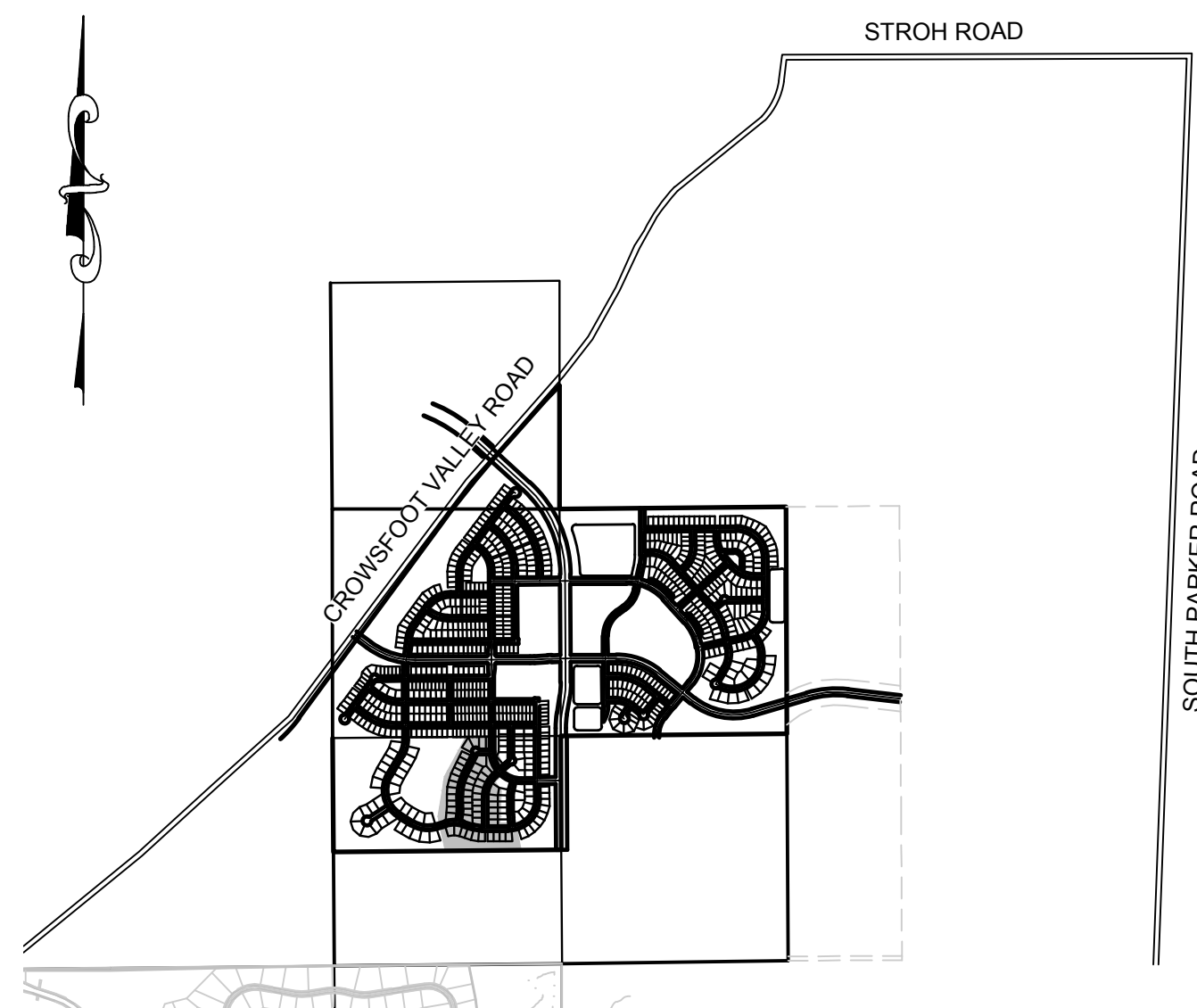


TRAILS AT CROWFOOT FILING 7

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 SHASTA DAISY POINT
5	SANITARY P&P SHASTA DAISY POINT
6	SANITARY P&P HOP CLOVER STREET
7	WATER P&P SHASTA DAISY POINT
8	WATER P&P HOP CLOVER STREET
9	SANITARY SEWER DETAILS
10	SANITARY SEWER DETAILS
11	SANITARY SEWER DETAILS
12	WATER DETAILS
13	WATER DETAILS
14	WATER DETAILS
15	WATER DETAILS
16	WATER DETAILS
17	WATER DETAILS
18	WATER DETAILS



VICINITY MAP
SCALE: 1" = 2000'

MATERIALS LIST		
DESCRIPTION	QUANTITY	UNIT
8" WATERPIPE (C900)	1,602	L.F.
6" WATERPIPE (DIP-FIRE HYDRANT LINE)	76	L.F.
8" GATE VALVE W/ BOX	1	EA.
6" GATE VALVE W/ BOX	3	EA.
8" MISC. VALVES	11	EA.
AIR/VAC VALVE	2	EA.
FIRE HYDRANT WITH 6" LEAD	3	EA.
CONNECTION TO EXISTING MAIN	4	EA.
WATER SERVICE LATERAL W/ WATER METER AND PIT	49	EA.
8" SEWER (SDR-35 PVC)	1,116	L.F.
4' DIA. MANHOLE	8	EA.
SEWER SERVICE LATERAL W/ WYE TAP	49	EA.
CONNECTION TO EXISTING MAIN	5	EA.

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.

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TOWN OF PARKER, DIRECTOR OF ENGINEERING _____ DATE _____

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 NFPA24 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 SCHEDULE 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.

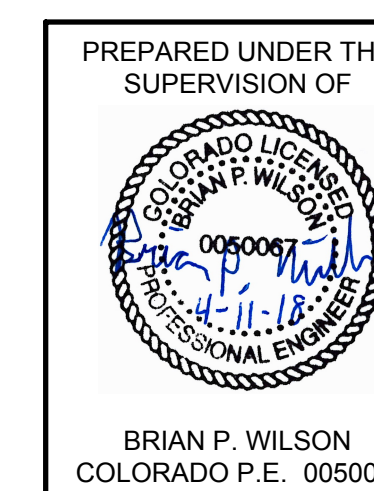
BY: _____
(DISTRICT REPRESENTATIVE)

DATE SIGNED: _____

APPROVED FOR CONSTRUCTION:
PARKER WATER AND SANITATION DISTRICT

BY: _____
(DISTRICT ENGINEER)

DATE SIGNED: _____



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.

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



N:\PROJECTS\HR 935\ENGINEERING\DRG\SET\DRG\DWG\TRAILS AT CROWFOOT\WATER AND SANITATION\TRAILS AT CROWFOOT COVER SHEET.DWG, 3/7/2018 4:37 PM

SHEET NUMBER	DRAWN BY:	KJD	CHECKED BY:	JJ	DATE:	AUGUST 2017	SCALE:	AS SHOWN	FILE NO:	8130283701	Revisions			
											No.	Date	Appr.	
1														

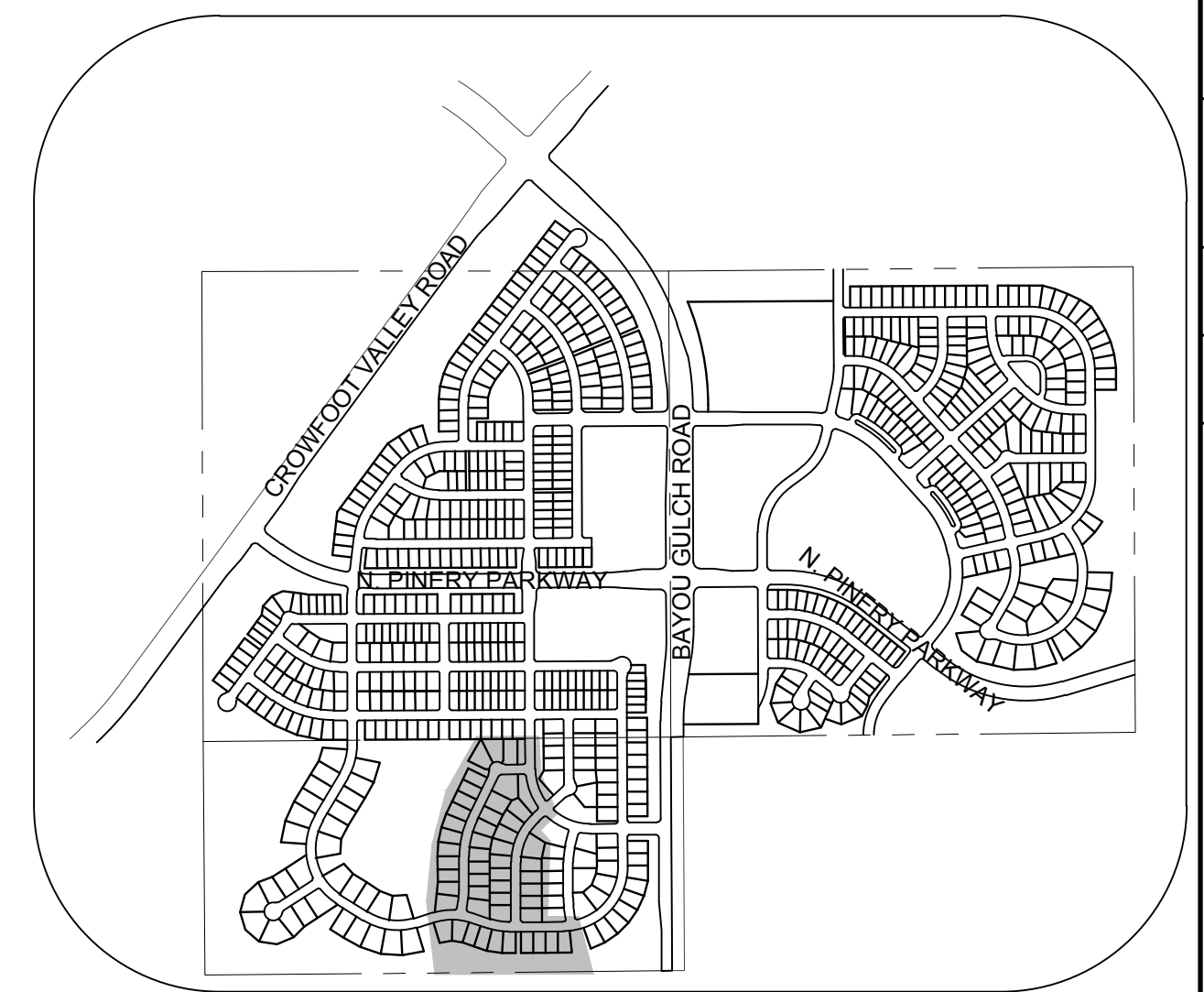
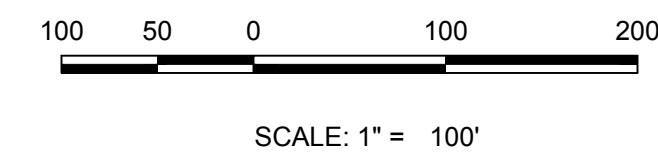
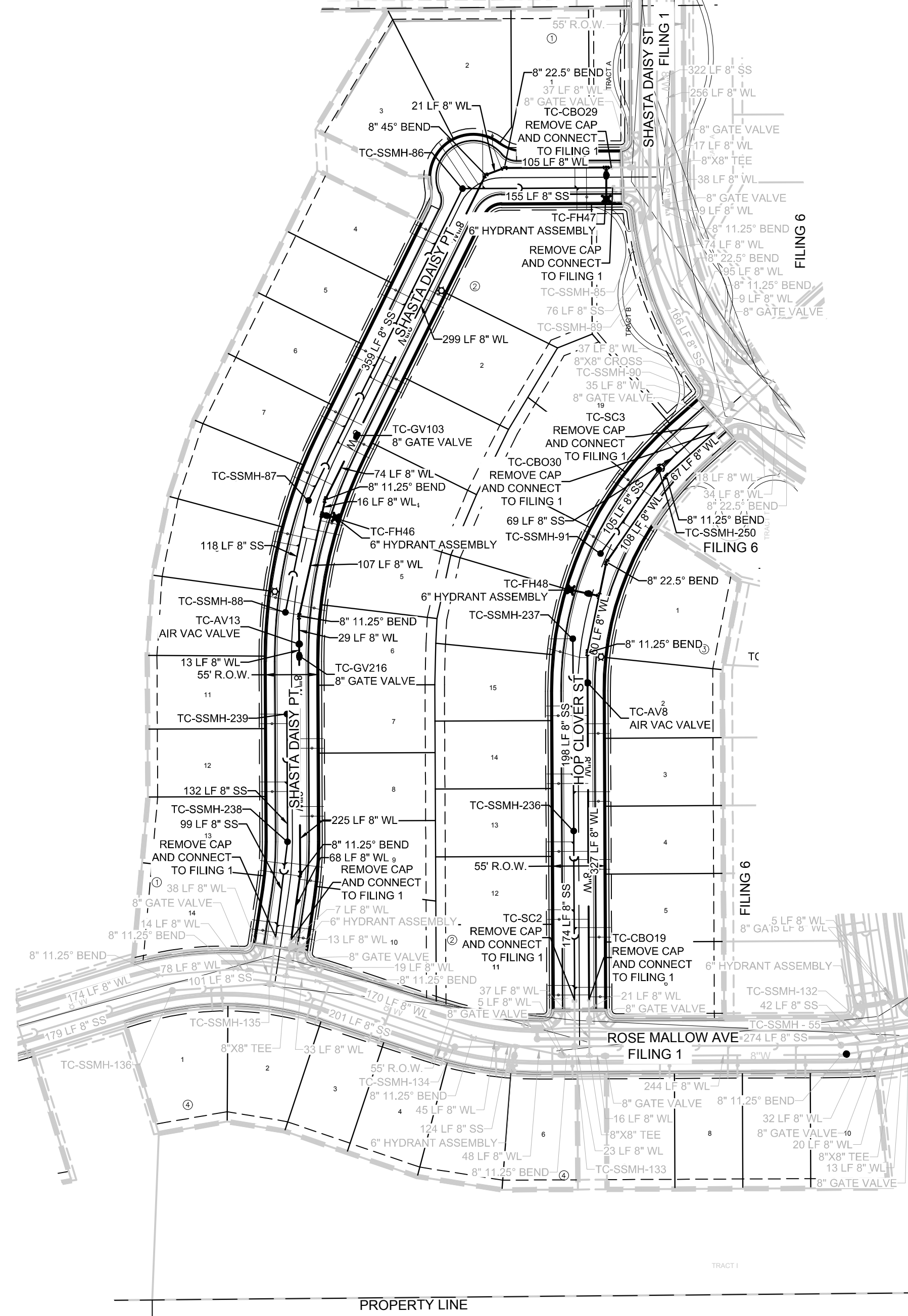
10333 E. Dry Creek Rd.
Suite 240
Englewood, Colorado 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 7 CONSTRUCTION DRAWINGS
COVER SHEET

SANITARY SERVICE TABLE		
FILING, BLOCK, LOT	STREET	STATIONING
F7.B1.L1	SHASTA DAISY PT	19+68.64
F7.B1.L2	SHASTA DAISY PT	18+70.03
F7.B1.L3	SHASTA DAISY PT	18+49.19
F7.B1.L4	SHASTA DAISY PT	17+90.70
F7.B1.L5	SHASTA DAISY PT	17+20.70
F7.B1.L6	SHASTA DAISY PT	16+50.70
F7.B1.L7	SHASTA DAISY PT	15+80.70
F7.B1.L8	SHASTA DAISY PT	15+12.51
F7.B1.L9	SHASTA DAISY PT	14+50.21
F7.B1.L10	SHASTA DAISY PT	13+81.74
F7.B1.L11	SHASTA DAISY PT	12+77.71
F7.B1.L12	SHASTA DAISY PT	12+07.71
F7.B1.L13	SHASTA DAISY PT	11+22.90
F7.B1.L14	SHASTA DAISY PT	10+60.90
F7.B2.L1	SHASTA DAISY PT	19+70.69
F7.B2.L2	SHASTA DAISY PT	17+36.15
F7.B2.L3	SHASTA DAISY PT	16+38.62
F7.B2.L4	SHASTA DAISY PT	15+63.62
F7.B2.L5	SHASTA DAISY PT	14+69.94
F7.B2.L6	SHASTA DAISY PT	13+81.74
F7.B2.L7	SHASTA DAISY PT	12+52.20
F7.B2.L8	SHASTA DAISY PT	11+82.20
F7.B2.L9	SHASTA DAISY PT	11+24.16
F7.B2.L10	SHASTA DAISY PT	10+58.41
F7.B2.L11	HOP CLOVER ST	10+63.00
F7.B2.L12	HOP CLOVER ST	11+40.98
F7.B2.L13	HOP CLOVER ST	12+10.98
F7.B2.L14	HOP CLOVER ST	12+80.98
F7.B2.L15	HOP CLOVER ST	13+50.98
F7.B2.L16	HOP CLOVER ST	14+19.09
F7.B2.L17	HOP CLOVER ST	15+09.65
F7.B2.L18	HOP CLOVER ST	15+76.97
F7.B2.L19	HOP CLOVER ST	16+38.73
F7.B3.L1	HOP CLOVER ST	15+48.44
F7.B3.L2	HOP CLOVER ST	13+32.50
F7.B3.L3	HOP CLOVER ST	12+62.50
F7.B3.L4	HOP CLOVER ST	11+92.50
F7.B3.L5	HOP CLOVER ST	11+22.50
F7.B3.L6	HOP CLOVER ST	10+61.00
F7.B4.L1	ROSE MALLOW AVE	36+03.97
F7.B4.L2	ROSE MALLOW AVE	37+13.31
F7.B4.L3	ROSE MALLOW AVE	37+81.82
F7.B4.L4	ROSE MALLOW AVE	38+50.26
F7.B4.L5	ROSE MALLOW AVE	39+07.86
F7.B4.L6	ROSE MALLOW AVE	39+65.65
F7.B4.L7	ROSE MALLOW AVE	40+76.73
F7.B4.L8	ROSE MALLOW AVE	41+46.73
F7.B4.L9	ROSE MALLOW AVE	42+16.73
F7.B4.L10	ROSE MALLOW AVE	42+79.53

WATER SERVICE TABLE		
FILING, BLOCK, LOT	STREET	STATIONING
F7.B1.L1	SHASTA DAISY PT	19+68.64
F7.B1.L2	SHASTA DAISY PT	18+70.03
F7.B1.L3	SHASTA DAISY PT	18+49.19
F7.B1.L4	SHASTA DAISY PT	17+90.70
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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	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 WATER LINE WITH MANHOLE
⊞	PROPOSED LIGHT POLE	---	PROPOSED SEWER LATERAL
⊞	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
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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
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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 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.

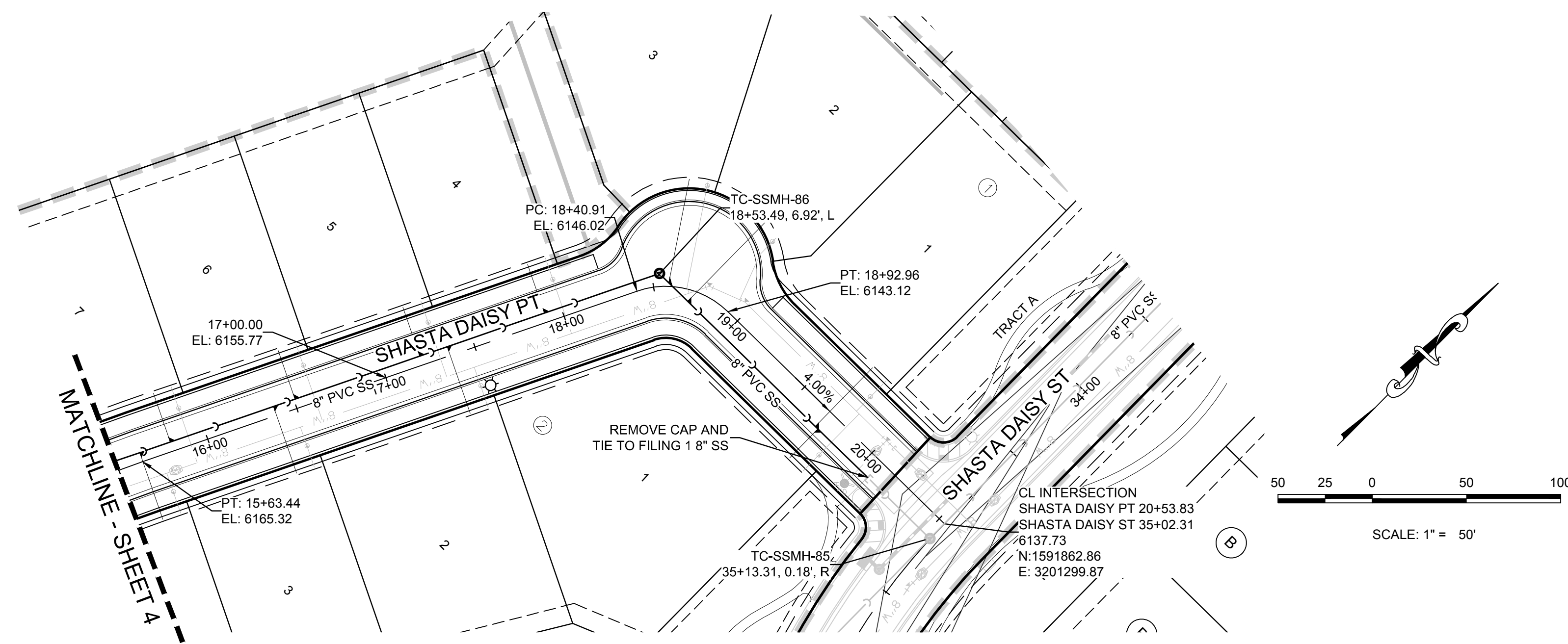
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(FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE) _____ DATE _____

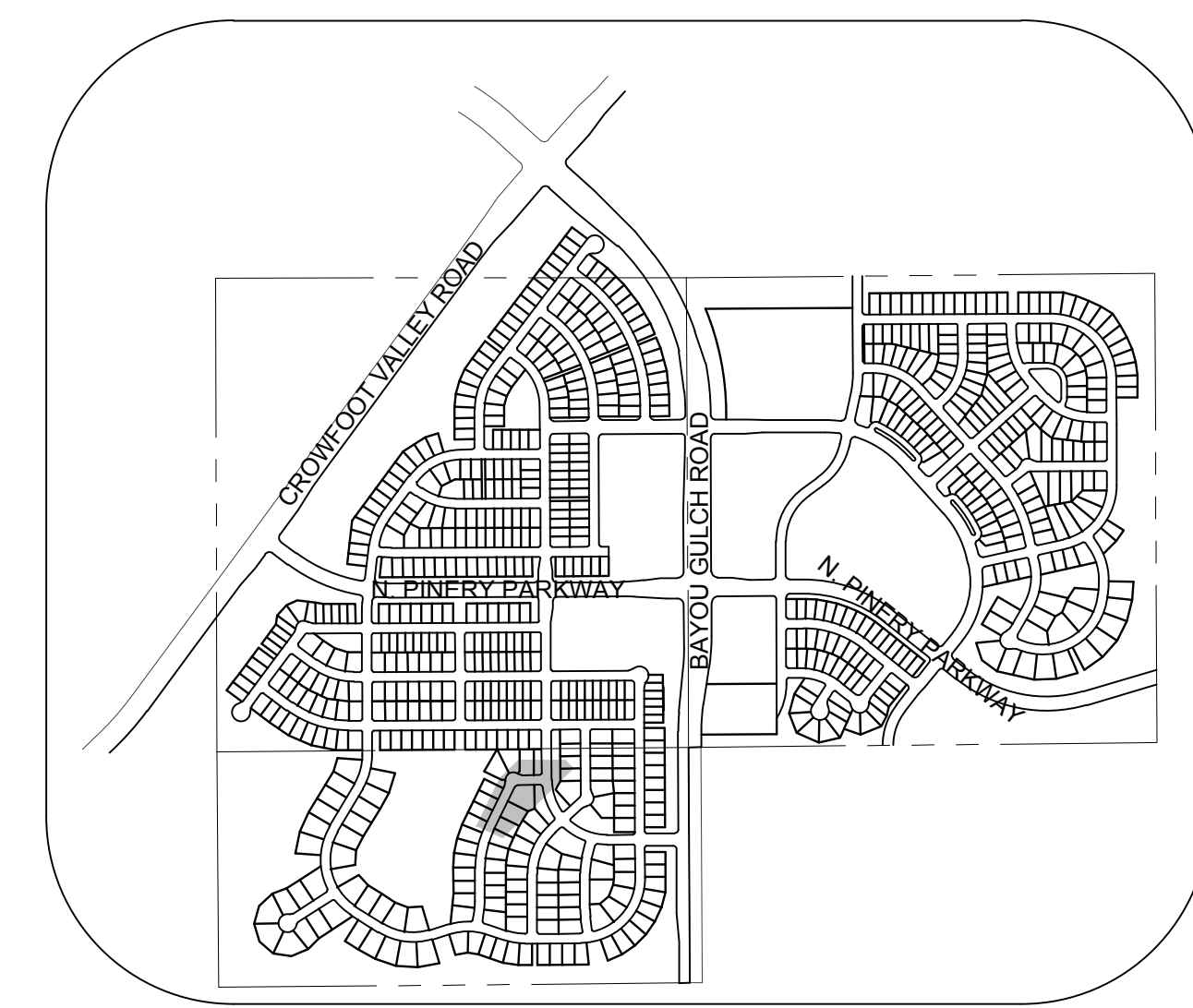
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CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
UNCC 1-800-922-1987

