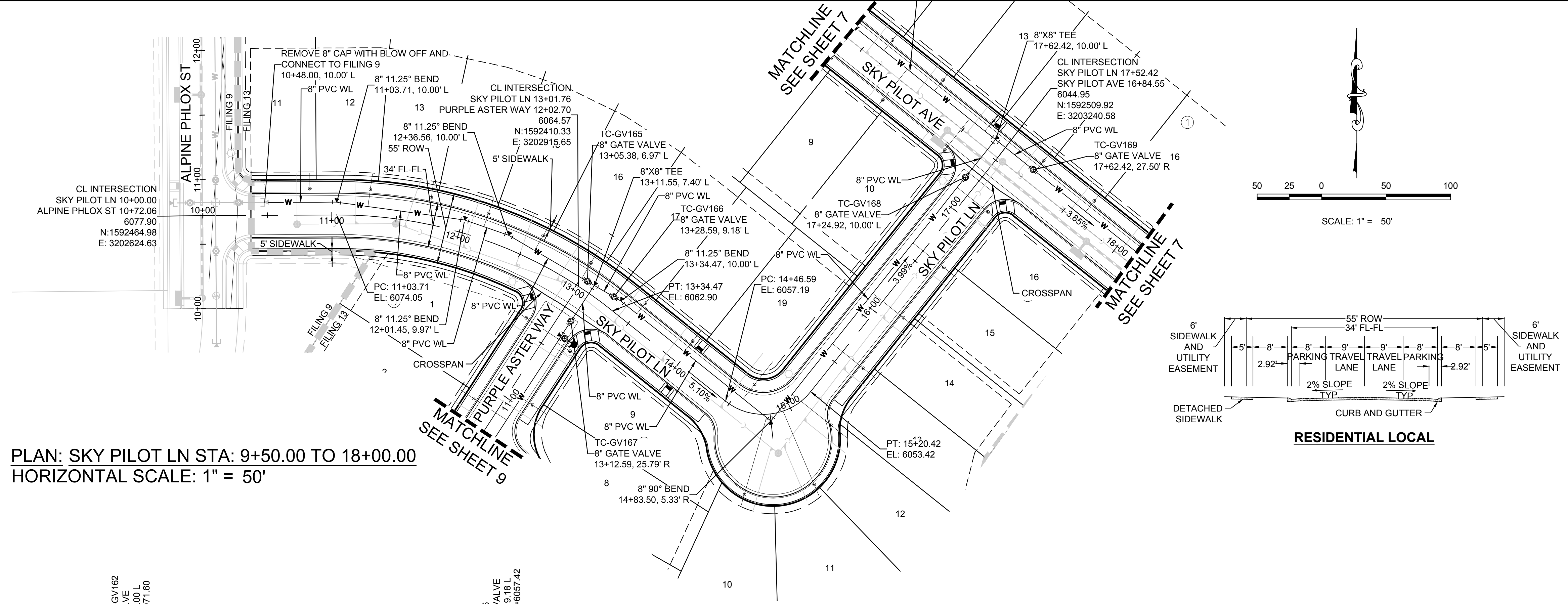
CALL 811
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UNCC 1-800-922-1987

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

10338 E. Dry Creek Rd. Suite 6410 Englewood, CO 80150 Tel: (720) 482-9526 Fax: (720) 482-9548	Revisions	Date	Date
CVL CONSULTANTS	No.	Appr.	Date
HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112			
TRAILS AT CROWFOOT FILING 13 CONSTRUCTION DRAWINGS WATER PLAN & PROFILE SKY PILOT AVENUE			
SCALE: AS SHOWN DRAWN BY: RHR CHECKED BY: JU DATE: SEPTEMBER 2017			
FILE NO: 8130283701			
SHEET NUMBER 7			



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	---	EXISTING FIBER OPTIC LINE
⊕	PROPOSED STORM DRAIN INLET	---	EXISTING OVERHEAD POWER
⊕	PROPOSED STORM DRAIN MANHOLE	---	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	PVT	POINT OF VERTICAL INTERSECTION
CBO	CAP WITH BLOW OFF	PVI	POINT OF VERTICAL TANGENT
CRR	CURB RETURN RADIUS	ROBC	REINFORCED CONCRETE BOX CULVERT
ELEVATION	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

1. SEE SHEET 3 - AREA UTILITY PLAN FOR WATER SERVICE TABLES.

PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON
COLORADO P.E. 0050067

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UNCC 1-800-922-1987

BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.069032, 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.

SCALE:	RHR	AS SHOWN	FILE NO:	8130283701
DRAWN BY:	JU	CHECKED BY:	DATE:	SEPTEMBER 2017
SHEET NUMBER	8			
TRAILS AT CROWFOOT FILING 13 CONSTRUCTION DRAWINGS WATER PLAN & PROFILE SKY PILOT LANE				
HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112				
CVL CONSULTANTS 10333 E. Dry Creek Rd. Suite 6410 Englewood, Colorado 80110 Tel: (720) 482-9526 Fax: (720) 482-9548				

INSPECTION POLICY:

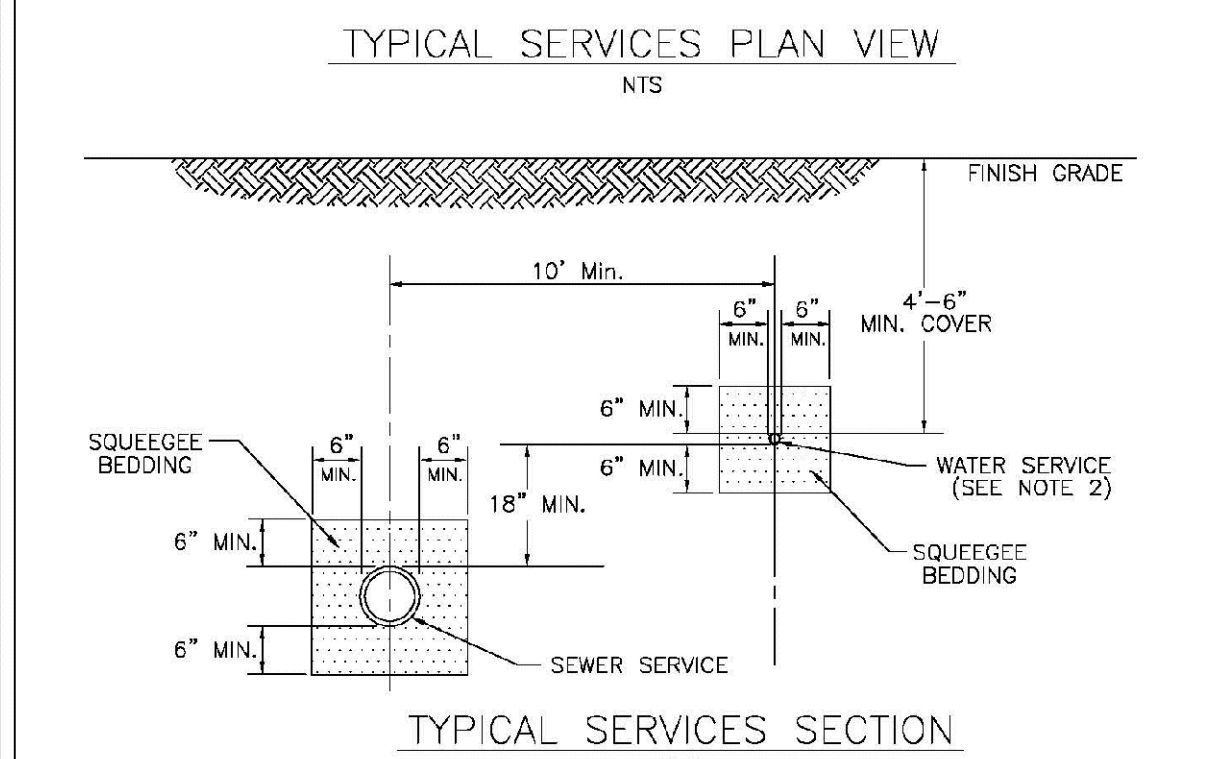
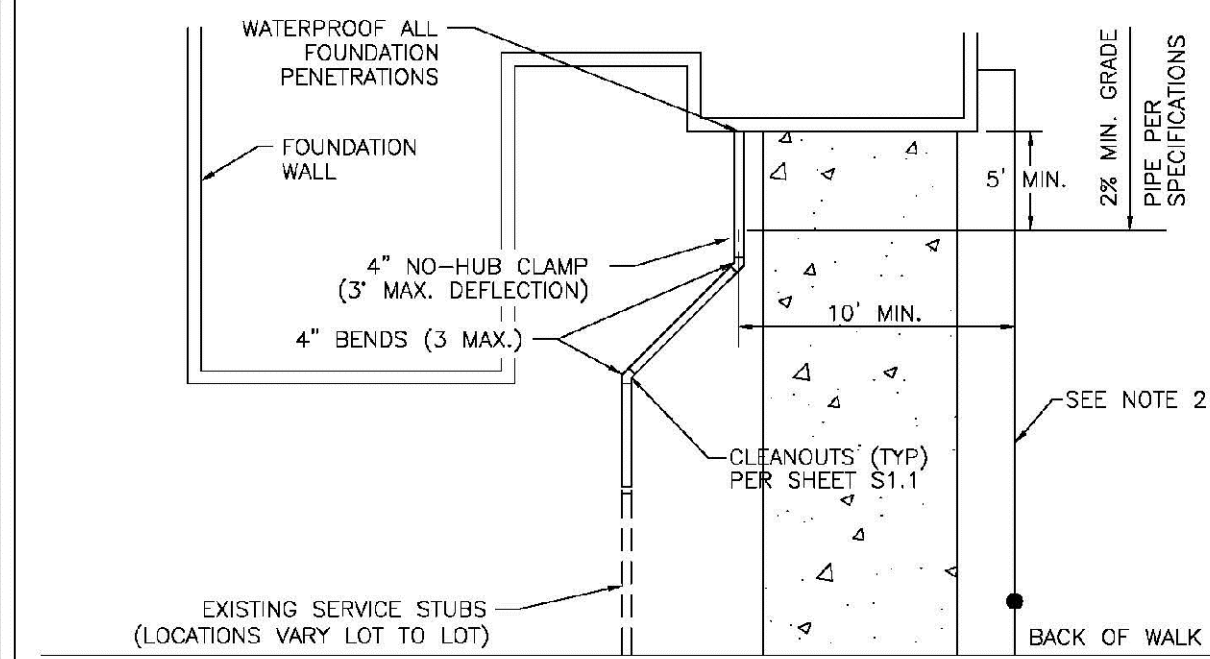
1. ALL SERVICE INSPECTIONS MUST BE SCHEDULED WITH THE DISTRICT OFFICE AT LEAST 24 HOURS IN ADVANCE OF THE REQUESTED INSPECTION.
2. IF THE CONTRACTOR IS NOT READY FOR INSPECTION WHEN THE INSPECTOR ARRIVES AT THE SITE, A RE-INSPECTION WILL HAVE TO BE SCHEDULED IN ACCORDANCE WITH NOTE 1 ABOVE AND A RE-INSPECTION FEE CHARGED.
3. 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.
4. 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.
5. ALL EXCAVATIONS SHALL BE IN ACCORDANCE WITH OSHA STANDARDS.
6. LOTS WITHOUT BUILDING ADDRESSES OR LOT AND BLOCK NUMBERS BEFORE DISTRICT INSPECTION OR METER SET WILL FAIL AUTOMATICALLY.
7. CONTRACTOR MUST BE PRESENT AT TIME OF INSPECTION UNLESS COORDINATED WITH DISTRICT INSPECTOR.

INSTALLATION NOTES:

- SEWER**
1. ACCEPTABLE PIPE MATERIALS ARE TO BE SDR 35 PVC PIPE, ABS PIPE AND PVC SCHD 40 PIPE. APPROVED BEDDING IS TO BE SOLGEEGE.
 2. NO-HUB CLAMPS SHALL BE USED TO JOIN 2 MALE PIPE ENDS WITH A MAXIMUM DEFLECTION OF 3°.
 3. MINIMUM GRADE SHALL BE 2%.
 4. INSTALLATION SHALL INCLUDE NO MORE THAN 3 BENDS. 90° BENDS ARE NOT ALLOWED. SOLVENT WELDED PIPE WILL NOT BE ALLOWED.
 5. 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.
 6. STRESSING OF THE PIPE BETWEEN FITTINGS WILL NOT BE ALLOWED.
 7. SEWER SERVICE LINE SHALL NOT BE LOCATED UNDER CONCRETE SURFACE.
 8. ALL SERVICES WILL BE PERMANENTLY MARKED ON CURB FACE AS FOLLOWS:
"X" FOR SANITARY SEWER SERVICE
"V" 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	
DIRECTOR OF ENGINEERING		1/16	

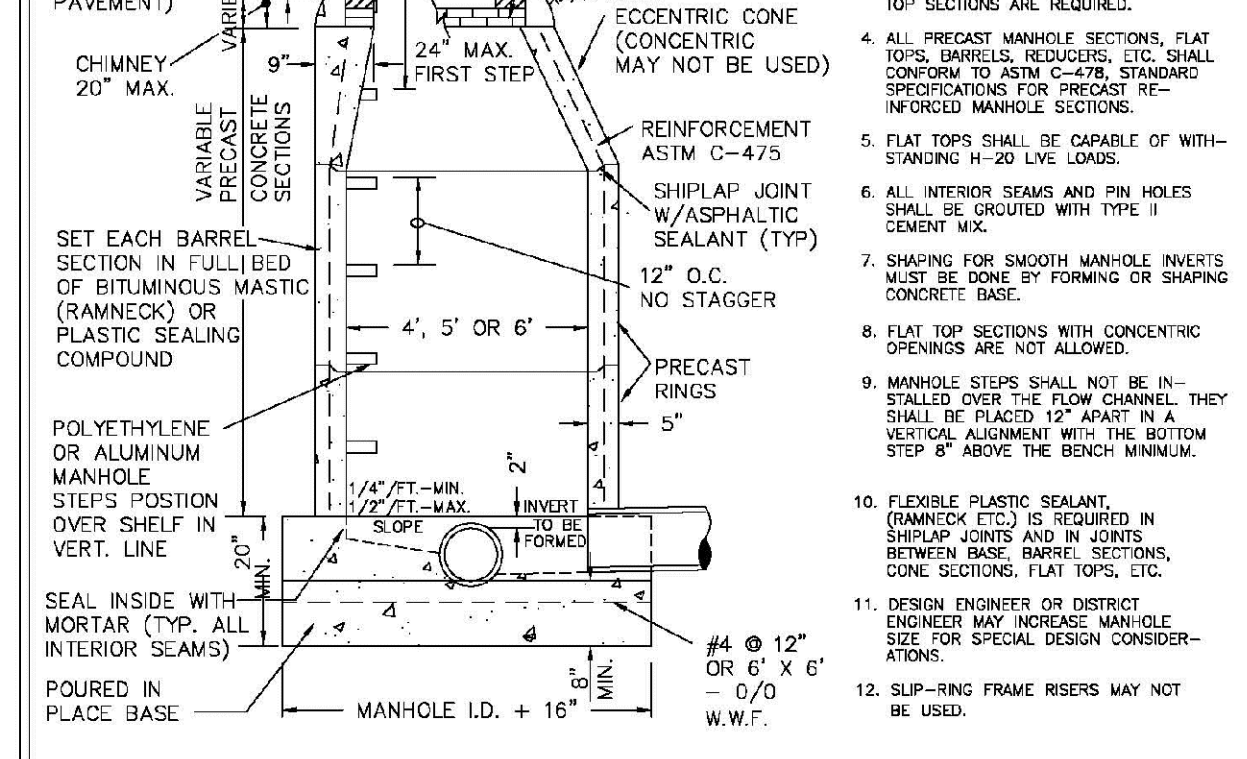
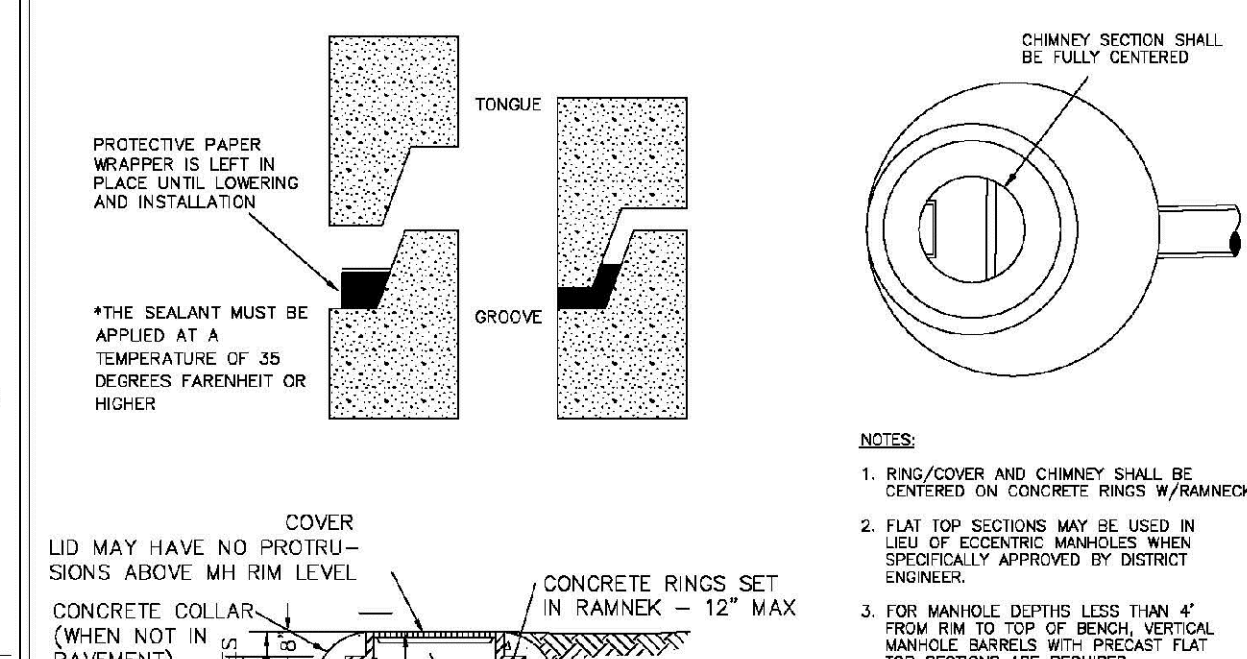


PARKER WATER & SANITATION DISTRICT
TYPICAL SEWER SERVICES

SCALE:	NONE	DATE:	2/98
APPROVED:	PVR	2/90	01/02
		01/02	01/16
DIRECTOR OF ENGINEERING		10/15	

PARKER WATER & SANITATION DISTRICT
PARKER MANHOLE ECCENTRIC CONE

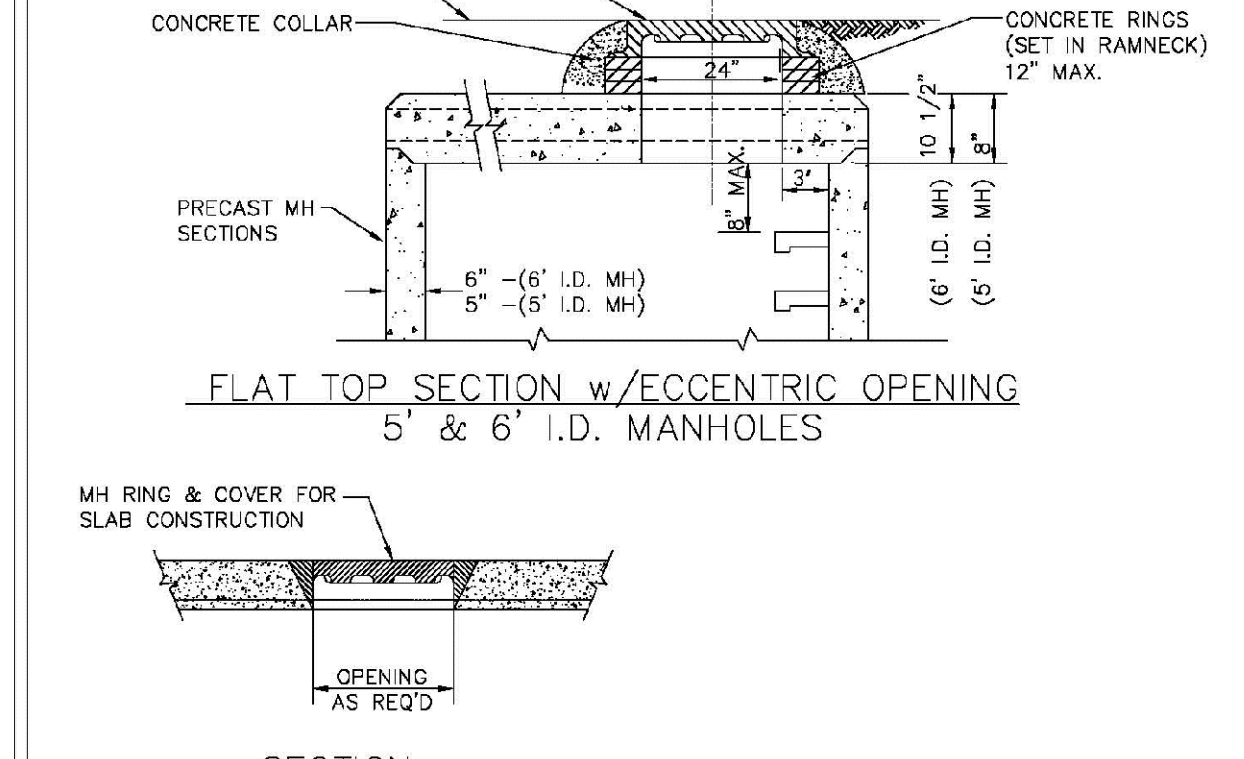
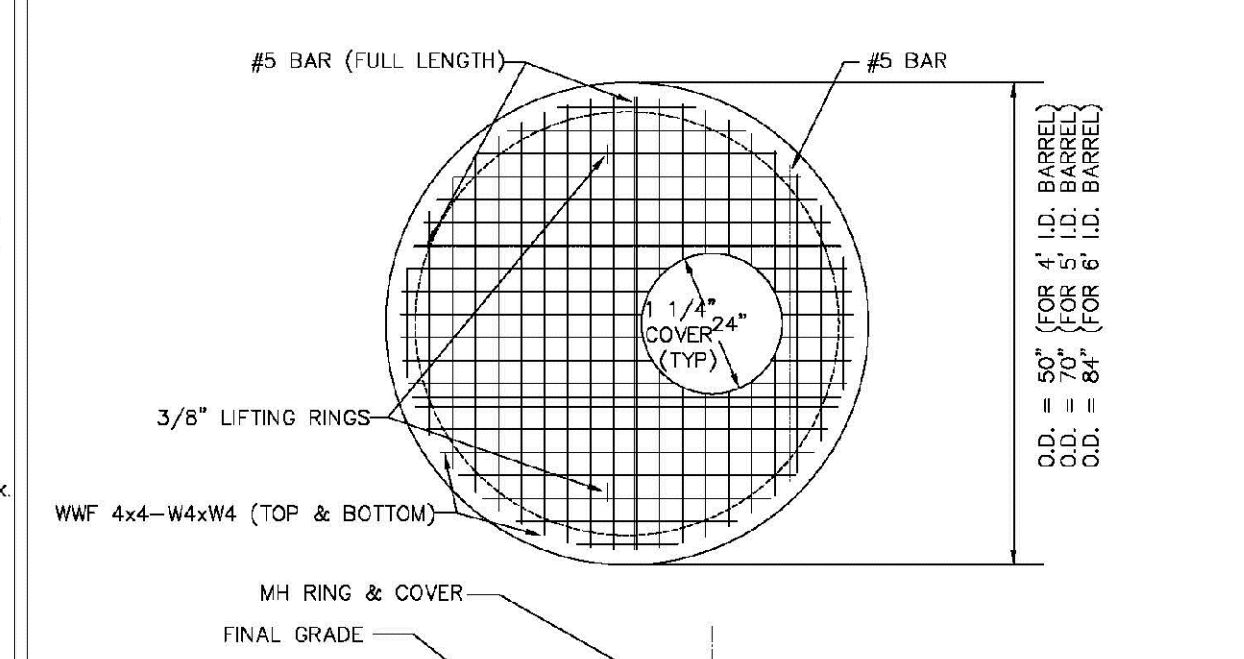
SCALE:	NONE	DATE:	2/98
APPROVED:	PVR	4/01	10/16
		01/02	1/08
DIRECTOR OF ENGINEERING		1/16	



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

PARKER WATER & SANITATION DISTRICT
PARKER MANHOLE ECCENTRIC CONE

SCALE:	NONE	DATE:	2/98
APPROVED:	PVR	4/01	10/16
		01/02	1/08
DIRECTOR OF ENGINEERING		1/16	

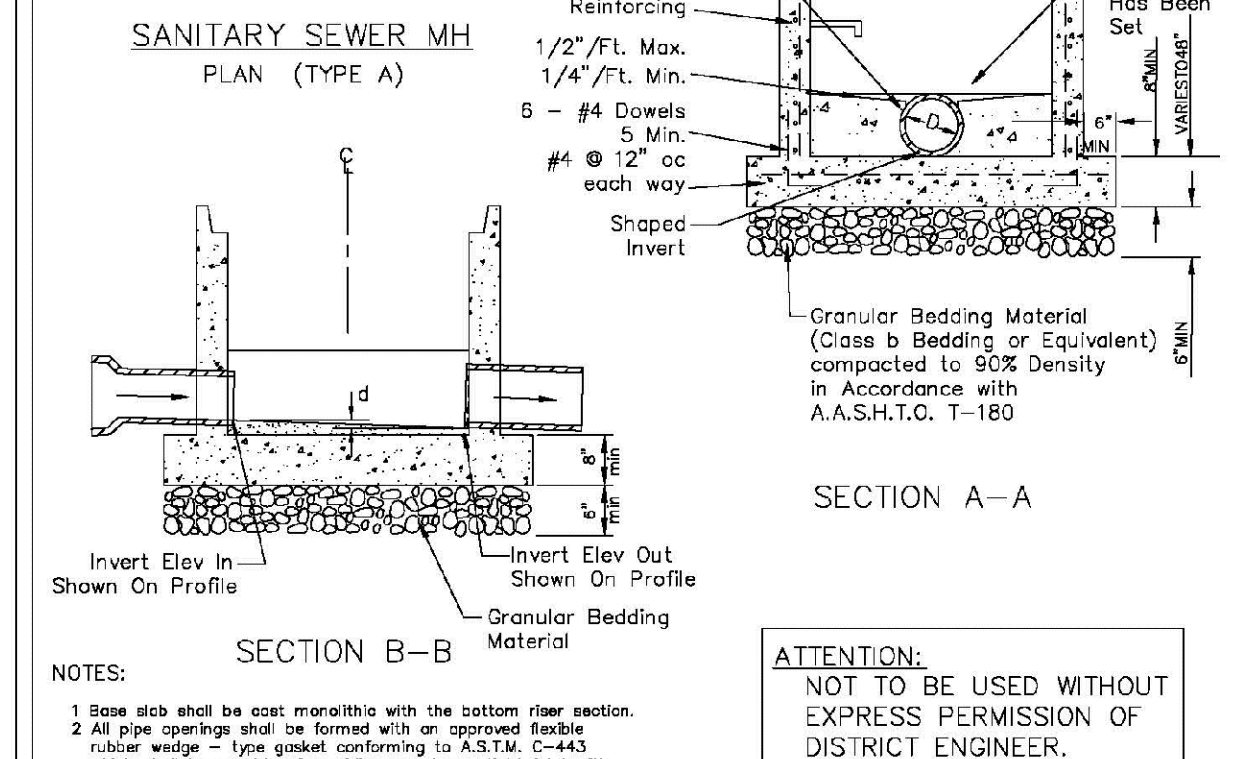
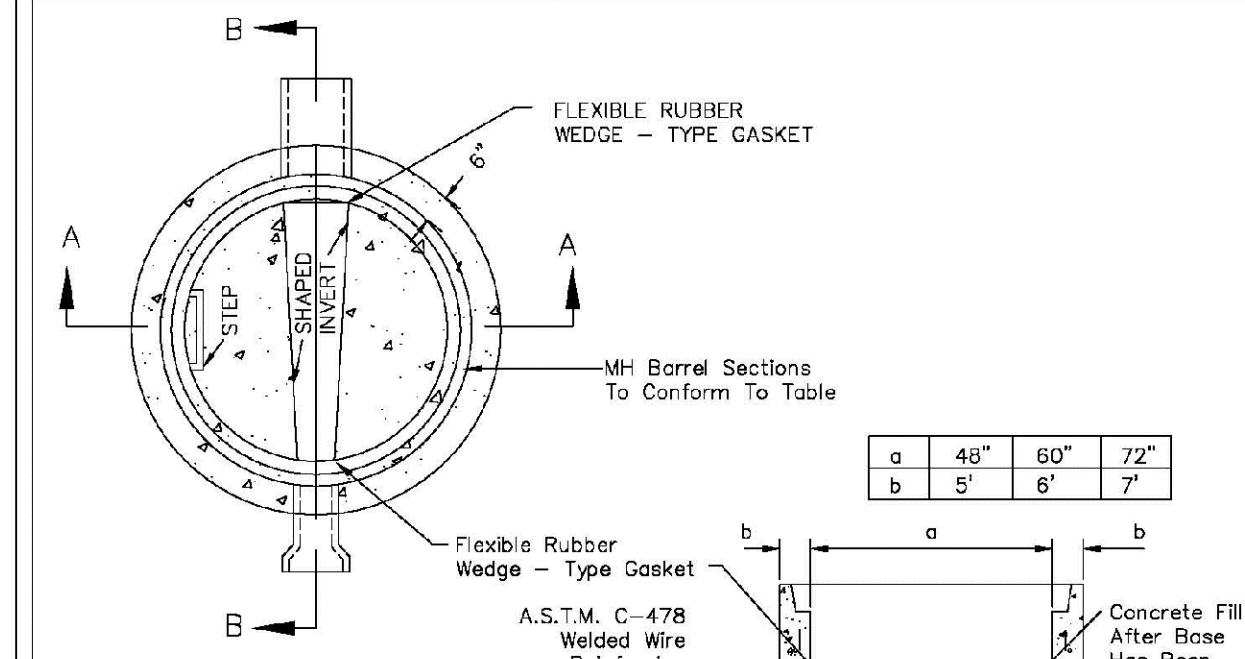


PARKER WATER & SANITATION DISTRICT
PRECAST MANHOLE - 5' & 6' I.D. WITH ECCENTRIC CONE

SCALE:	NONE	DATE:	2/98
APPROVED:	PVR	01/02	10/16
		10/16	
DIRECTOR OF ENGINEERING		10/16	

PARKER WATER & SANITATION DISTRICT
PRECAST MANHOLE BASE DETAIL

SCALE:	NONE	DATE:	2/98
APPROVED:	PVR	01/02	10/16
		10/16	
DIRECTOR OF ENGINEERING		10/16	

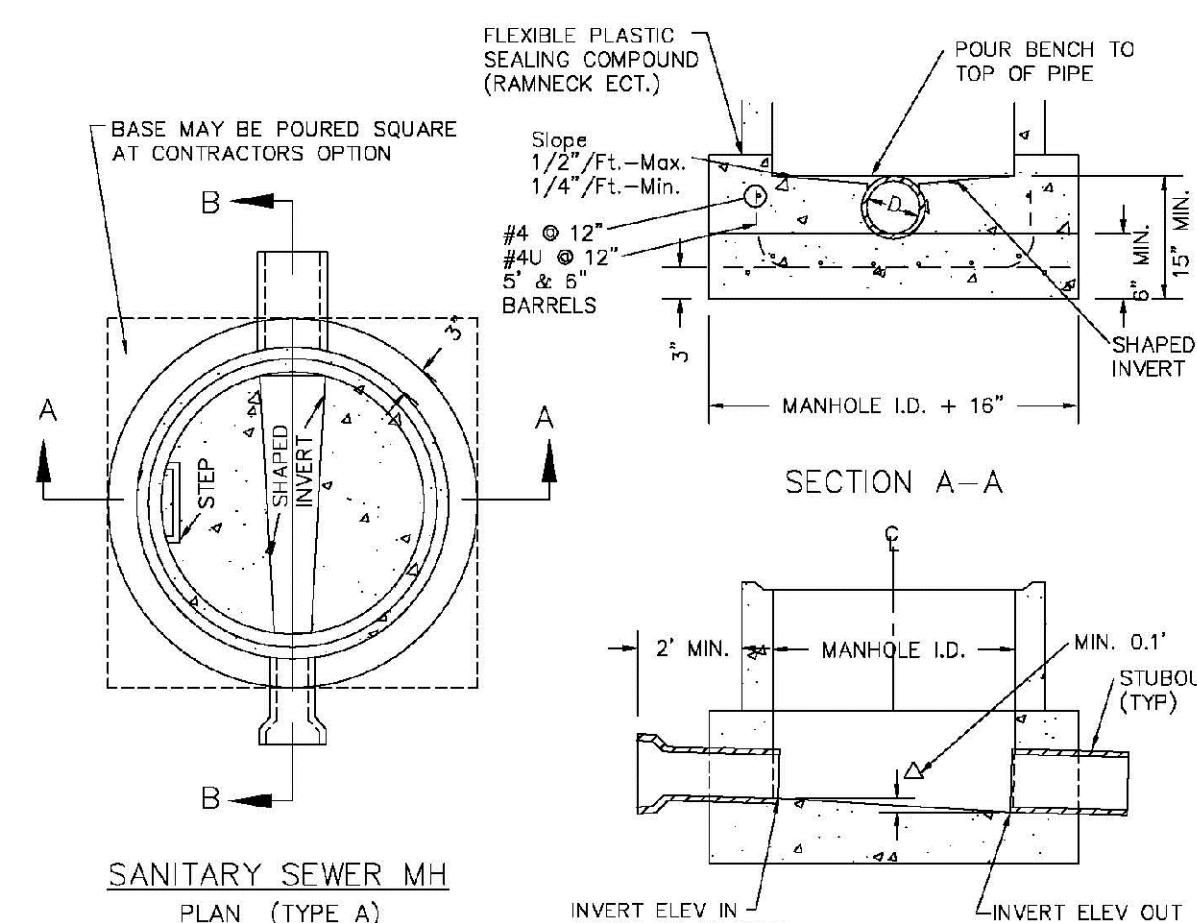


PARKER WATER & SANITATION DISTRICT
PRECAST MANHOLE BASE DETAIL

SCALE:	NONE	DATE:	2/98
APPROVED:	PVR	01/02	10/16
		10/16	
DIRECTOR OF ENGINEERING		10/16	

PARKER WATER & SANITATION DISTRICT
PRECAST MANHOLE BASE DETAIL

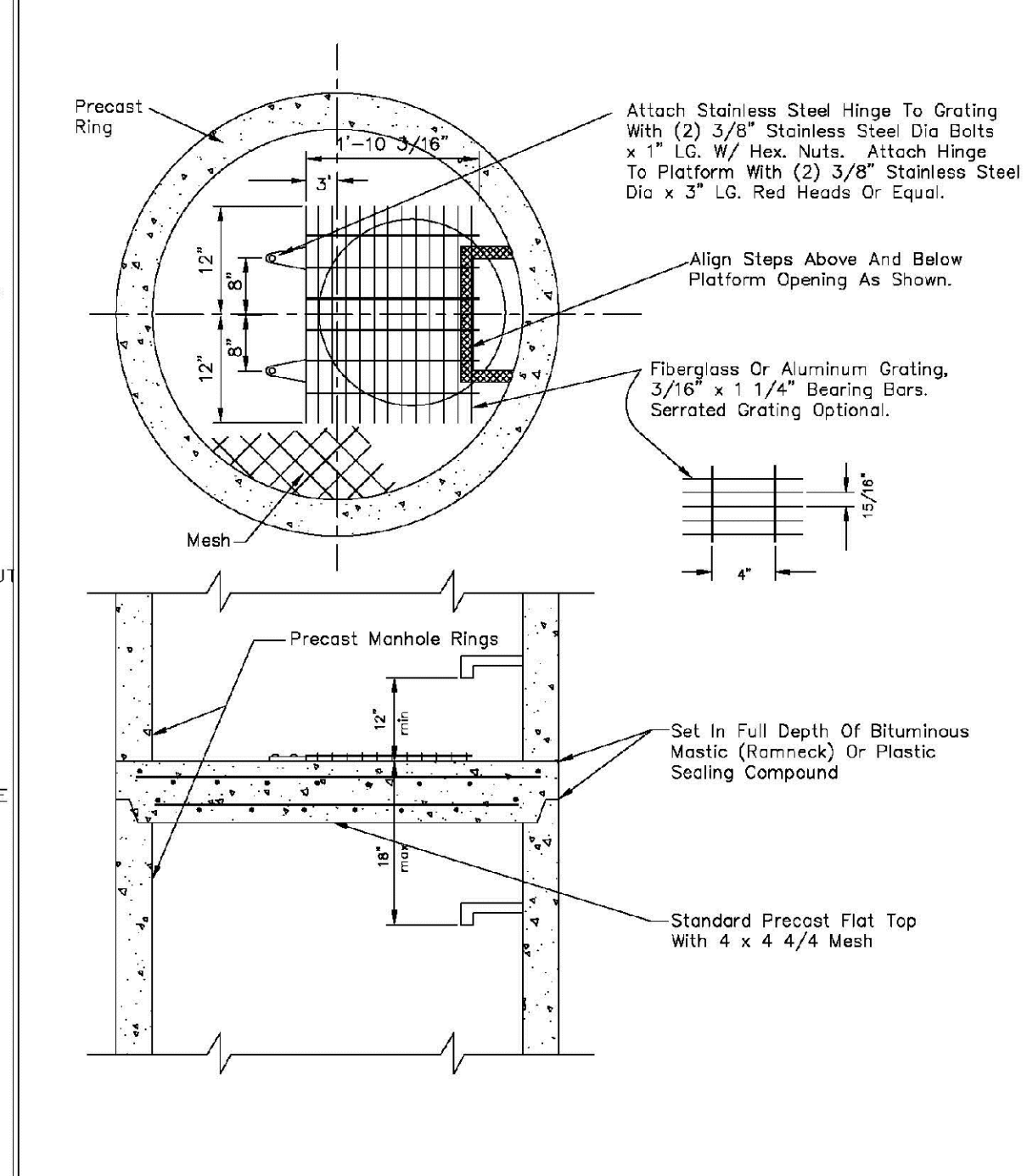
SCALE:	NONE	DATE:	2/98
APPROVED:	PVR	01/02	10/16
		10/16	
DIRECTOR OF ENGINEERING		10/16	



- NOTES:**
1. Manhole barrel min. thickness to be 5".
 2. Shaping for smooth manhole inverts may be done by forming or shaping with cement mortar (San. Sewer).
 3. The manhole steps shall conform to District Standards and Specifications.
 4. Precast sections to conform to A.S.T.M. C-478.
 5. All dead-end manholes, that call out a stub out, shall be thru at 0.40% minimum slope.
 6. Stub outs shall extend 2'-3" minimum past manhole O.D. and be satisfactorily plugged.
 7. Reinforcing in base required for manhole.
 8. Slope of bench = 1/2" / FT. - Max. 1/4" / FT. - Min.
 9. Δ = Invert drop thru MH (if Δ > 18", outside drop MH required). Min. D.1 for all straight through MH and 0.2" for all angled MH.

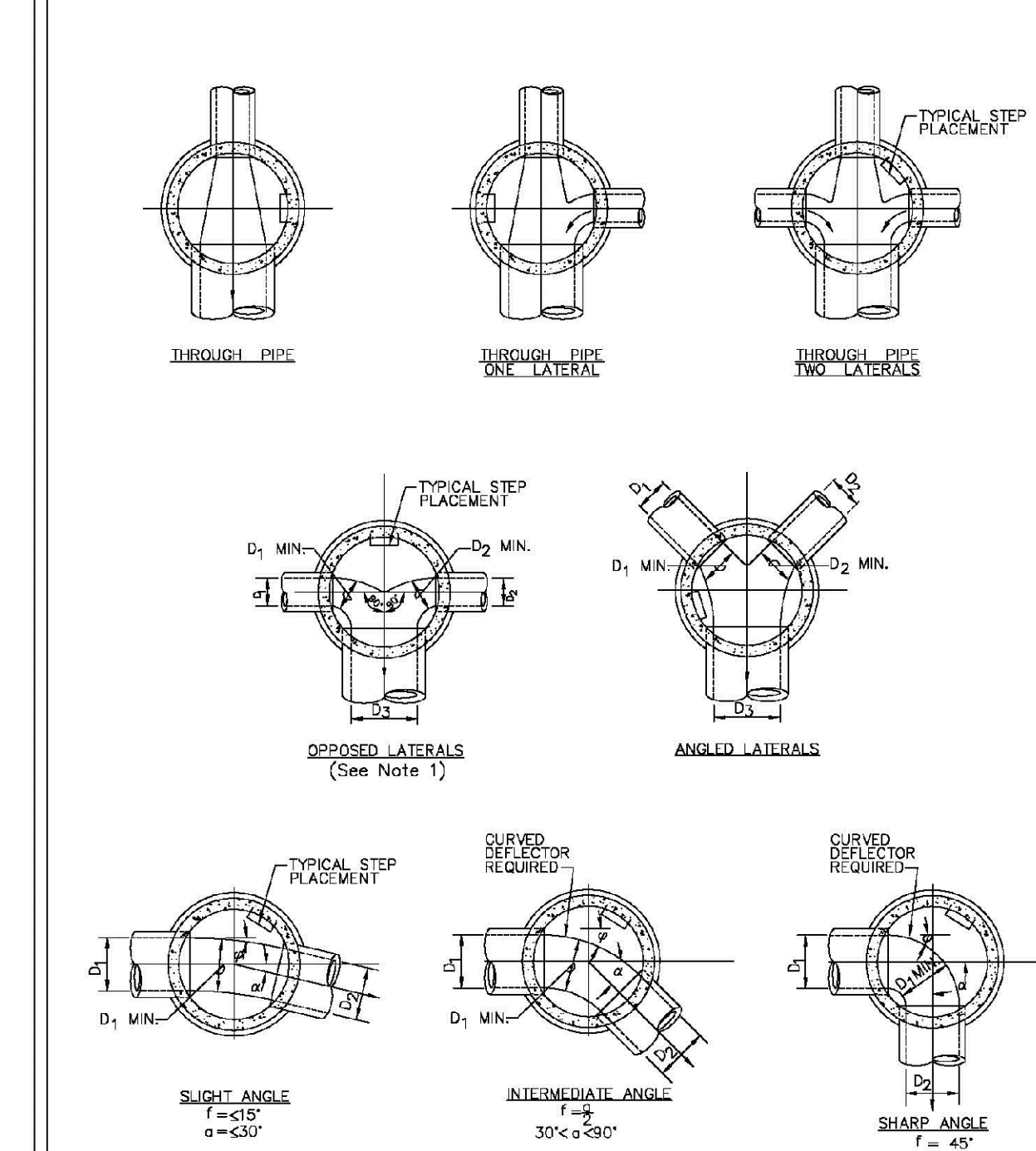
PARKER WATER & SANITATION DISTRICT
CAST-IN-PLACE MANHOLE BASE DETAIL

SCALE:	NONE	DATE:	2/98
APPROVED:	PVR	01/02	10/16
		01/08	10/16
DIRECTOR OF ENGINEERING		10/16	



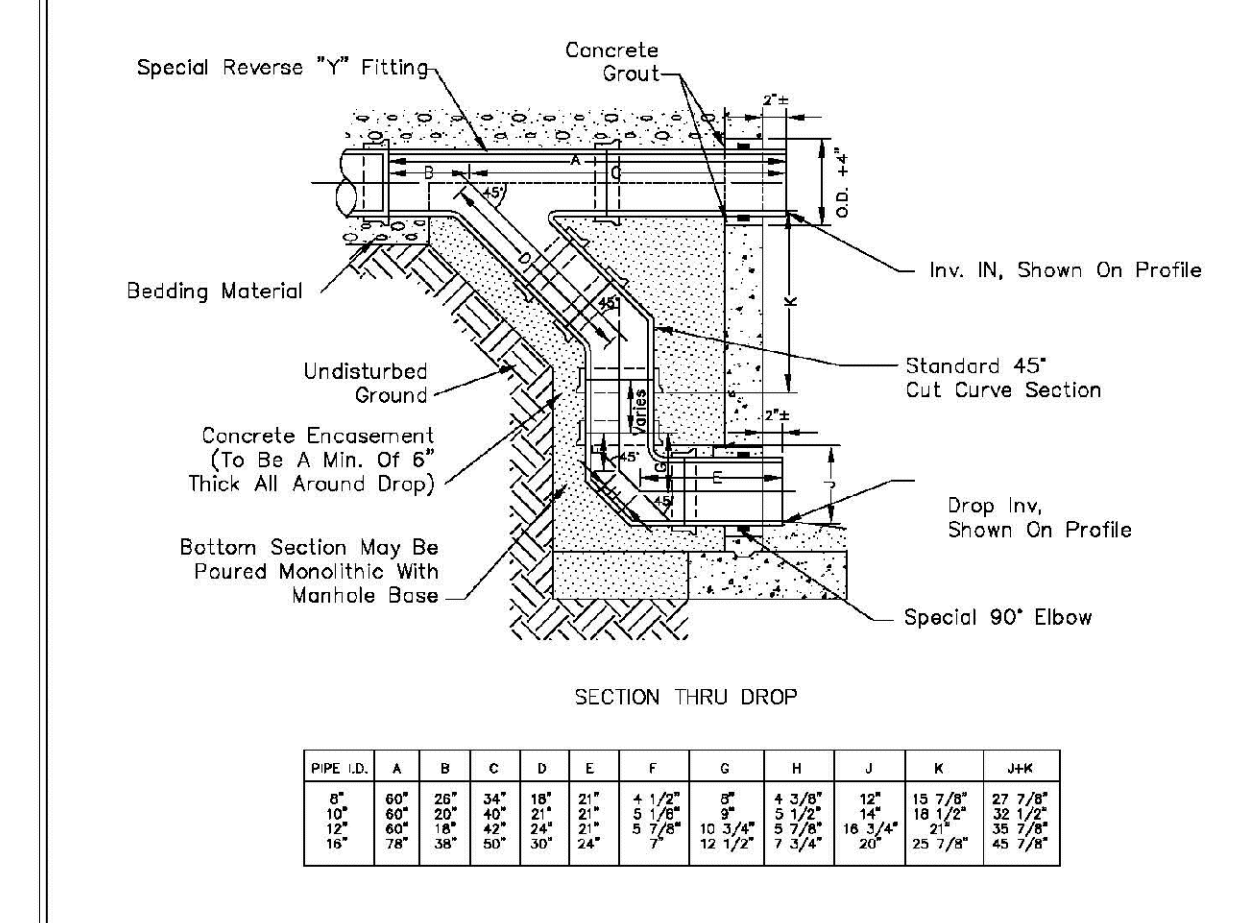
PARKER WATER & SANITATION DISTRICT
INTERMEDIATE PLATFORM FOR MANHOLES OVER 20' DEPTH

SCALE:	NONE	DATE:	2/98
APPROVED:	PVR	2/90	1/16
		1/16	10/16
DIRECTOR OF ENGINEERING		10/16	



PARKER WATER & SANITATION DISTRICT
TYPICAL BASE CHANNELIZATION DETAILS

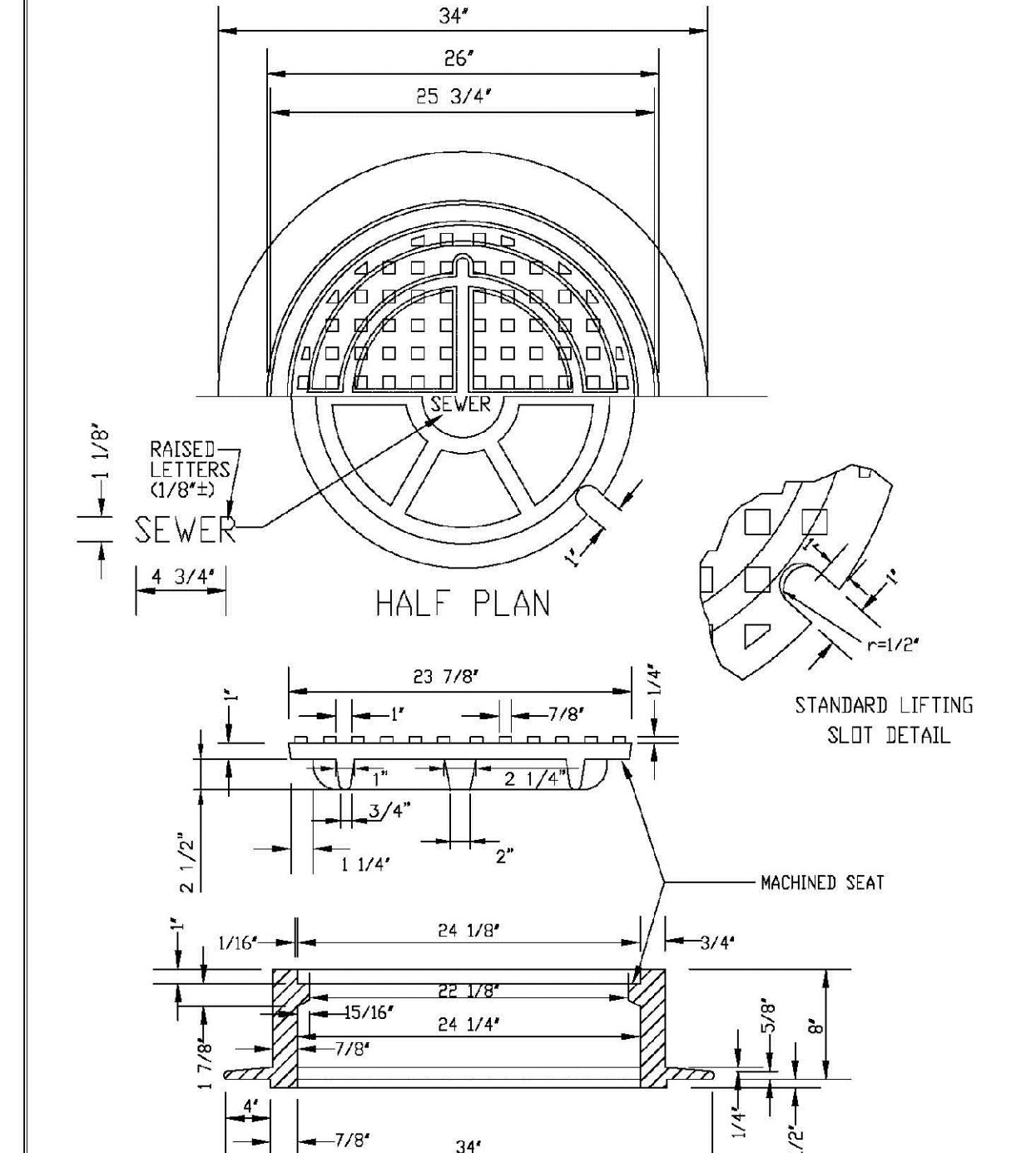
SCALE:	NONE	DATE:	2/98
APPROVED:	PVR	01/16	10/16
		10/16	
DIRECTOR OF ENGINEERING		10/16	



- NOTES:**
1. Vlt Clay Pipe & fittings (A.S.T.M. C-700) shown, details similar for all other pipe.
 2. Diameter of drop shall not be less than the line pipe diameter.
 3. For 18" diameter and larger, outside drop detail shall be a special design.
 4. Manhole shall be coated using bituminous mastic (ramneck) or plastic sealing compound.