SCALE:	JLR	AS SHOWN	FILE NO:	8130283701
DRAWN BY:	JLR	CHECKED BY:	JLU	DATE:
SHEET NUMBER	3			DATE:
TRAILS AT CROWFOOT FILING 7 CONSTRUCTION DRAWINGS AREA UTILITY PLAN				DATE:
10338 E. Dry Creek Rd. Suite 410 Englewood, Colorado 80150 Tel: (720) 482-9526 Fax: (720) 482-9546				DATE:
CVL CONSULTANTS				DATE:
HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112				DATE:
NO. _____				DATE:
REVISIONS				DATE:
INITIALS				DATE:
APPROVED				DATE:
DATE				DATE:



PLAN: SHASTA DAISY PT STA: 15+50.00 TO 22+00.00
HORIZONTAL SCALE: 1" = 50'

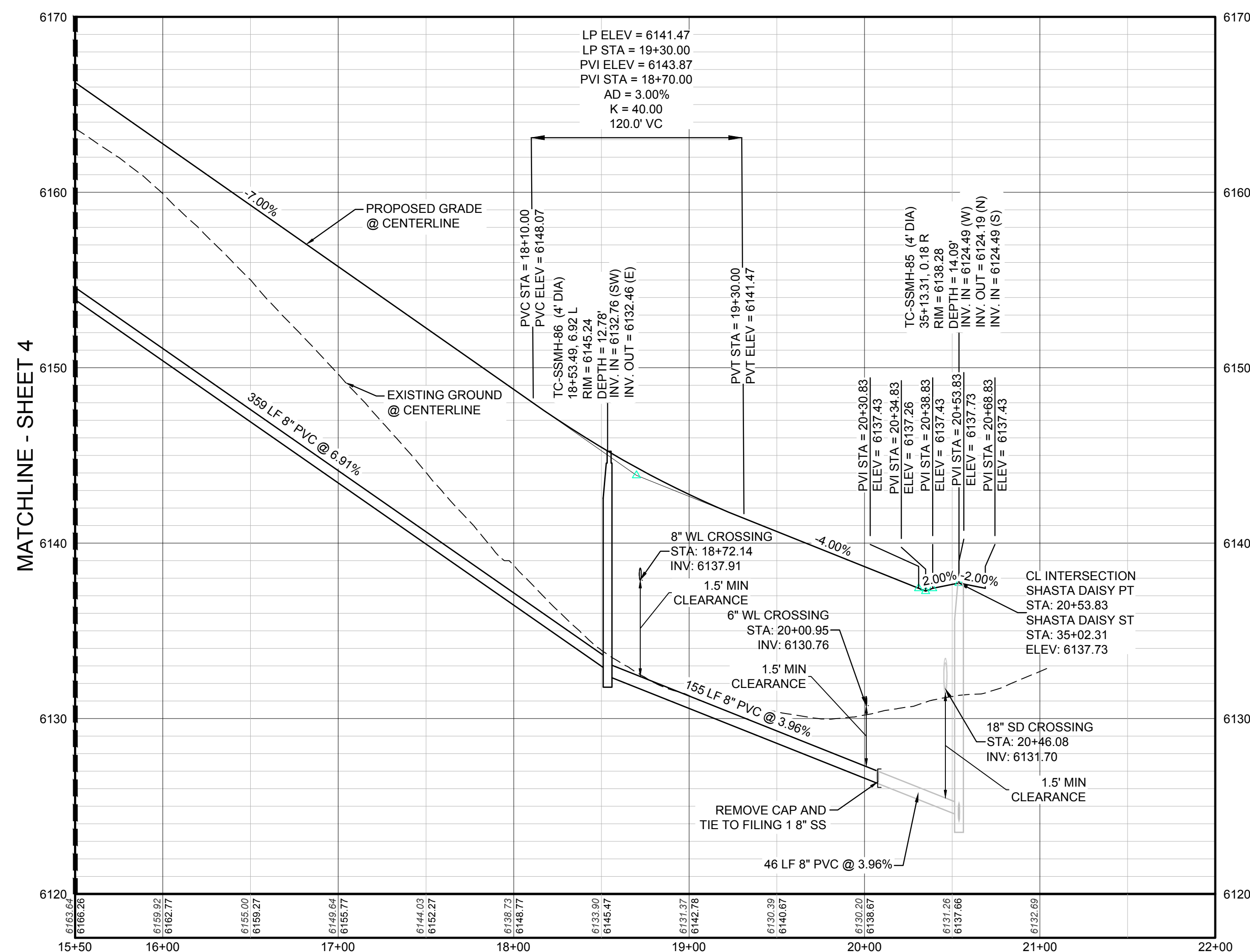


KEYMAP
N.T.S.
LEGEND

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
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⊕	PROPOSED LIGHT POLE	---	PROPOSED WATER LINE
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⊕	PROPOSED SIDEWALK RAMP	---	SECTION LINE
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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



PROFILE: SHASTA DAISY PT STA: 15+50.00 TO 22+00.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

SCALE:	AS SHOWN	FILE NO.:	8130283701
DRAWN BY:	KJD	CHECKED BY:	JU
SHEET NUMBER	5	DATE:	AUGUST 2017
TRAILS AT CROWFOOT FILING 7 CONSTRUCTION DRAWINGS SANITARY SEWER PLAN AND PROFILE SHASTA DAISY POINT			
HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112			
10339 E. Dry Creek Rd. Suite 6410 Englewood, Colorado 80110 Tel: (720) 482-9526 Fax: (720) 482-9546			
No.	Revisions	Date	Appr.

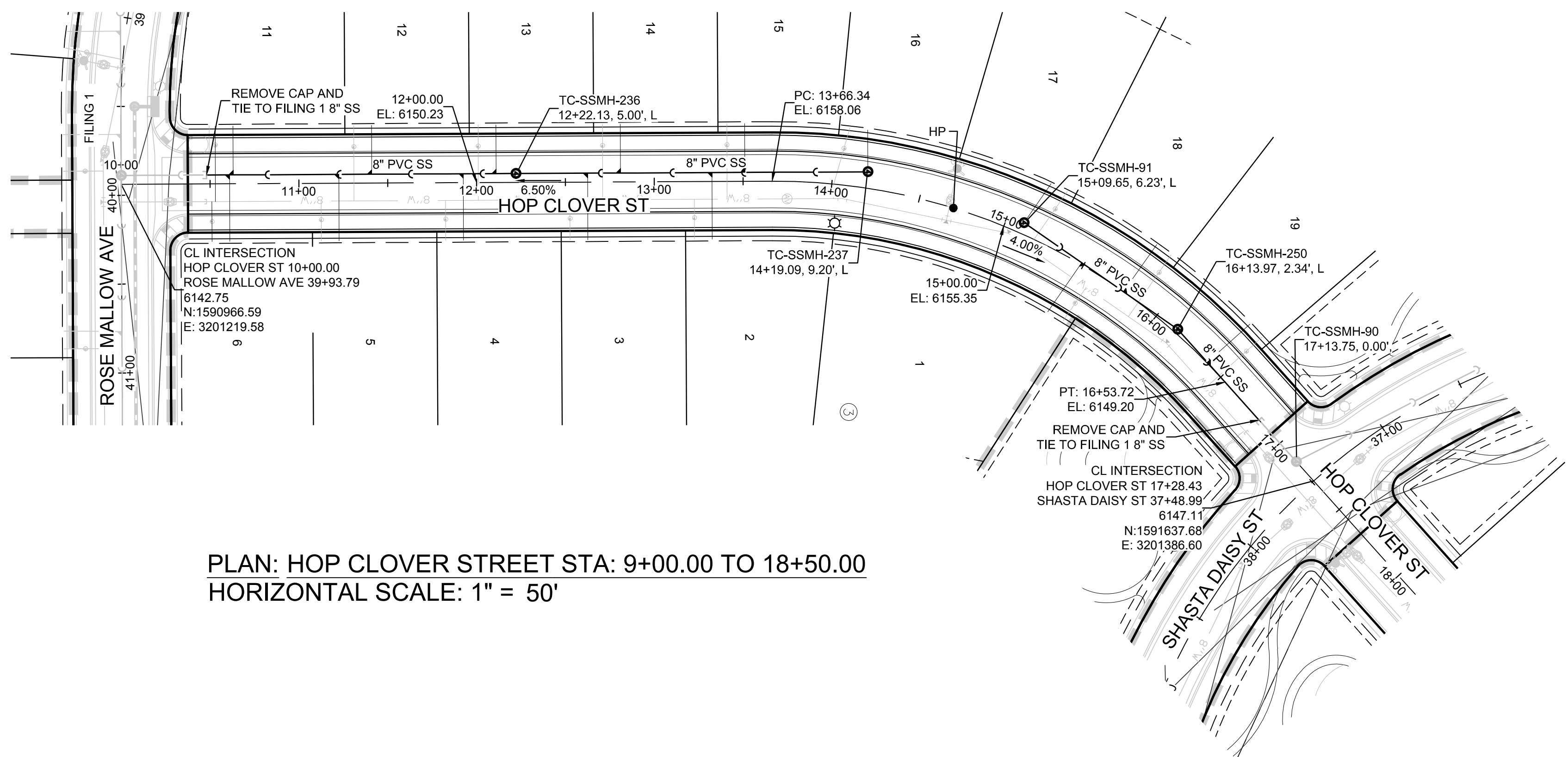
CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
UNCC 1-800-922-1987

BENCHMARK
THE 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.

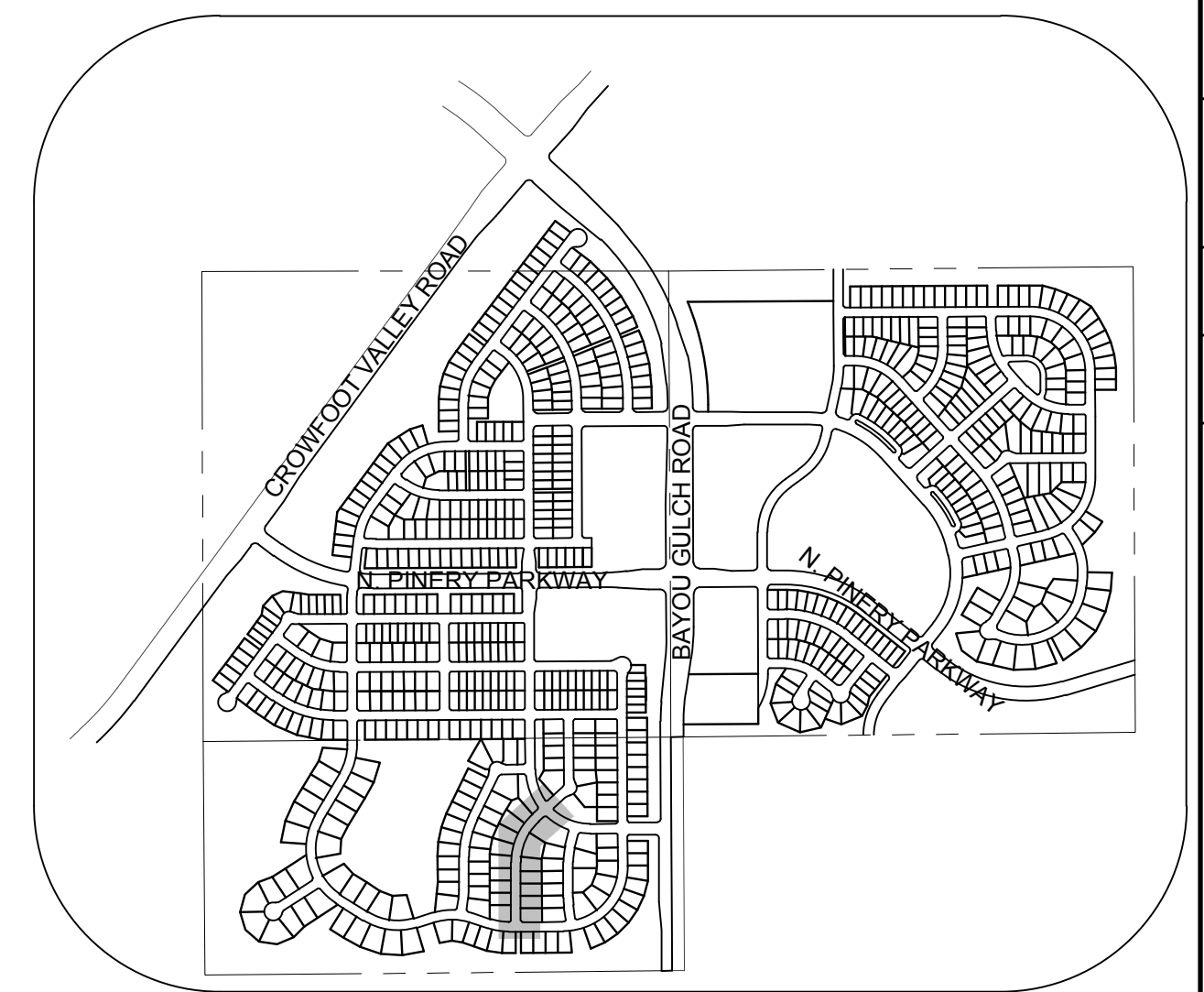
BASIS OF BEARINGS:
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PREPARED UNDER THE SUPERVISION OF

 BRIAN P. WILSON
 COLORADO P.E. 0050067



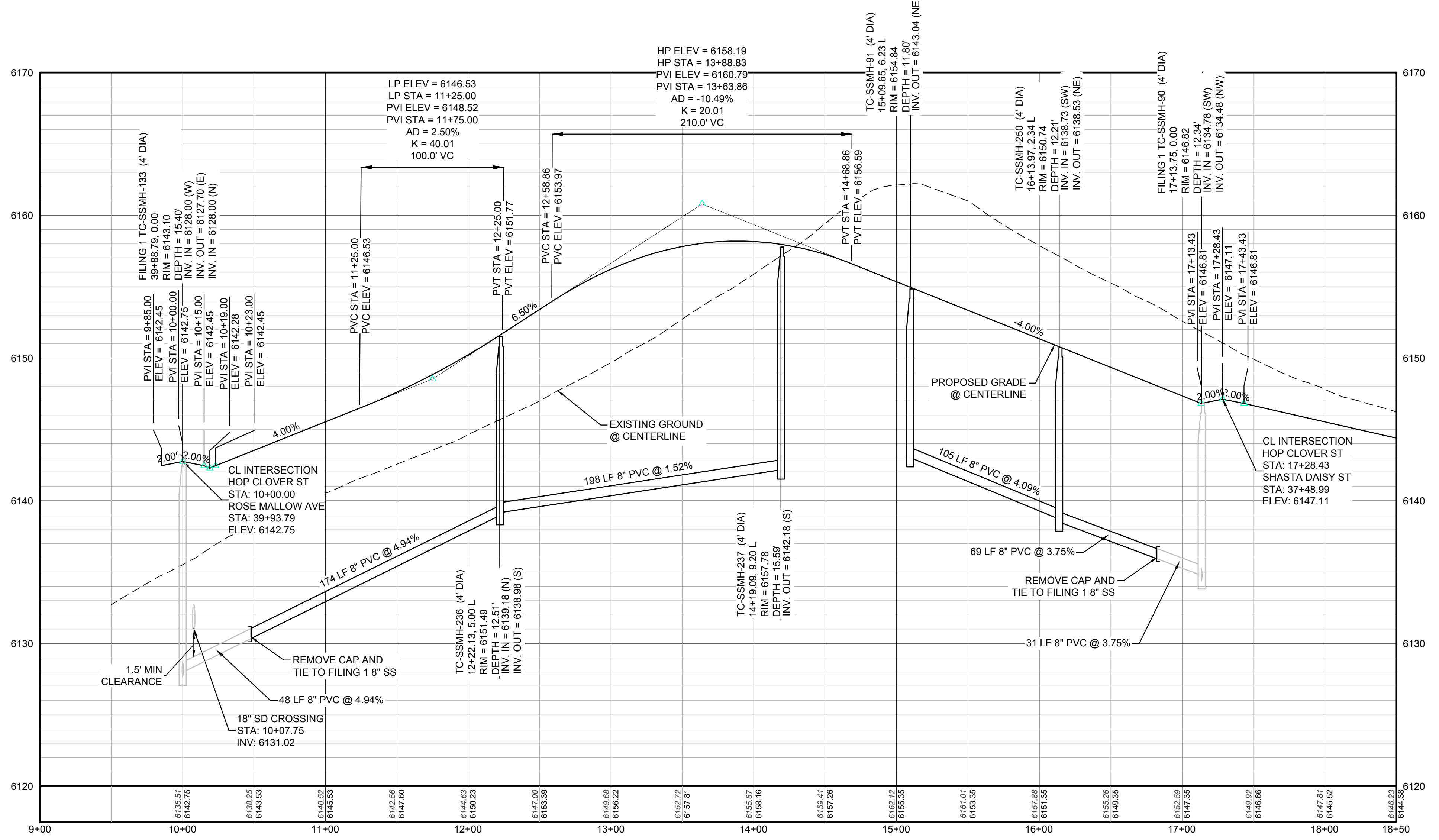
PLAN: HOP CLOVER STREET STA: 9+00.00 TO 18+50.00
HORIZONTAL SCALE: 1" = 50'



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	---	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
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INV	INVERT	WL	WATER LINE
K	CURVATURE COEFFICIENT	WLC	WATER LINE CONNECTION
LF	LINEAR FEET	WSE	WATER SURFACE ELEVATION



PROFILE: HOP CLOVER ST STA: 9+00.00 TO 18+50.00
HORIZONTAL: 1" = 50'
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N:\PROJECTS\SS\BENCH\ENGINEERING\SS\BENCH\SANITARY PLAN AND PROFILE\7 DAMES ROCKET STREET SANITARY.DWG, ANDREW, 3/26/2018 4:28 PM

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SHEET NUMBER	DRAWN BY: KJD	SCALE: AS SHOWN	CHECKED BY: JJ	DATE: AUGUST 2017	FILE NO: 8130283701	NO.	REVISIONS	DATE	INIT.	APPR.	DATE

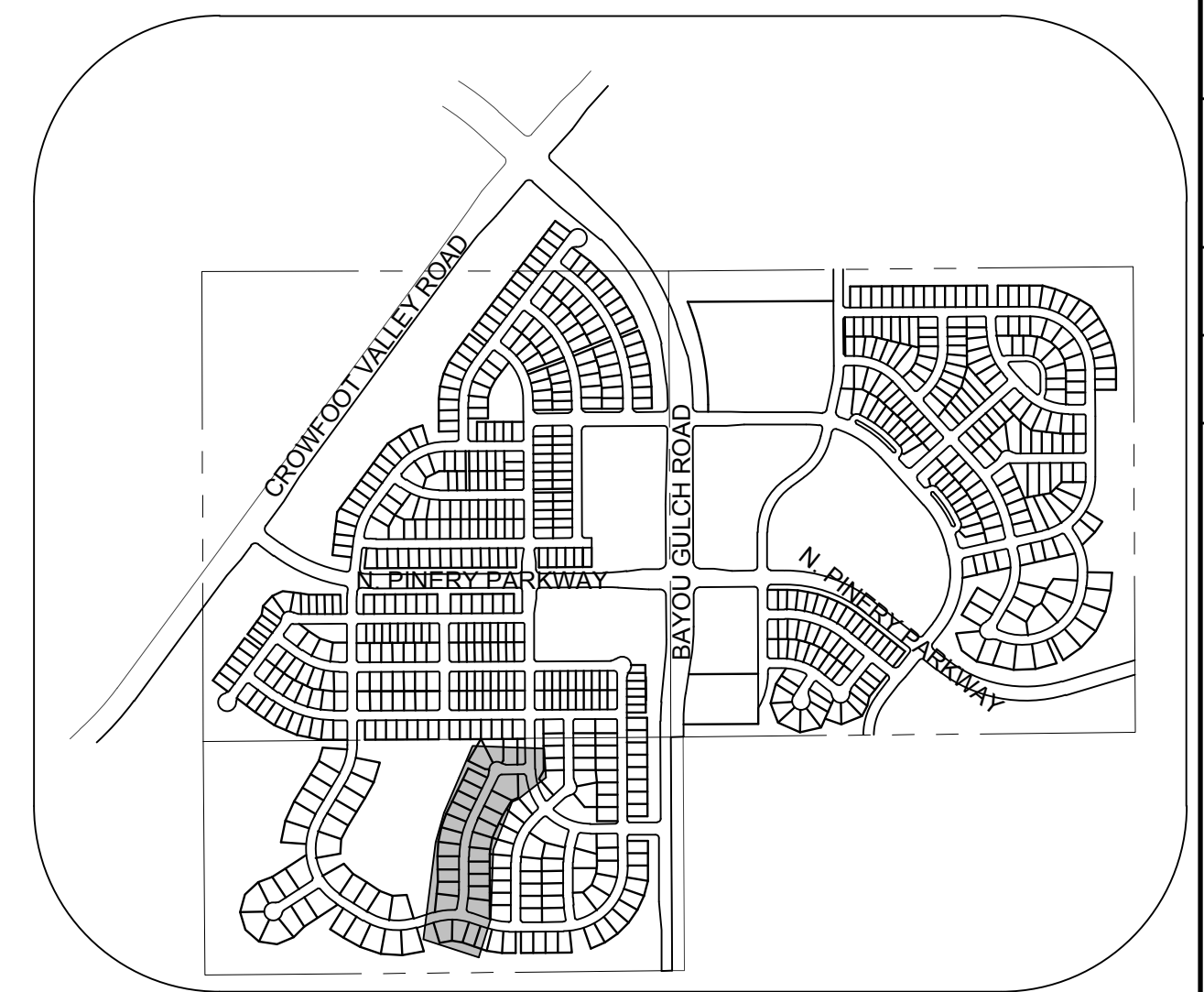
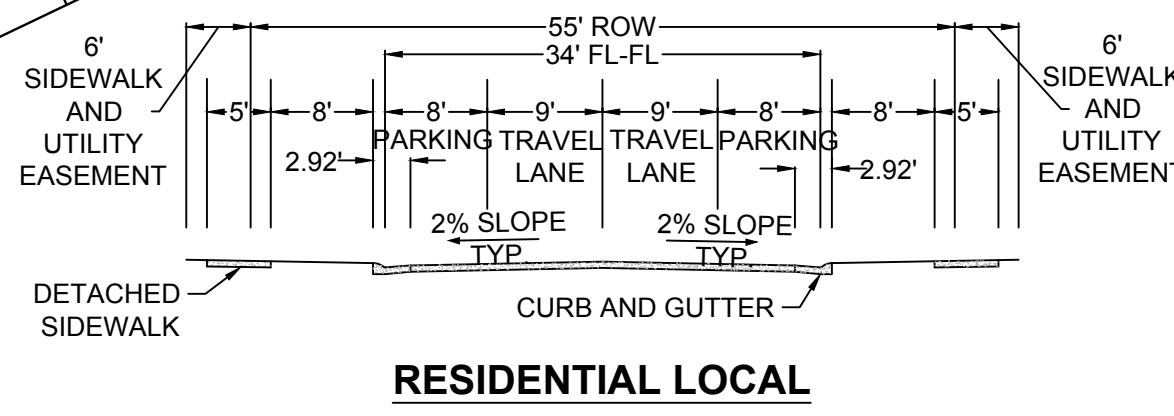
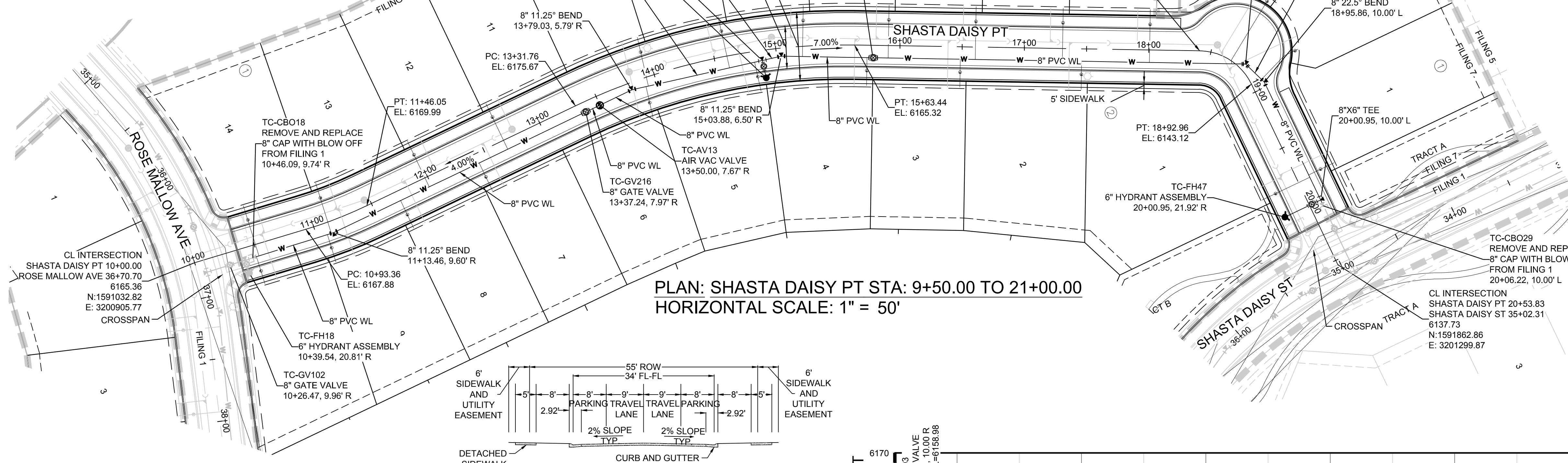
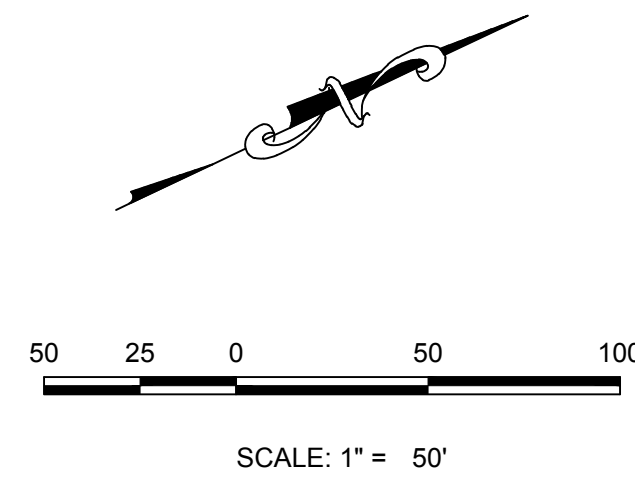
10333 E. Dry Creek Rd.
Suite 6410
Englewood, CO 80150
Tel: (720) 482-9526
Fax: (720) 482-9548