PARKER WATER & SANITATION DISTRICT
OUTSIDE DROP MANHOLE CONSTRUCTION

SCALE:	NONE	DATE:	2/98
APPROVED:	PVR	01/16	10/16
		10/16	
DIRECTOR OF ENGINEERING		10/16	



PARKER WATER & SANITATION DISTRICT
24" DIAMETER RING AND COVER

SCALE:	NONE	DATE:	2/98
APPROVED:	PVR	01/16	10/16
		10/16	
DIRECTOR OF ENGINEERING		10/16	

NO.	REVISIONS	DATE	INIT.	APPR.	DATE

10335 E. Dry Creek Rd.
Suite 6410
Englewood, CO 80150
Tel: (720) 482-9526
Fax: (720) 482-9548

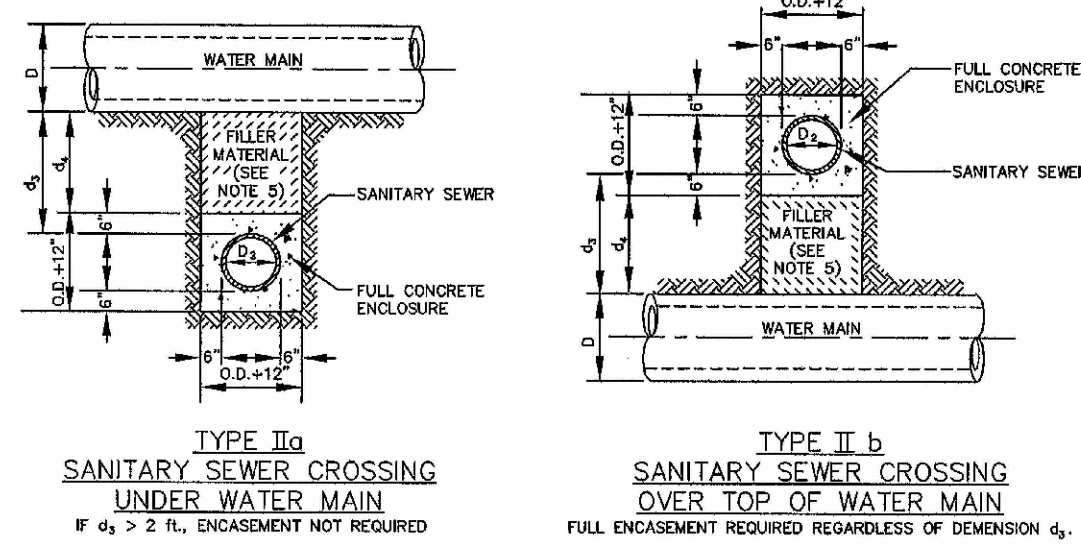
HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 13 CONSTRUCTION DRAWINGS
SANITARY SEWER DETAILS

SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: JF
CHECKED BY: JJ
DATE: SEPTEMBER 2017

SHEET NUMBER
10

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UTILITY NOTIFICATION CENTER OF COLORADO



TYPE IIa
SANITARY SEWER CROSSING
UNDER WATER MAIN
IF $d_1 > 2$ FT., ENCASEMENT NOT REQUIRED

TYPE IIb
SANITARY SEWER CROSSING
OVER TOP OF WATER MAIN
FULL ENCASEMENT REQUIRED REGARDLESS OF DIMENSION d_1 .

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

GENERAL NOTES FOR TYPE IIa & IIb ENCASEMENT

- CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED & BOTTOM HALF OF ENCASEMENT 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 ENCASEMENT FOR:
 - TYPE I & TYPE II ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
 - TYPE III ENCASEMENT SHALL EXTEND AT LEAST 10 FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I, II & III ENCASEMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I, II OR III ENCASEMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
 - TYPE I OR TYPE II IF $d_1 \leq 18"$ ($d_1 \leq 12"$ EXCEPT FOR SANITARY SEWER CROSSING OVER OR UNDER WATER MAINS).
 - TYPE III IF $d_1 \leq 24"$ ($d_1 \leq 18"$).
 - TYPE III IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS REGARDLESS OF DIMENSION d_1 .
 - EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS OR UNDER UNUSUAL SOIL CONDITIONS ARE UNREINFORCED. TYPE I ENCASEMENT WILL NORMALLY BE SATISFACTORY.
 - IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF DUCTILE IRON PIPE (AWWA C-150 OR C-151), CONCRETE ENCASEMENT MAY NOT BE REQUIRED.
- FILLER MATERIAL BETWEEN CONDUITS TO BE:
 - APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF $d_1 \leq 4"$ & $d_2 \leq 7"$.
 - COMPACTED CLASS "D" BEDDING IF $d_1 \leq 4"$ & $d_2 \leq 7"$ (IF $d_2 > 7"$ FOR TYPE II ENCASEMENT POUR CONCRETE ON UNDISTURBED SOIL).
- SHORING OR SHIELDING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
- THESE ENCASEMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS.
- IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, PER 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.

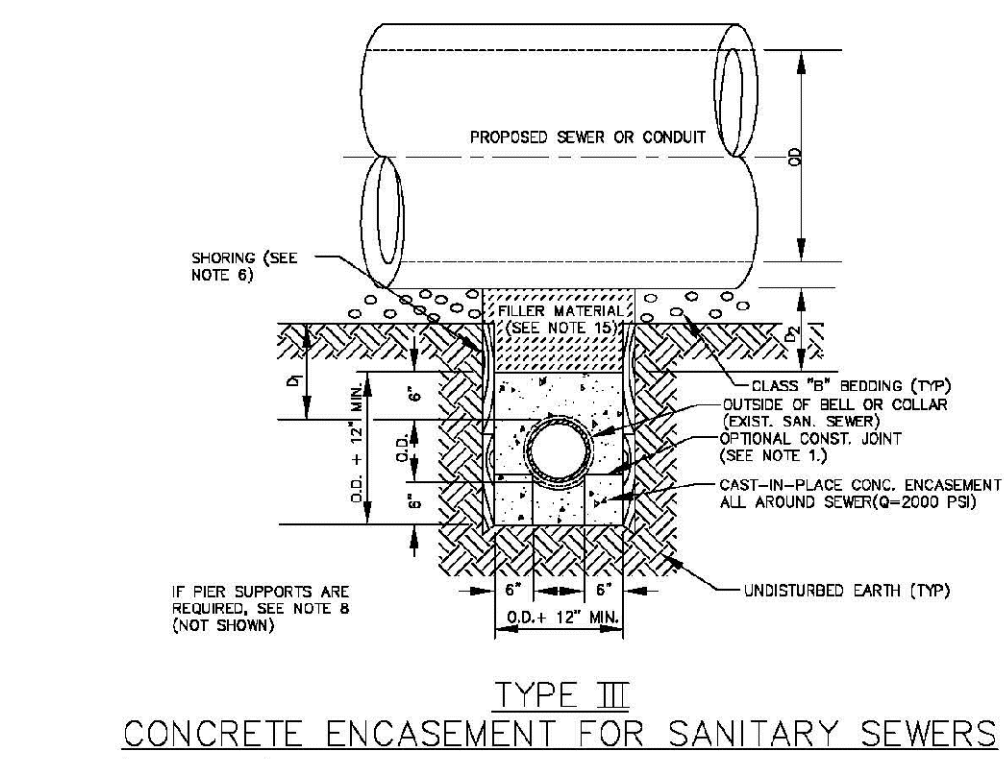
PARKER WATER & SANITATION DISTRICT
CONCRETE ENCASEMENT
TYPE II

SCALE: NONE DATE: 2/98

APPROVED: JFN 5/98
4/01
1/98

DISTRICT ENGINEER

2008 REVISION SHEET 7



TYPE III
CONCRETE ENCASEMENT FOR SANITARY SEWERS
(FULL ENCASEMENT) NO SCALE

GENERAL NOTES FOR TYPE III ENCASEMENT

- CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED & BOTTOM HALF OF ENCASEMENT 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 ENCASEMENT FOR:
 - TYPE I & TYPE II ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
 - TYPE III ENCASEMENT SHALL EXTEND AT LEAST 10 FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I, II & III ENCASEMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, TO BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I, II OR III ENCASEMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
 - TYPE I OR TYPE II IF $d_1 \leq 18"$ ($d_1 \leq 12"$ EXCEPT FOR SANITARY SEWER CROSSING OVER OR UNDER WATER MAINS).
 - TYPE III IS REQUIRED FOR SANITARY SEWERS CROSSING UNDER WATER MAINS REGARDLESS OF DIMENSION d_1 .
 - TYPE III IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS REGARDLESS OF DIMENSION d_1 .
 - EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS OR UNDER UNUSUAL SOIL CONDITIONS ARE UNREINFORCED. TYPE I ENCASEMENT WILL NORMALLY BE SATISFACTORY.
 - IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF DUCTILE IRON PIPE (AWWA C-150 OR C-151), CONCRETE ENCASEMENT MAY NOT BE REQUIRED.
- FILLER MATERIAL BETWEEN CONDUITS TO BE:
 - APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF $d_1 \leq 4"$ & $d_2 \leq 7"$.
 - COMPACTED CLASS "D" BEDDING IF $d_1 \leq 4"$ & $d_2 \leq 7"$ (IF $d_2 > 7"$ FOR TYPE II ENCASEMENT POUR CONCRETE ON UNDISTURBED SOIL).
- SHORING OR SHIELDING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
- THESE ENCASEMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS.
- IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, PER 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.
- CONCRETE ENCASED PIPING SHALL BE UNID WITH FILL LAYER.

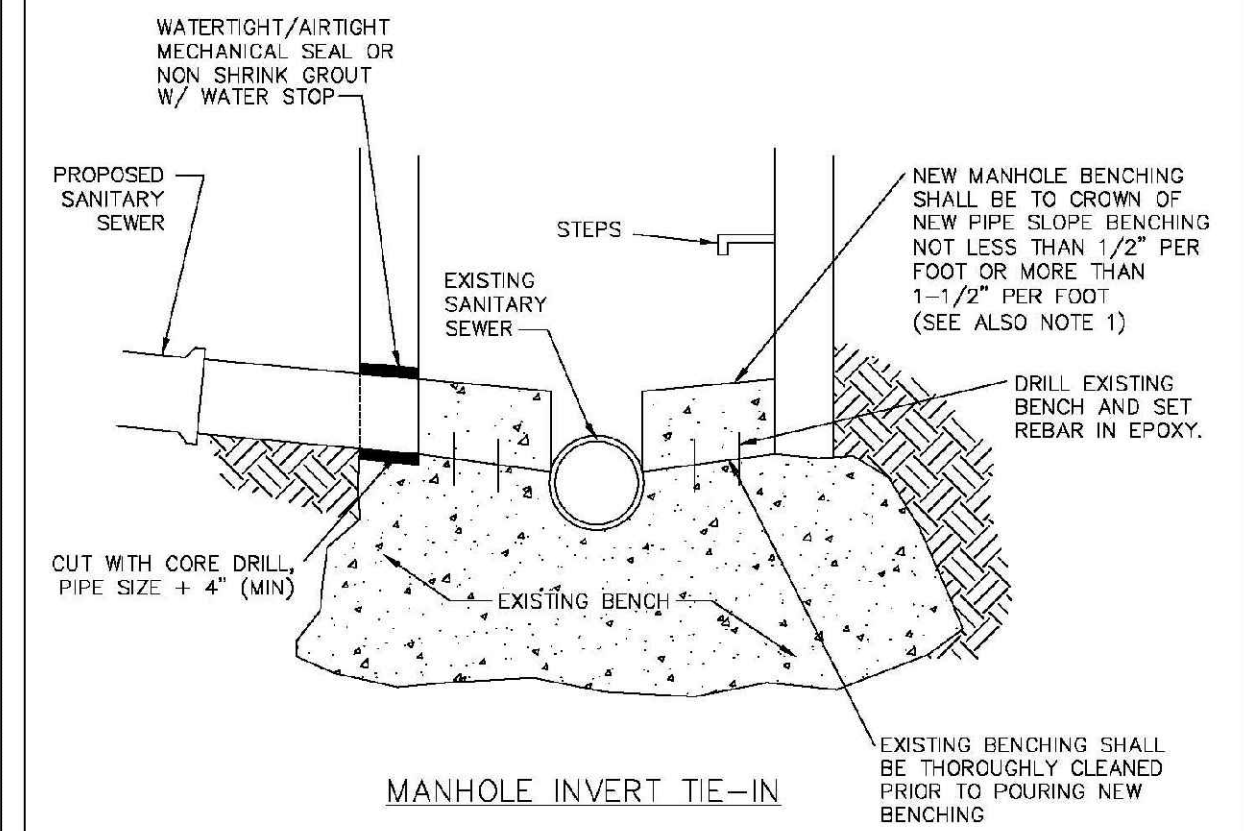
PARKER WATER & SANITATION DISTRICT
CONCRETE ENCASEMENT
TYPE III

SCALE: NONE DATE: 2/98

APPROVED: PVR 5/98
1/98
10/98

DIRECTOR OF ENGINEERING

2016 REVISION SHEET S4.8



MANHOLE INVERT TIE-IN

- NOTES**
- NEW BENCH SHALL INCLUDE REINFORCEMENT TO CONTROL CONCRETE CRACKING.