CVL CONSULTANTS

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 7 CONSTRUCTION DRAWINGS
SANITARY SEWER PLAN AND PROFILE
HOP CLOVER STREET

6



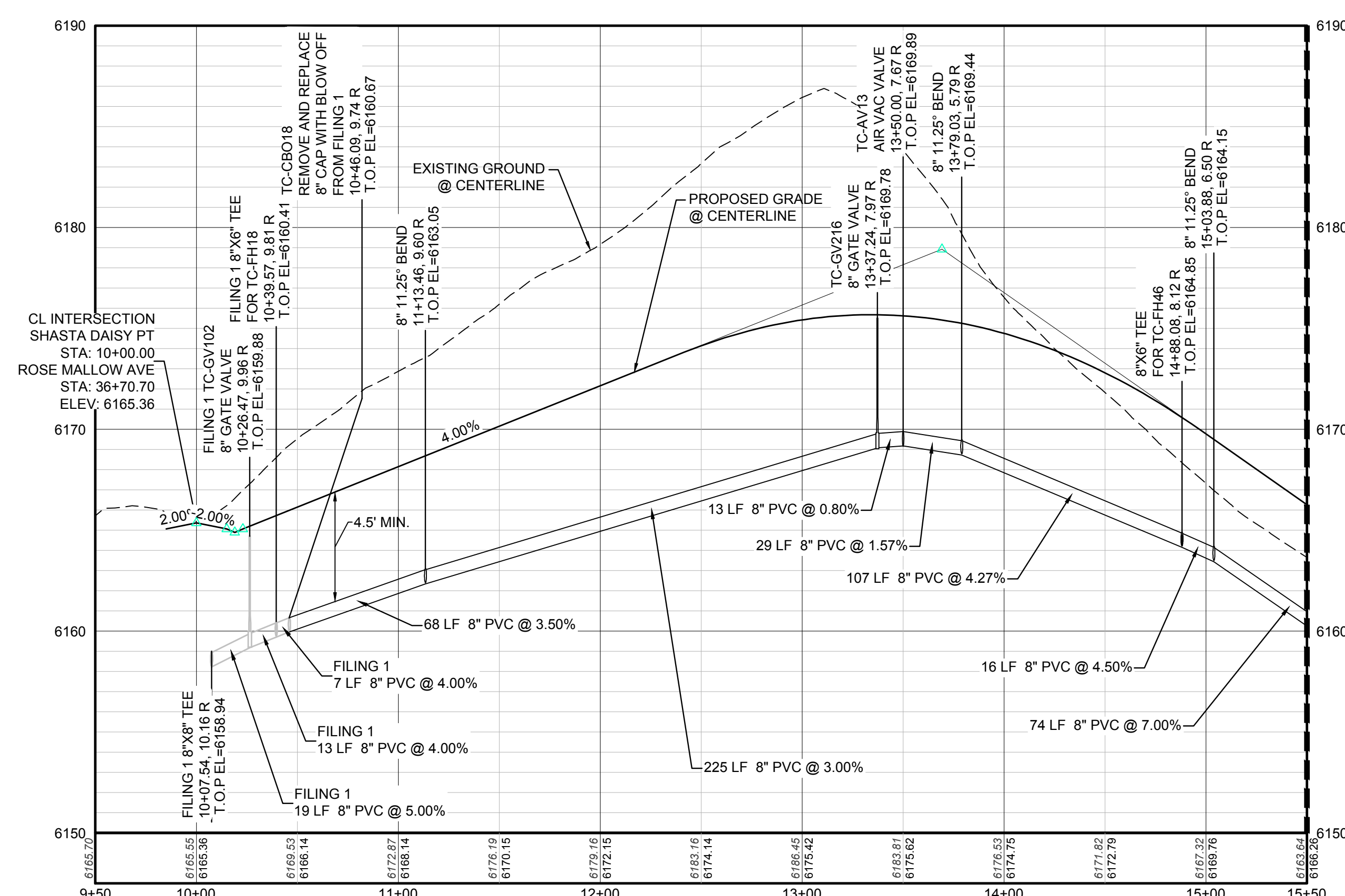
KEYMAP
N.T.S.

LEGEND

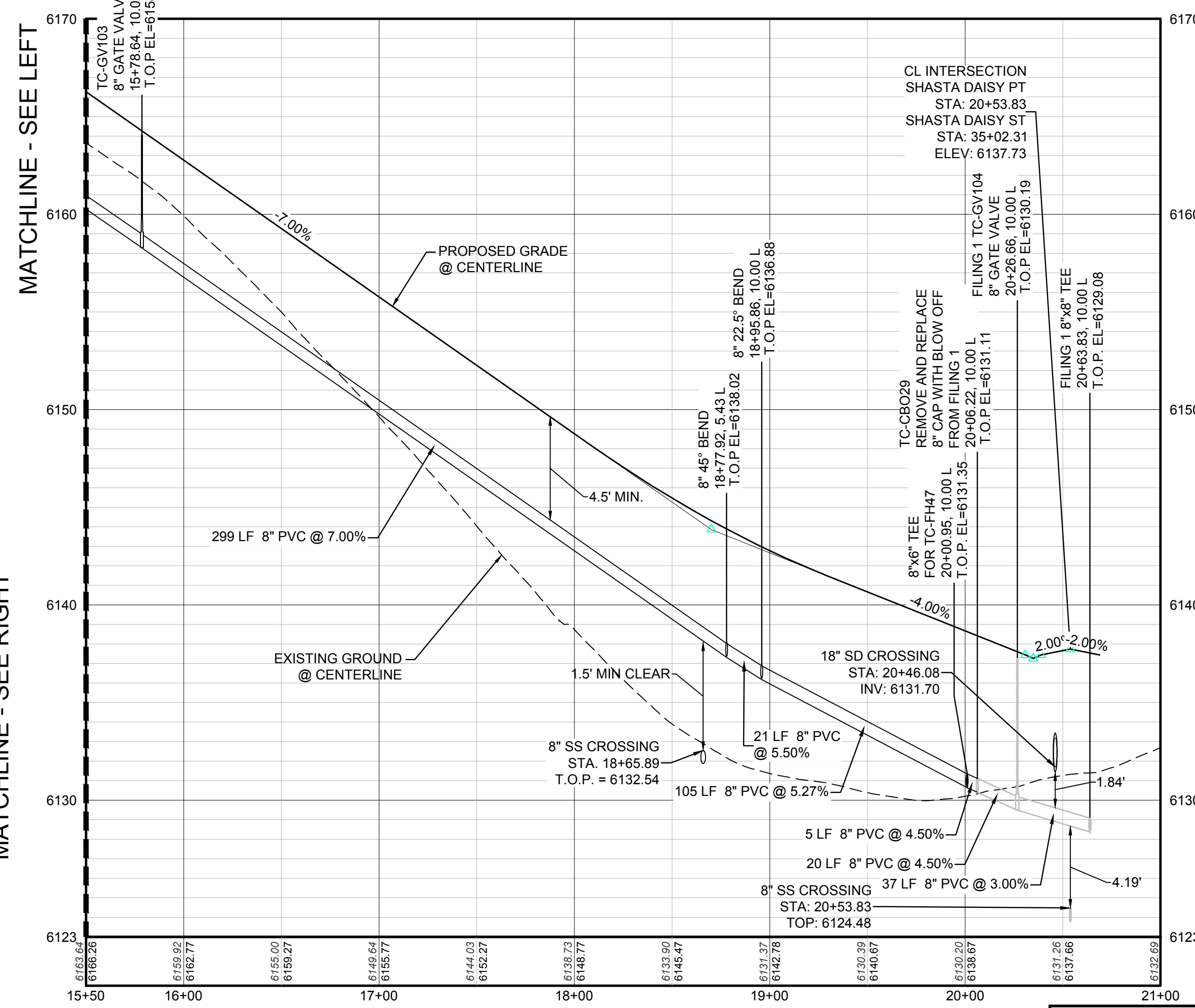
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⊗	PROPOSED WL FITTING WITH THRUST BLOCK	5616	EXISTING 1' CONTOUR
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⊗	PROPOSED LOW POINT BLOW-OFF	5607	PROPOSED 1' CONTOUR
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PROFILE: SHASTA DAISY PT STA: 9+50.00 TO 15+50.00
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PROFILE: SHASTA DAISY PT STA: 15+50.00 TO 21+00.00
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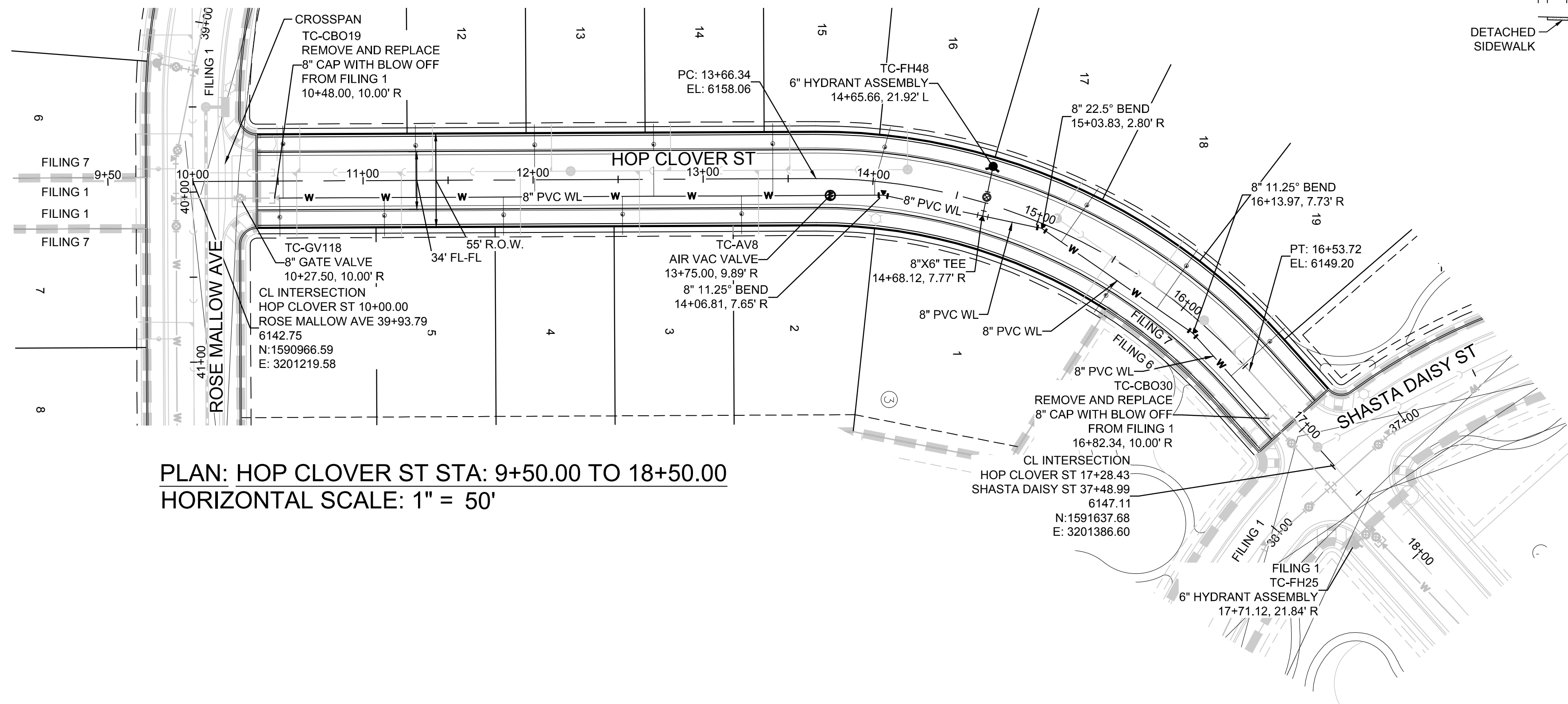
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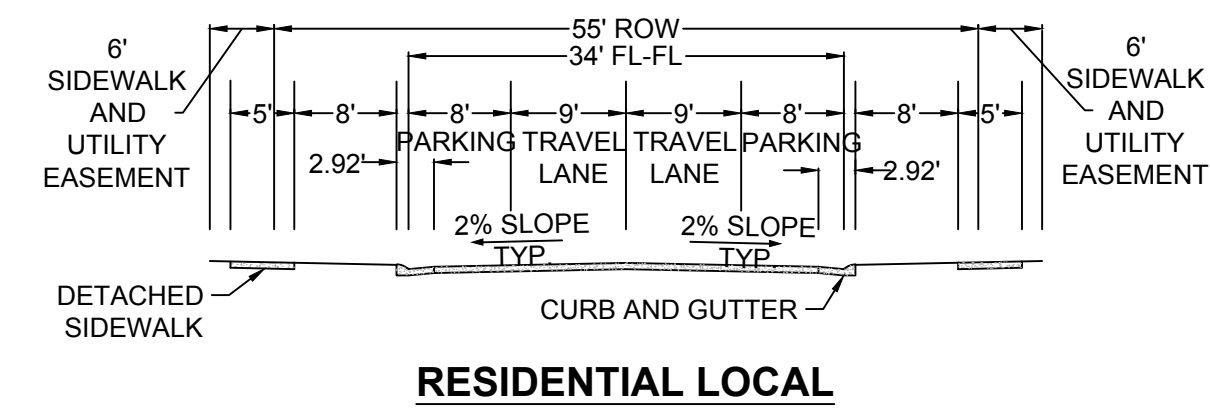
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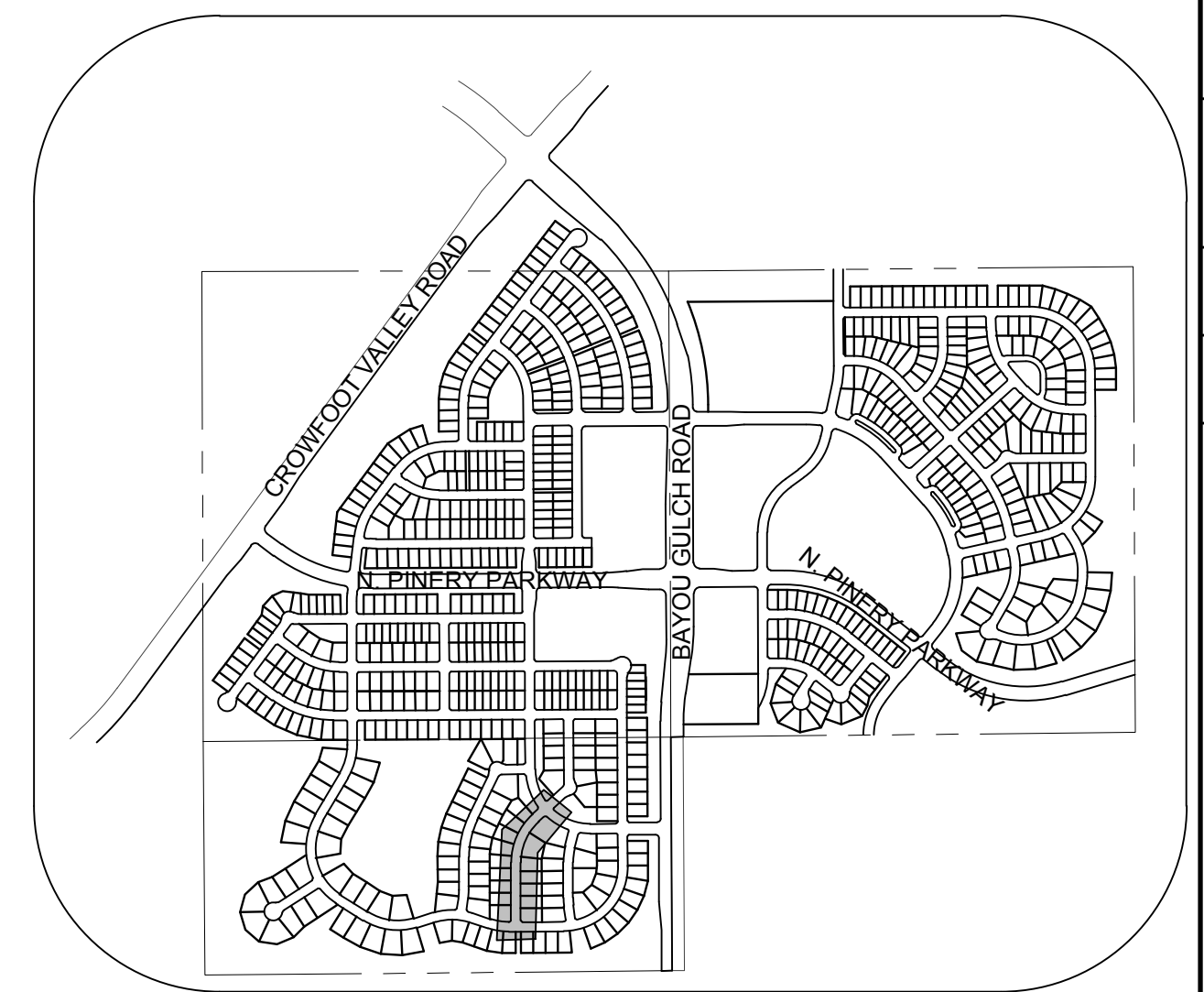
SHEET NUMBER	7	DATE	AUGUST 2017	FILE NO.	8130283701	DRAWN BY:	RHR	CHECKED BY:	JU	SCALE:	AS SHOWN	TRAILS AT CROWFOOT FILING 7 CONSTRUCTION DRAWINGS WATER PLAN & PROFILE SHASTA DAISY POINT	HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112	 10333 E. Dry Creek Rd. Suite 6410 Englewood, CO 80110 Tel: (720) 482-9526 Fax: (720) 482-9548	Revisions No. Date Init. Appr. Date
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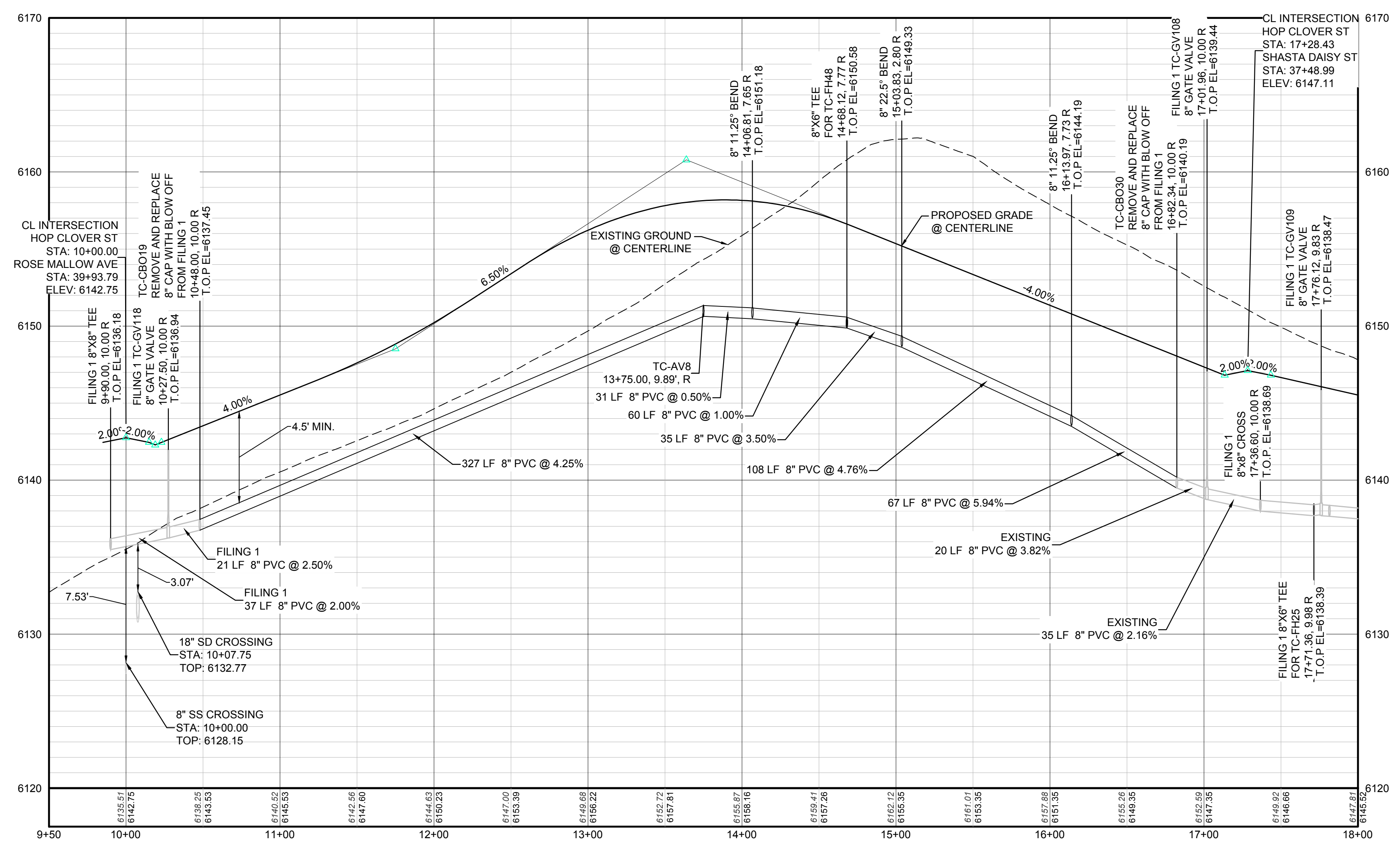
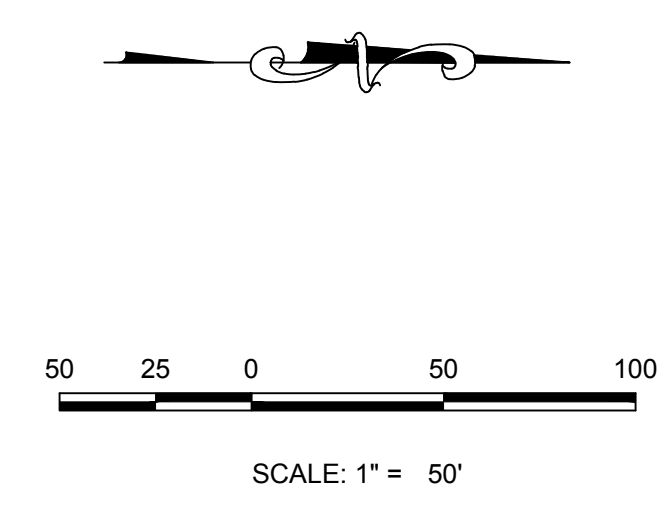
PLAN: HOP CLOVER ST STA: 9+50.00 TO 18+50.00
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RESIDENTIAL LOCAL



KEYMAP
N.T.S.