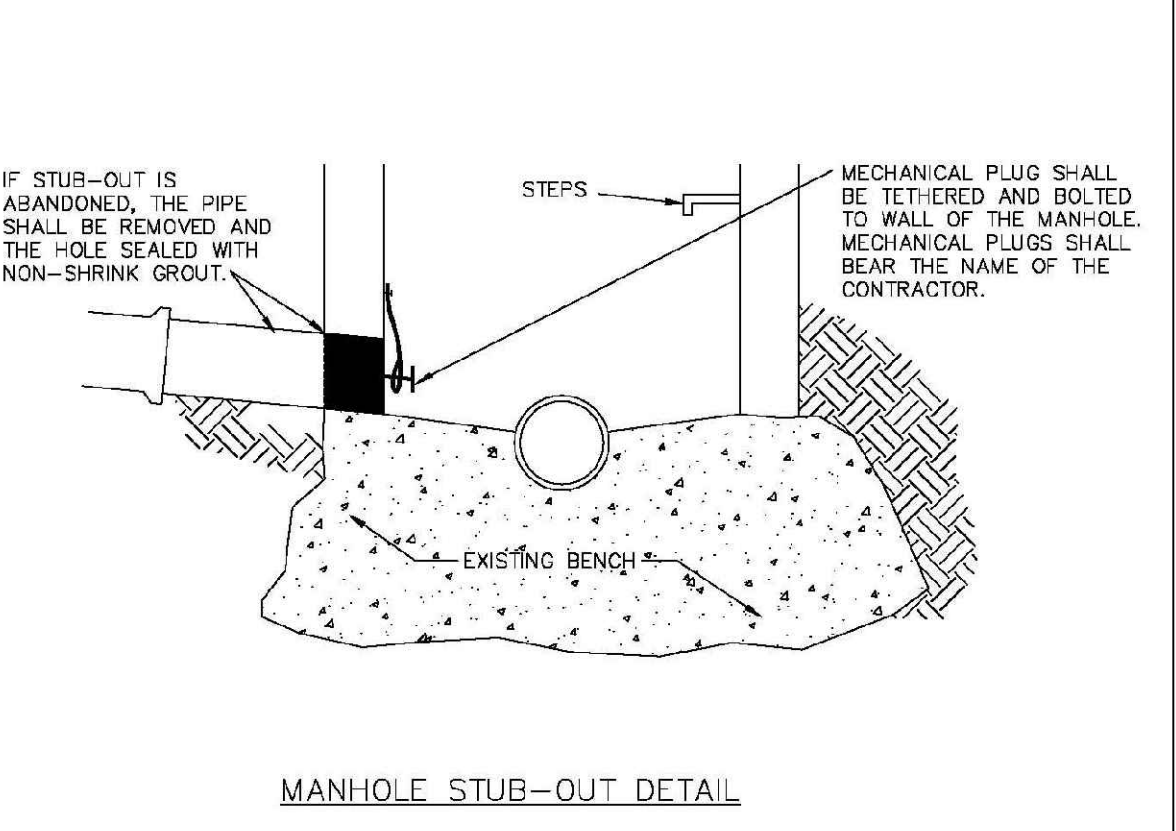
PARKER WATER & SANITATION DISTRICT
MANHOLE INVERT TIE-IN DETAIL

SCALE: NONE DATE: 2/98

APPROVED: PVR 5/98
1/98
10/98

DIRECTOR OF ENGINEERING

2016 REVISION SHEET S4.9



MANHOLE STUB-OUT DETAIL

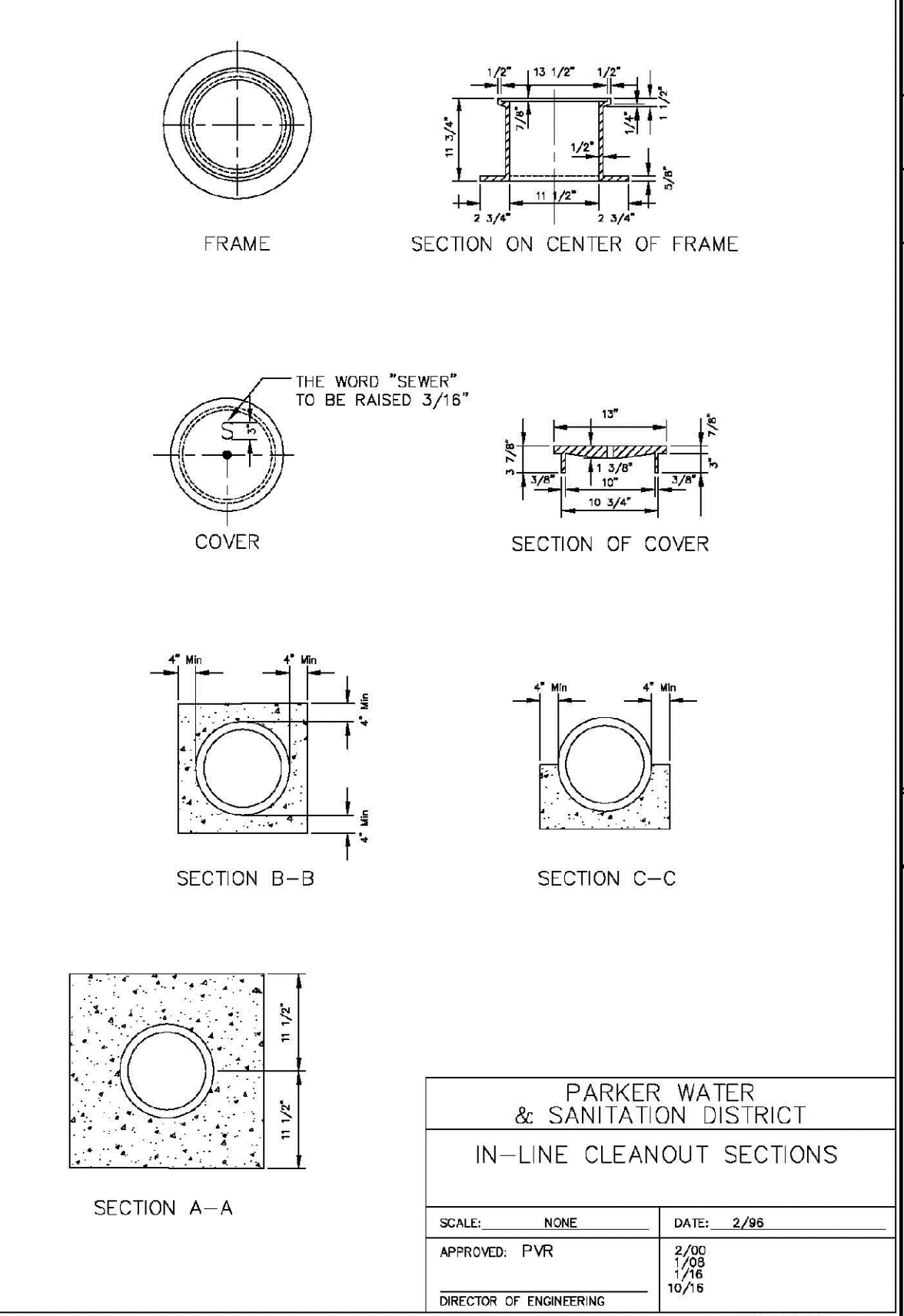
PARKER WATER & SANITATION DISTRICT
MANHOLE STUB-OUT DETAIL

SCALE: NONE DATE: 2/98

APPROVED: PVR 5/98
1/98
10/98

DIRECTOR OF ENGINEERING

2016 REVISION SHEET S4.10



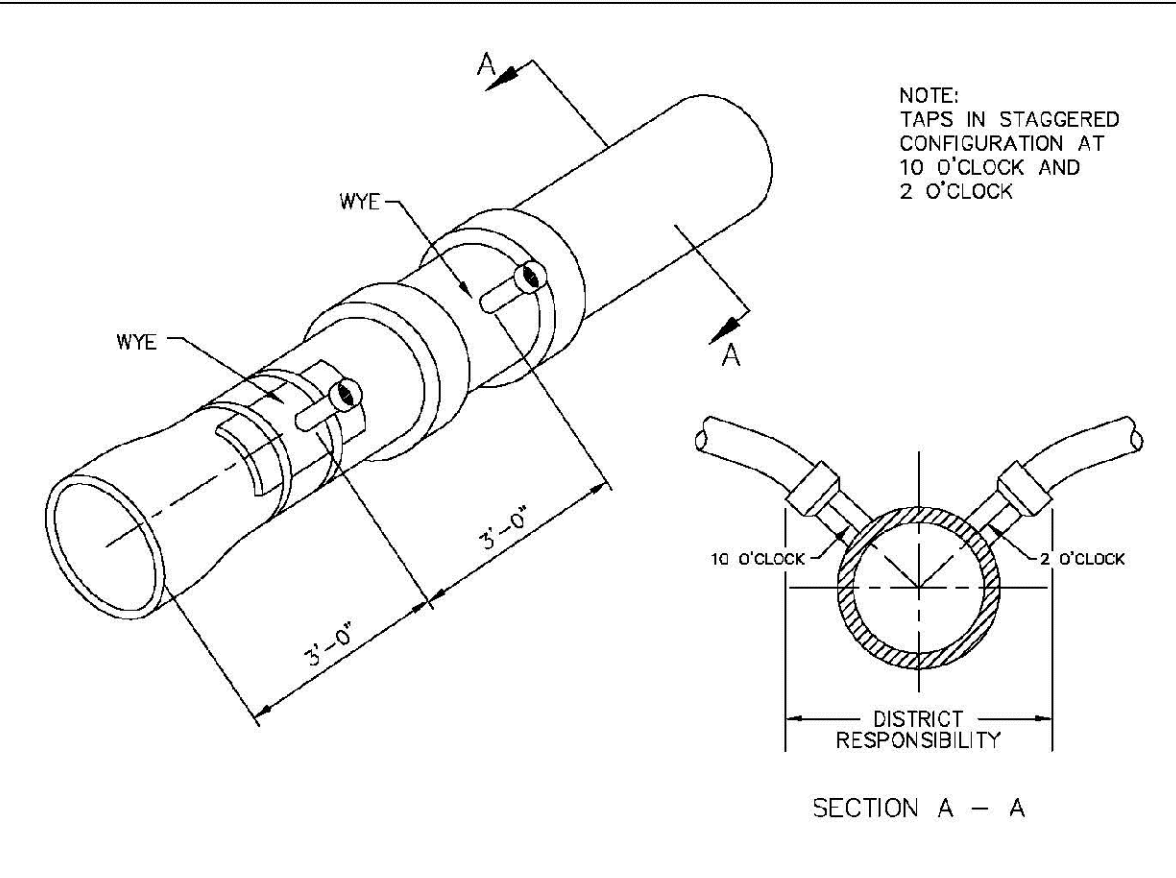
PARKER WATER & SANITATION DISTRICT
IN-LINE CLEANOUT SECTIONS

SCALE: NONE DATE: 2/98

APPROVED: PVR 5/98
1/98
10/98

DIRECTOR OF ENGINEERING

2016 REVISION SHEET S4.12



DOMESTIC SEWER TAPPING DETAIL

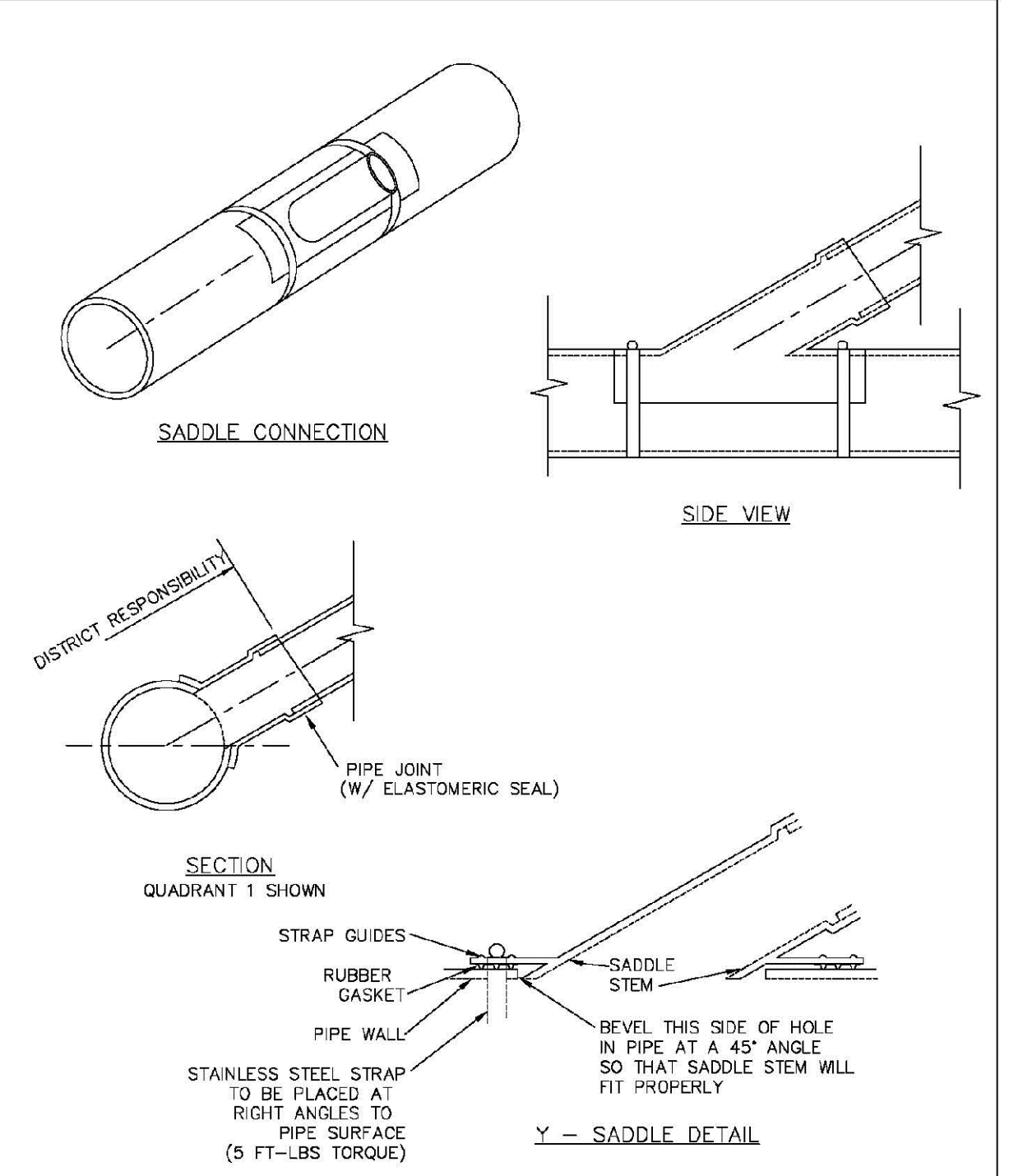
PARKER WATER & SANITATION DISTRICT
DOMESTIC SEWER TAPPING DETAIL

SCALE: NONE DATE: 2/98

APPROVED: PVR 4/01
1/98
10/98

DIRECTOR OF ENGINEERING

2016 REVISION SHEET S4.13



P.V.C. SADDLE CONNECTION DETAIL

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

SCALE: NONE DATE: 2/98

APPROVED: PVR 4/01
1/98
10/98

DIRECTOR OF ENGINEERING

2016 REVISION SHEET S4.14

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 joint 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.

10339 E. Dry Creek Rd.
Suite 410
Englewood, Colorado 80150
Tel: (720) 482-9526
Fax: (720) 482-9548

CVL CONSULTANTS

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 13 CONSTRUCTION DRAWINGS
SANITARY SEWER DETAILS

SCALE: AS SHOWN
FILE NO: 8130283701

DRAWN BY: JF
CHECKED BY: JJ
DATE: SEPTEMBER 2017

SHEET NUMBER **12**

Revisions: No. Date Init. Appr. Date

N:\PROJECTS\SS\BACH\ENGINEERING\SHEET SET\DCSD\SP\BACH\WATER AND SANITATION\F13 SANITARY SEWER DETAILS.DWG.BRANK, 3/12/2018 2:42 PM

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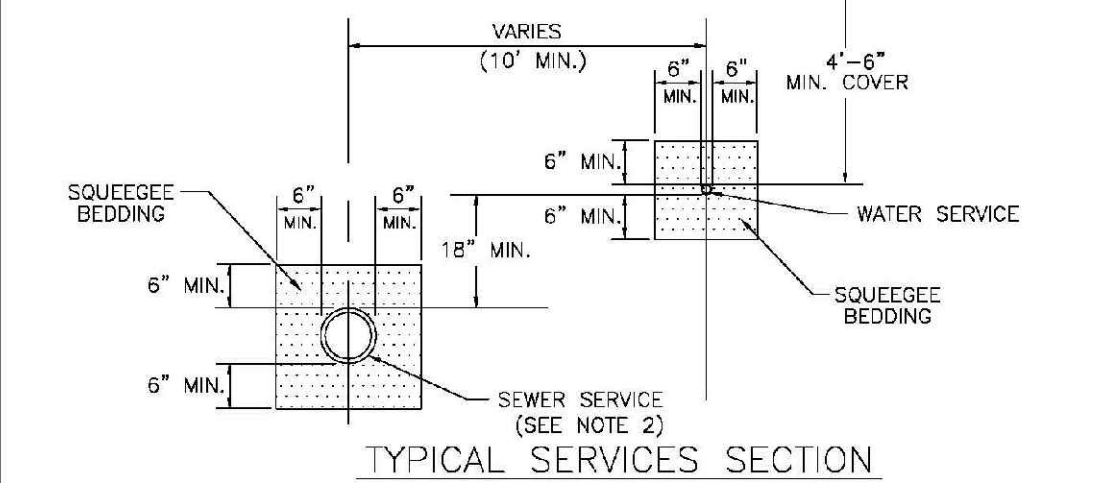
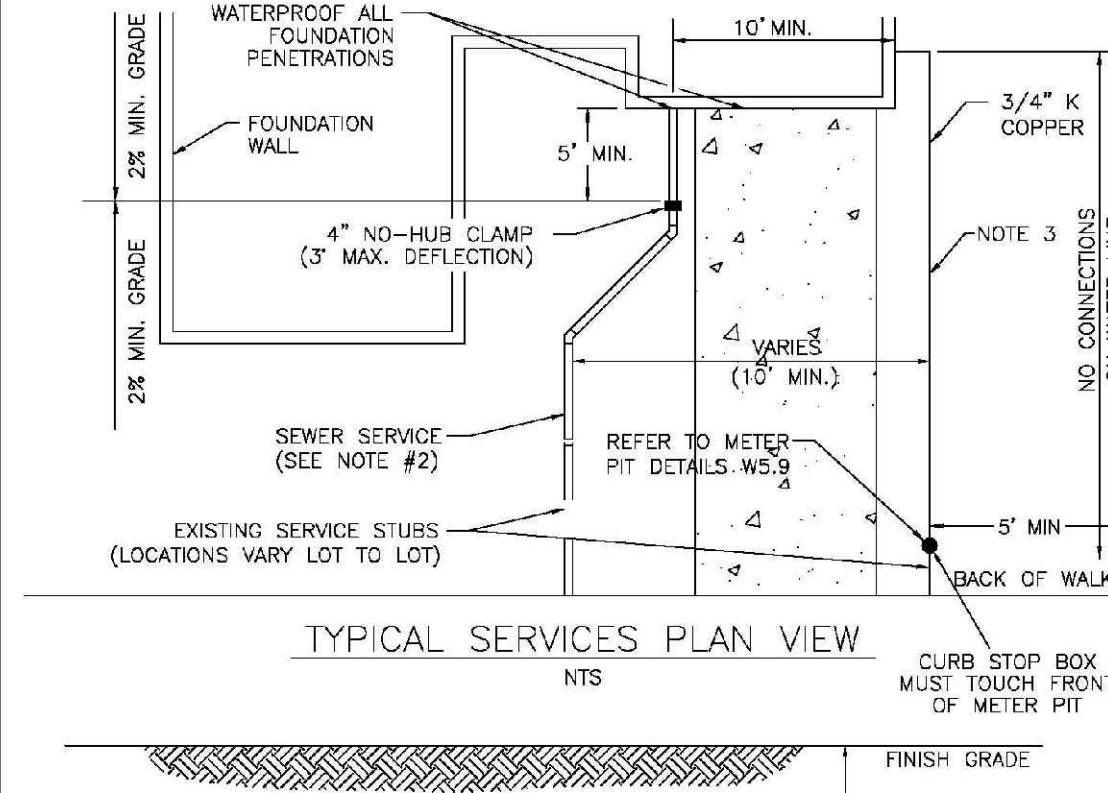
- INSPECTION POLICY:**
1. ALL SERVICE INSPECTIONS MUST BE SCHEDULED AT LEAST 24 HOURS IN ADVANCE OF THE REQUESTED INSPECTION.
 2. SERVICE INSPECTIONS WILL OCCUR BETWEEN 1:00 P.M. AND 3:00 P.M. SPECIFIC INSPECTION TIMES ARE NOT AVAILABLE.
 3. IF THE CONTRACTOR IS NOT READY FOR INSPECTION WHEN THE INSPECTOR 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 SUB-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 PWS BEFORE 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. CRAWL 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 PWS 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
"W" FOR WATER SERVICES
 13. NO SPLICES OR FLARED COUPLINGS ALLOWED ON SERVICES LARGER THAN 3/4". SILVER SOLDERED JOINTS MUST BE INSPECTED BY PWS 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	
SCALE: NONE	DATE: 2/96
APPROVED: 1/04	1/16
PVR	10/16
DIRECTOR OF ENGINEERING	

2016 REVISION

SHEET W1.1



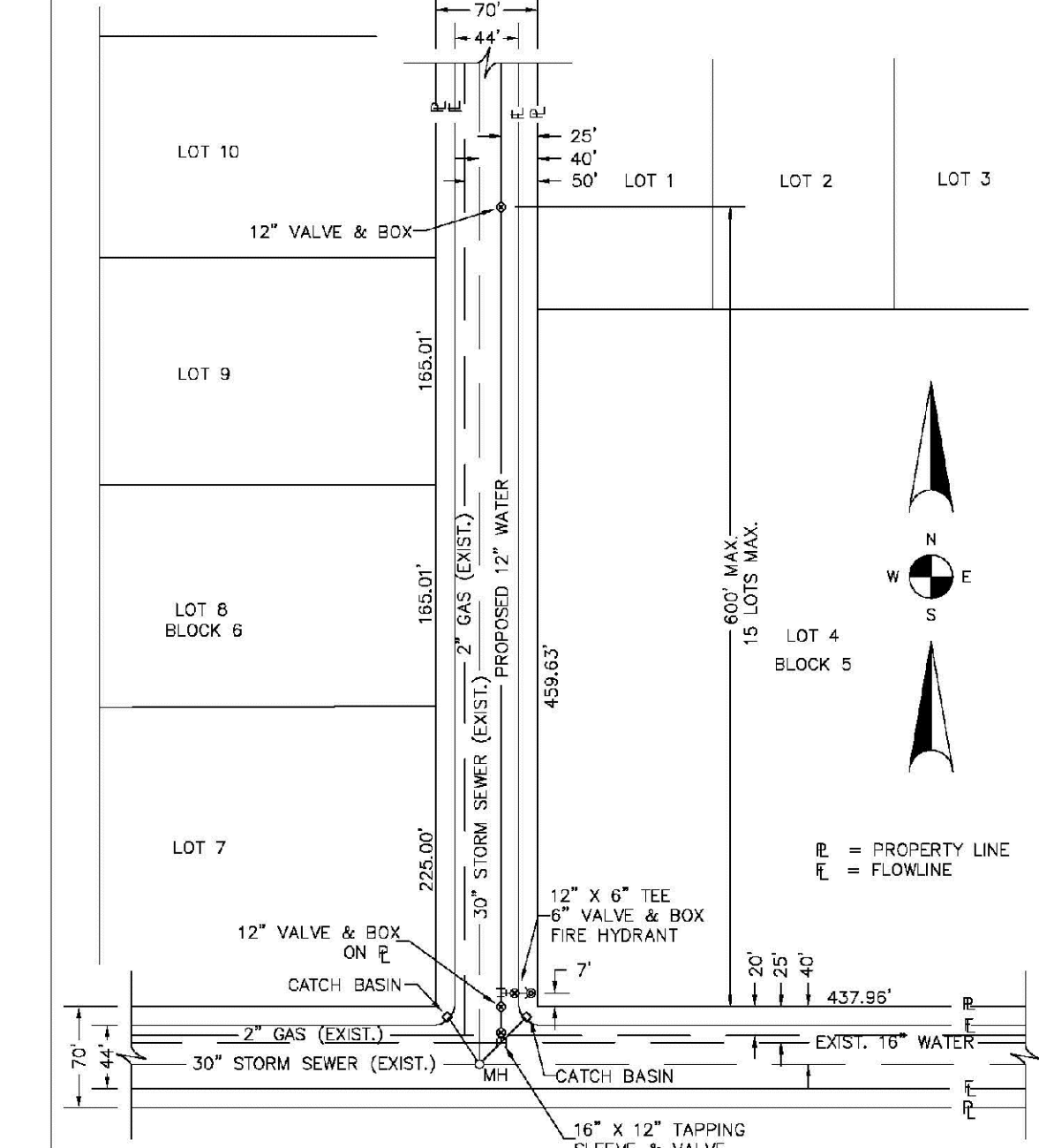
NOTE:

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: NONE	DATE: 2/96
APPROVED: 1/04	10/16
PVR	12/07
DIRECTOR OF ENGINEERING	

2016 REVISION

SHEET W1.2



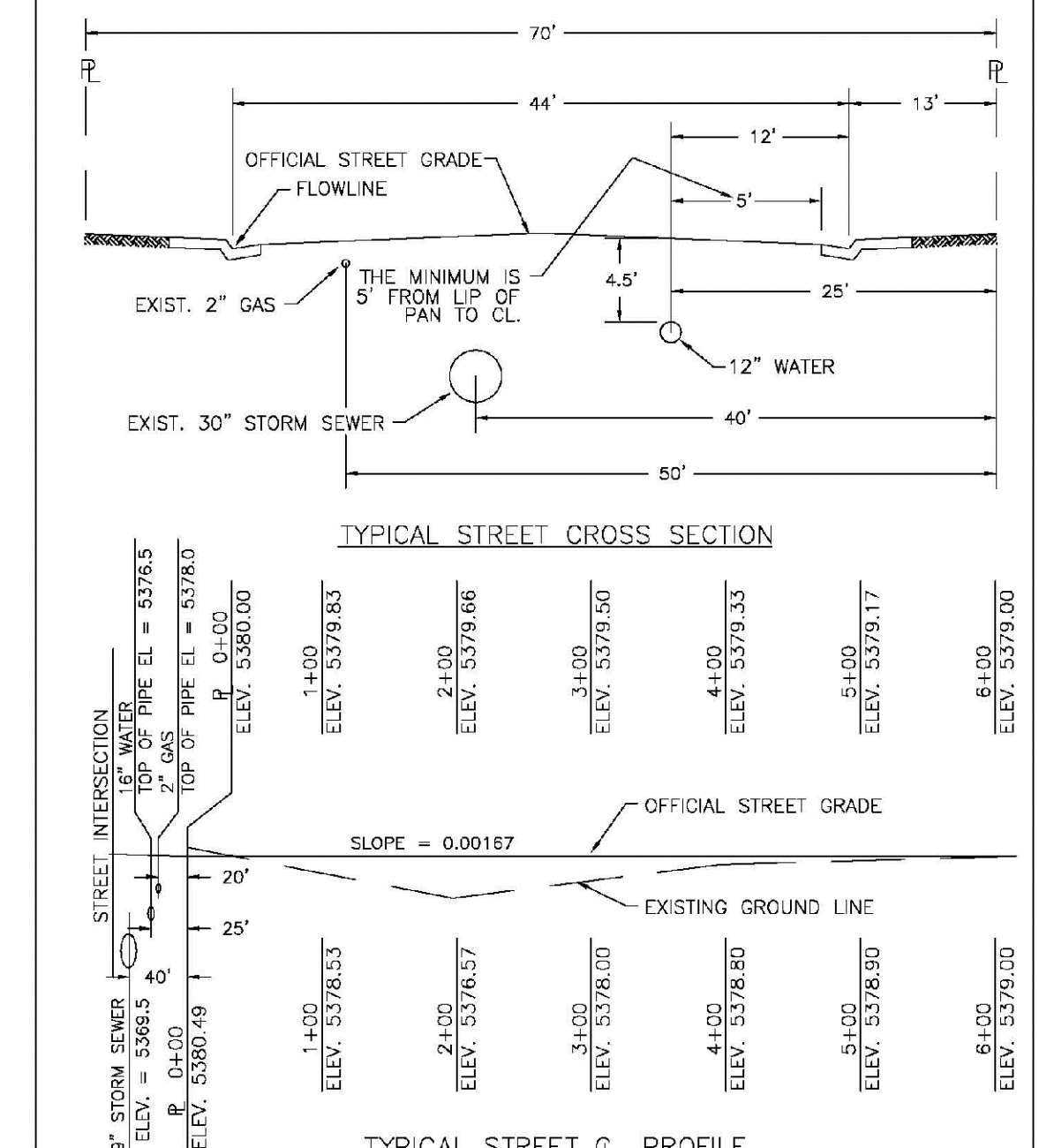
NOTES:

1. SEE "TYPICAL STREET CROSS SECTION - TYPICAL STREET CL 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: NONE	DATE: 2/96
APPROVED: 1/16	10/16
PVR	
DIRECTOR OF ENGINEERING	

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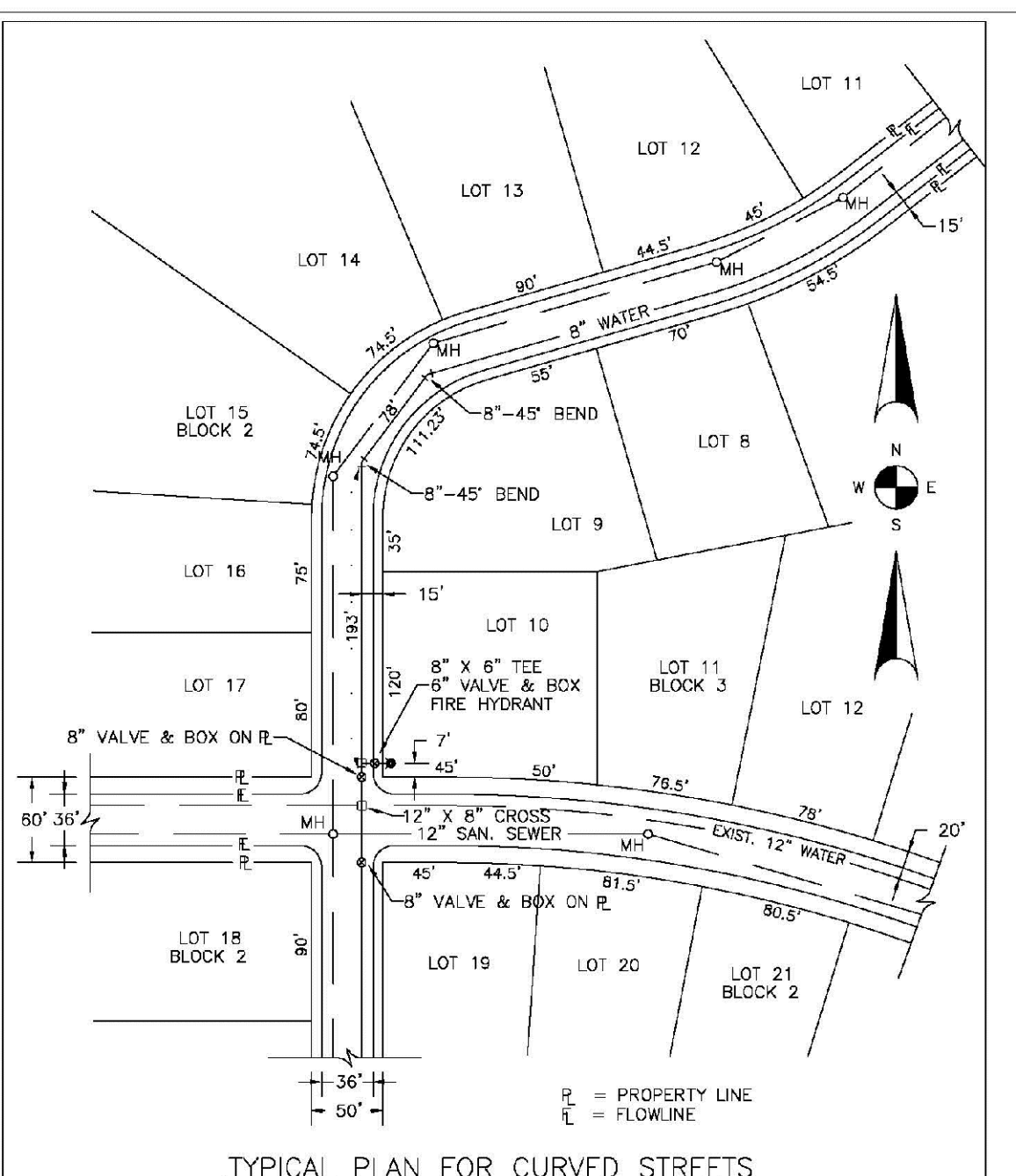
SHEET W2.1



PARKER WATER & SANITATION DISTRICT	
TYPICAL STREET CROSS SECTION	
SCALE: NONE	DATE: 2/96
APPROVED: 1/16	10/16
PVR	
DIRECTOR OF ENGINEERING	