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DRAWN BY: RHR	SCALE:	AS SHOWN	DATE: AUGUST 2017
	CHECKED BY: JU	FILE NO: 8130283701	
SHEET NUMBER 8	TRAILS AT CROWFOOT FILM 7 CONSTRUCTION DRAWINGS WATER PLAN & PROFILE HOP CLOVER STREET		NO. REVISIONS
	HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112		
			DATE
			APPR.
			DATE
			DATE

10339 E. Dry Creek Rd.
Suite 6410
Englewood, CO 80150
Tel: (720) 482-9526
Fax: (720) 482-9546

CVL
CONSULTANTS

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:

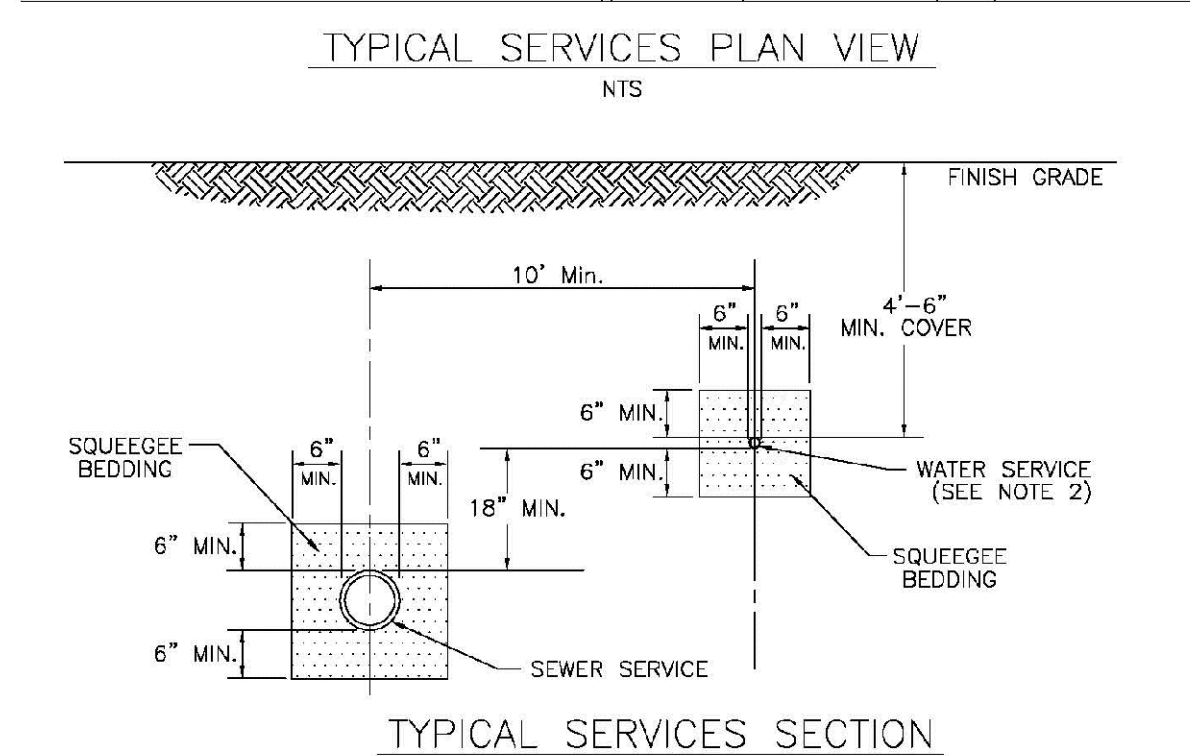
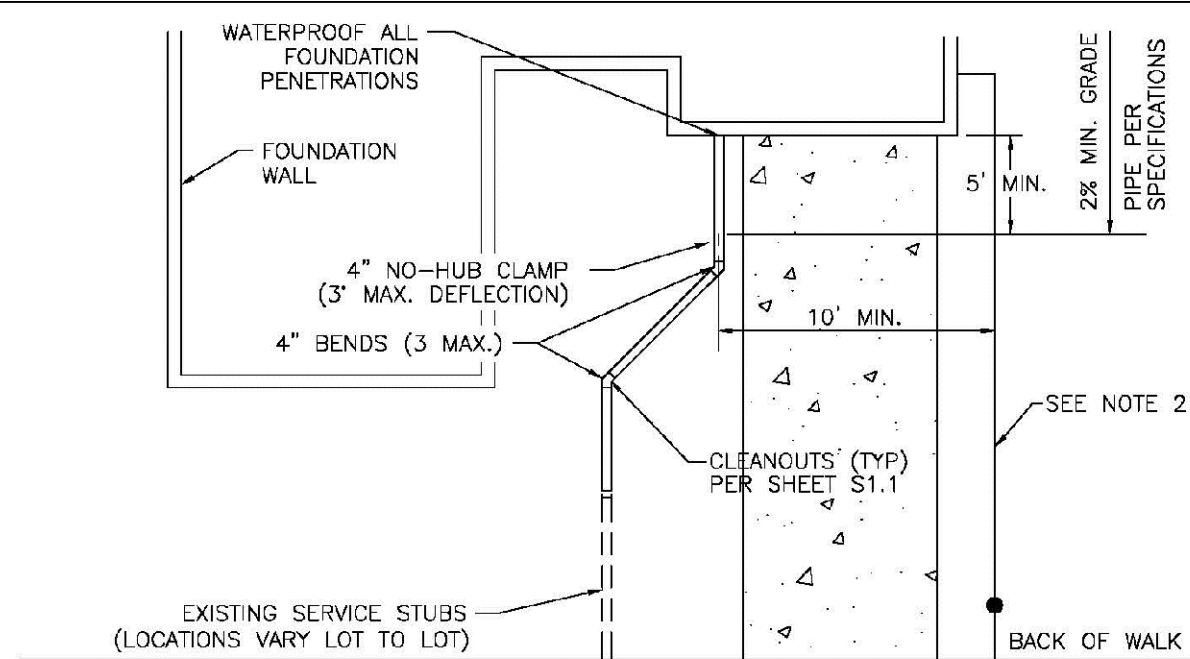
SEWER

1. ACCEPTABLE PIPE MATERIALS ARE TO BE SDR 35 PVC PIPE, ABS PIPE AND PVC SCHD 40 PIPE. APPROVED BEDDING IS TO BE SQUEEGE.
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
"Y" FOR WATER SERVICES

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

SCALE: NONE	DATE: 2/98
APPROVED: PVR	01/02 12/16
	1/08 01/02
	1/16 10/16
DIRECTOR OF ENGINEERING	

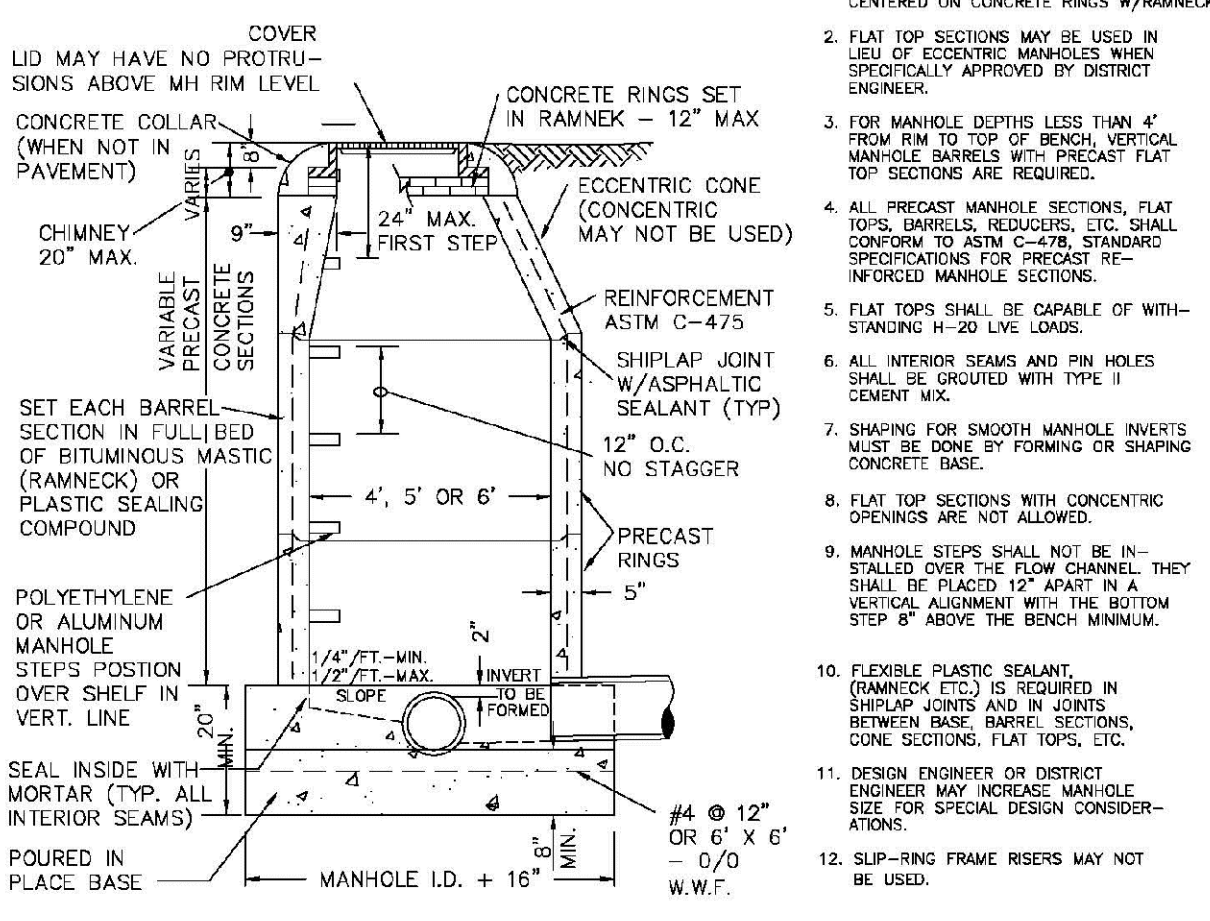
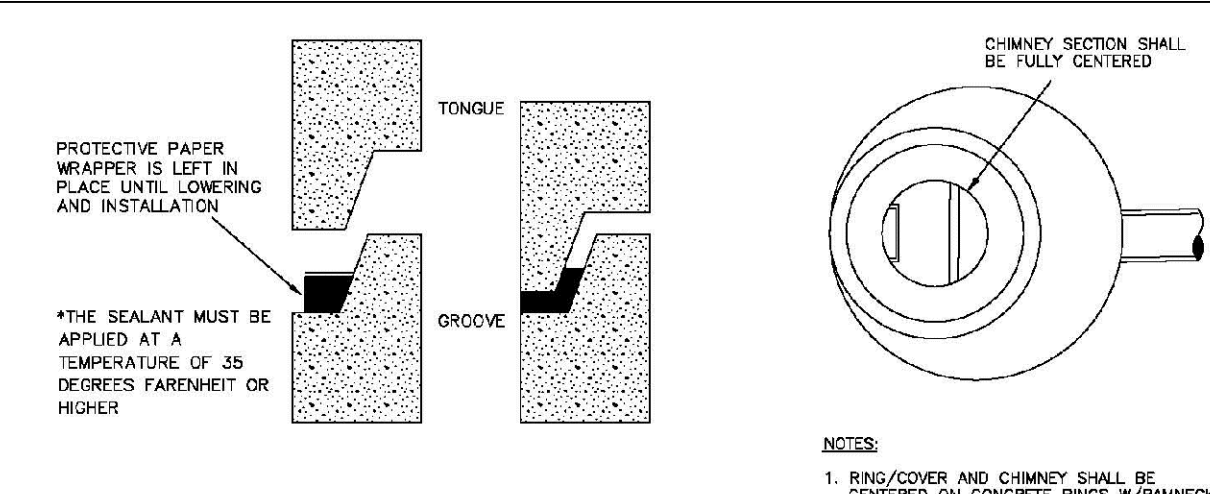
SHEET S1.1



PARKER WATER & SANITATION DISTRICT
TYPICAL SEWER SERVICES

SCALE: NONE	DATE: 2/98
APPROVED: PVR	2/00 01/02
	01/16 10/16
DIRECTOR OF ENGINEERING	

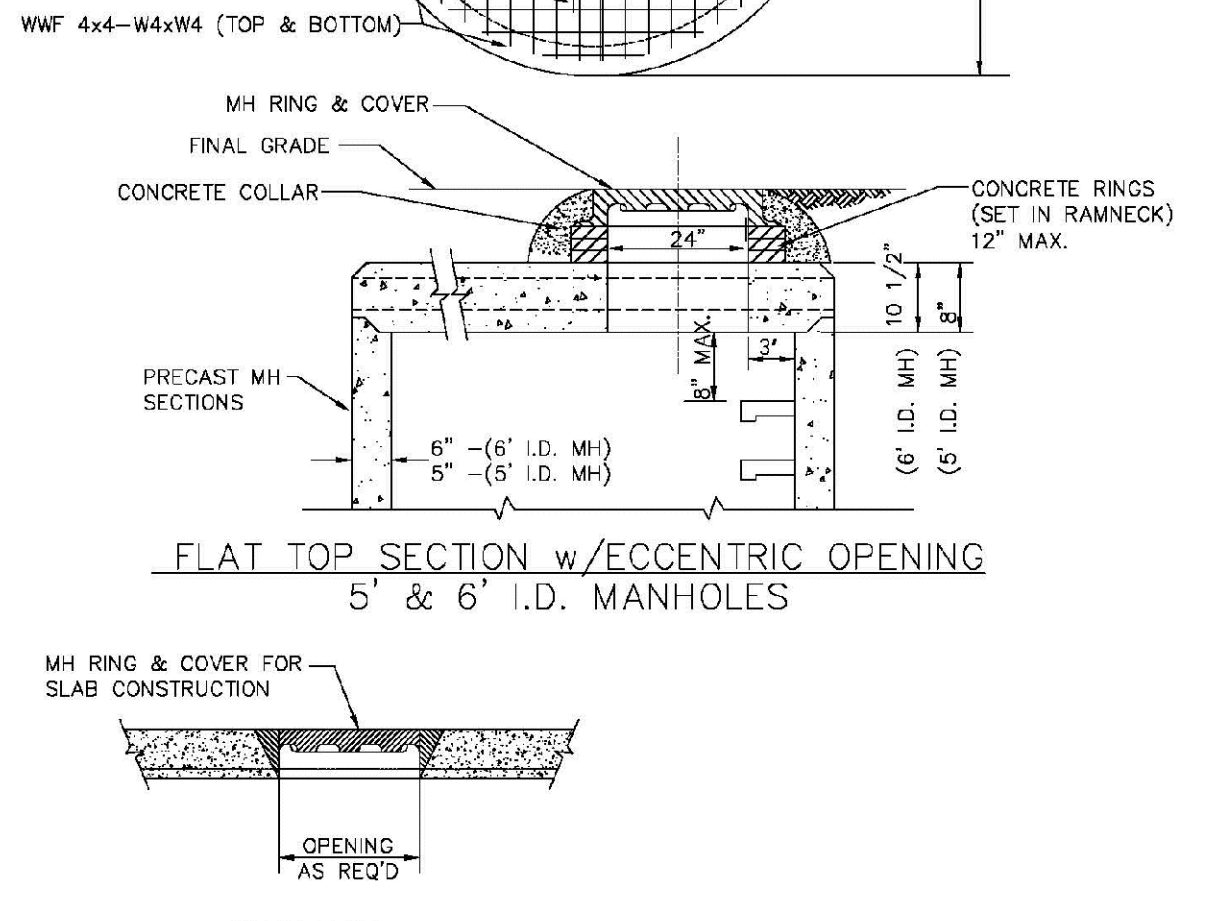
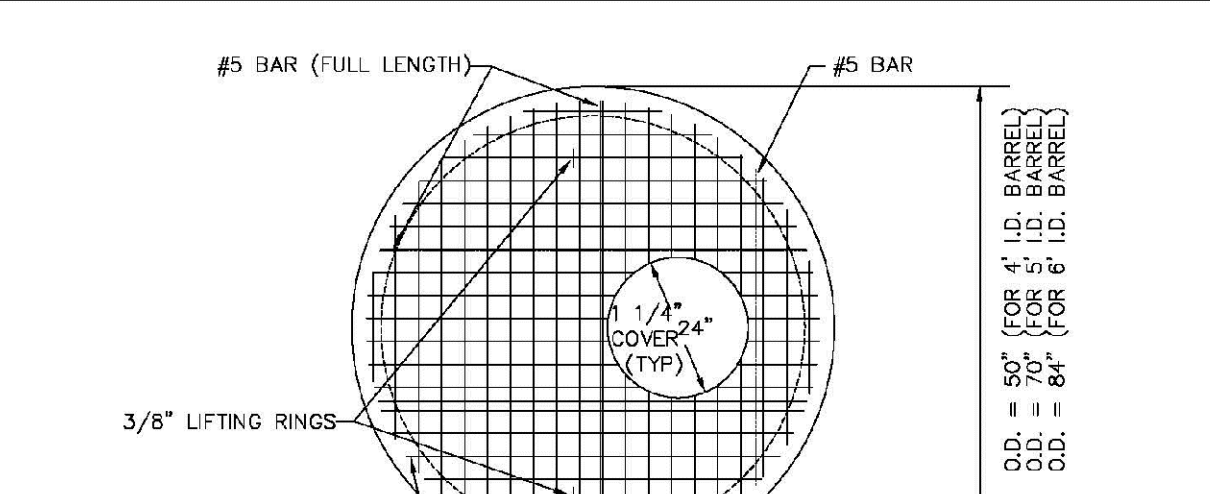
SHEET S1.2



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

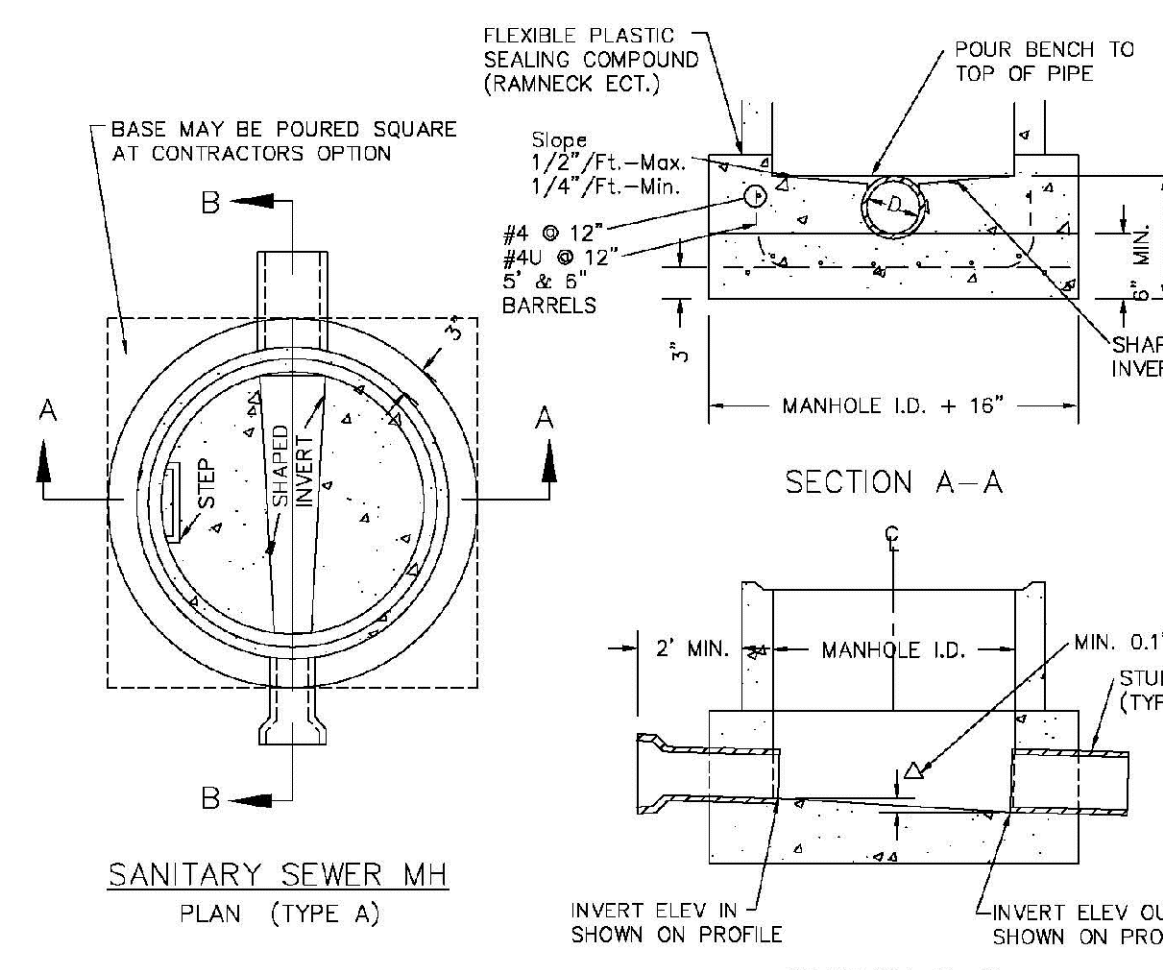
SHEET S3.1



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

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

SHEET S3.3

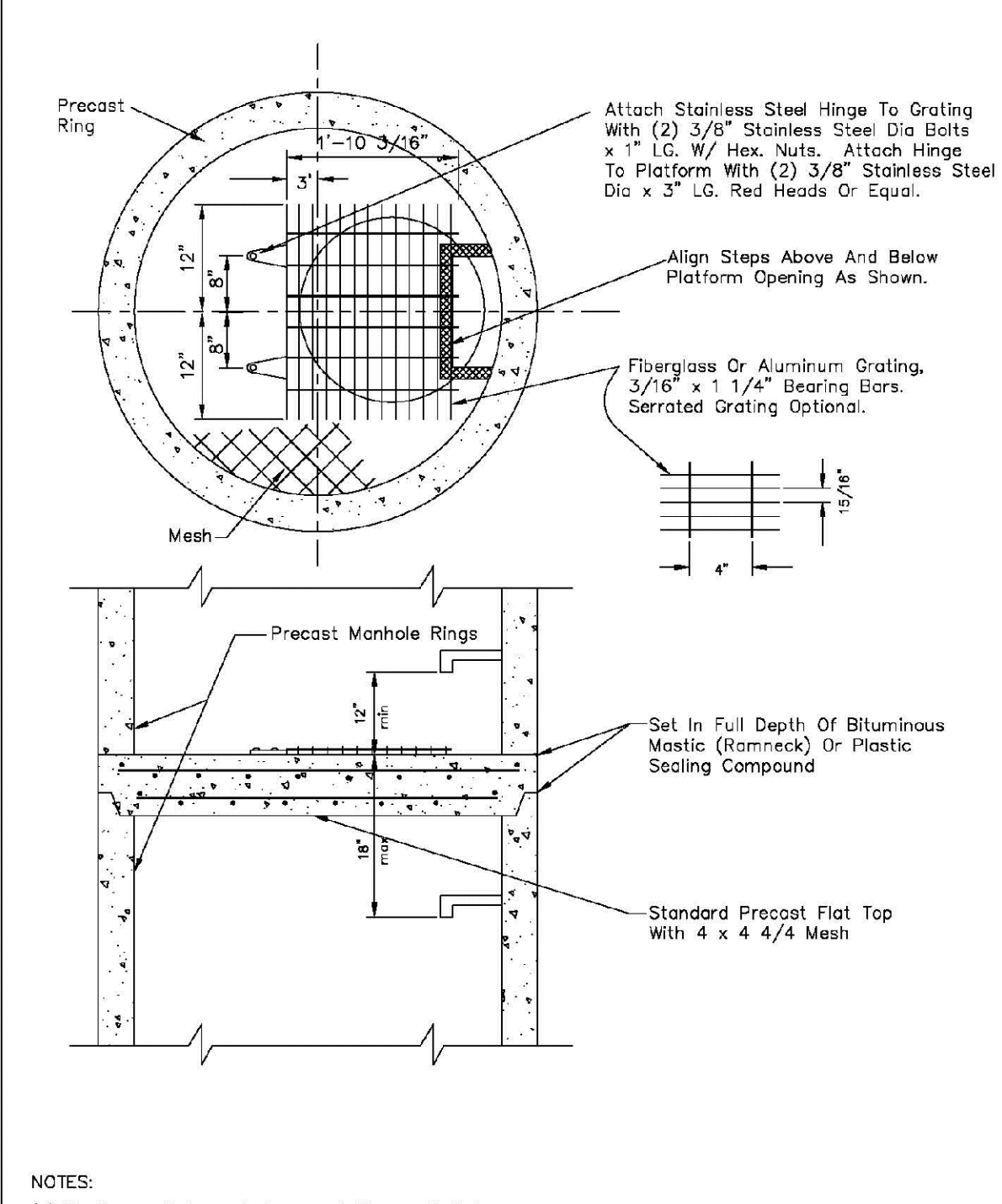


- NOTES:**
1. Manhole barrel min. thickness to be 5".
 2. Shaping for smooth manhole inverts may be done by forming or shaping with cement mortar (San. Sewer).
 3. The manhole steps shall conform to District Standards and Specifications.
 4. Precast sections to conform to A.S.T.M C-478.
 5. All dead-end 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 01/16
	10/16
DIRECTOR OF ENGINEERING	

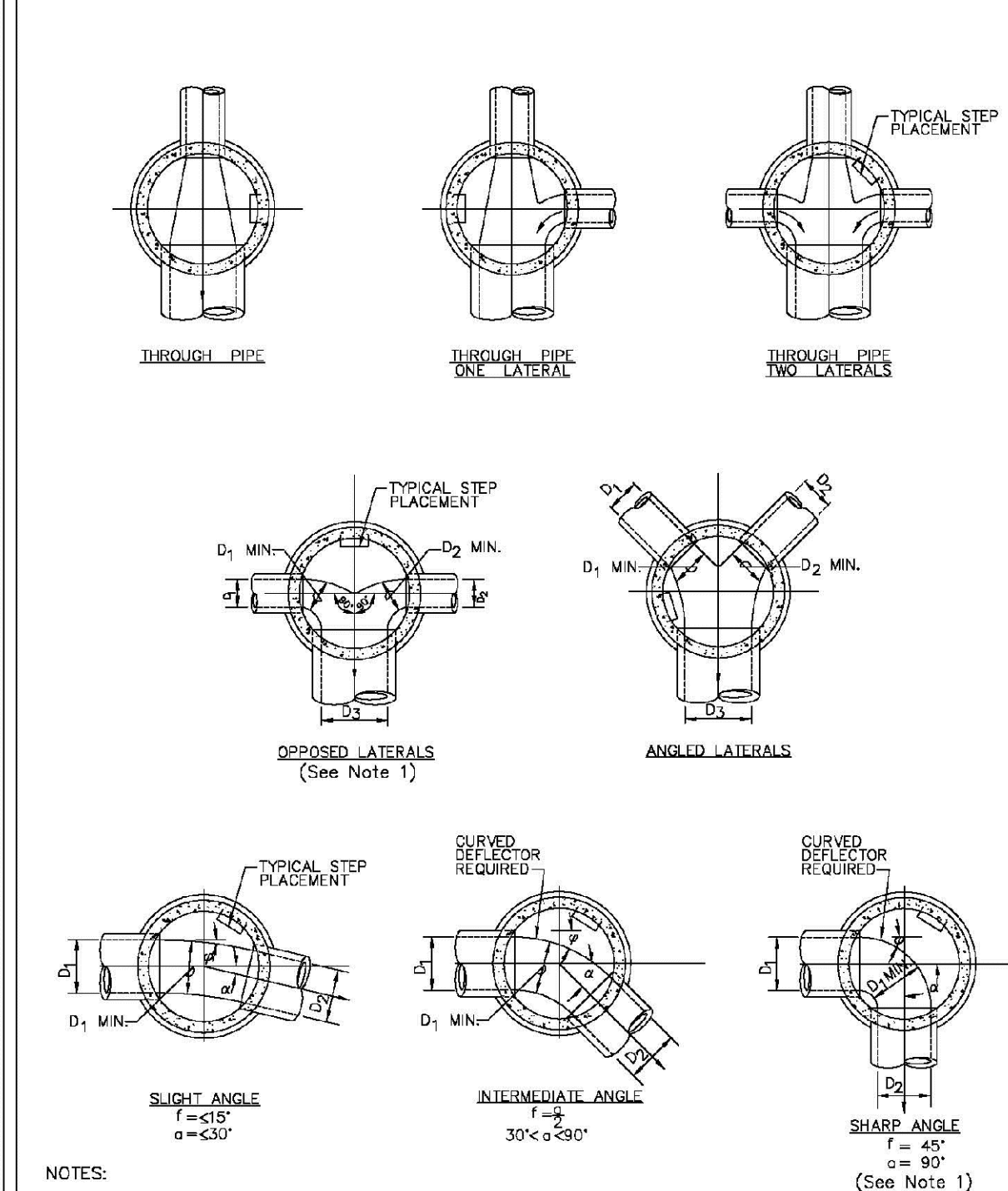
SHEET S3.5



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

SCALE: NONE	DATE: 2/98
APPROVED: PVR	2/00 01/16
	10/16
DIRECTOR OF ENGINEERING	

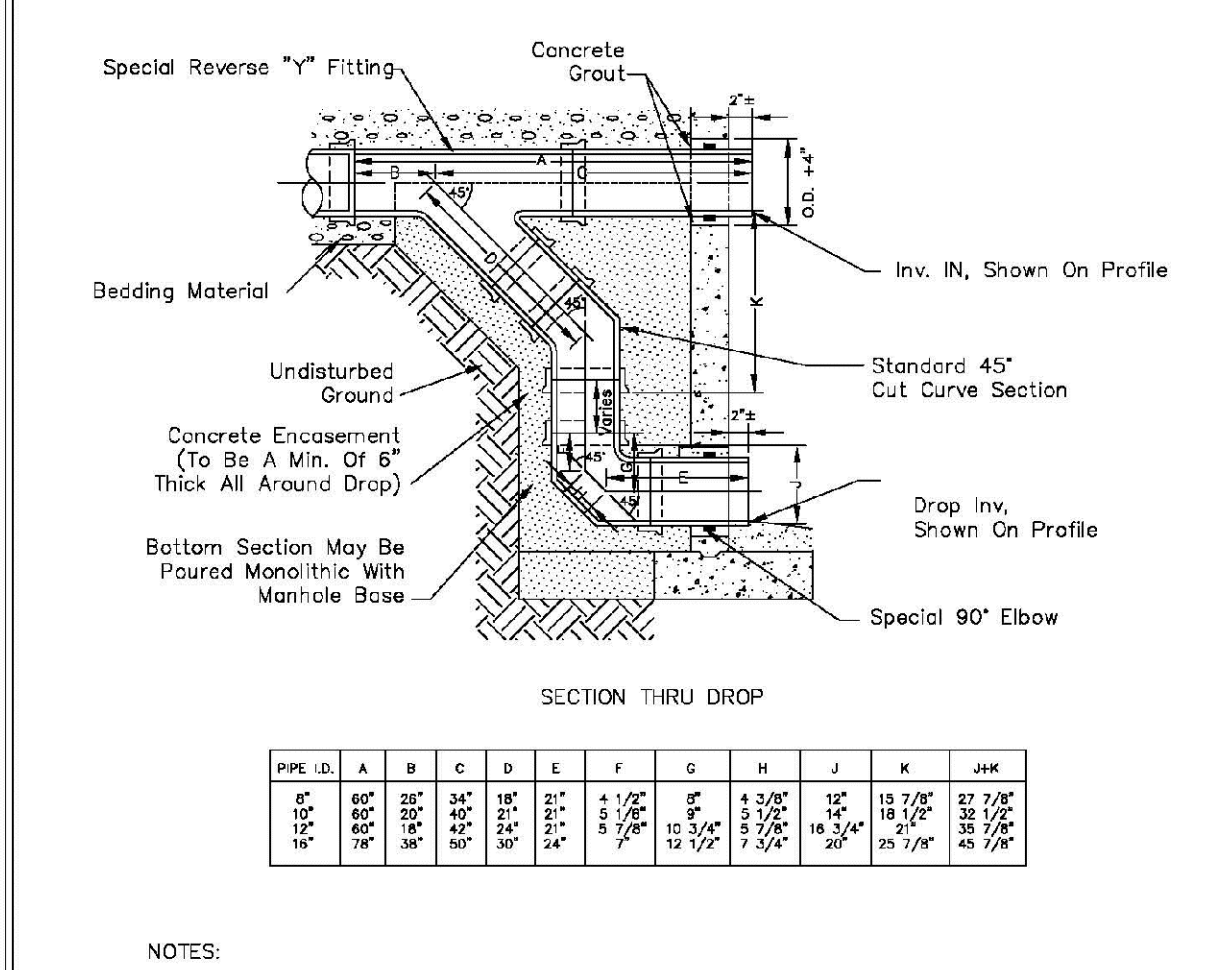
SHEET S3.6



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

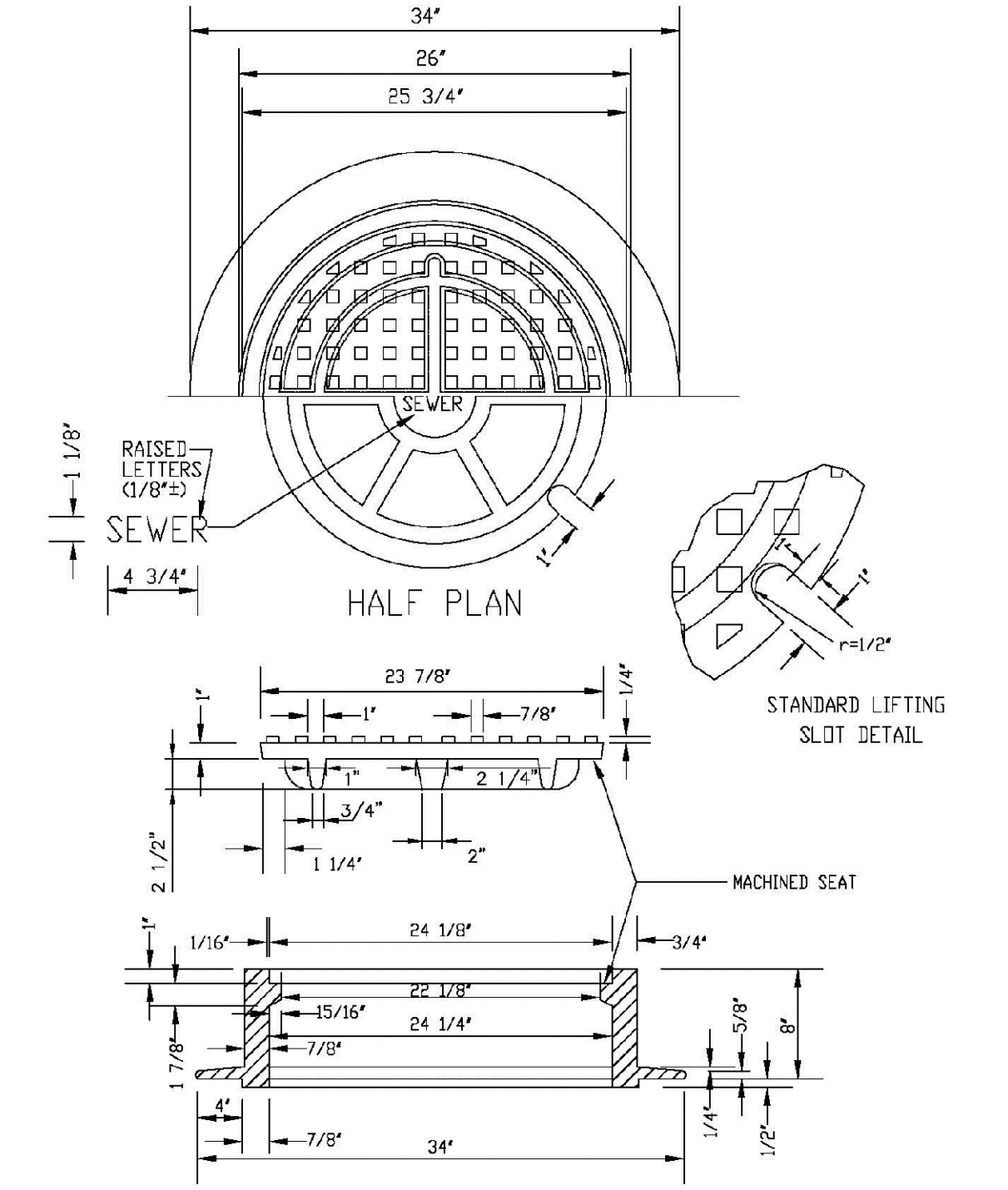


PIPE I.D.	A	B	C	D	E	F	G	H	J	K	MIN.
18" & SMALLER	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"
21" TO 48"	5"	5"	5"	5"	5"	5"	5"	5"	5"	5"	5"
54"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
60" & LARGER	SPECIAL DESIGN										

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

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UTILITY NOTIFICATION CENTER OF COLORADO

10338 E. Dry Creek Rd.
Suite 410
Englewood, CO 80150
Tel: (720) 482-9526
Fax: (720) 482-9548

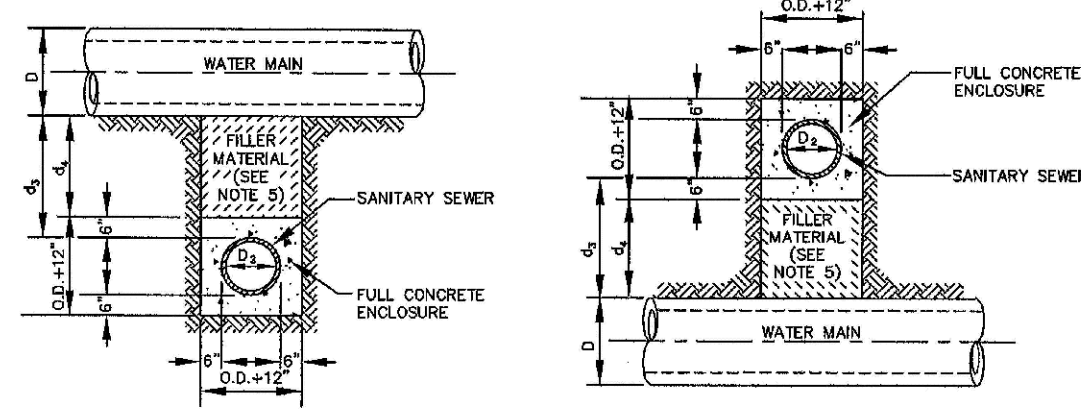
CVL CONSULTANTS

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 7 CONSTRUCTION DRAWINGS
SANITARY SEWER DETAILS

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

SHEET NUMBER **9**



TYPE IIa
SANITARY SEWER CROSSING
UNDER WATER MAIN
If $d_s > 2$ ft., ENCASEMENT NOT REQUIRED

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

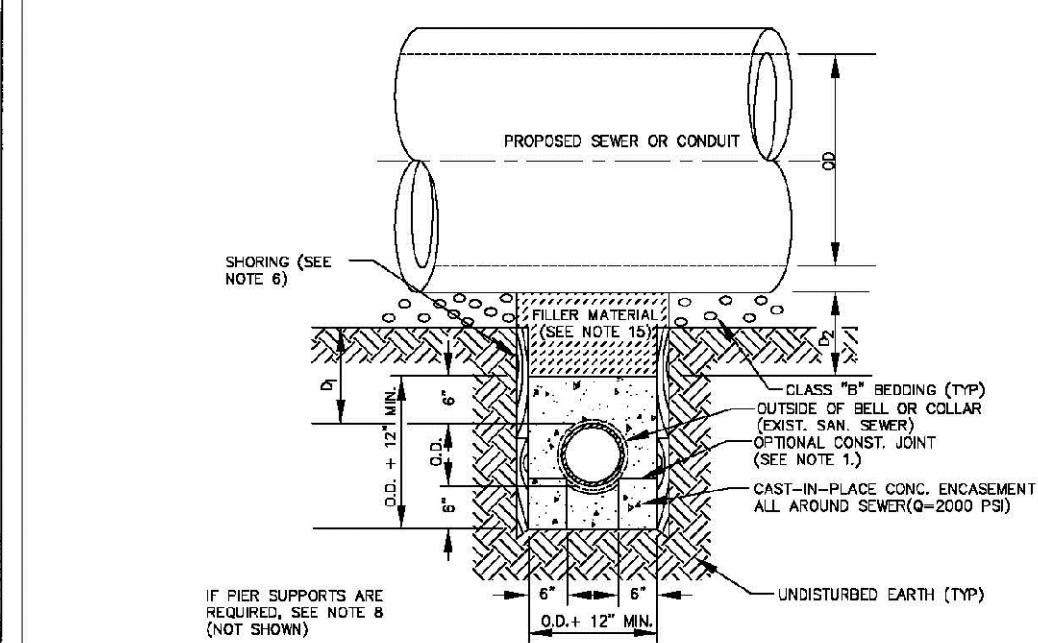
TYPE II
CONCRETE ENCASEMENT FOR SANITARY SEWERS
CROSSING OVER OR UNDER WATER MAIN

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 & II ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
 - TYPE II ENCASEMENT SHALL EXTEND AT LEAST 10 FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I & II ENCASEMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I OR II ENCASEMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
 - TYPE I OR II IF $d_s \leq 18"$ ($d_s \leq 12"$ EXCEPT FOR SANITARY SEWER CROSSING OVER OR UNDER WATER MAINS).
 - WATER MAINS AND $d_s \leq 24"$ ($d_s \leq 18"$).
 - 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 OF WELDED STEEL PIPE OR CONDUITS ARE UNDESIRABLE. 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 $d_s \leq 4"$ & $d_s \leq 7"$.
 - COMPACTED CLASS "B" BEDDING IF $d_s \leq 4"$ & $d_s \leq 7"$ (IF $d_s > 7"$ 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: 2/96
APPROVED: JFN	5/98 4/01 1/98
DISTRICT ENGINEER	

2008 REVISION SHEET 7



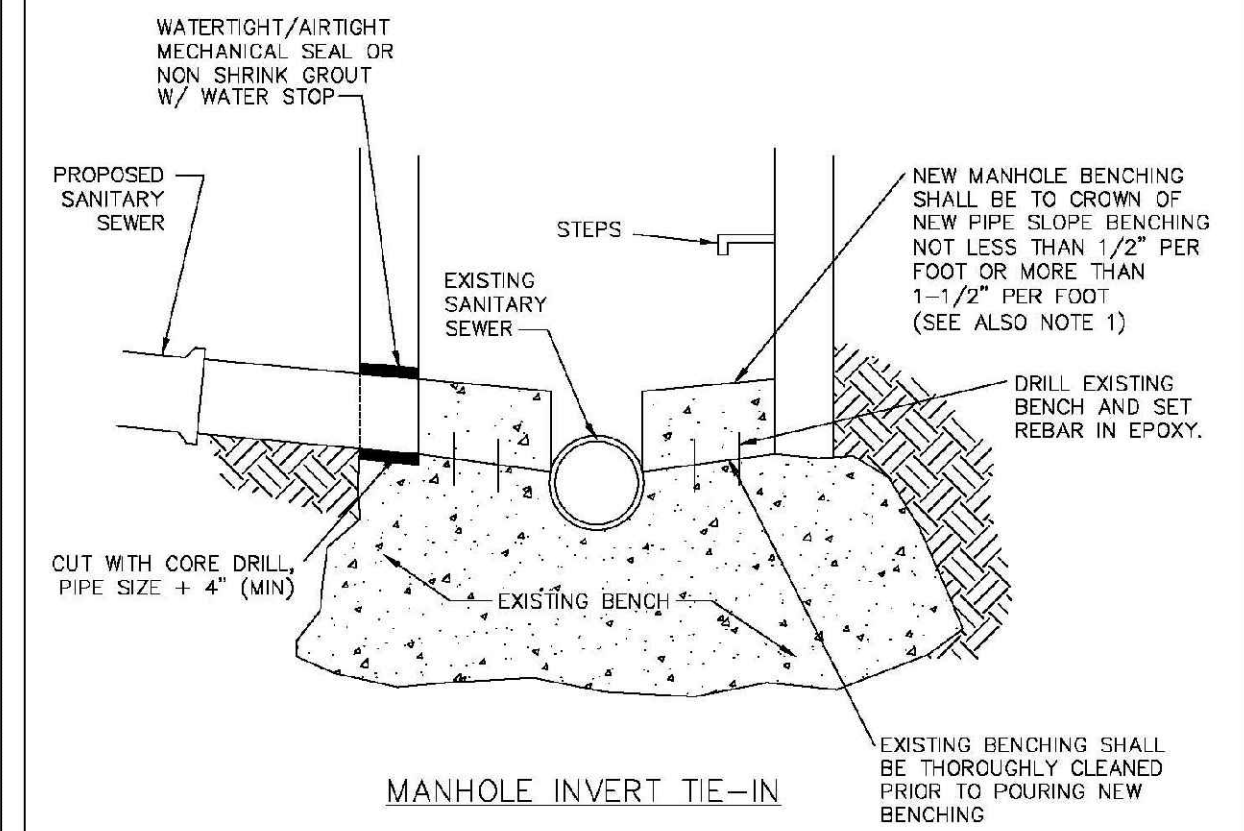
TYPE III
CONCRETE ENCASEMENT FOR SANITARY SEWERS
(FULL ENCASEMENT) NO SCALE

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 & II ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
 - TYPE II ENCASEMENT SHALL EXTEND AT LEAST 10 FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I & II 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 II IF $d_s \leq 18"$ ($d_s \leq 12"$ 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_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 OF WELDED STEEL PIPE OR CONDUITS ARE UNDESIRABLE. 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 $d_s \leq 4"$ & $d_s \leq 7"$.
 - COMPACTED CLASS "B" BEDDING IF $d_s \leq 4"$ & $d_s \leq 7"$ (IF $d_s > 7"$ 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: 2/96
APPROVED: PVR	5/98 1/98 10/98
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET S4.8

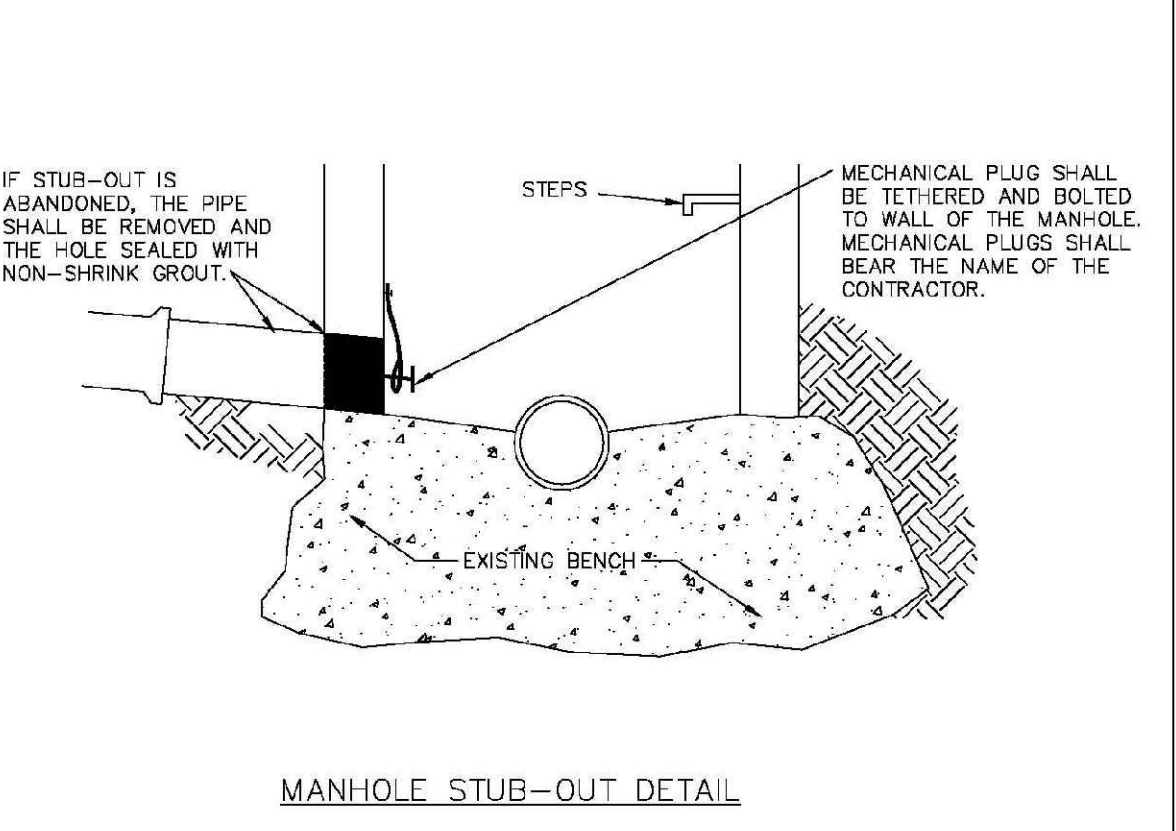


MANHOLE INVERT TIE-IN

NOTES
1 - 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	1/78 12/76
DIRECTOR OF ENGINEERING	