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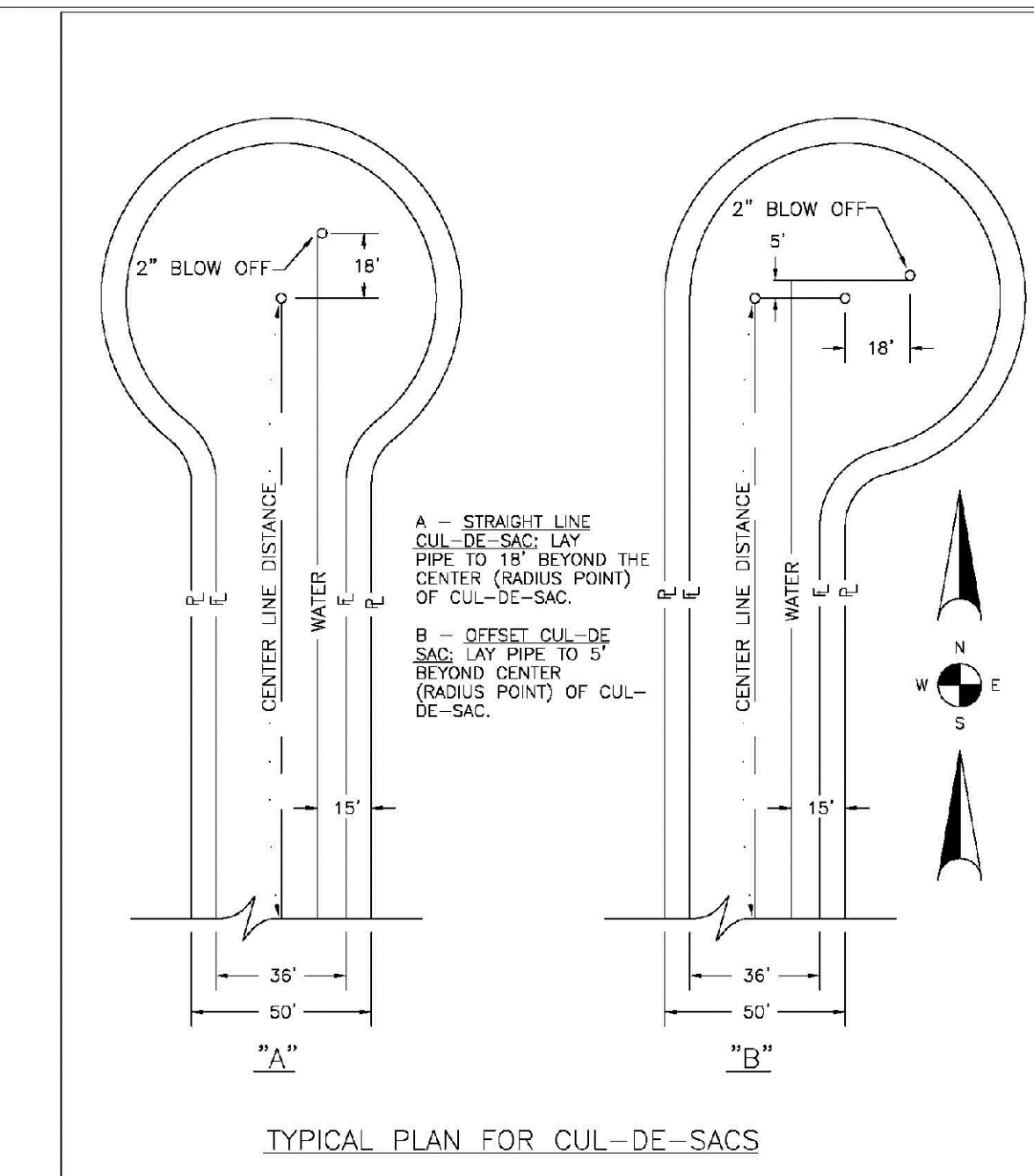
SHEET W2.2



PARKER WATER & SANITATION DISTRICT	
WATER DISTRIBUTION SYSTEM TYPICAL PLAN FOR CURVED STREETS	
SCALE: NONE	DATE: 2/96
APPROVED: 1/16	10/16
PVR	
DIRECTOR OF ENGINEERING	

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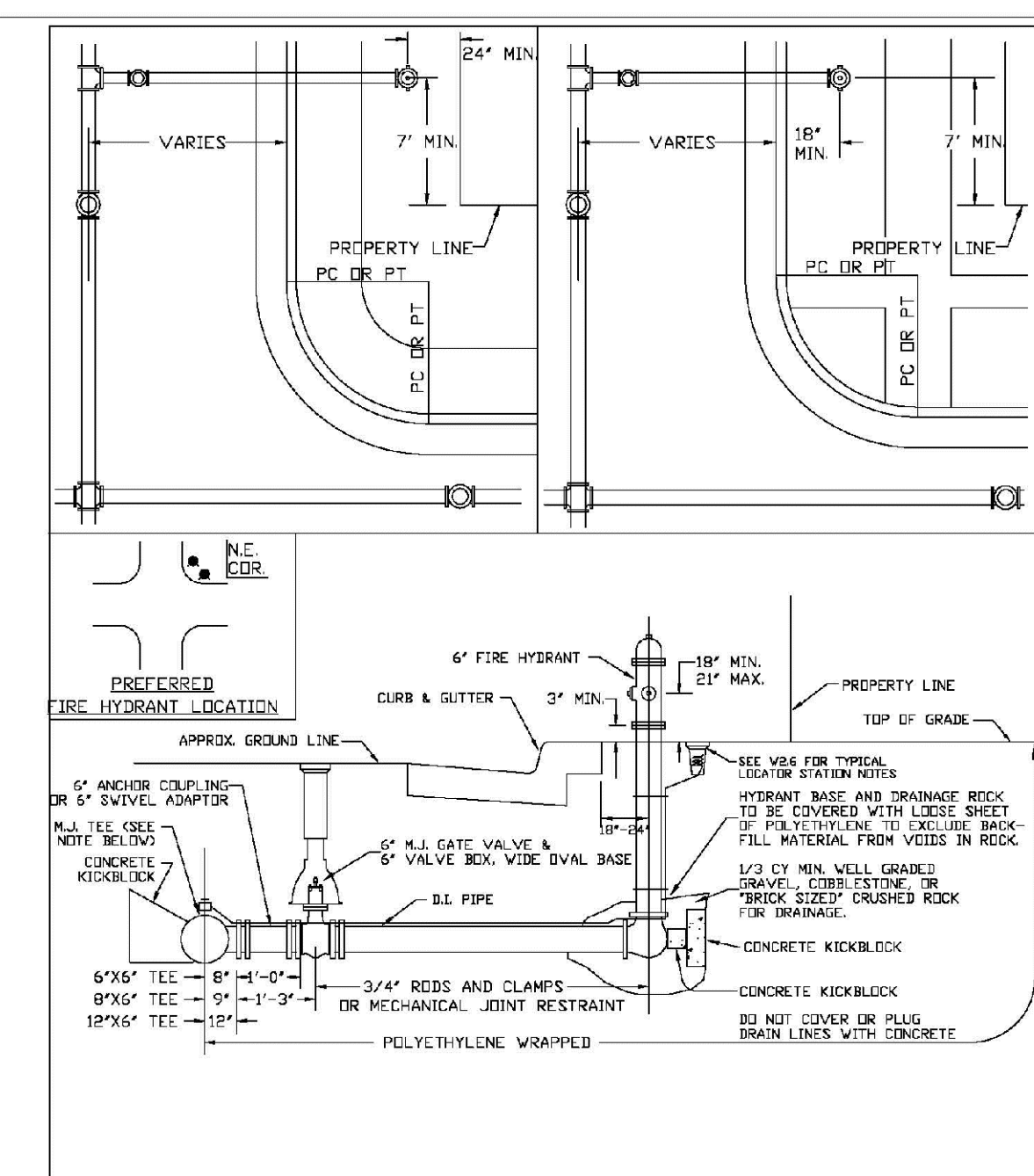
SHEET W2.3



PARKER WATER & SANITATION DISTRICT	
WATER DISTRIBUTION SYSTEM TYPICAL PLAN FOR CUL-DE-SACS	
SCALE: NONE	DATE: 2/96
APPROVED: 1/16	10/16
PVR	
DIRECTOR OF ENGINEERING	

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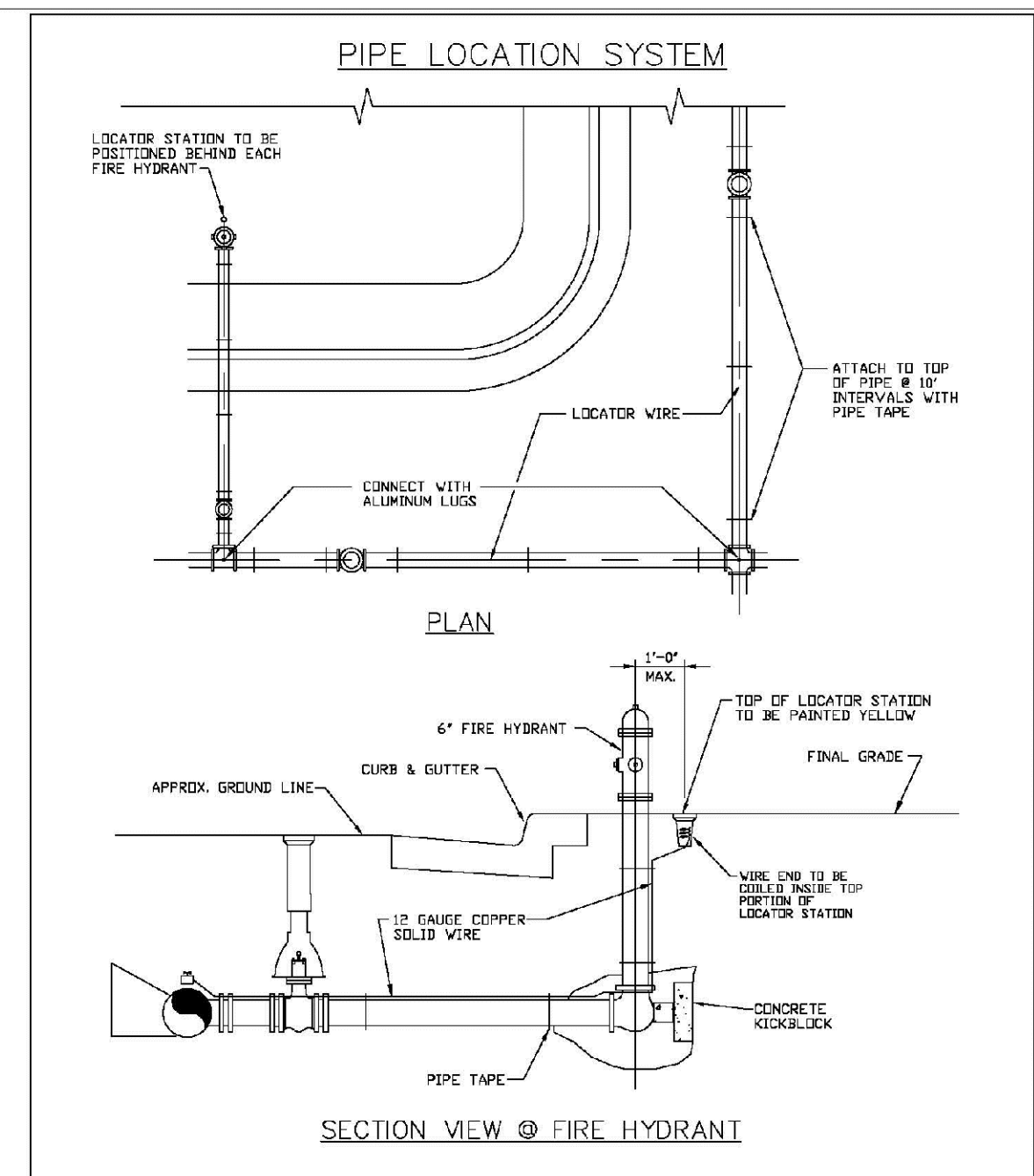
SHEET W2.4



PARKER WATER & SANITATION DISTRICT	
FIRE HYDRANTS LOCATION & INSTALLATION	
SCALE: NONE	DATE: 2/96
APPROVED: 4/01	10/16
PVR	09/05
DIRECTOR OF ENGINEERING	

2016 REVISION

SHEET W2.5



PARKER WATER & SANITATION DISTRICT	
LOCATOR WIRE DETAILS	
SCALE: NONE	DATE: 2/96
APPROVED: 4/01	10/16
PVR	09/05
DIRECTOR OF ENGINEERING	

2016 REVISION

SHEET W2.6

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Fax: (720) 482-9546

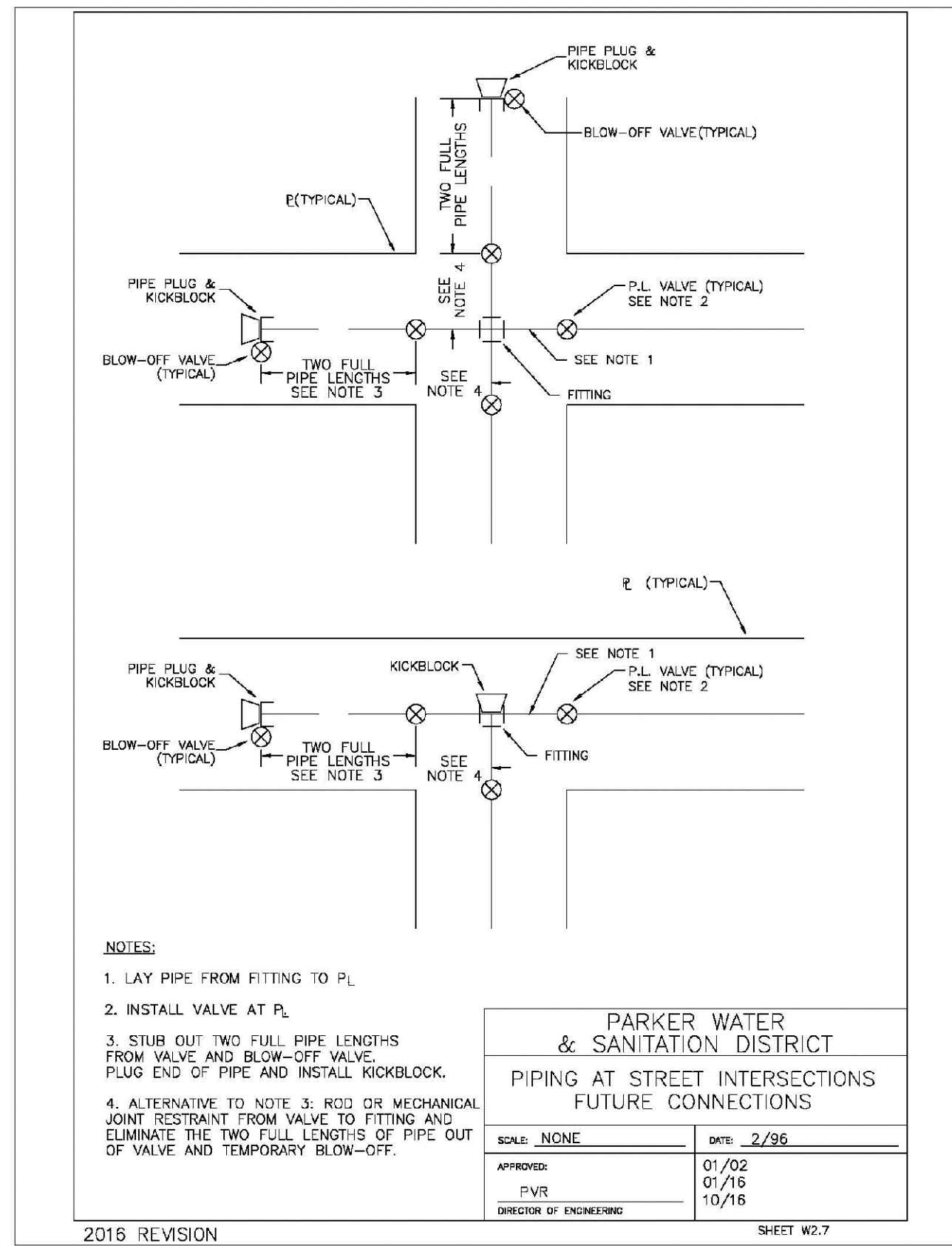
CVL CONSULTANTS

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
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WATER DETAILS

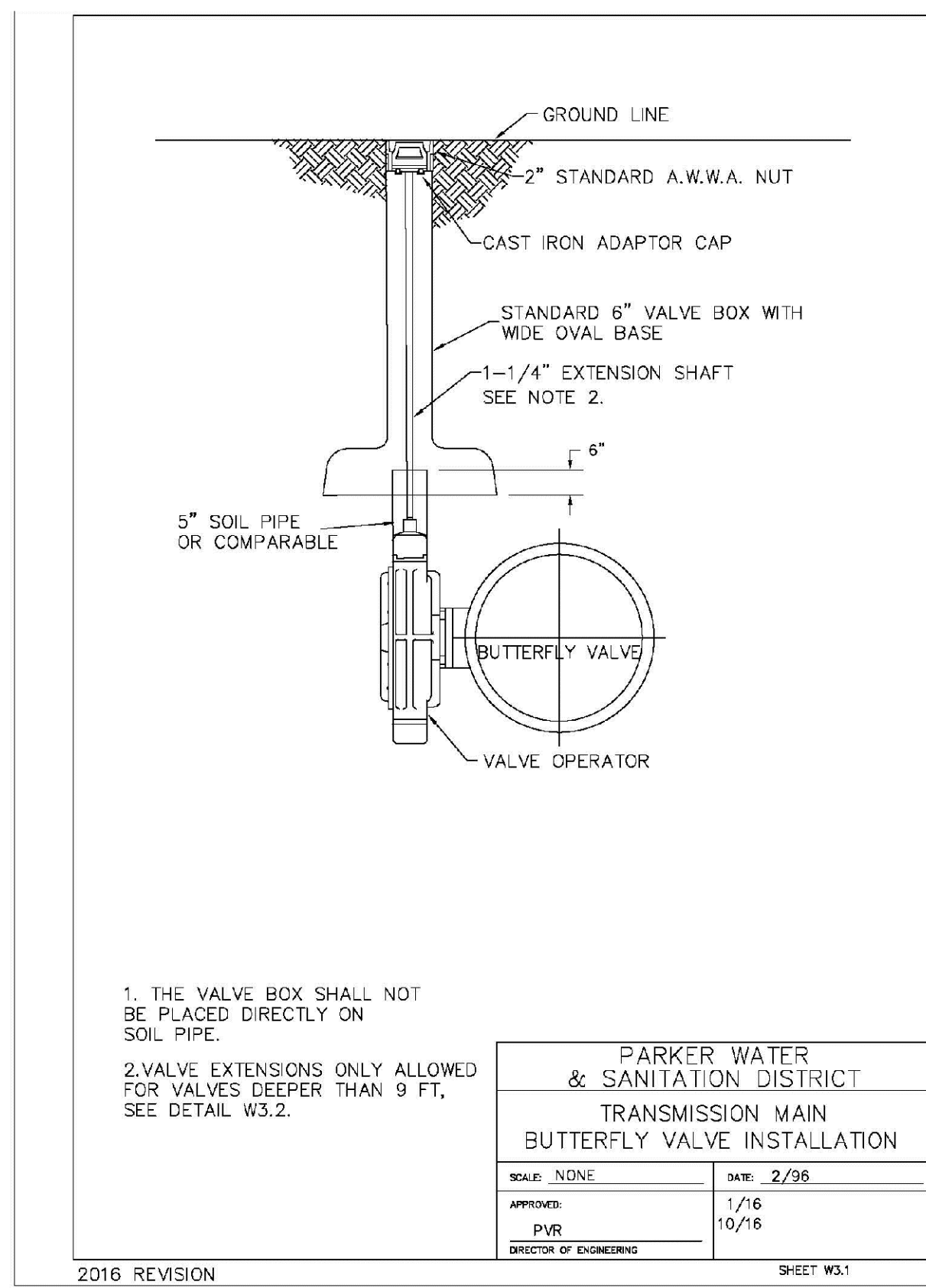
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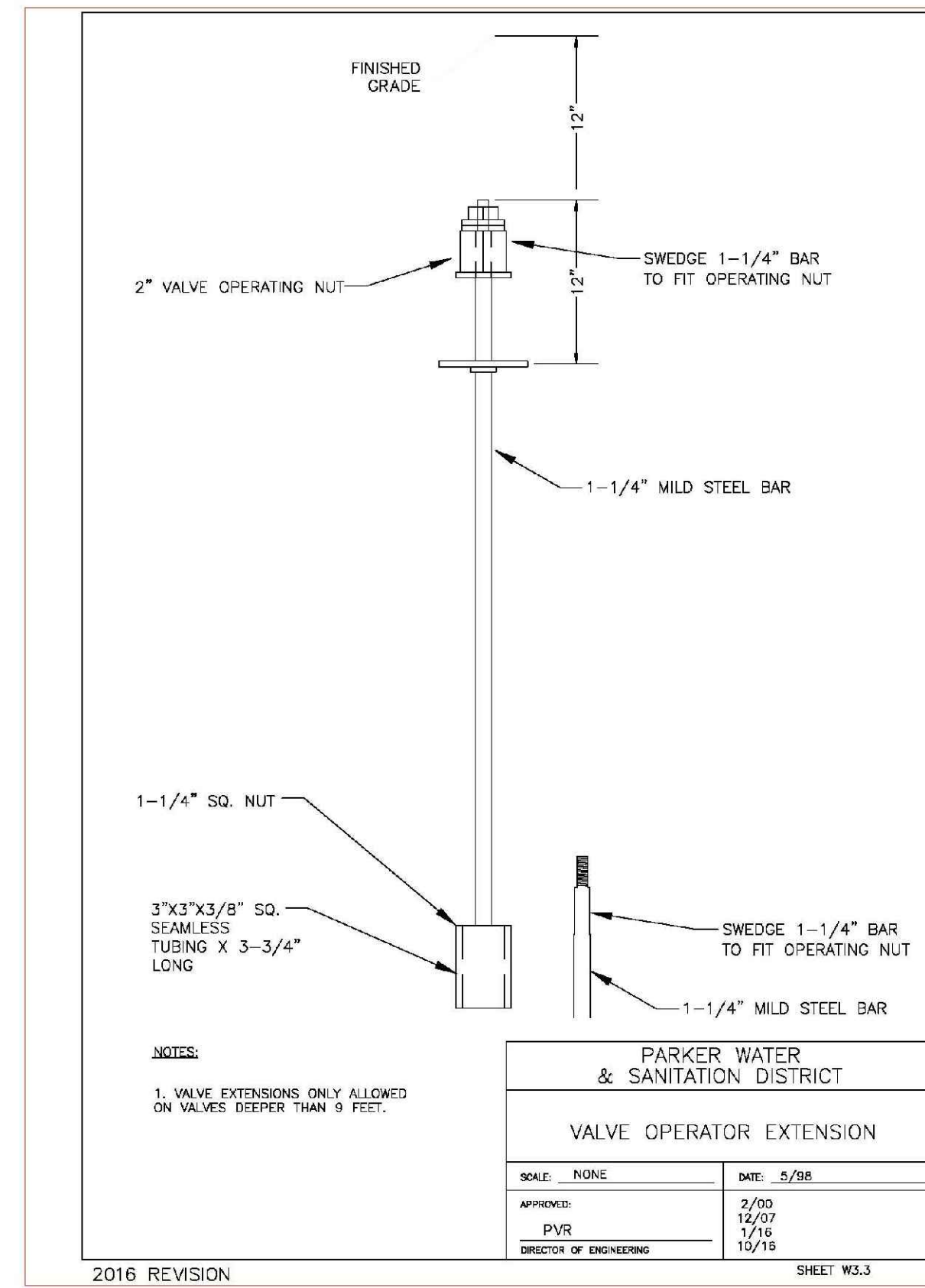
PARKER WATER & SANITATION DISTRICT	
PIPING AT STREET INTERSECTIONS FUTURE CONNECTIONS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.7



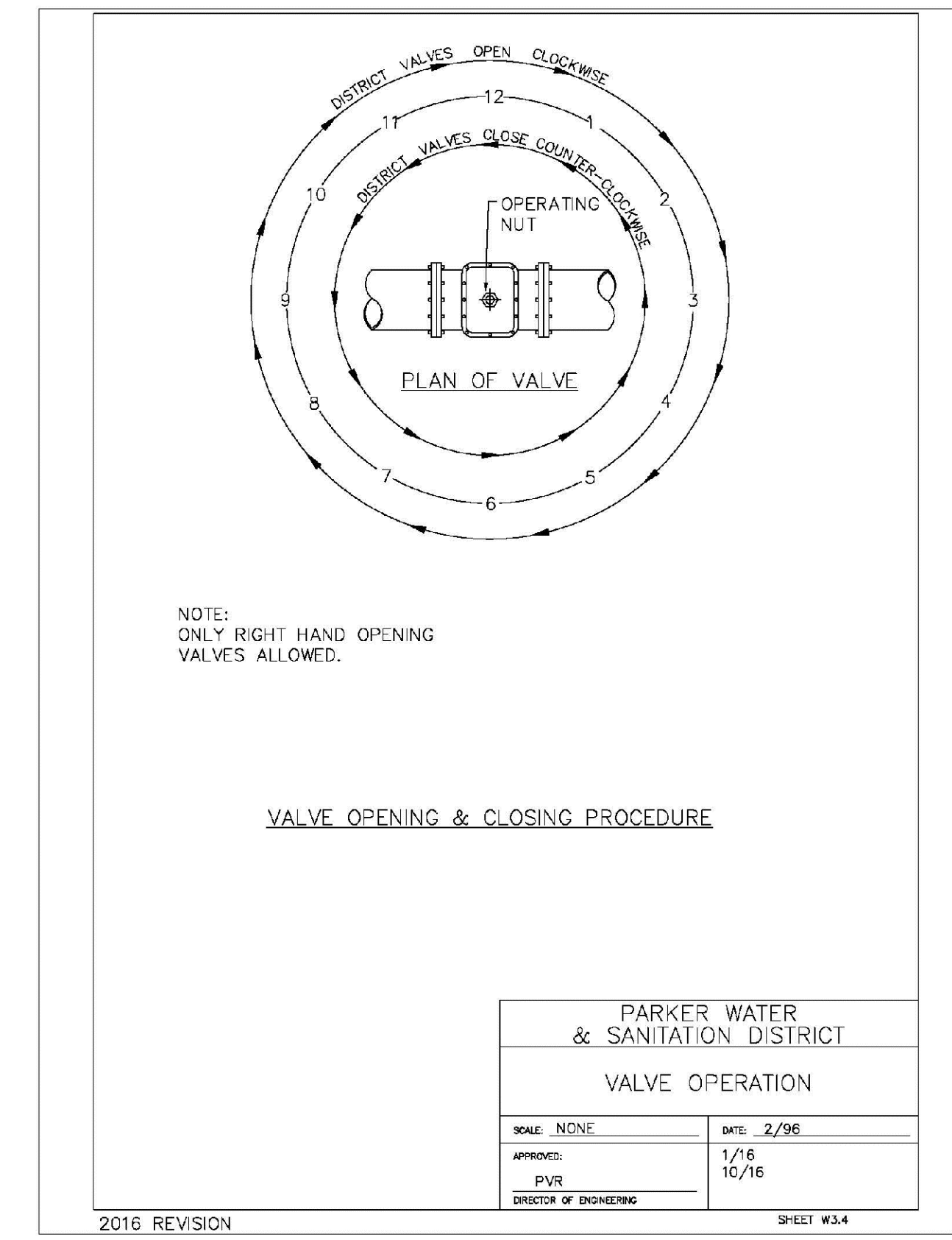
PARKER WATER & SANITATION DISTRICT	
TRANSMISSION MAIN BUTTERFLY VALVE INSTALLATION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/16 10/16
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2016 REVISION SHEET W3.1