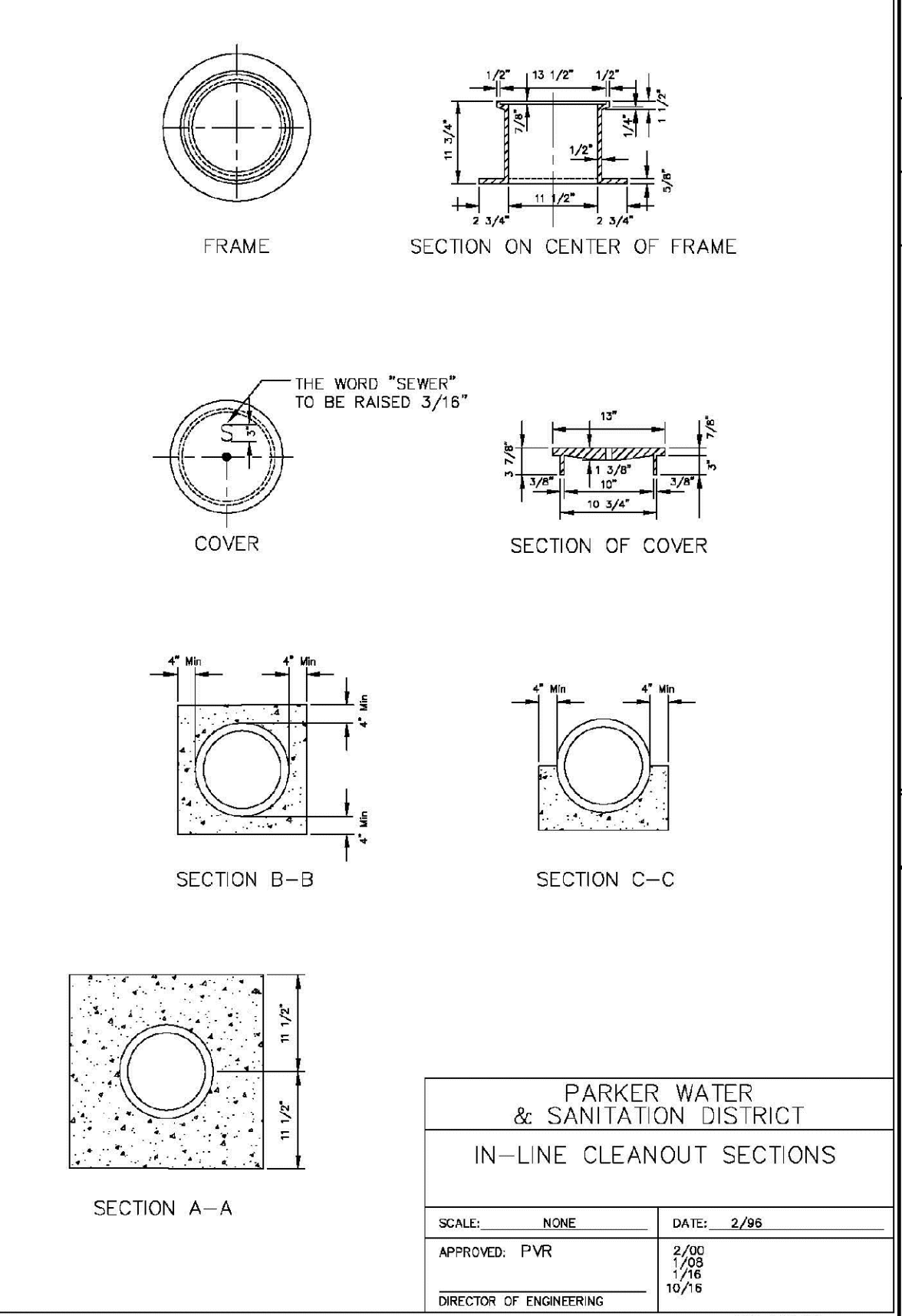
2016 REVISION SHEET S4.9



MANHOLE STUB-OUT DETAIL

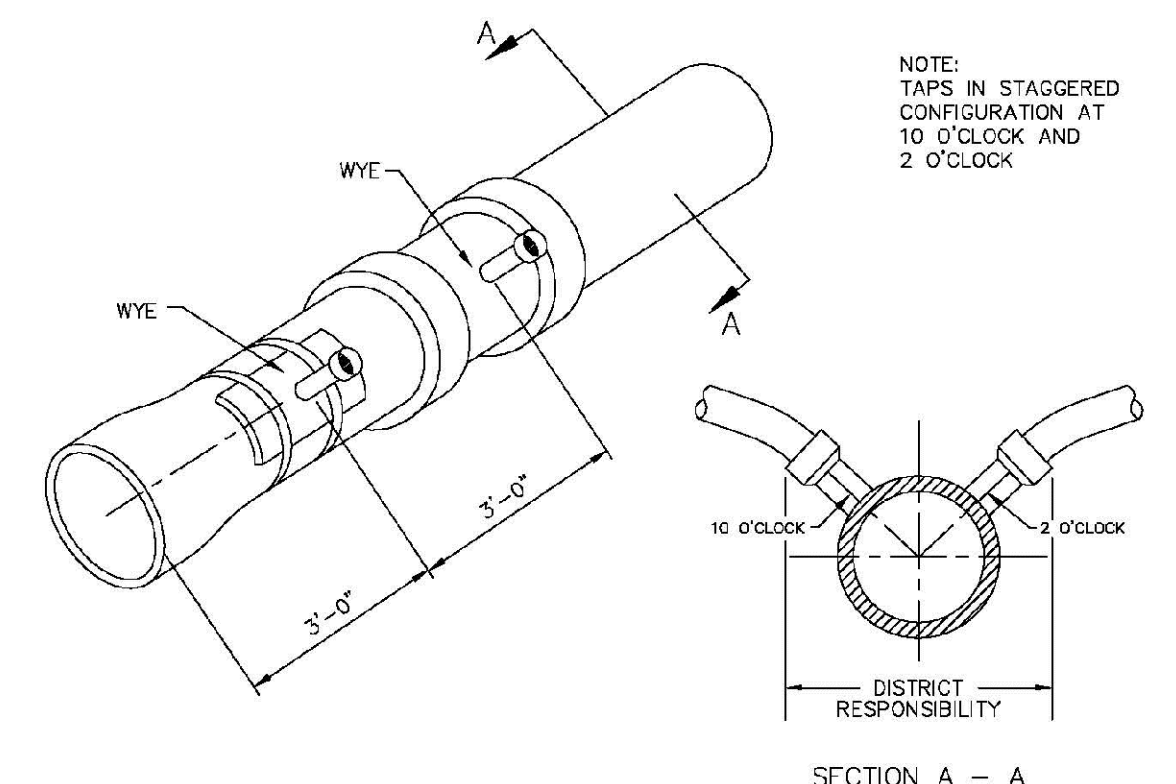
PARKER WATER & SANITATION DISTRICT	
MANHOLE STUB-OUT DETAIL	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/78 10/76
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET S4.10



PARKER WATER & SANITATION DISTRICT	
IN-LINE CLEANOUT SECTIONS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	2/00 7/96 10/76
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET S4.12

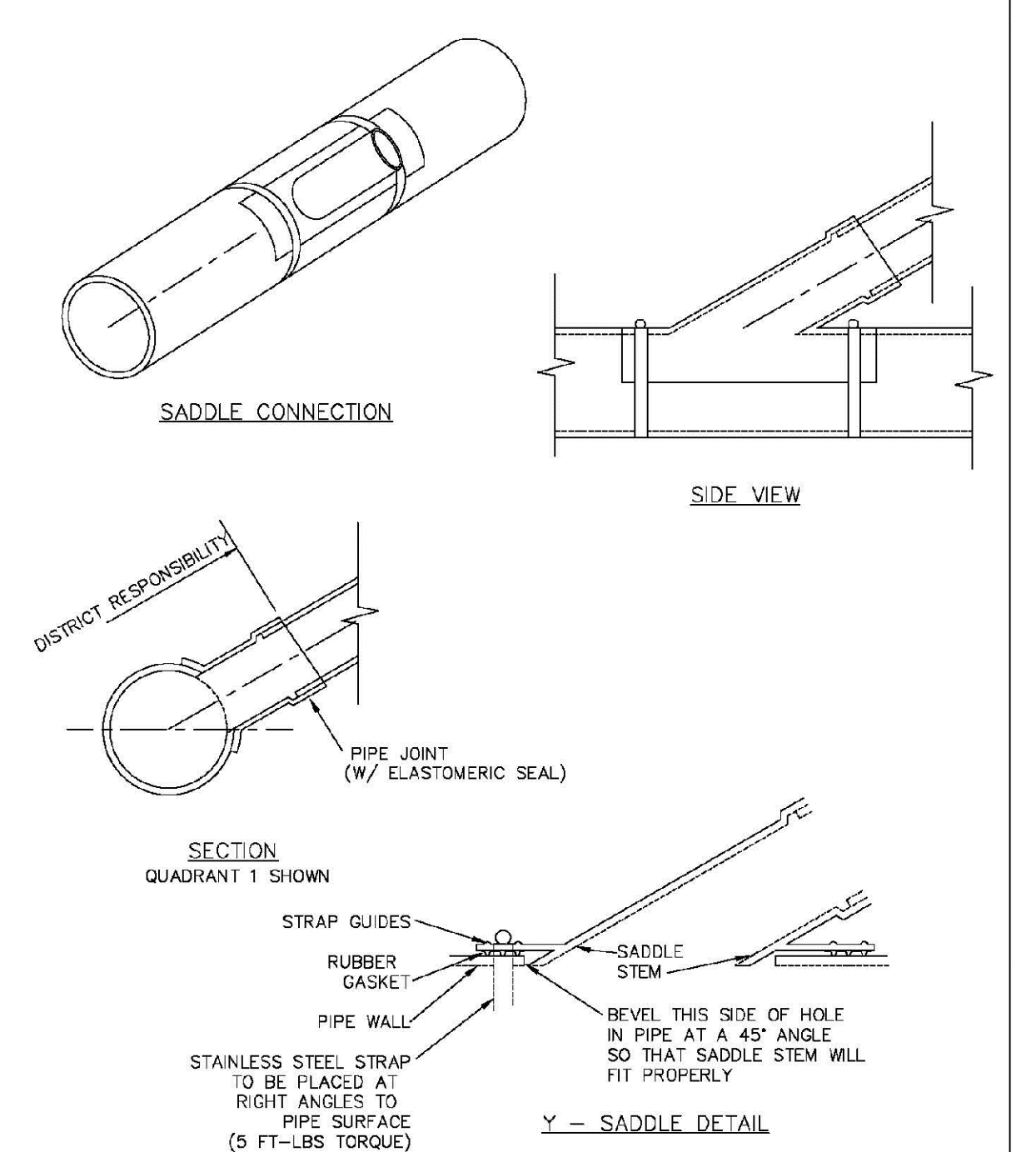


DOMESTIC SEWER TAPPING DETAIL

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 1/98 10/76
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET S4.13



NOTES:
1. SADDLE FITTINGS TO BE PER ASTM D3034.
2. 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	1/78 10/76
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET S4.14

N:\PROJECTS\SS\BACH\ENGINEERING\SS\BACH\DWG\SANITARY SEWER DETAILS.DWG, TOMO, 3/6/2016 4:33 PM

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UTILITY NOTIFICATION
CENTER OF COLORADO

SHEET NUMBER	DRAWN BY: JF	SCALE: AS SHOWN	FILE NO: 8130283701	DATE: AUGUST 2017	CHECKED BY: JJ	Revisions	Date	Init.	Appr.	Date
						No.				

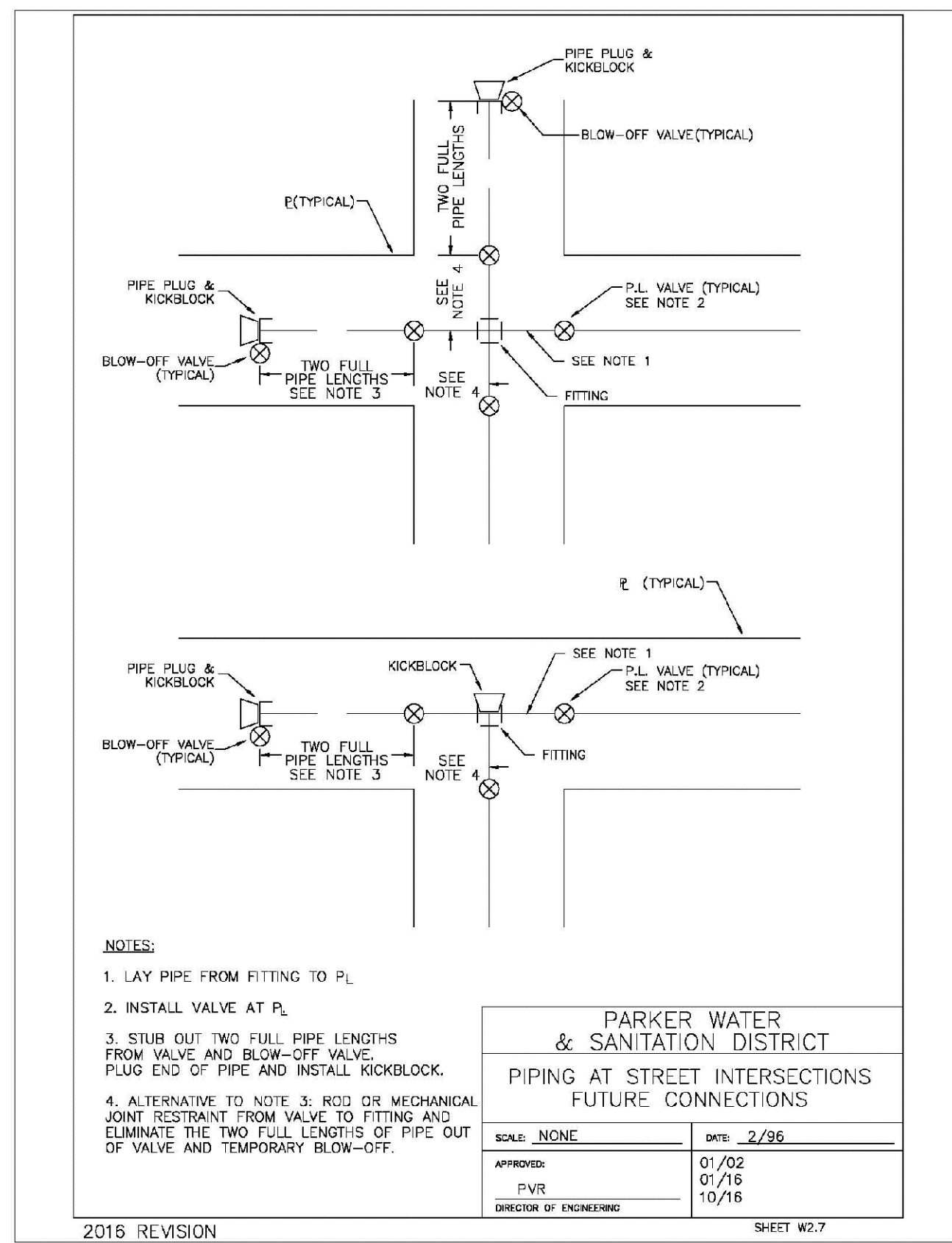
10339 E. Dry Creek Rd.
SHEEP CREEK, CO 80110
Englewood, Colorado 80110
Tel: (720) 482-9526
Fax: (720) 482-9546

CVL
CONSULTANTS

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

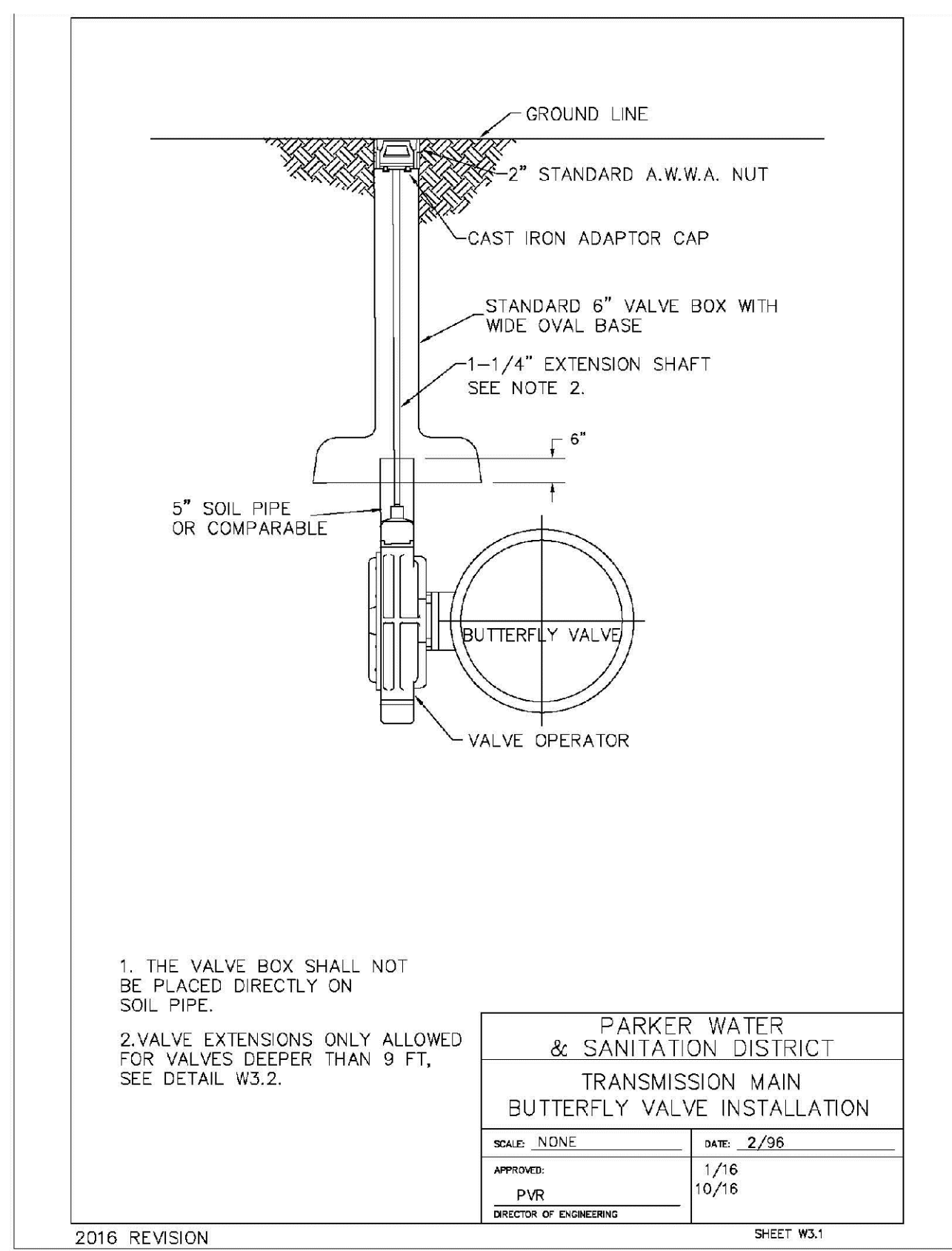
TRAILS AT CROWFOOT
FILING 7 CONSTRUCTION DRAWINGS
SANITARY SEWER DETAILS

11



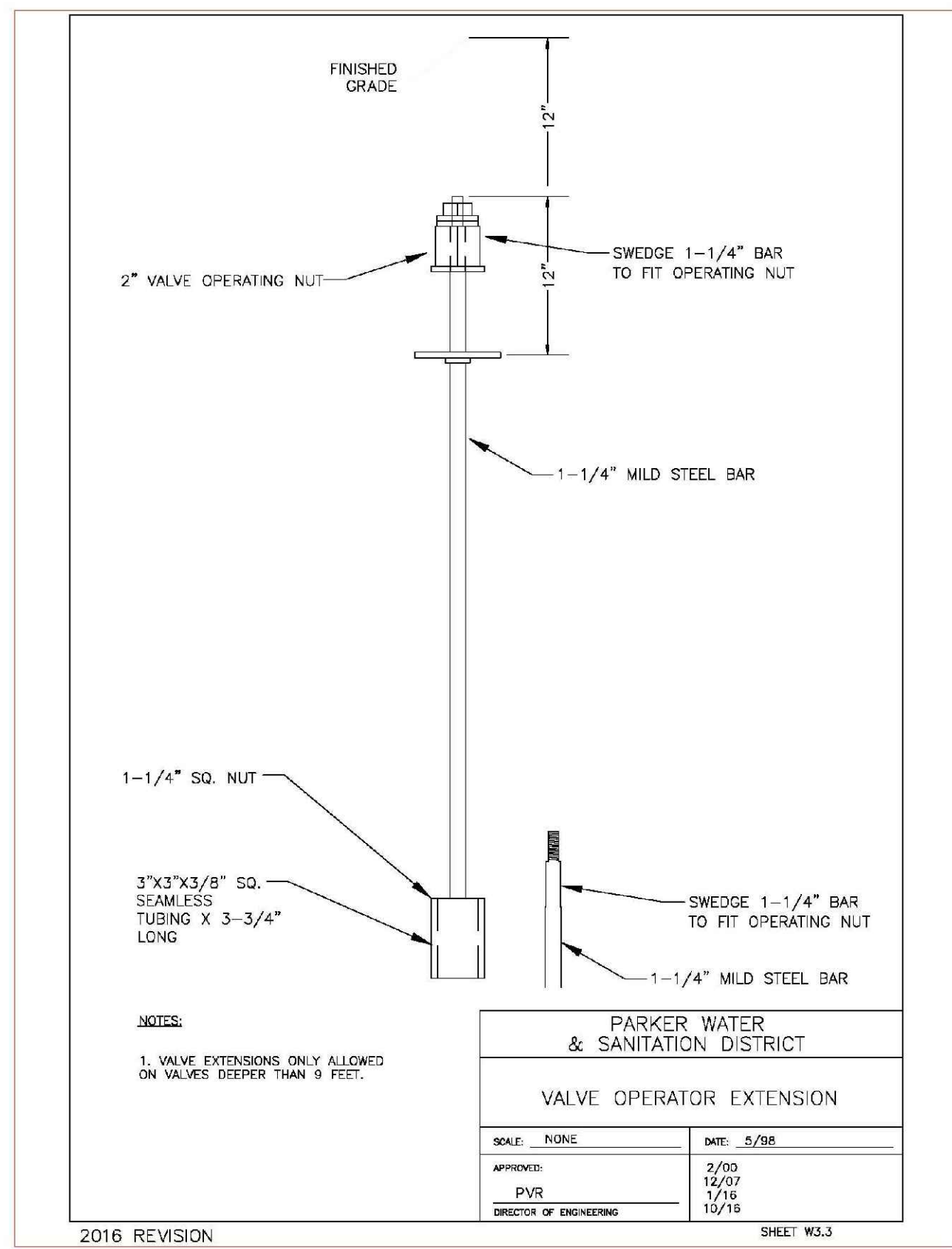
PARKER WATER & SANITATION DISTRICT PIPING AT STREET INTERSECTIONS FUTURE CONNECTIONS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	DATE: 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.7