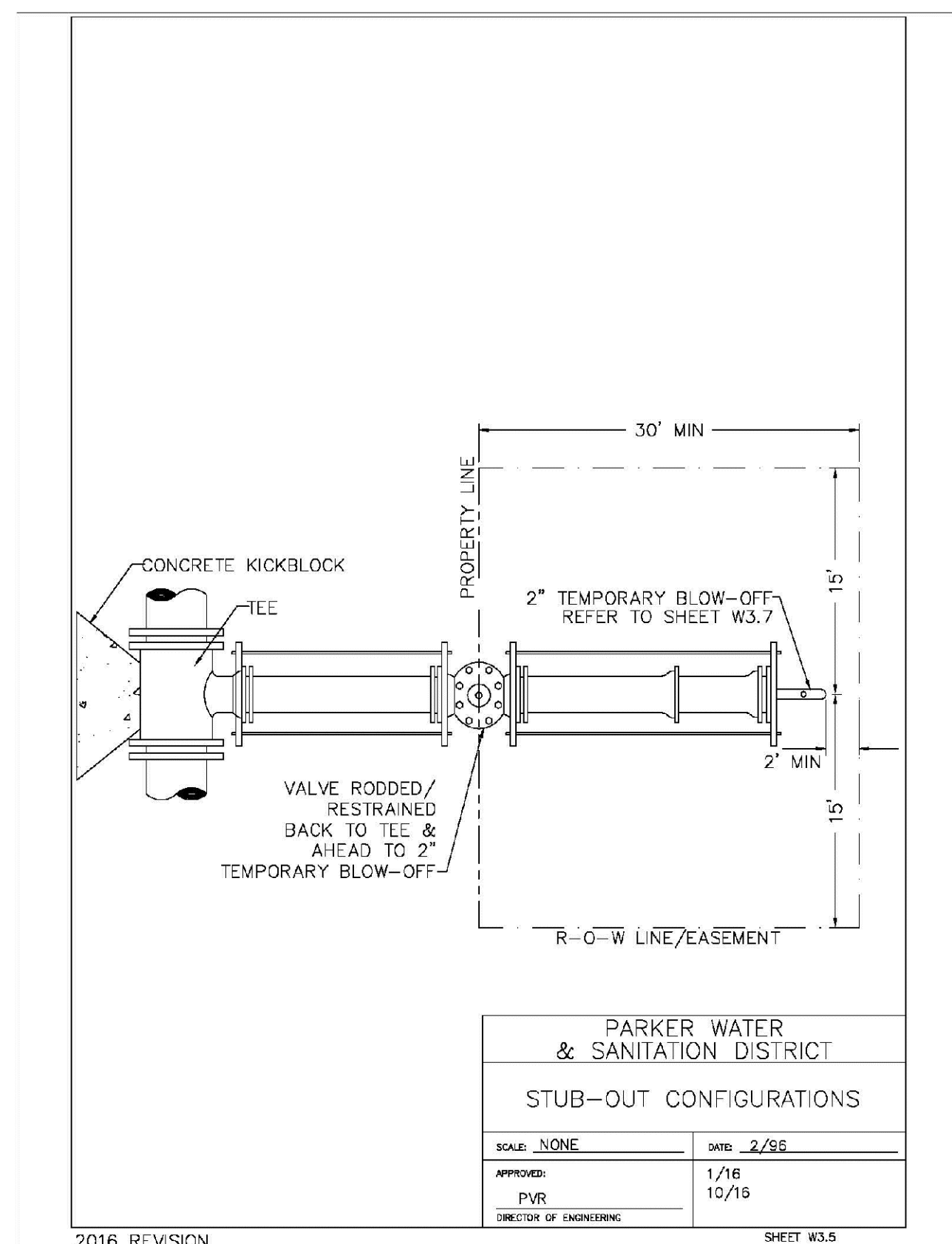
PARKER WATER & SANITATION DISTRICT	
VALVE OPERATOR EXTENSION	
SCALE: NONE	DATE: 5/98
APPROVED: PVR	2/95 12/07 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.3



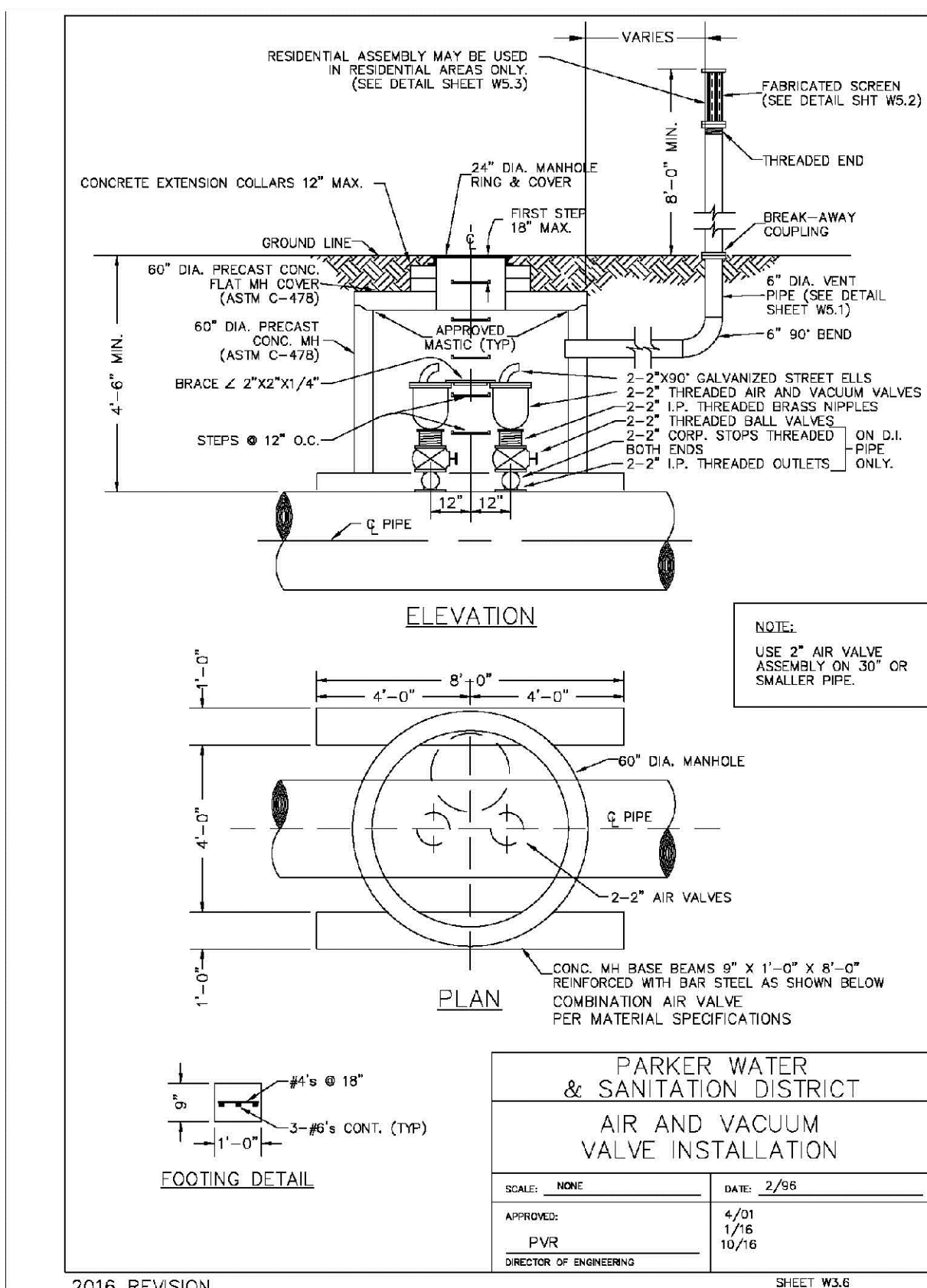
PARKER WATER & SANITATION DISTRICT	
VALVE OPERATION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.4



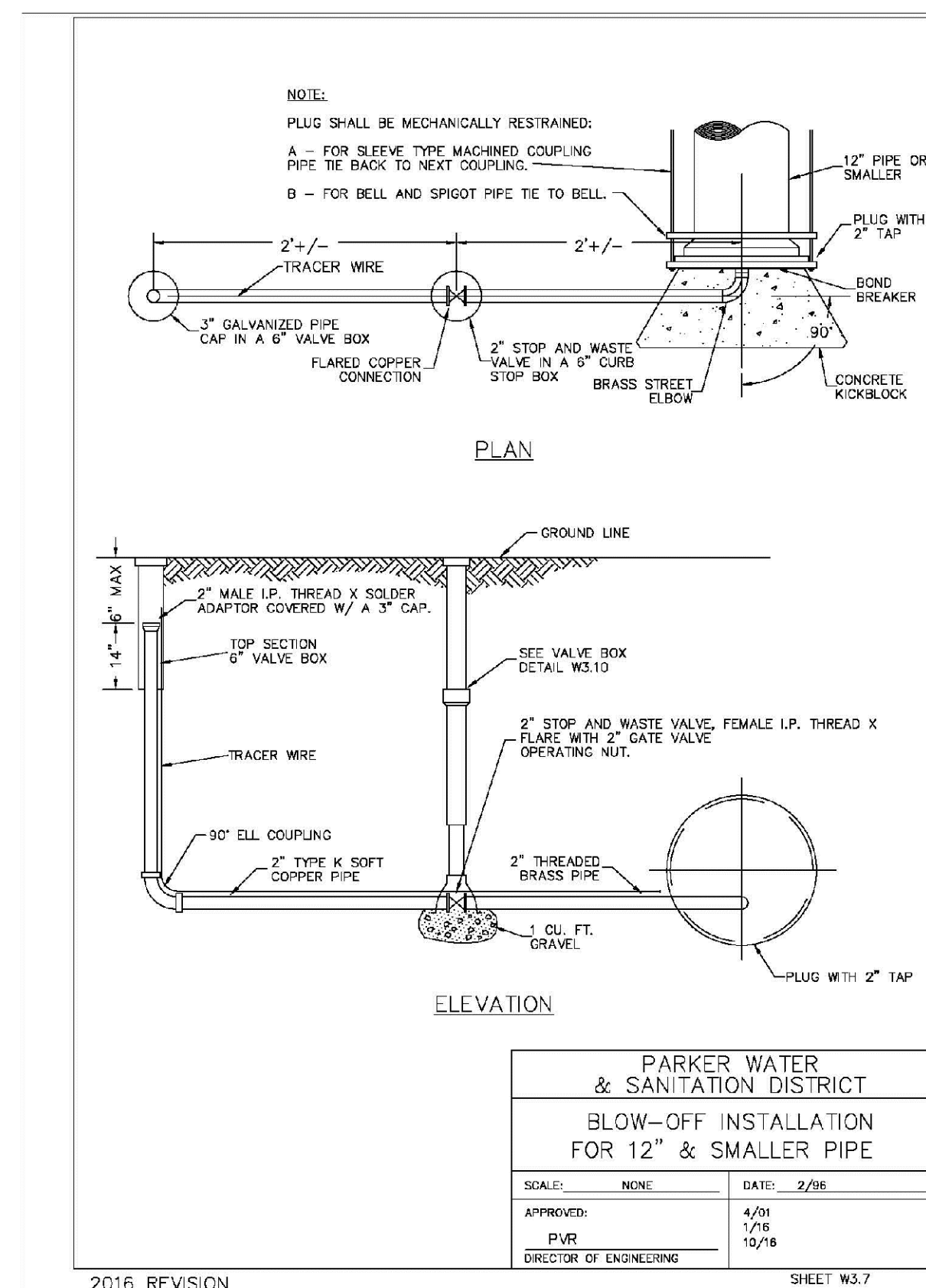
PARKER WATER & SANITATION DISTRICT	
STUB-OUT CONFIGURATIONS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	4/01 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.5



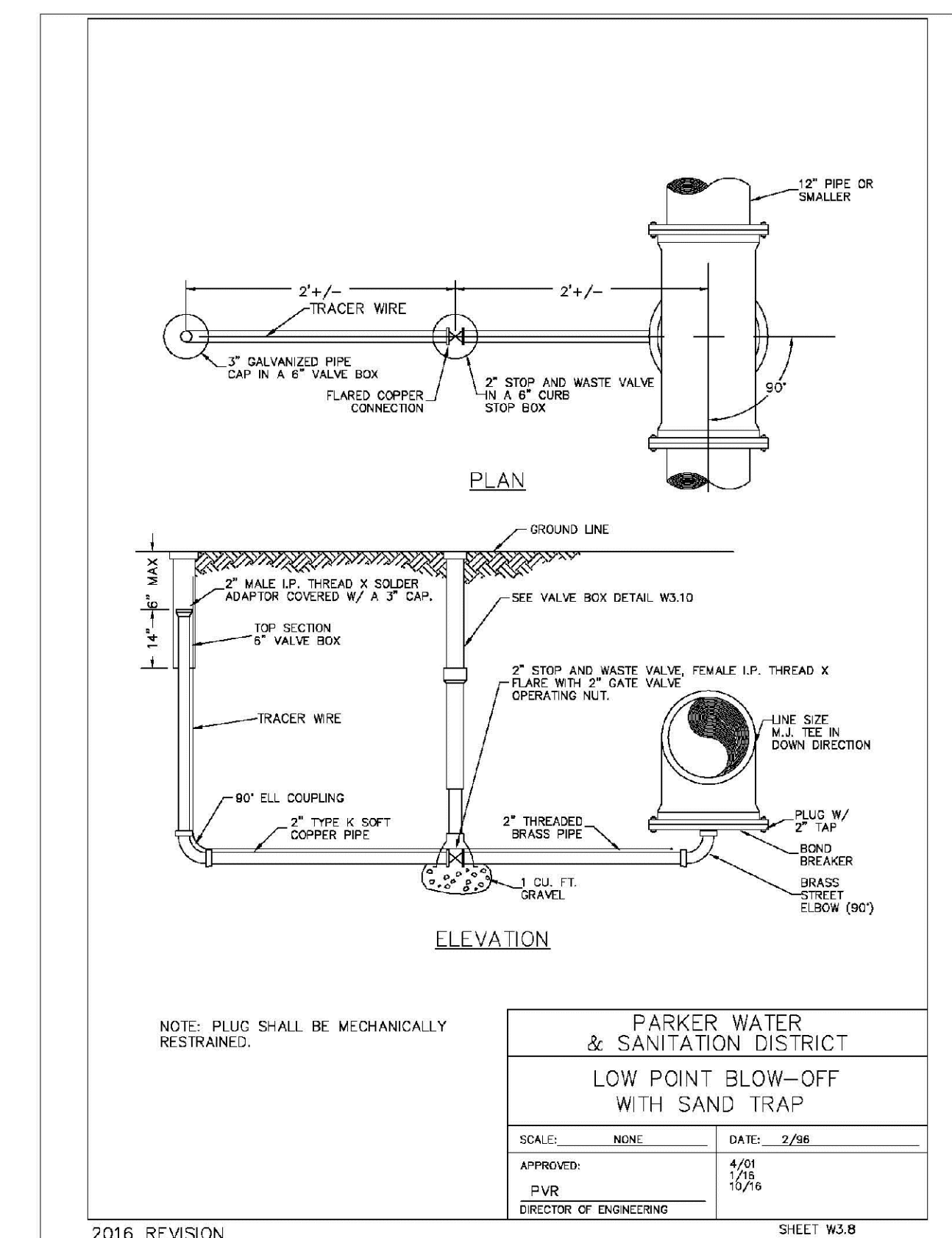
PARKER WATER & SANITATION DISTRICT	
AIR AND VACUUM VALVE INSTALLATION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	4/01 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.6



PARKER WATER & SANITATION DISTRICT	
BLOW-OFF INSTALLATION FOR 12" & SMALLER PIPE	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	4/01 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.7



PARKER WATER & SANITATION DISTRICT	
LOW POINT BLOW-OFF WITH SAND TRAP	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	4/01 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.8

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										No.	Date	Date

MECHANICAL JOINT RESTRAINT

WEDGE DETAIL BOLT HOLE DETAIL

NOMINAL PIPE SIZE	NO. OF BOLTS	NO. OF WEDGES	K2 INCHES	K1 INCHES	F INCHES	M INCHES
4"	2	2				
6"	3	3	11.12	9.5	7.00	0.88
8"	4	4	13.37	11.75	8.75	1.00
10"	5	5	15.62	14.00	11.20	1.00
12"	6	6	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: 2/90
PVR 12/07
DIRECTOR OF ENGINEERING 10/16

2016 REVISION SHEET W3.17

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

DEAD END

TYPICAL CROSS SECTION

TEE

SIZE OF PIPE	11-1/4" BENDS	22-1/2" BENDS	45" BENDS	90" BENDS	TEE OR DEAD END
4"	1.00	1.20	1.00	1.80	1.50
6"	1.00	1.45	1.25	2.00	2.00
8"	1.00	1.70	1.50	2.25	2.25
10"	1.00	1.95	1.75	2.50	2.50
12"	1.00	2.20	2.00	2.75	2.75
14"	1.00	2.45	2.25	3.00	3.00
16"	1.00	2.70	2.50	3.25	3.25
18"	1.00	2.95	2.75	3.50	3.50
20"	1.00	3.20	3.00	3.75	3.75
24"	1.00	3.70	3.50	4.25	4.25

MINIMUM BEARING SURFACE AREA (IN SQUARE FEET)

NOTES:
1. ALL VALVES, TEES, BENDS AND PLUGS SHALL BE RESTRAINED AND KICKBLOCKED.
2. WATER HAMMER: 1" IC
16", 20" AND 24" WATER HAMMER = 70 PSI.
3. SOIL BEARING CAPACITY = 3,000 LBS./SQ. FT.

PARKER WATER & SANITATION DISTRICT
CONCRETE KICKBLOCKS BEARING SURFACES AND INSTALLATION

SCALE: NONE DATE: 2/96

APPROVED: 4/01
PVR 1/16
DIRECTOR OF ENGINEERING 10/16

2016 REVISION SHEET W3.18

HALF PLAN

STANDARD LIFTING SLOT DETAIL

MACHINED SEAT

NOTES:
1. Coating Specifications: ASTM A-48 With A Minimum Tenacity Strength of 20 KSI (Class 20)
2. All Castings to be Dipped in Asphalt Base Coat (Or Approved Lead)

PARKER WATER & SANITATION DISTRICT
24" DIAMETER RING AND COVER

SCALE: NONE DATE: 6/96

APPROVED: 12/97
PVR 1/16
DIRECTOR OF ENGINEERING 10/16

2016 REVISION SHEET W3.19

ACCESS MANHOLE

ACCESS MANHOLE AND AIR VALVE ASSEMBLY

NOTES:
1. USE 2" AIR VALVE ASSEMBLY ON 30" OR SMALLER PIPES.
2. RESIDENTIAL ASSEMBLY MAY BE USED IN RESIDENTIAL AREAS ONLY (SEE DETAIL SHEET W6.3).
3. 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: 4/01
PVR 1/16
DIRECTOR OF ENGINEERING 10/16

2016 REVISION SHEET W3.20

STANDARD TRENCH SECTION

STREET CUT PATCH

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'-4"	4'-4"

PARKER WATER & SANITATION DISTRICT
TYPICAL TRENCH SECTION PIPE PROTECTION

SCALE: NONE DATE: 2/96

APPROVED: 5/98
PVR 2/02
DIRECTOR OF ENGINEERING 10/16

2016 REVISION SHEET W4.1

PIPE BEDDING

(a) 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. Bed holes shall be dug deep enough to provide a minimum of two inches (2") of clearance between the soil 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 fullness of the pipe and in the previously dug bed holes.

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

Sieve Size	Total Percent Passing by Weight
3/8 inch	100
No. 4	70-100
No. 6	35-83
No. 16	20-80
No. 30	5-60
No. 50	2-30
No. 100	1-10
No. 200	0-3

PARKER WATER & SANITATION DISTRICT
PIPE BEDDING

SCALE: NONE DATE: 2/96

APPROVED: 5/98
PVR 2/02
DIRECTOR OF ENGINEERING 10/16

2016 REVISION SHEET W4.2

PLAN VIEW

PROFILE

TYPICAL SECTION

NOTES:
1. ALL CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3,000 PSI USING TYPE I 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 ENCASING.