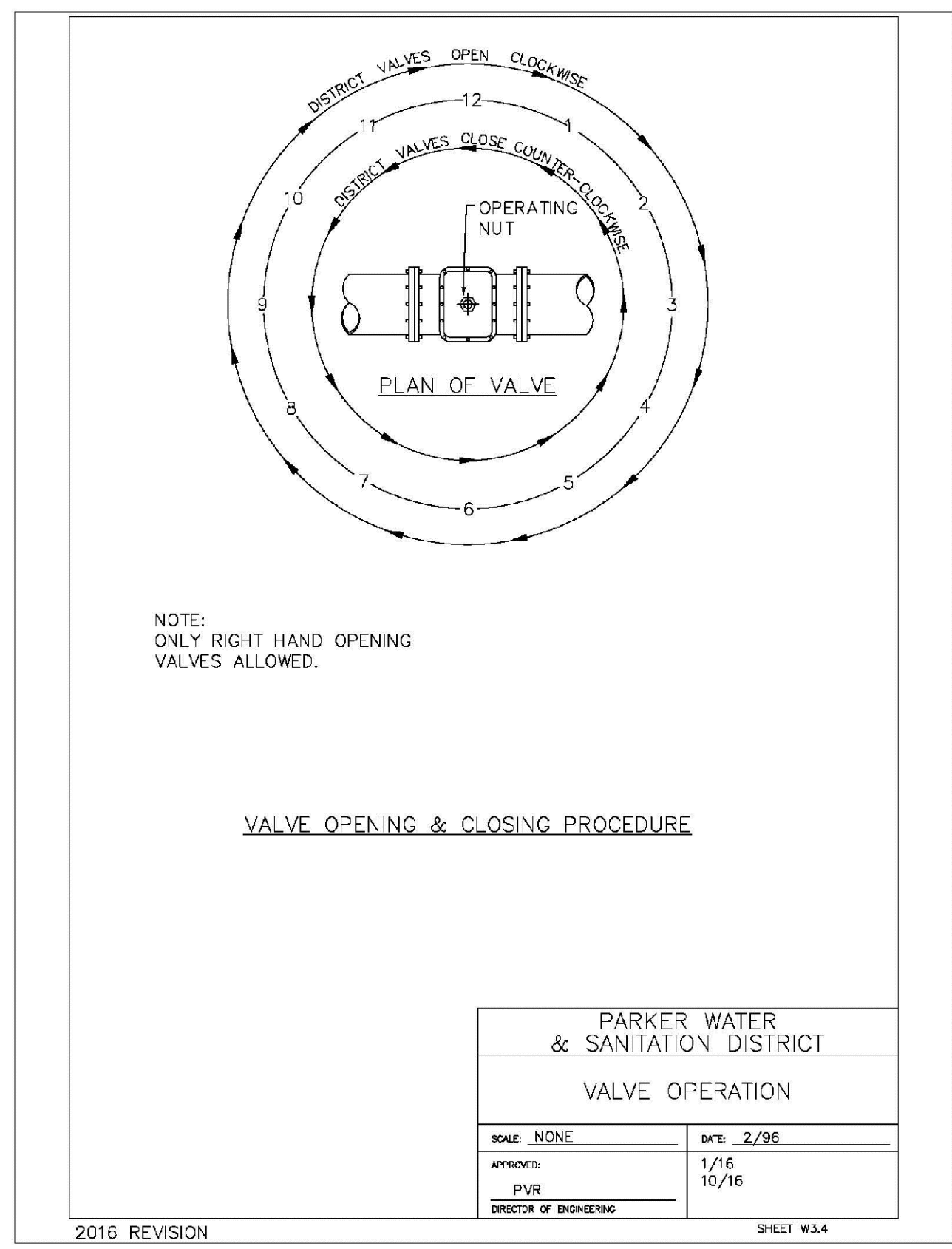
PARKER WATER & SANITATION DISTRICT TRANSMISSION MAIN BUTTERFLY VALVE INSTALLATION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	DATE: 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.1



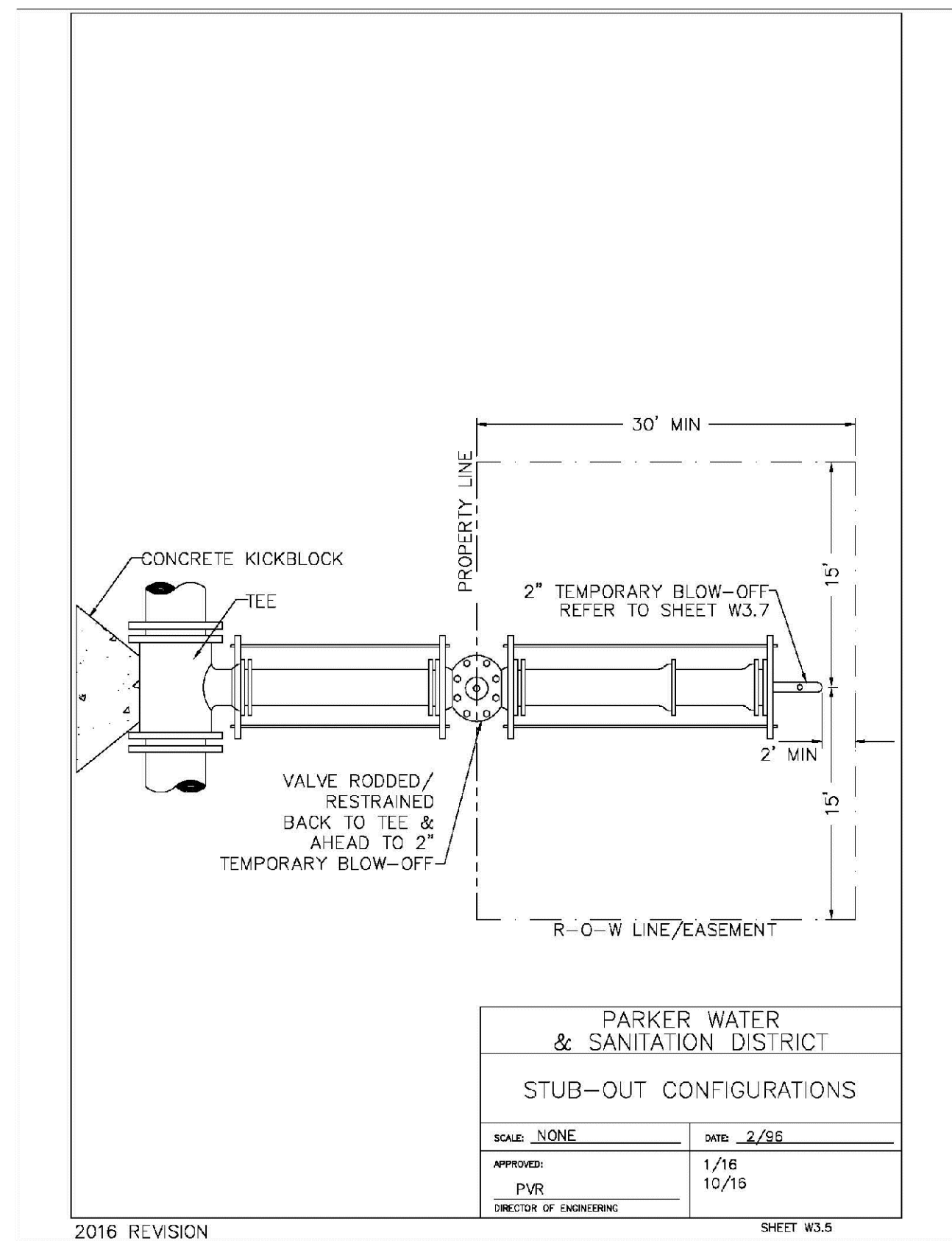
PARKER WATER & SANITATION DISTRICT VALVE OPERATOR EXTENSION	
SCALE: NONE	DATE: 5/98
APPROVED: PVR	DATE: 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.3



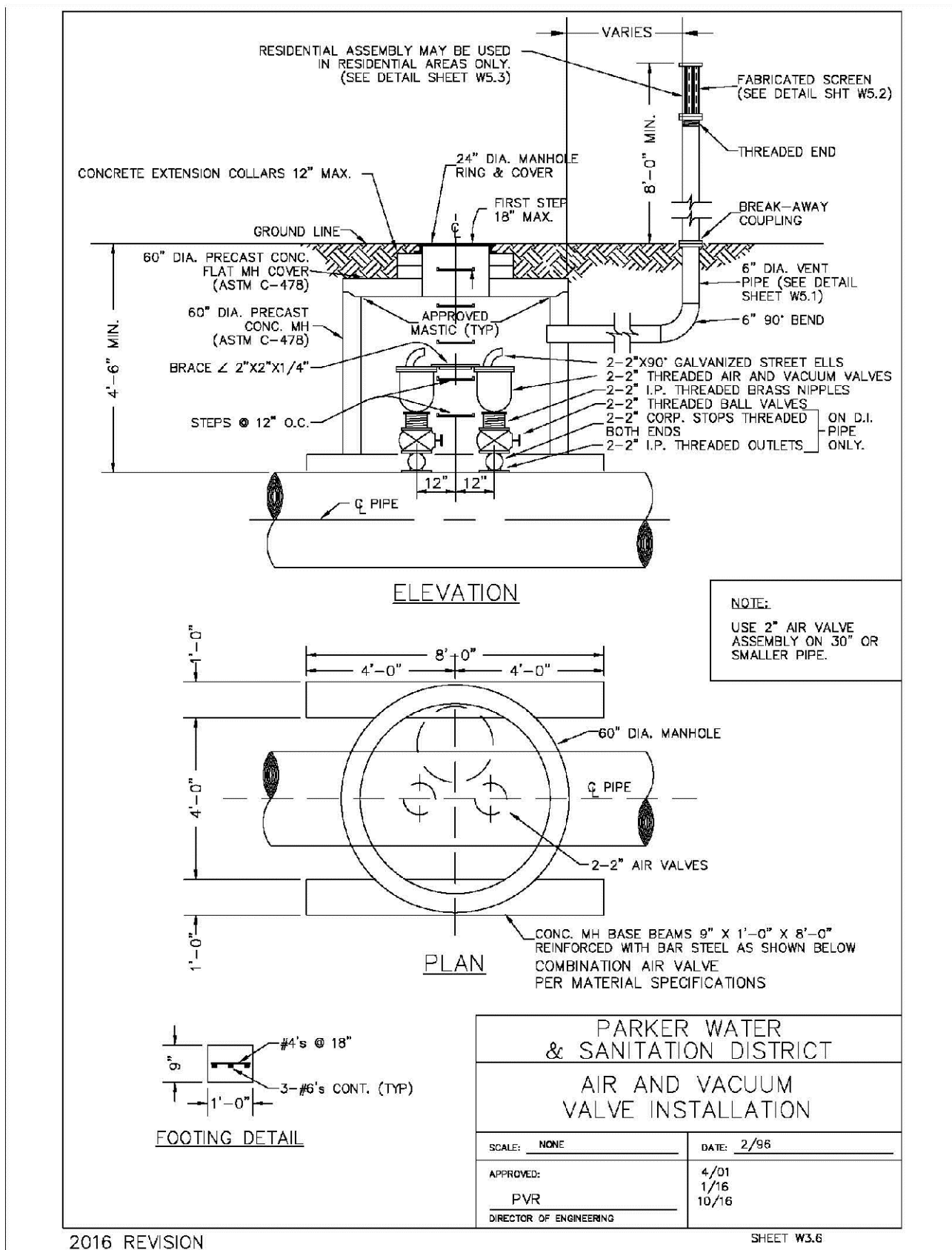
PARKER WATER & SANITATION DISTRICT VALVE OPERATION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	DATE: 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.4



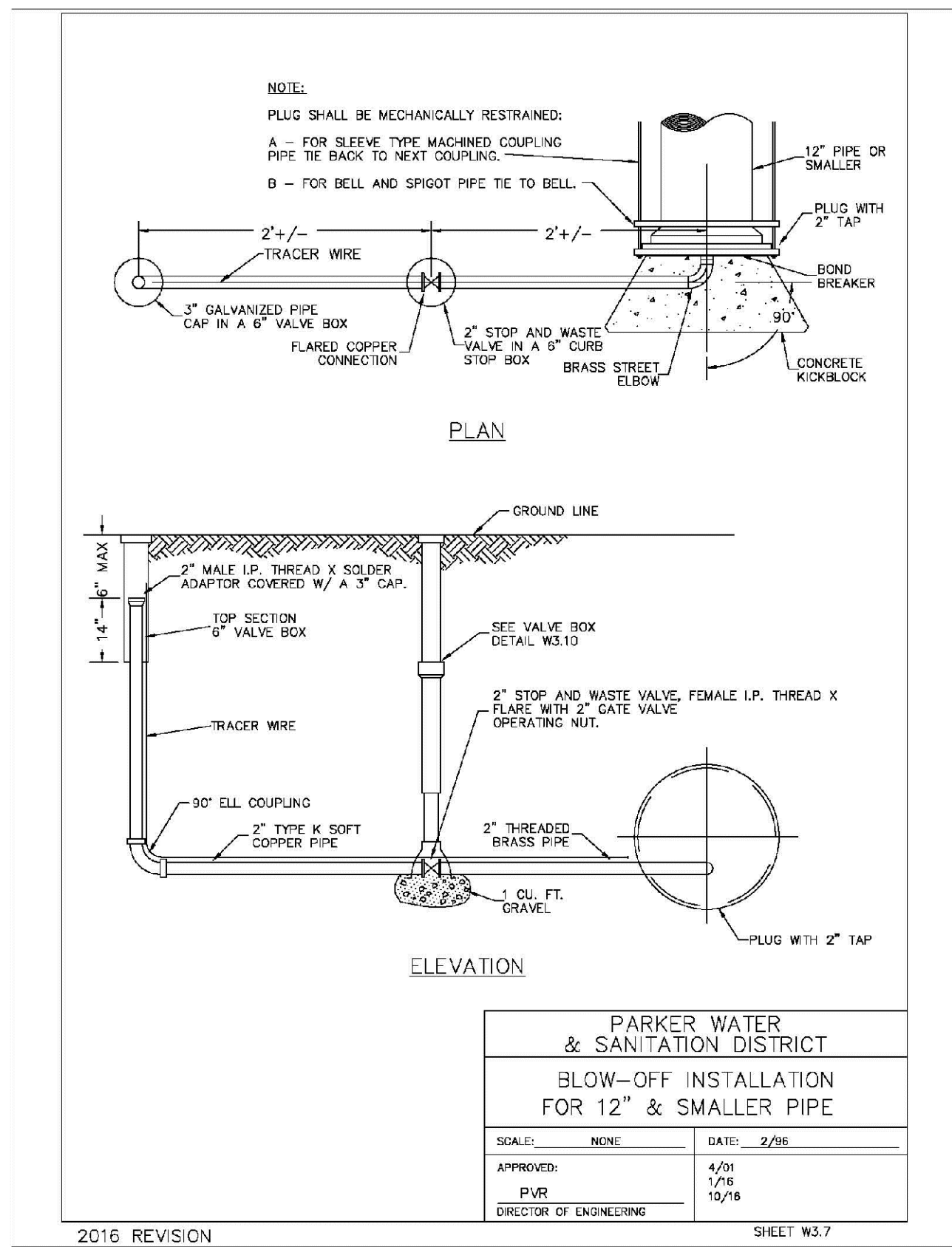
PARKER WATER & SANITATION DISTRICT STUB-OUT CONFIGURATIONS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	DATE: 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.5



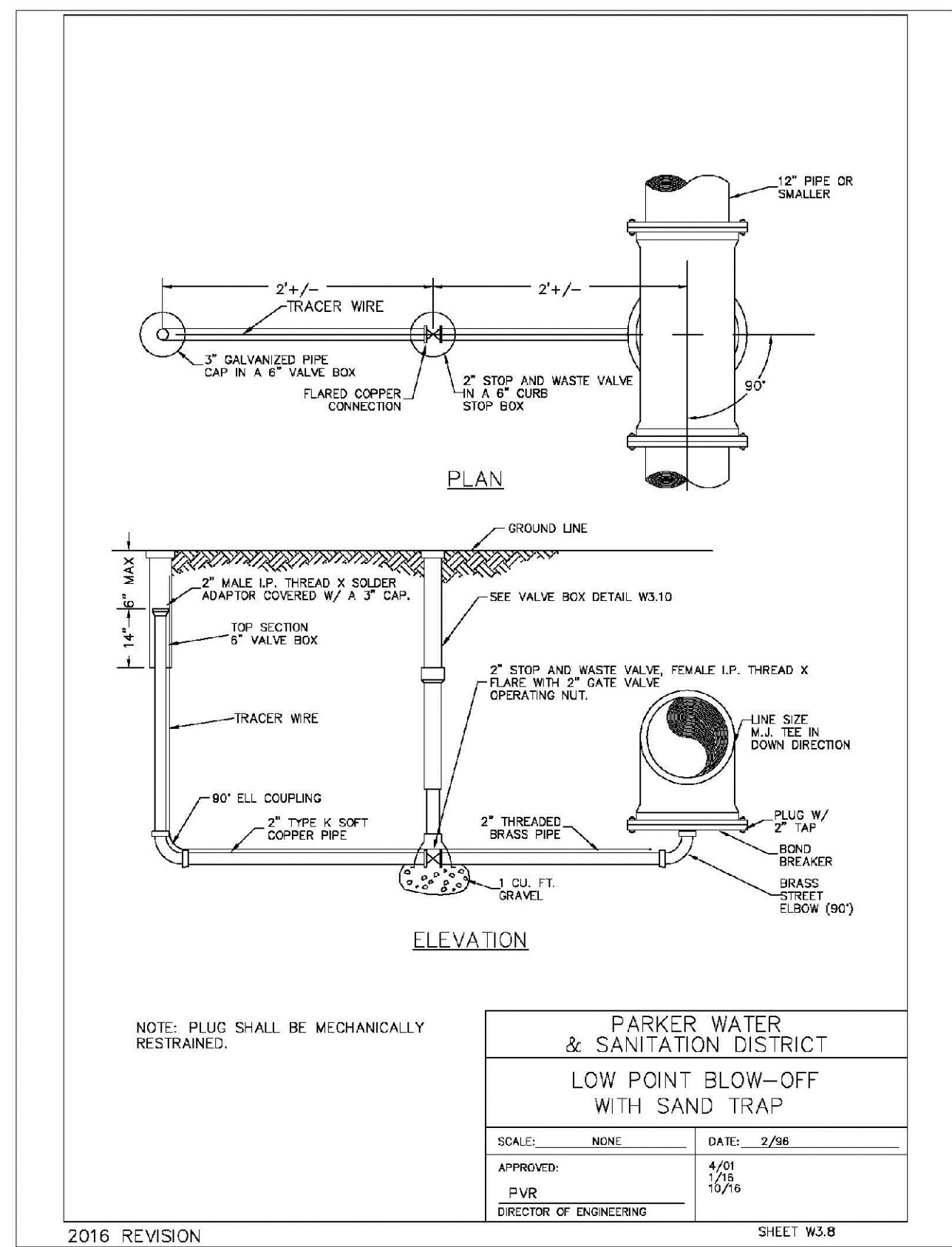
PARKER WATER & SANITATION DISTRICT AIR AND VACUUM VALVE INSTALLATION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	DATE: 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.6