PARKER WATER & SANITATION DISTRICT
WATERLINE ENCASUREMENT

SCALE: NONE DATE: 5/98

APPROVED: 1/16
PVR 10/16
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2016 REVISION SHEET W4.3

PLAN FOR PERPENDICULAR CROSSING

PLAN FOR ANGLE CROSSING

PROFILE

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

APPROVED: 2/00
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7253 South Alton Way
CENTENNIAL, CO 80112

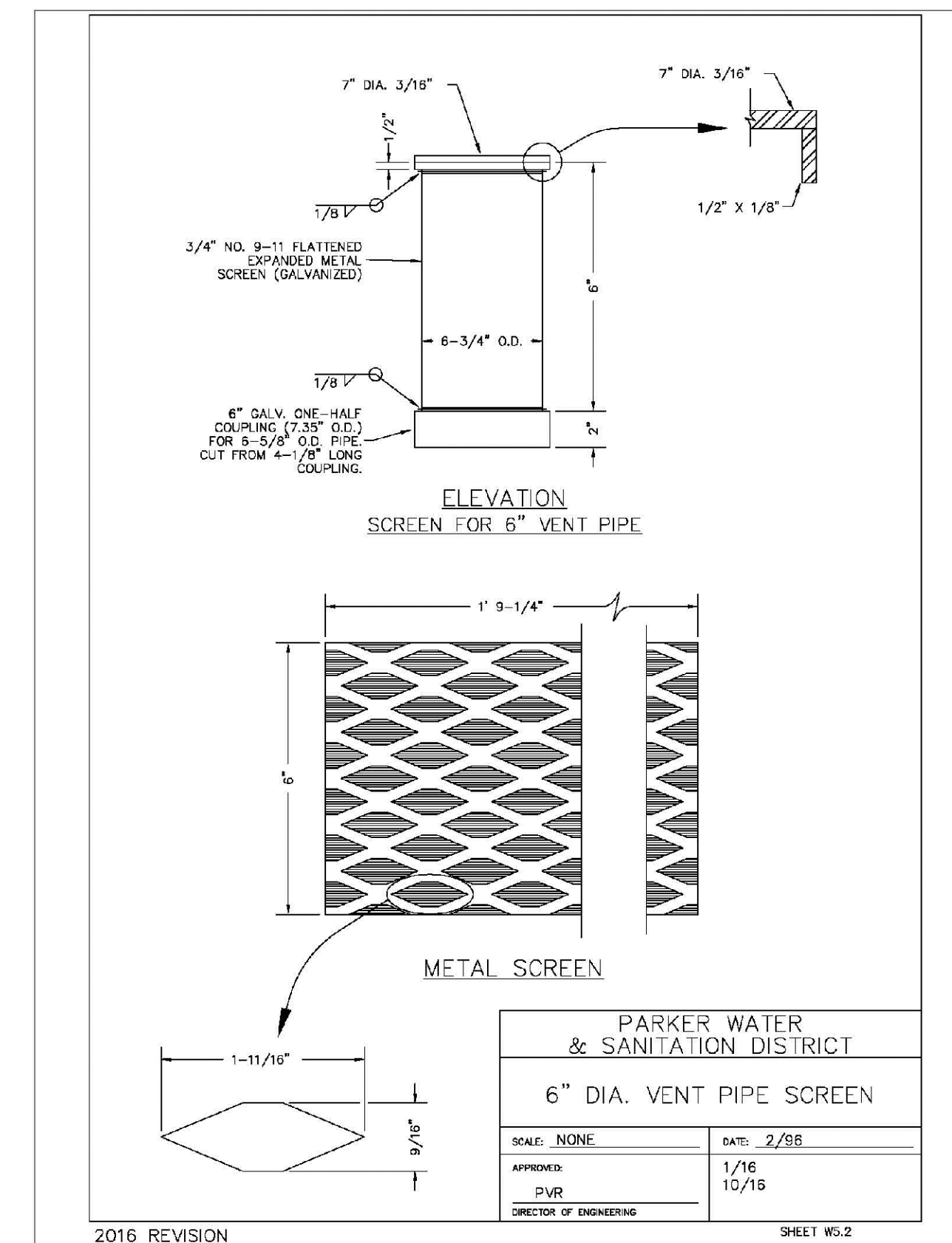
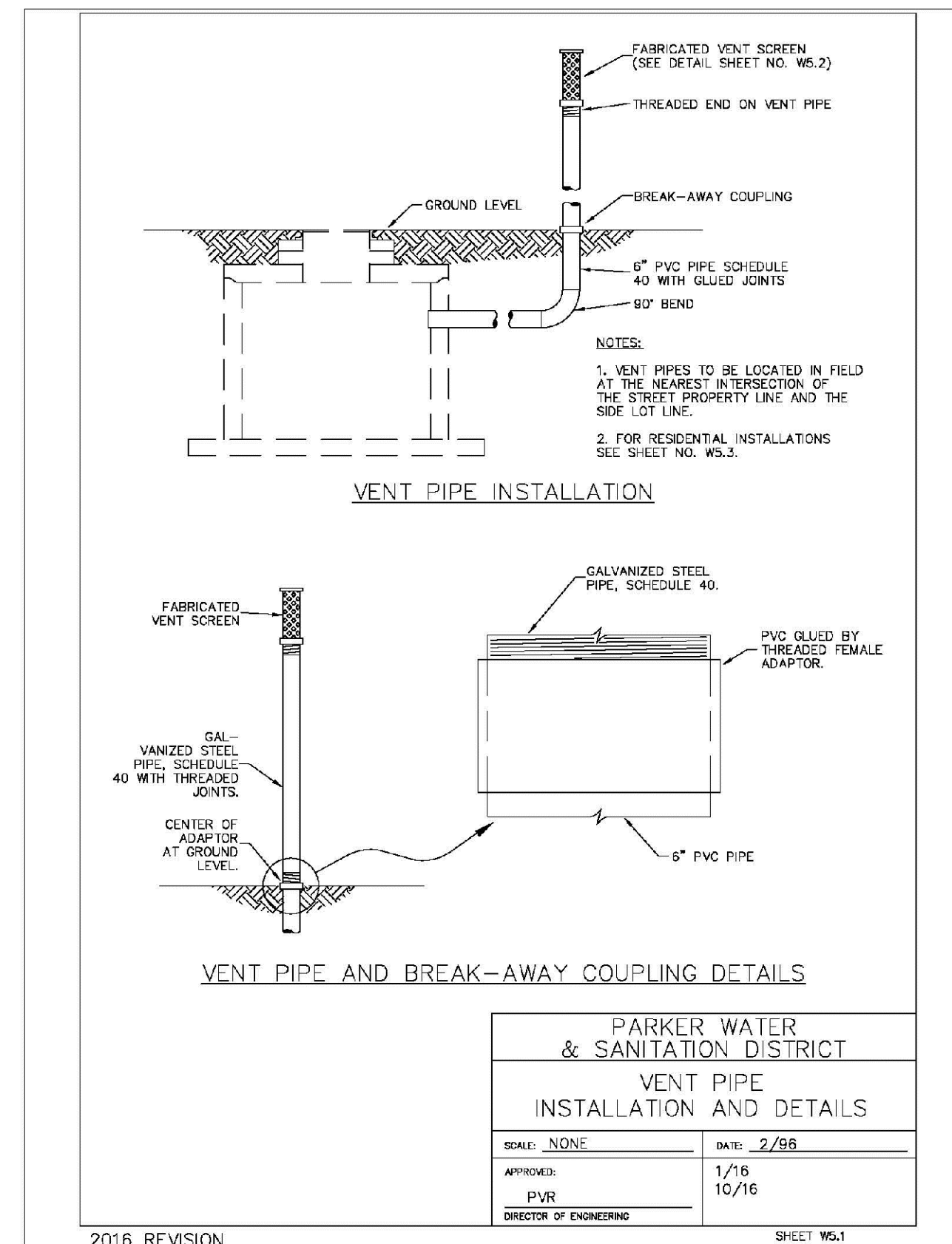
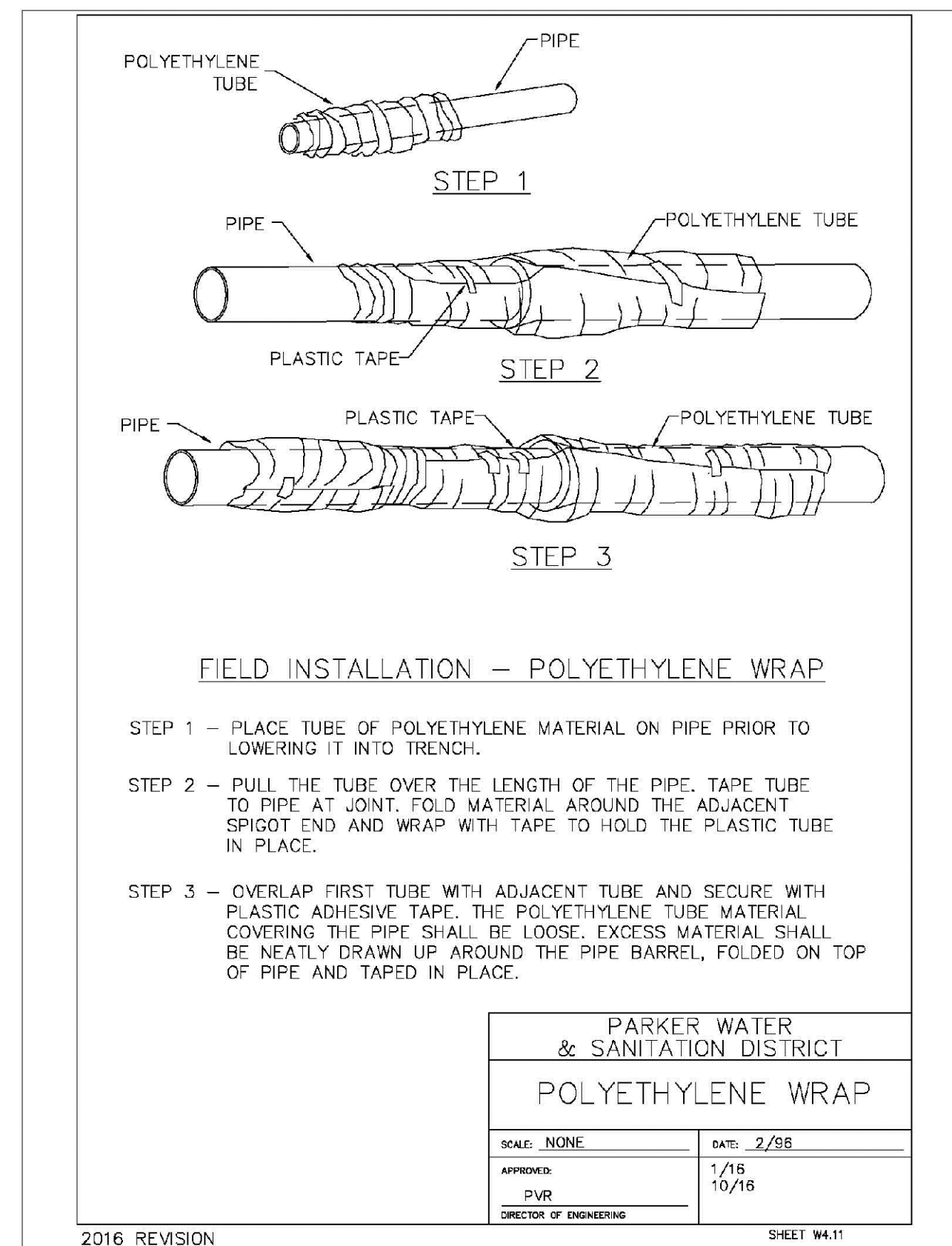
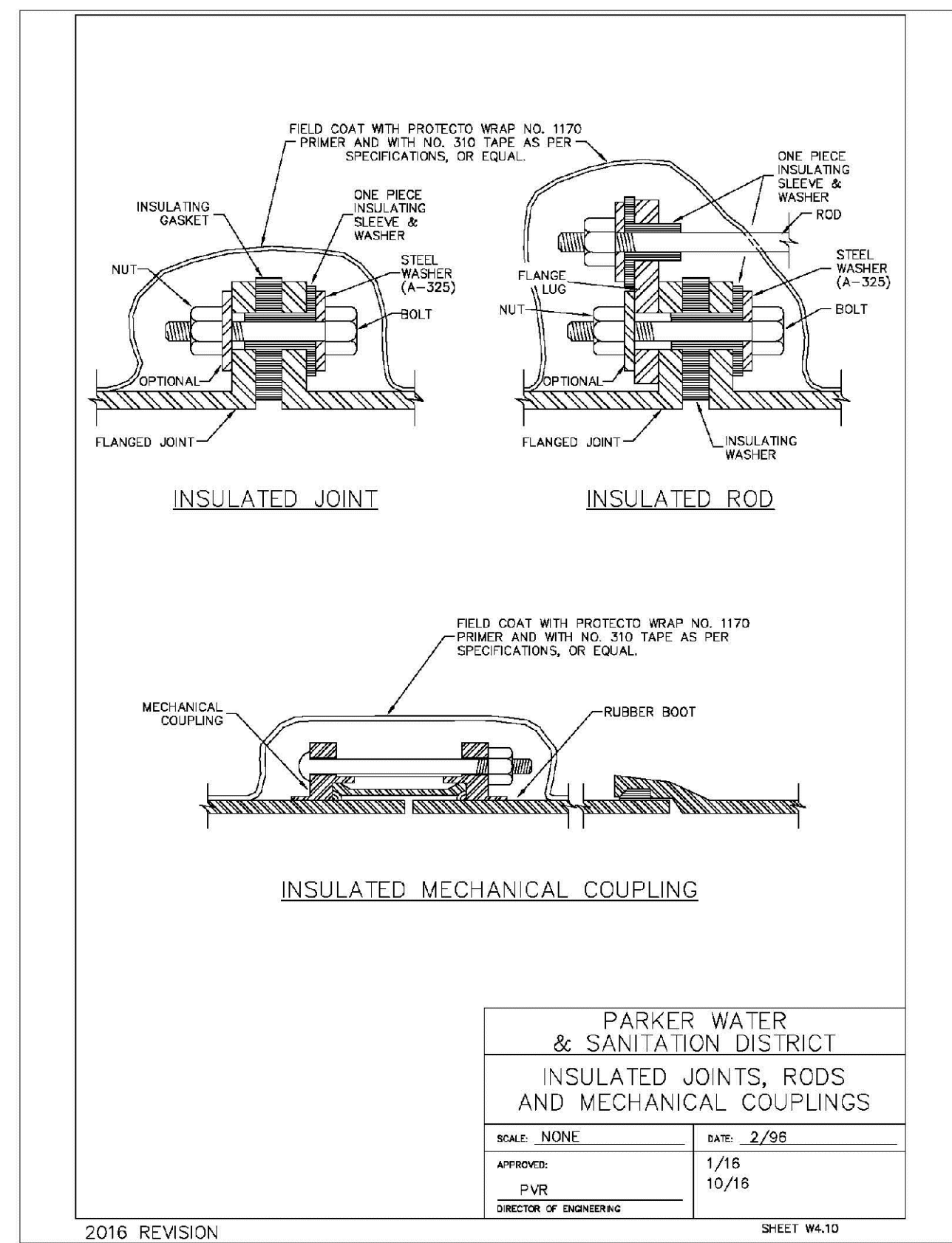
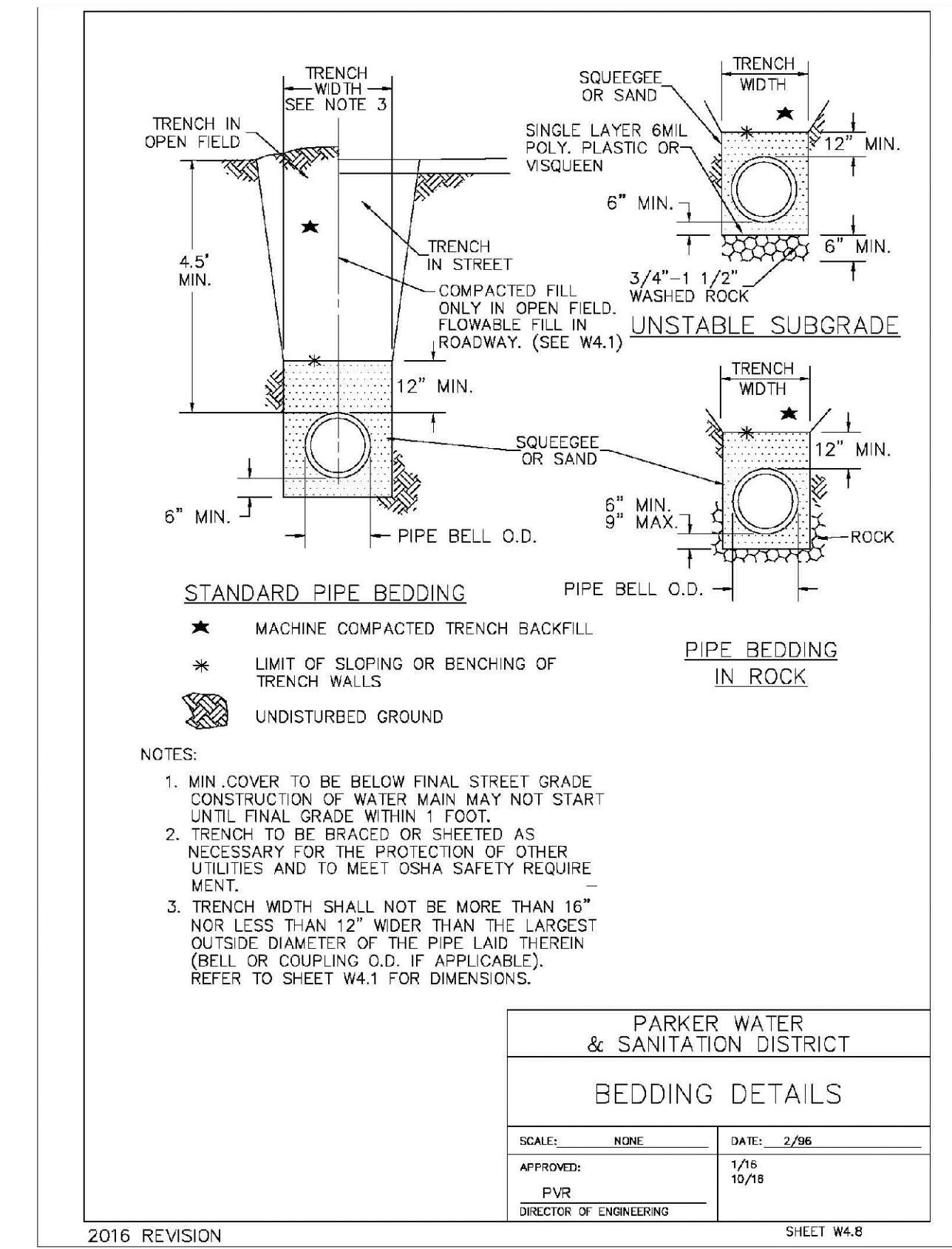
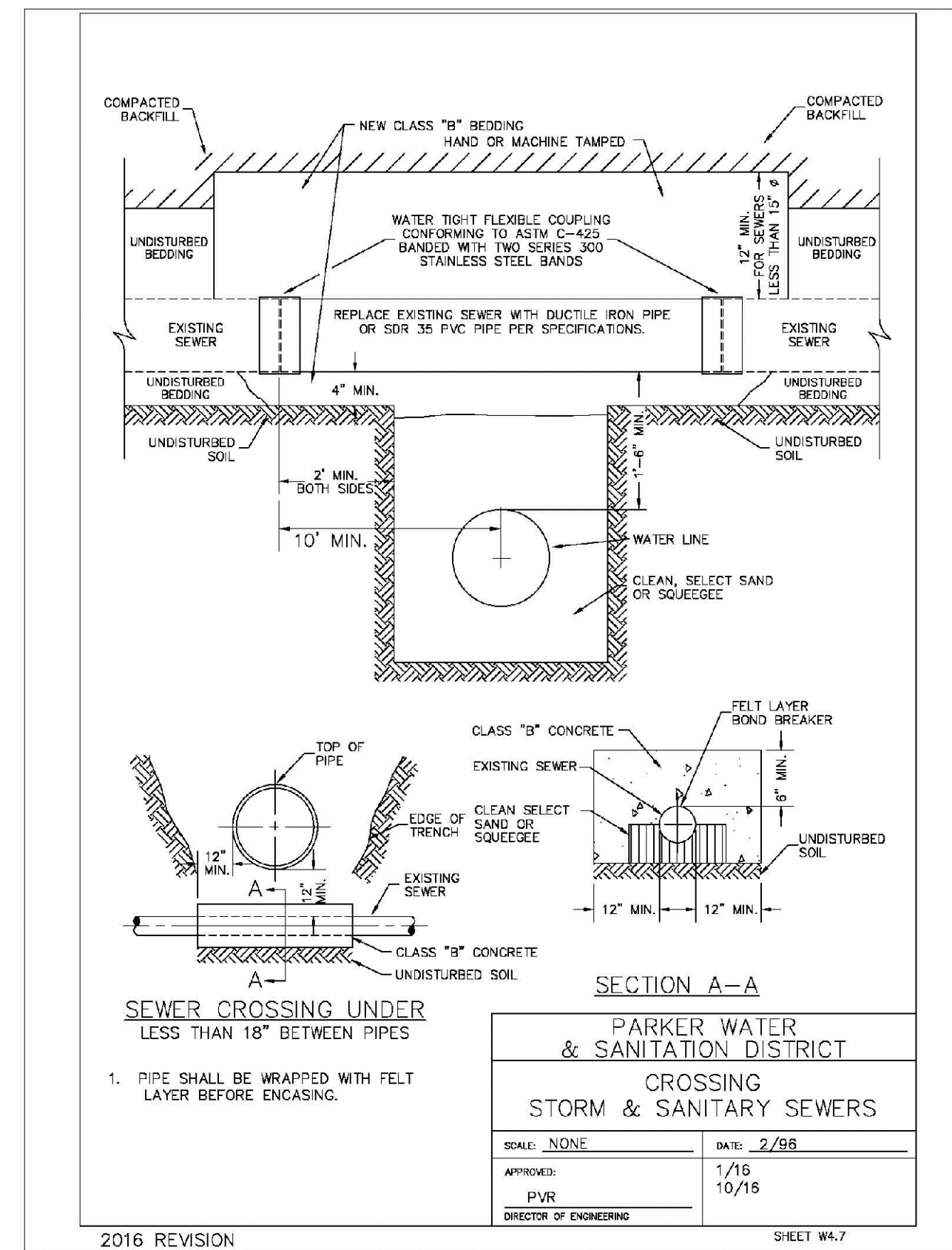
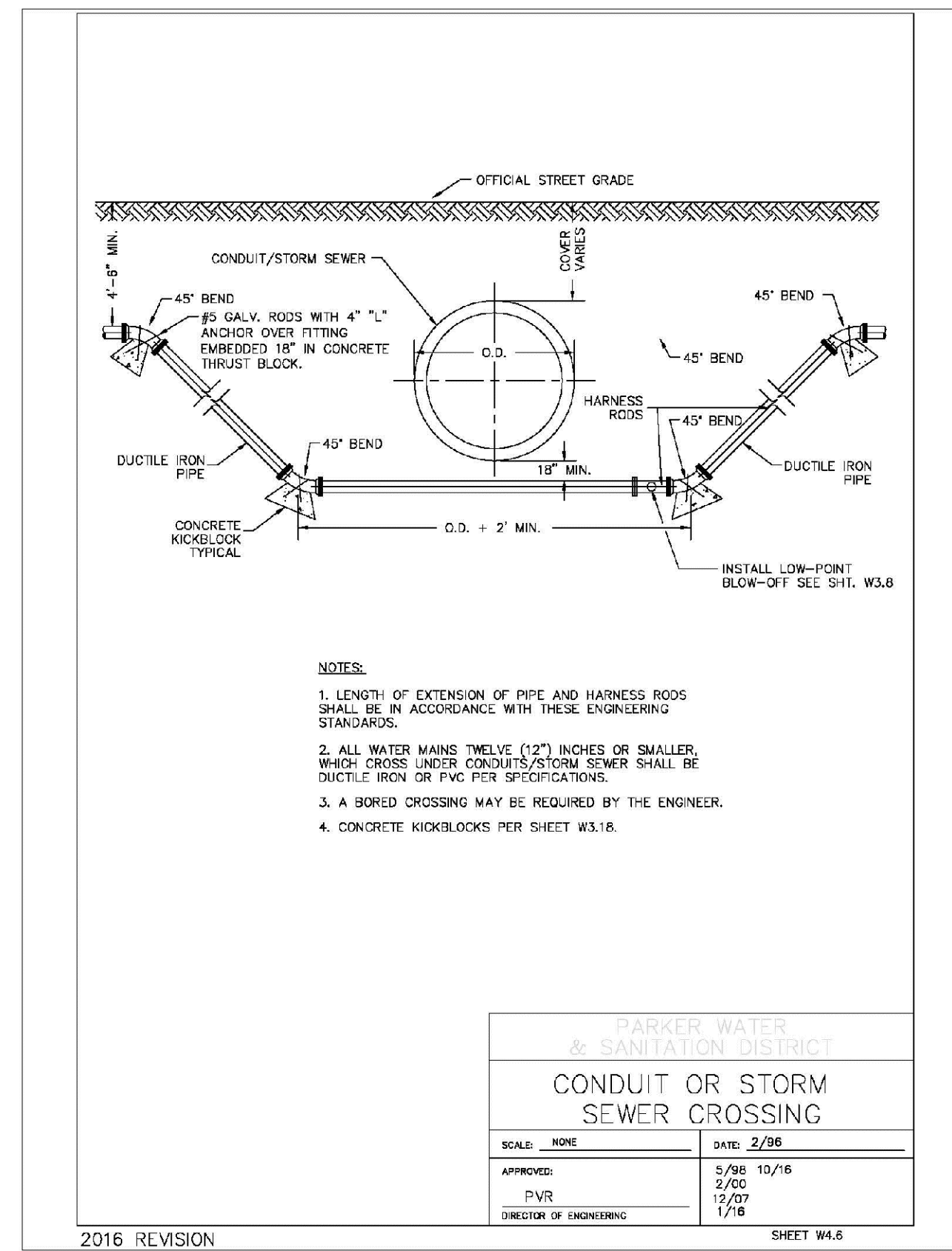
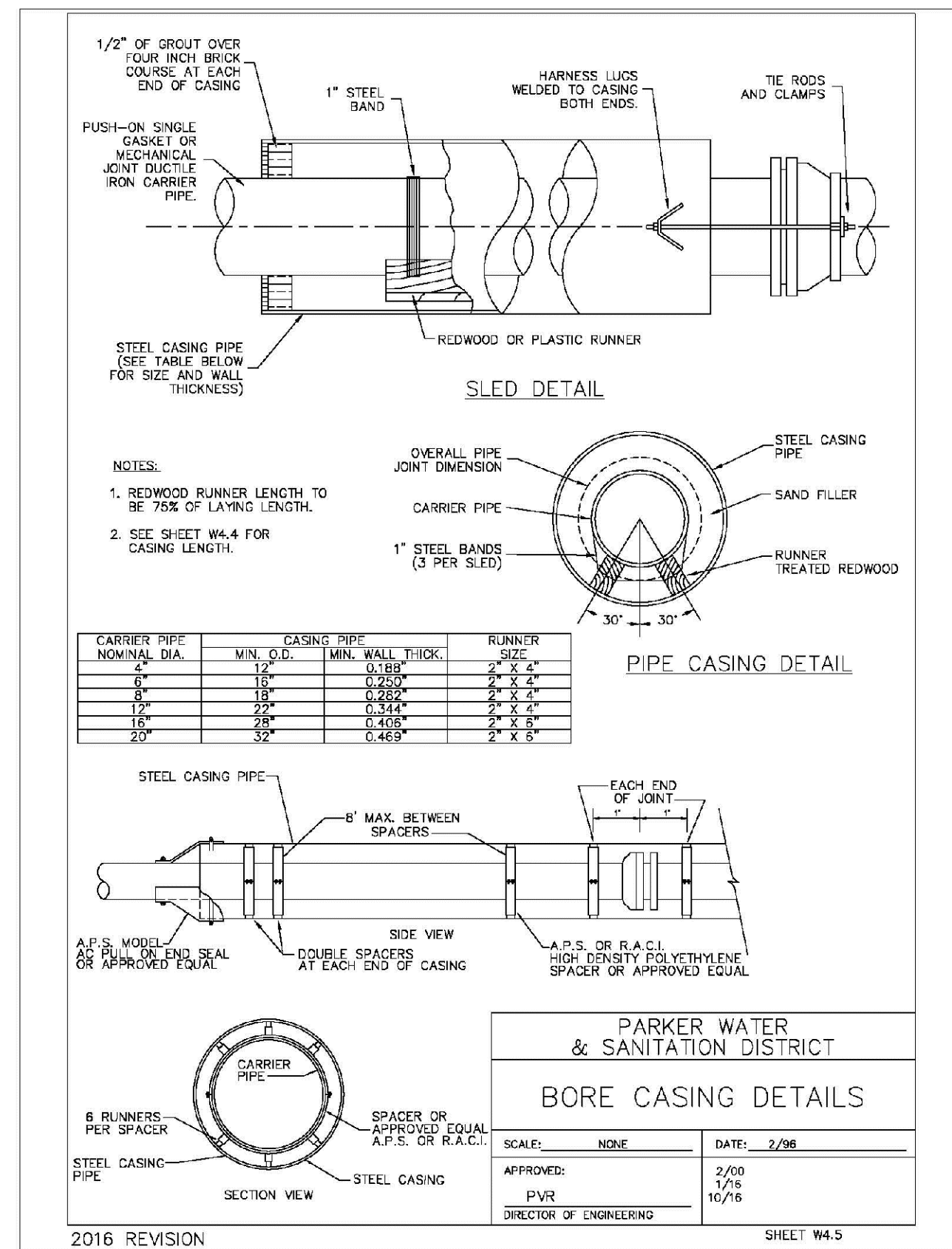
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DATE: SEPTEMBER 2017

SHEET NUMBER: 16

Revisions: No. Date Init. Appr. Date



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		CHECKED BY: JJ	DATE: 1/16							

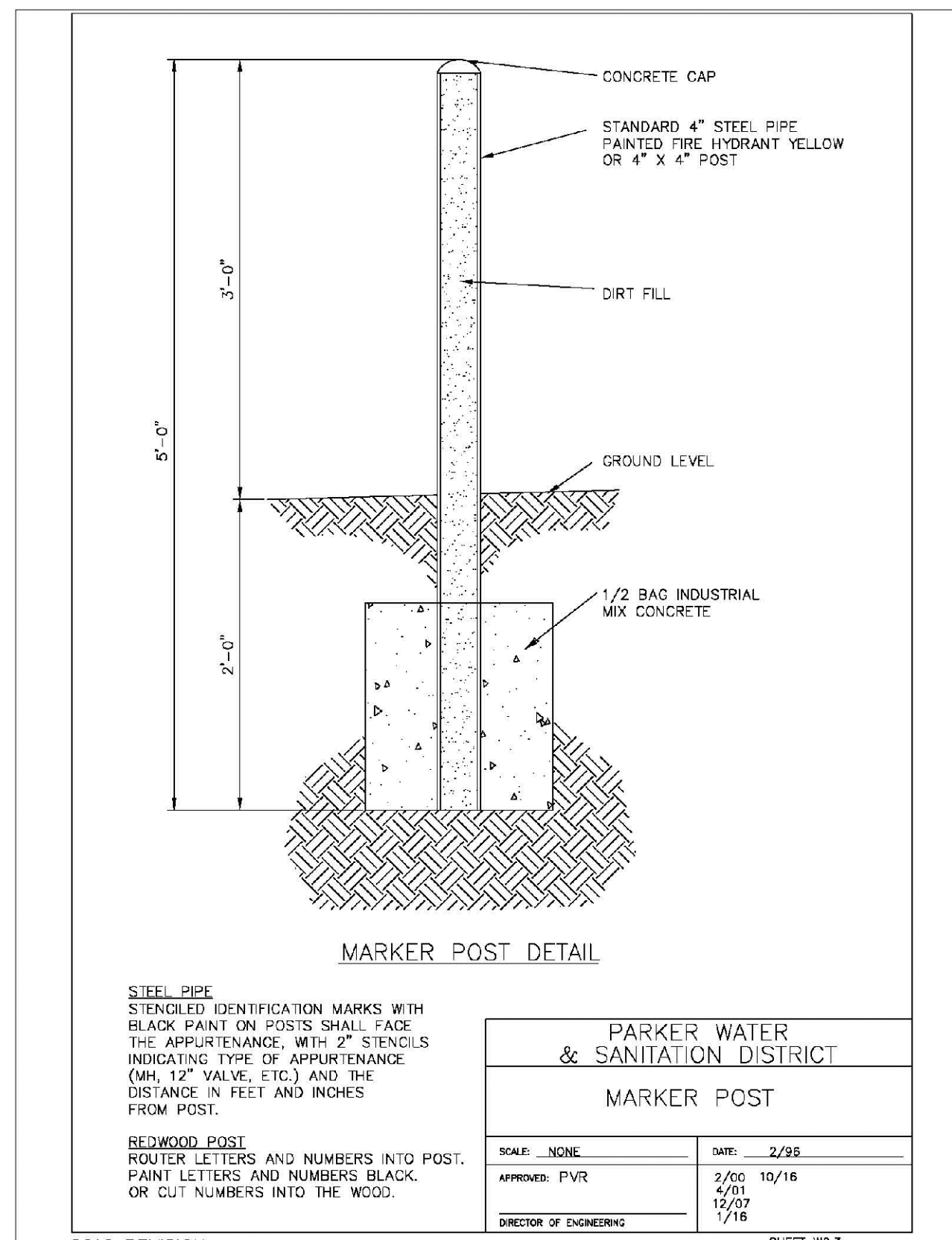
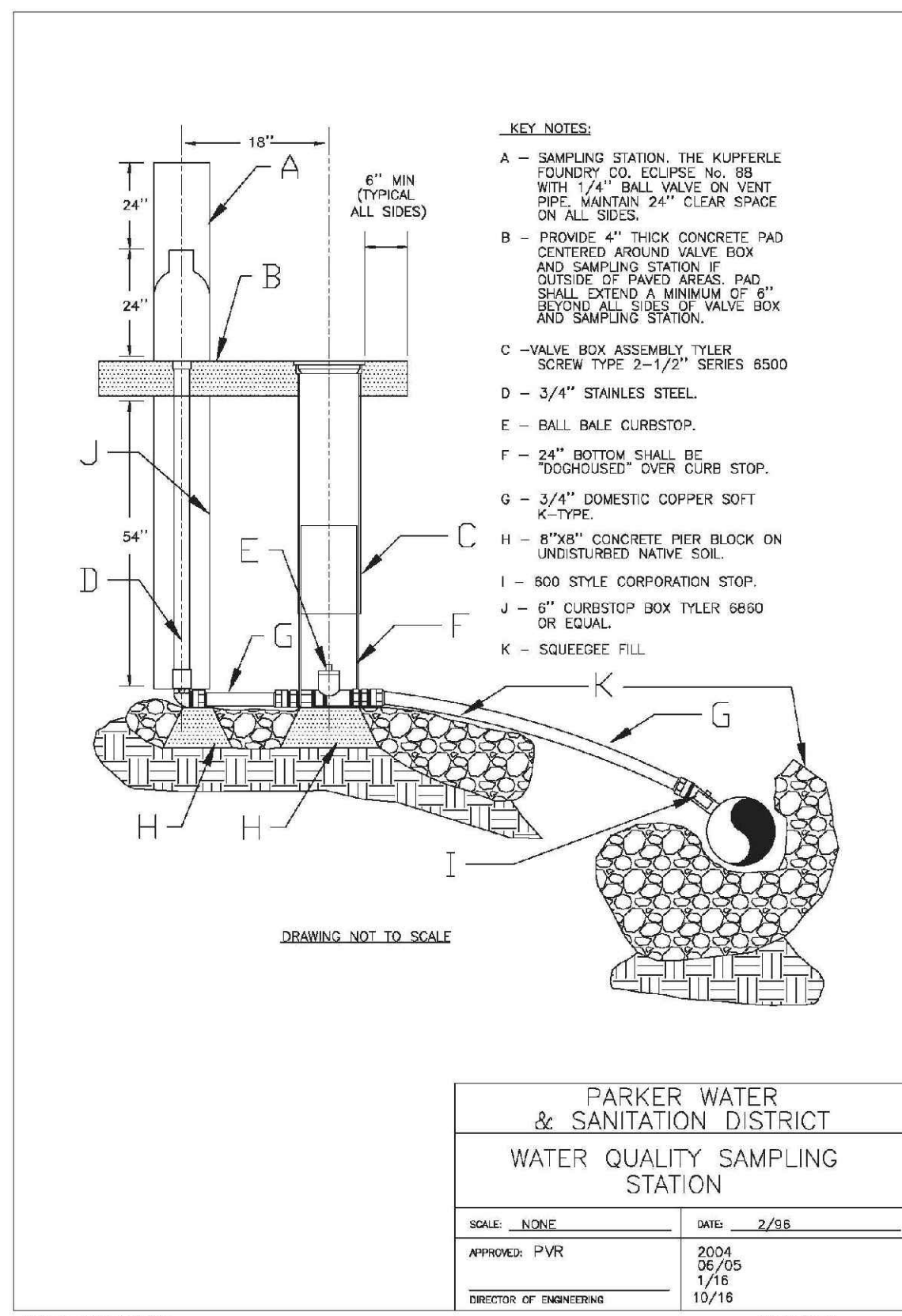
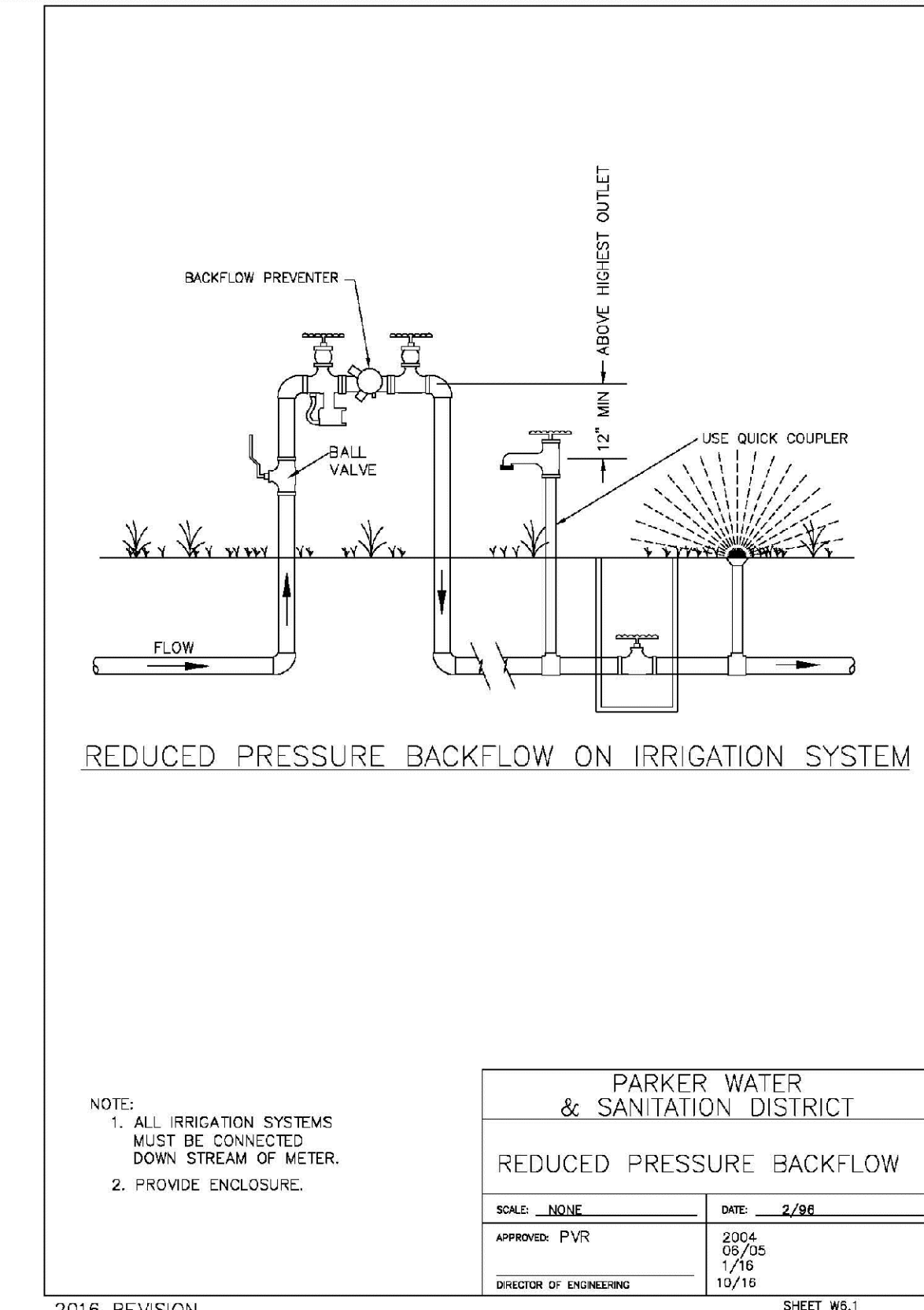
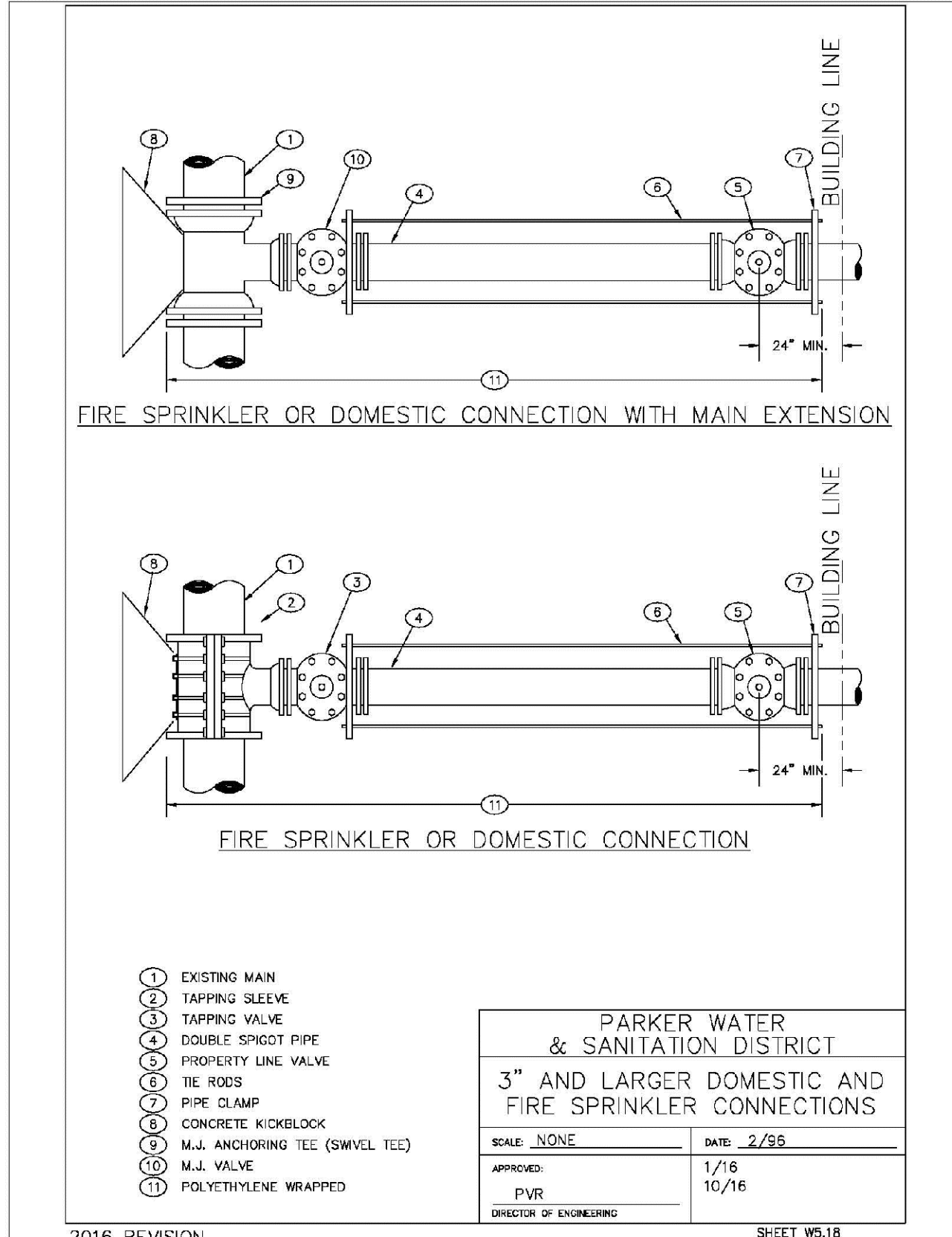
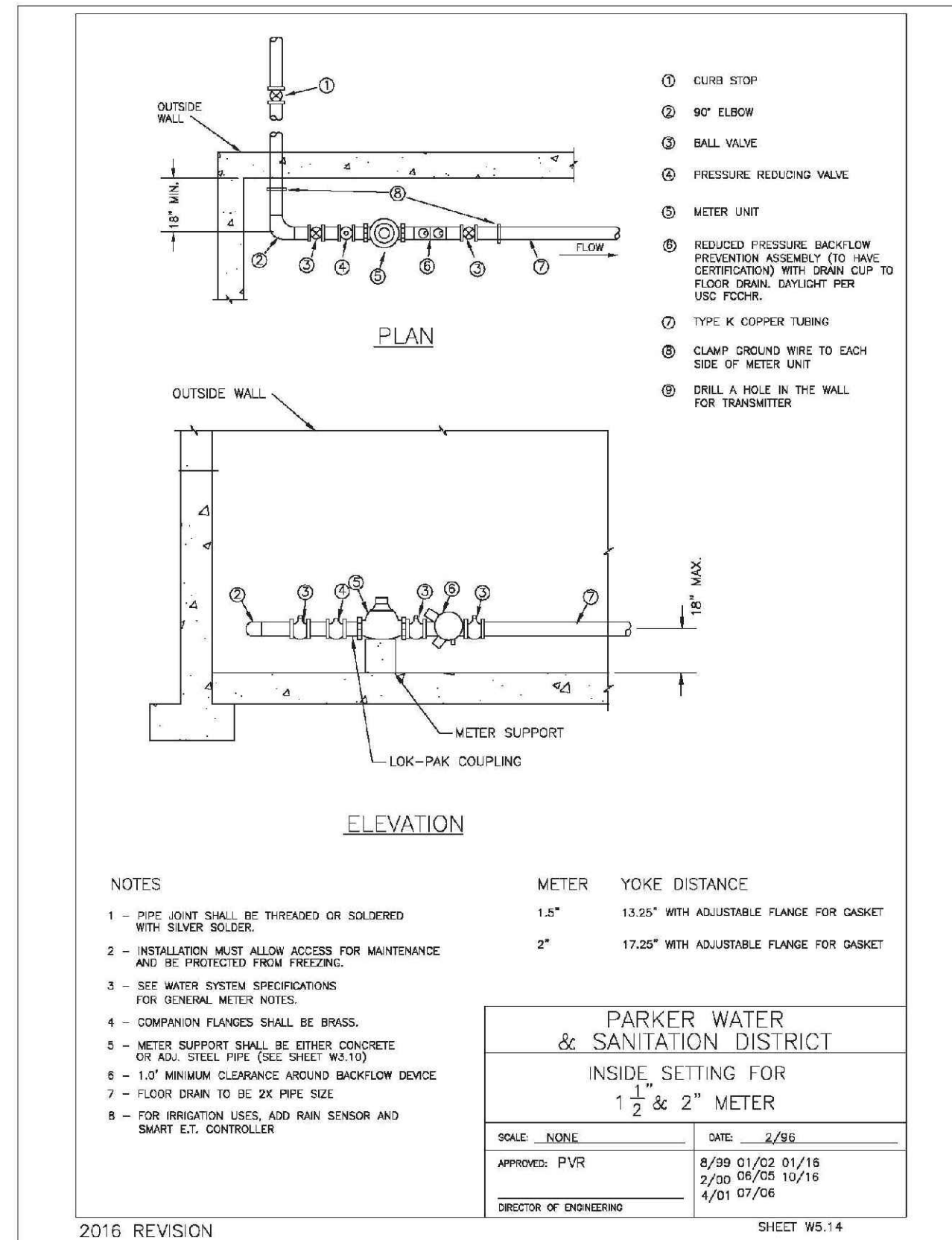
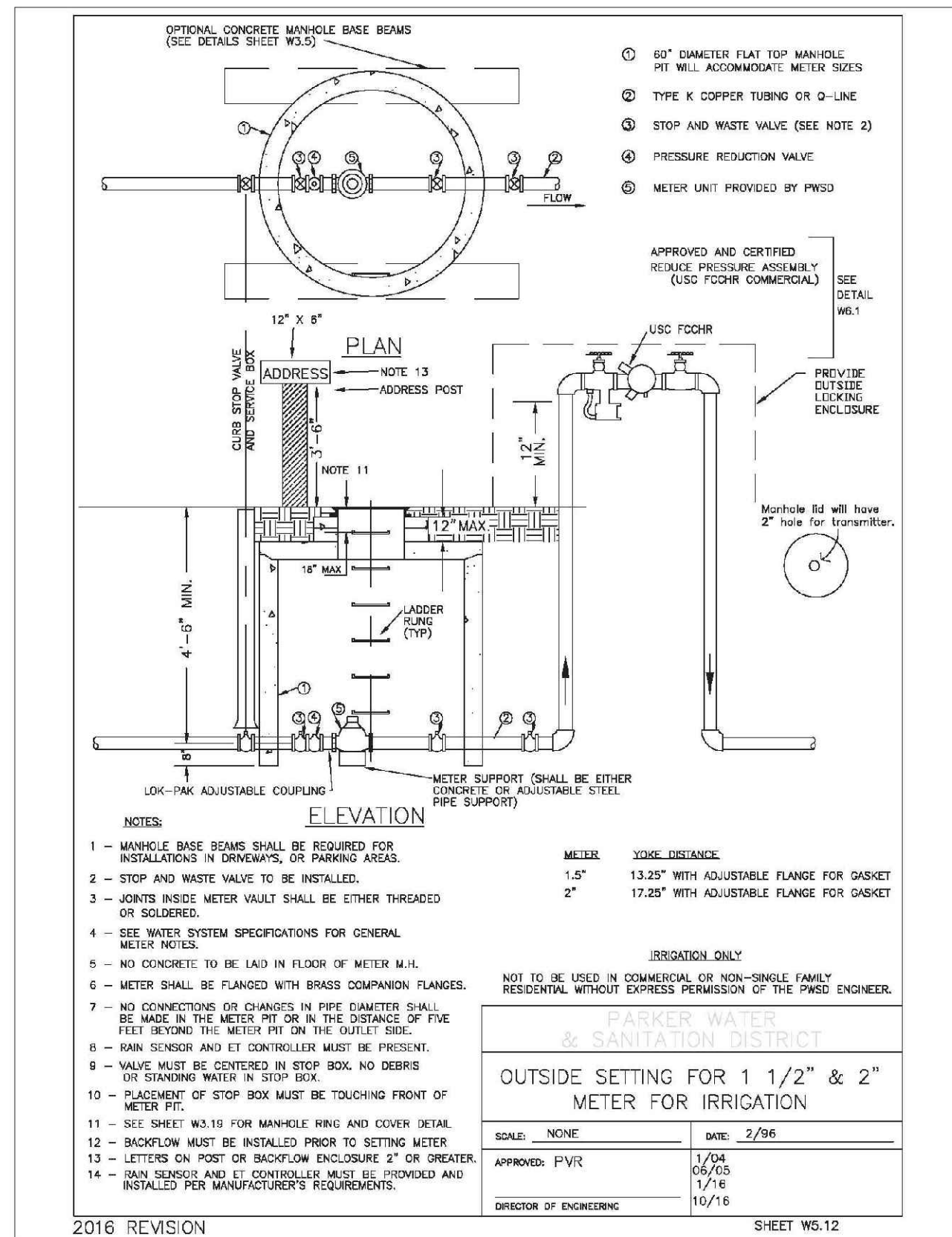
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TRAILS AT CROWFOOT
FILING 13 CONSTRUCTION DRAWINGS
 WATER DETAILS

17



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					TRAILS AT CROWFOOT FILING 13 CONSTRUCTION DRAWINGS WATER DETAILS	HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112
19	DATE: SEPTEMBER 2017	FILE NO: 8130283701	CHECKED BY: JJ	DATE: SEPTEMBER 2017	Revisions	
					Appr.	
					Date	

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