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

2016 REVISION SHEET W3.7



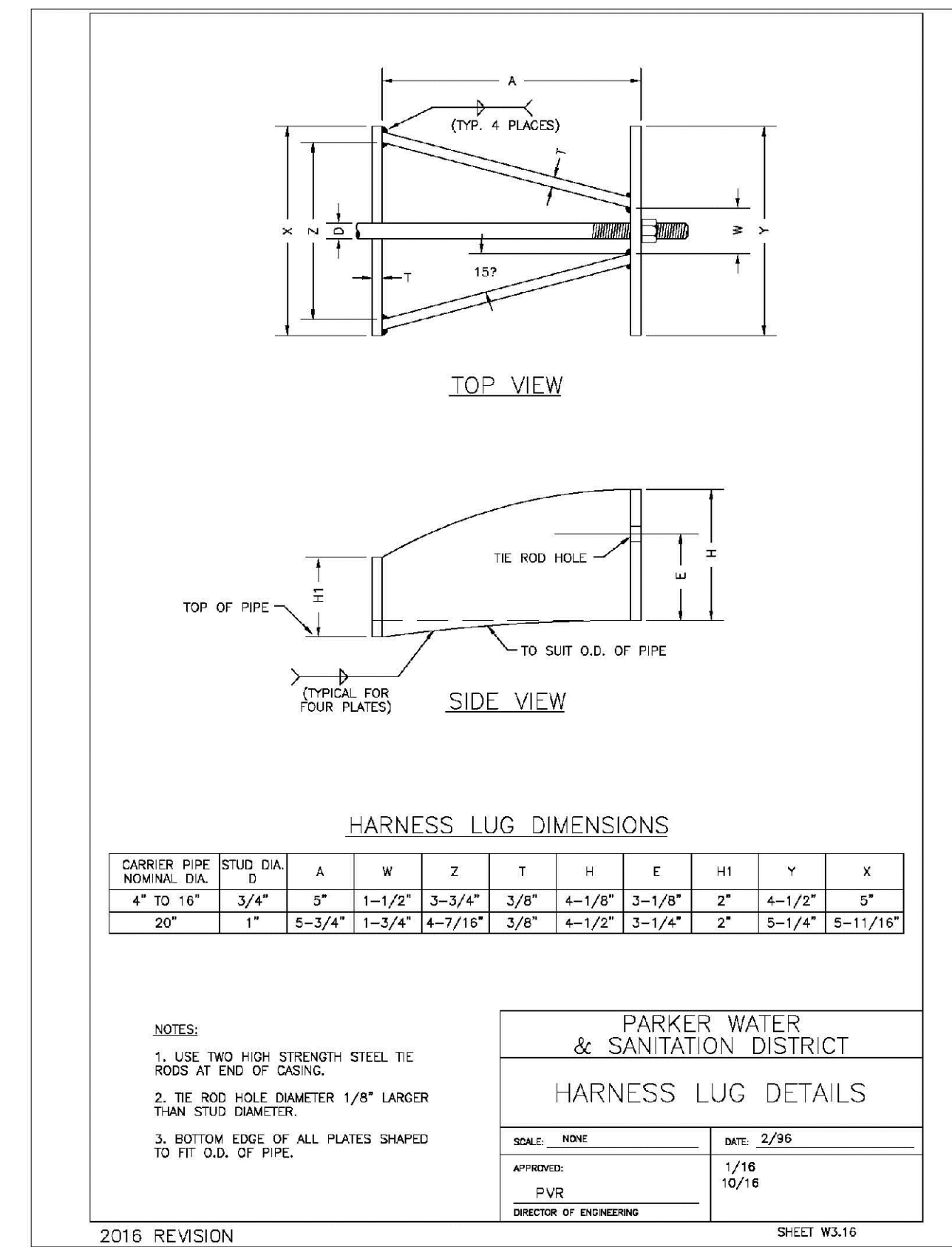
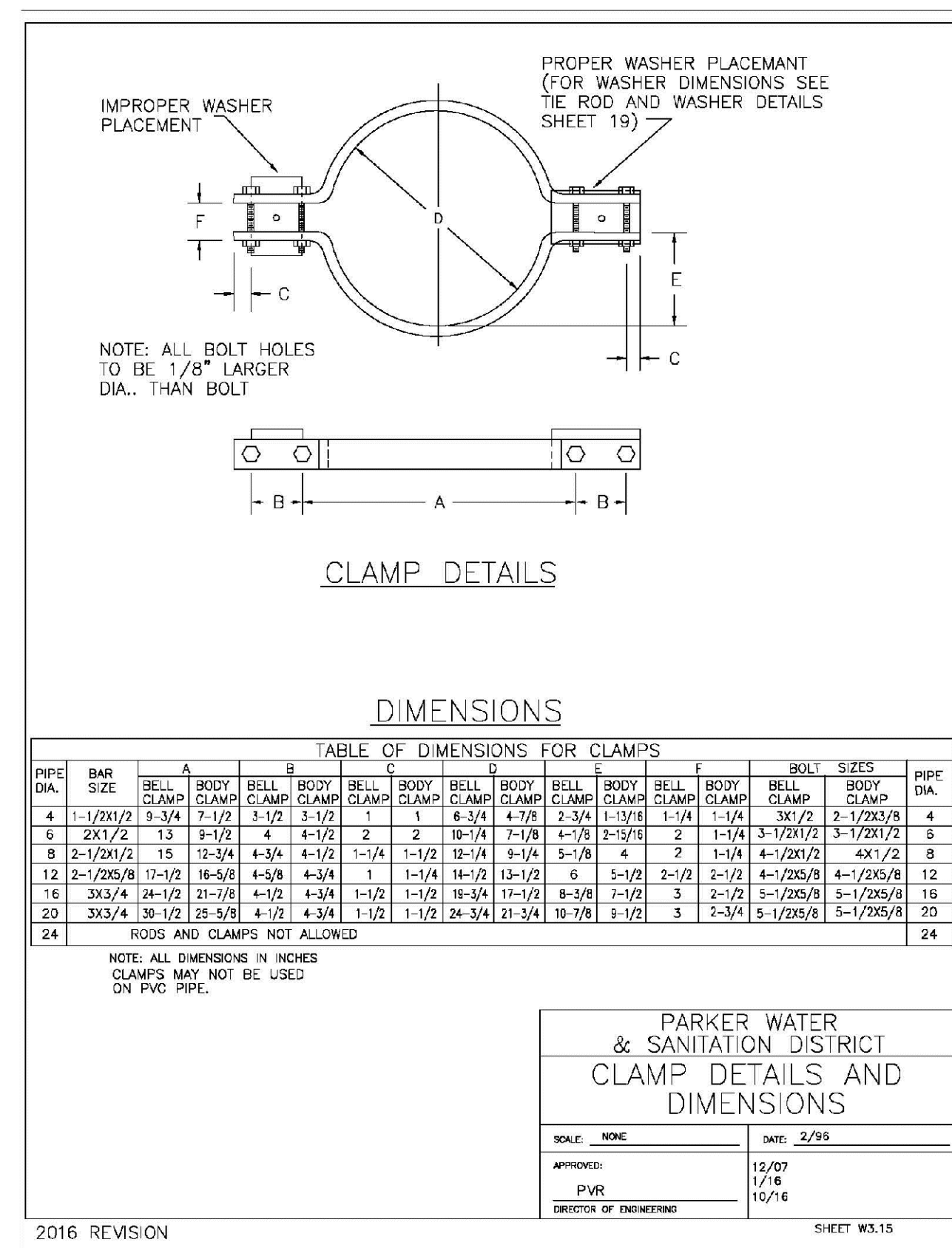
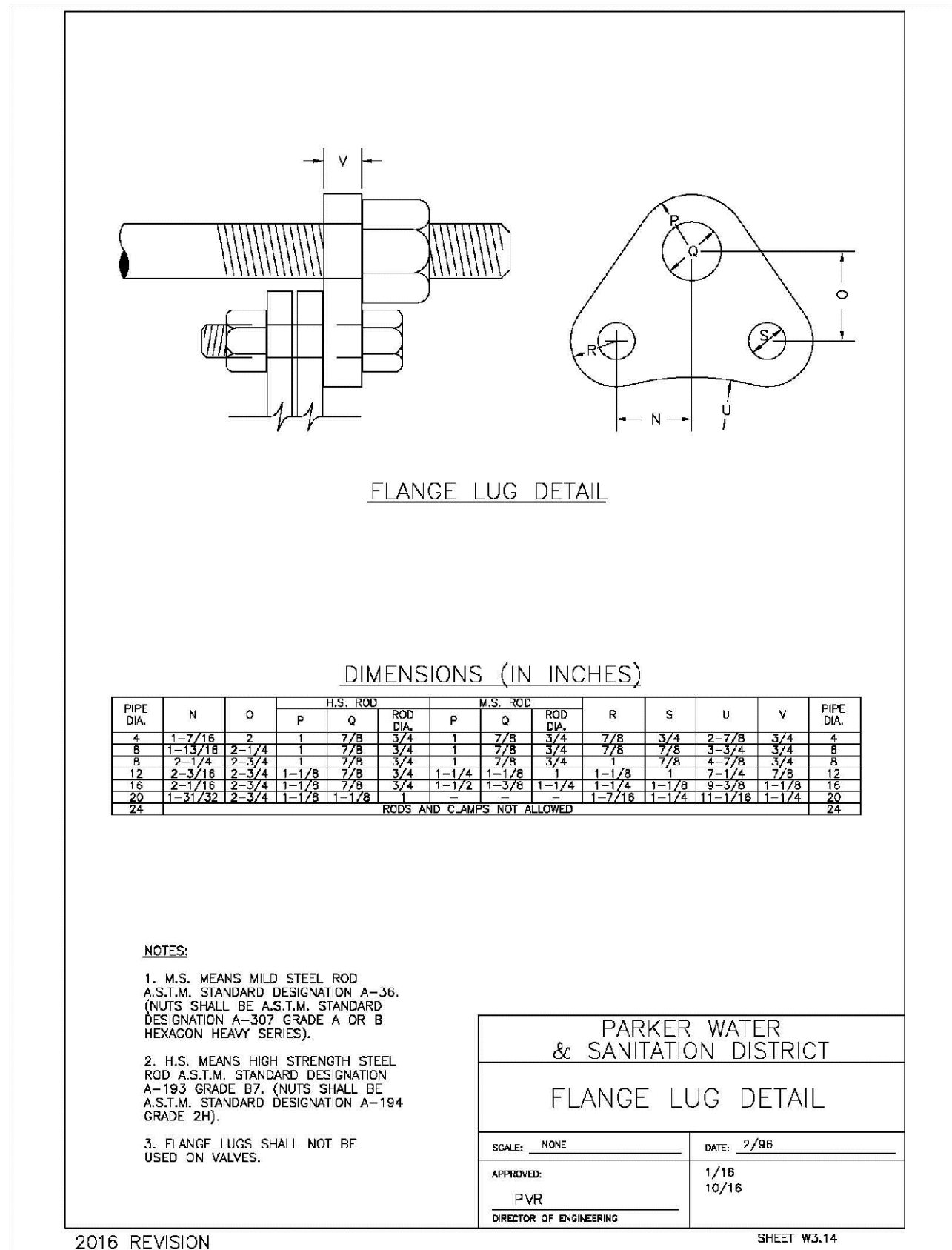
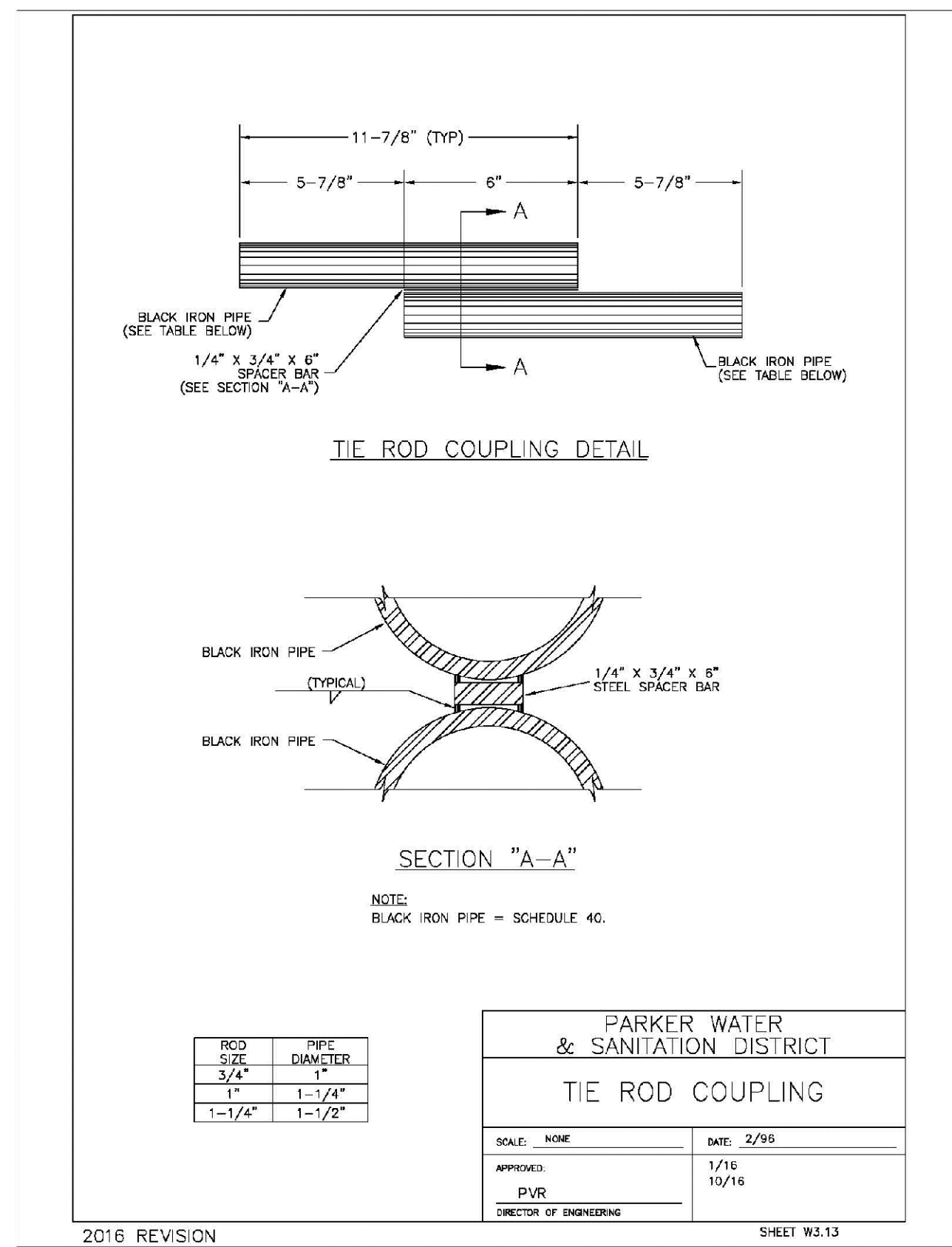
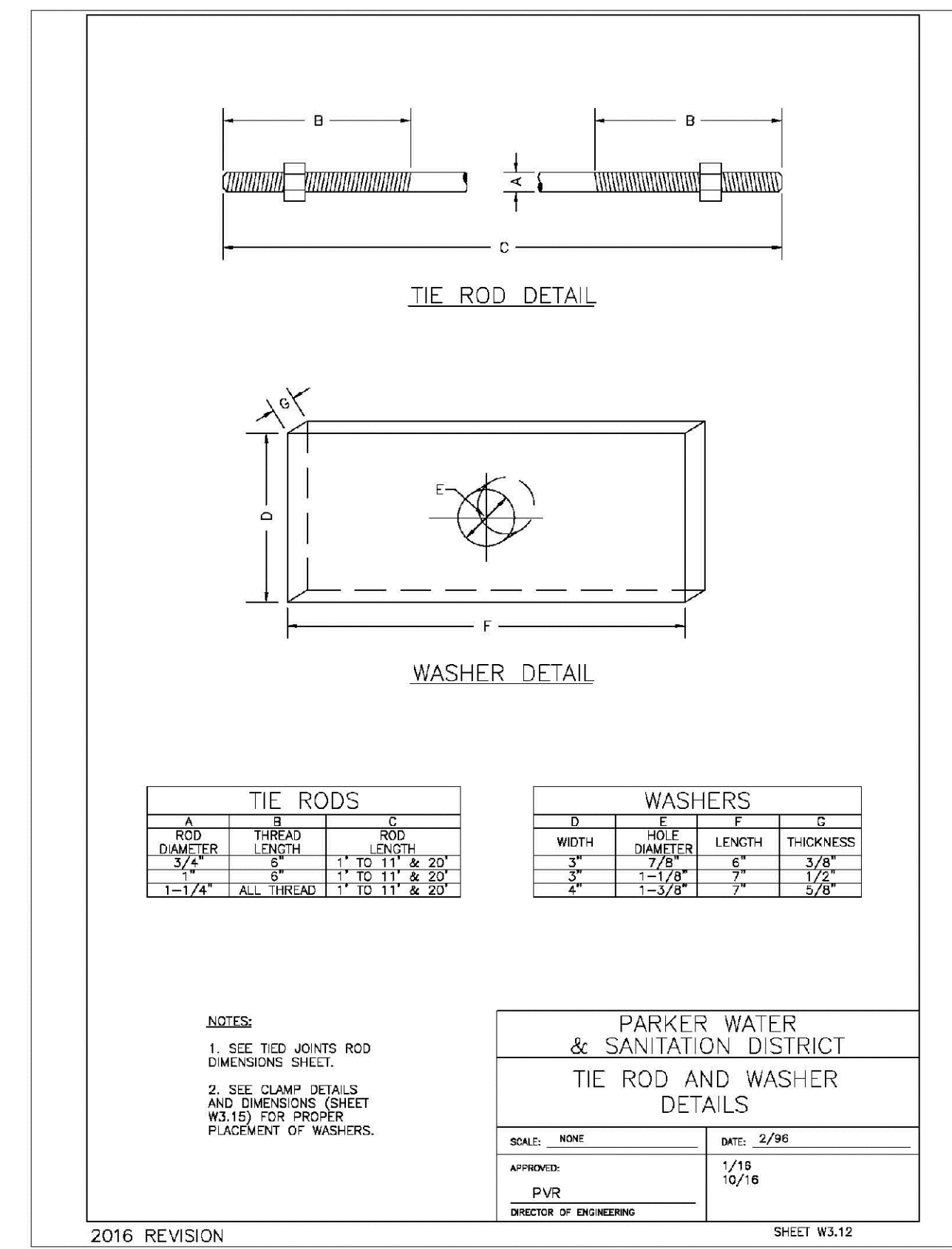
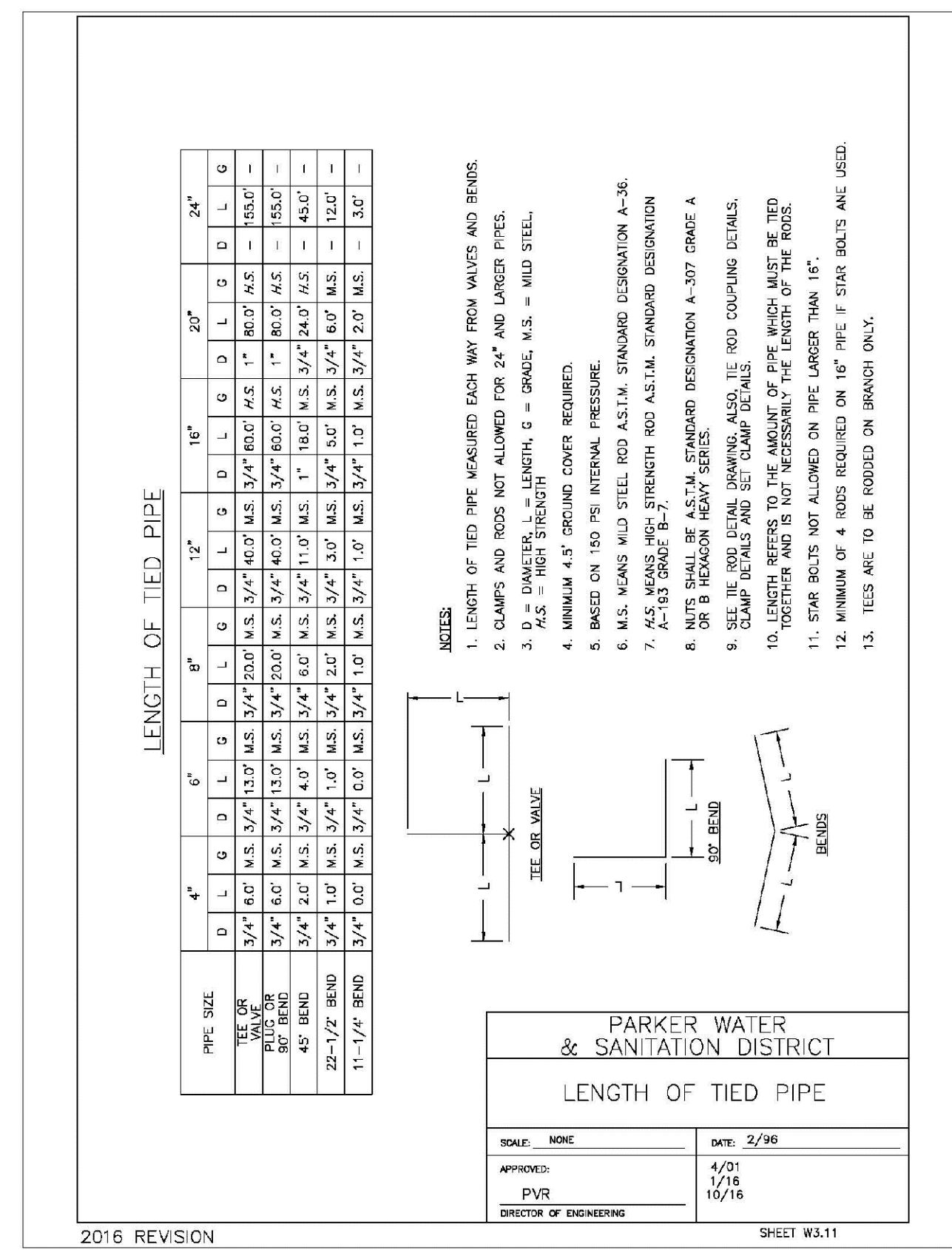
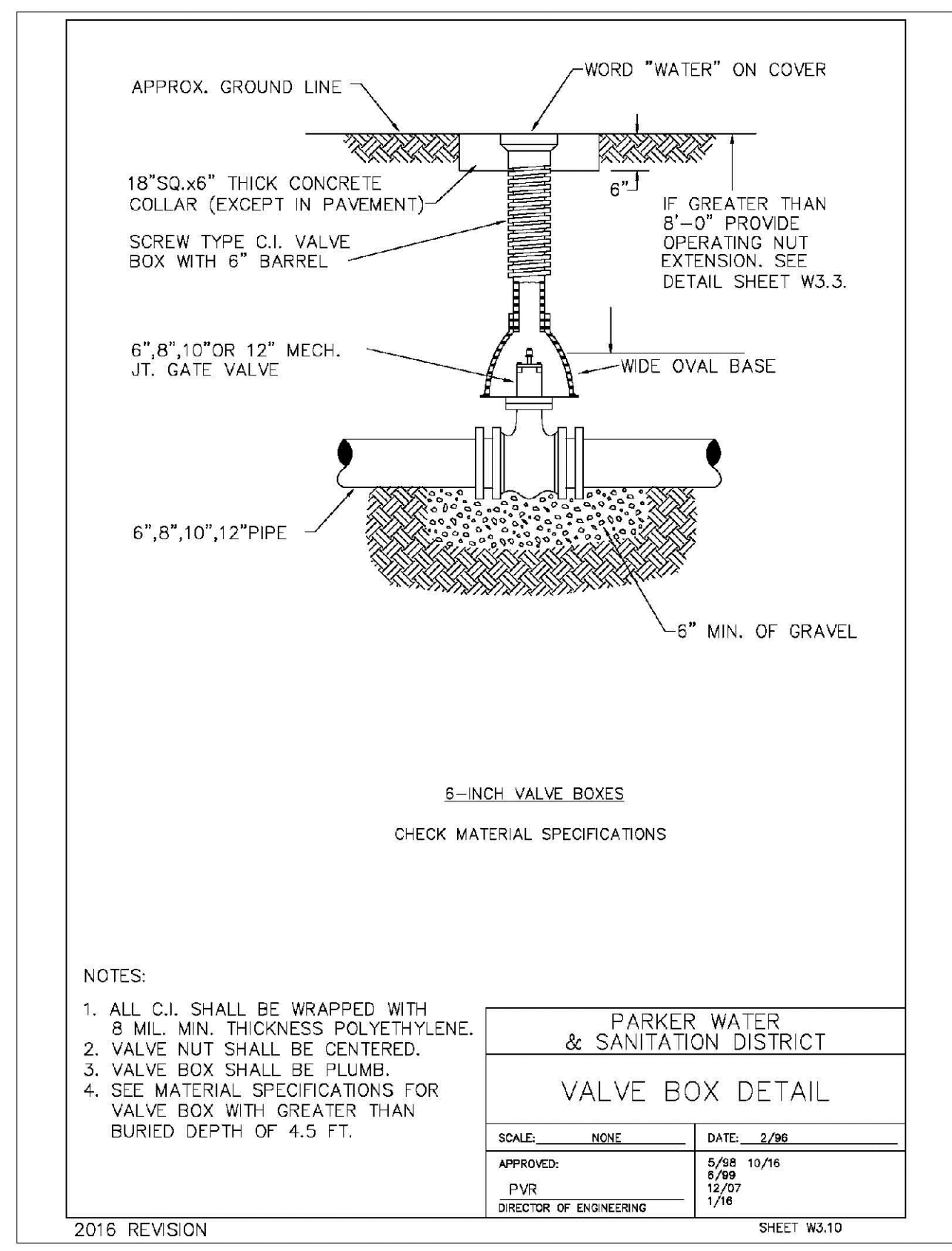
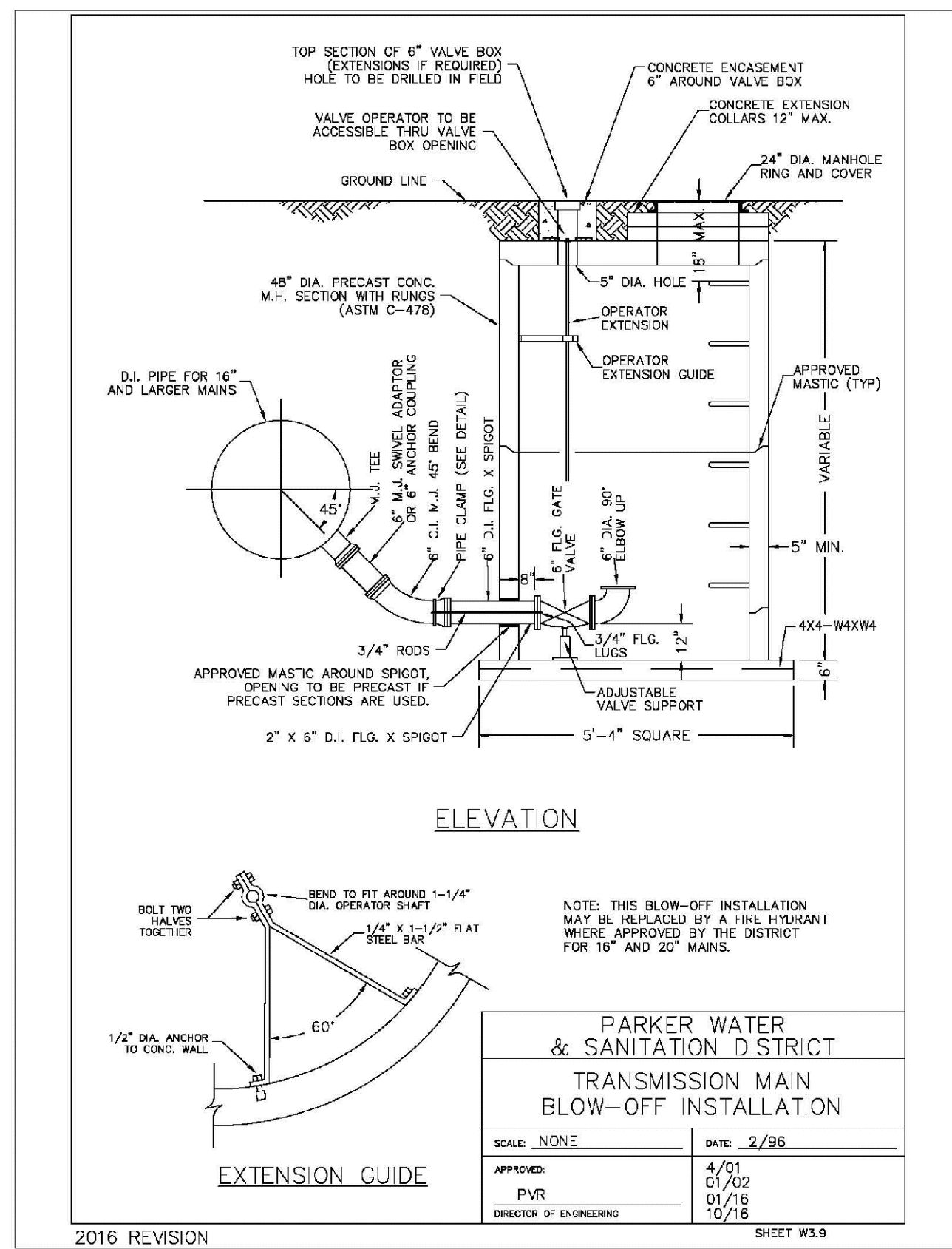
PARKER WATER & SANITATION DISTRICT LOW POINT BLOW-OFF WITH SAND TRAP	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	DATE: 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION SHEET W3.8

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SHEET NUMBER	DRAWN BY: JF	SCALE: AS SHOWN	CHECKED BY: JJ	DATE: AUGUST 2017	FILE NO: 8130283701	DATE	APPR.	DATE	NO.	REVISIONS	DATE	INIT.	APPR.	DATE



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Englewood, CO 80150
Tel: (720) 482-9526
Fax: (720) 482-9546

CVL CONSULTANTS

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILM 7 CONSTRUCTION DRAWINGS
WATER DETAILS

SCALE: AS SHOWN
FILE NO: 8130283701

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

SHEET NUMBER: 14

Revisions: No. Date Init. Appr. 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

MINIMUM BEARING SURFACE AREA (IN SQUARE FEET)

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	2.50	2.00
8"	1.00	1.90	1.50	3.20	2.50
10"	1.00	2.40	1.75	4.00	3.00
12"	1.00	2.90	2.00	4.75	3.50
14"	1.00	3.40	2.25	5.50	4.00
16"	1.00	3.90	2.50	6.25	4.50
18"	1.00	4.40	2.75	7.00	5.00
20"	1.00	4.90	3.00	7.75	5.50
24"	1.00	5.90	3.50	9.25	6.50

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

24" DIAMETER RING AND COVER

NOTES:
1. Coating Specifications: ASTM A-48 With A Minimum Tensile 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: 6/95

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 W3.13).
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

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 haunches 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 sieves:

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

(c) 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 sieves:

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

If approved by the District, fines from the trench walls and spoils pile 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 detrital materials, shall be placed under the pipe. 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: 2/96

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

2016 REVISION SHEET W4.2

PLAN VIEW

PROFILE

TYPICAL SECTION

WATERLINE ENCASEMENT

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 ENCASEMENT

SCALE: NONE DATE: 5/98

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

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
PVR 1/16
DIRECTOR OF ENGINEERING 10/16

2016 REVISION SHEET W4.4

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CVL
CONSULTANTS

HR 935 LLC
7253 South Alton Way
CENTENNIAL, CO 80112

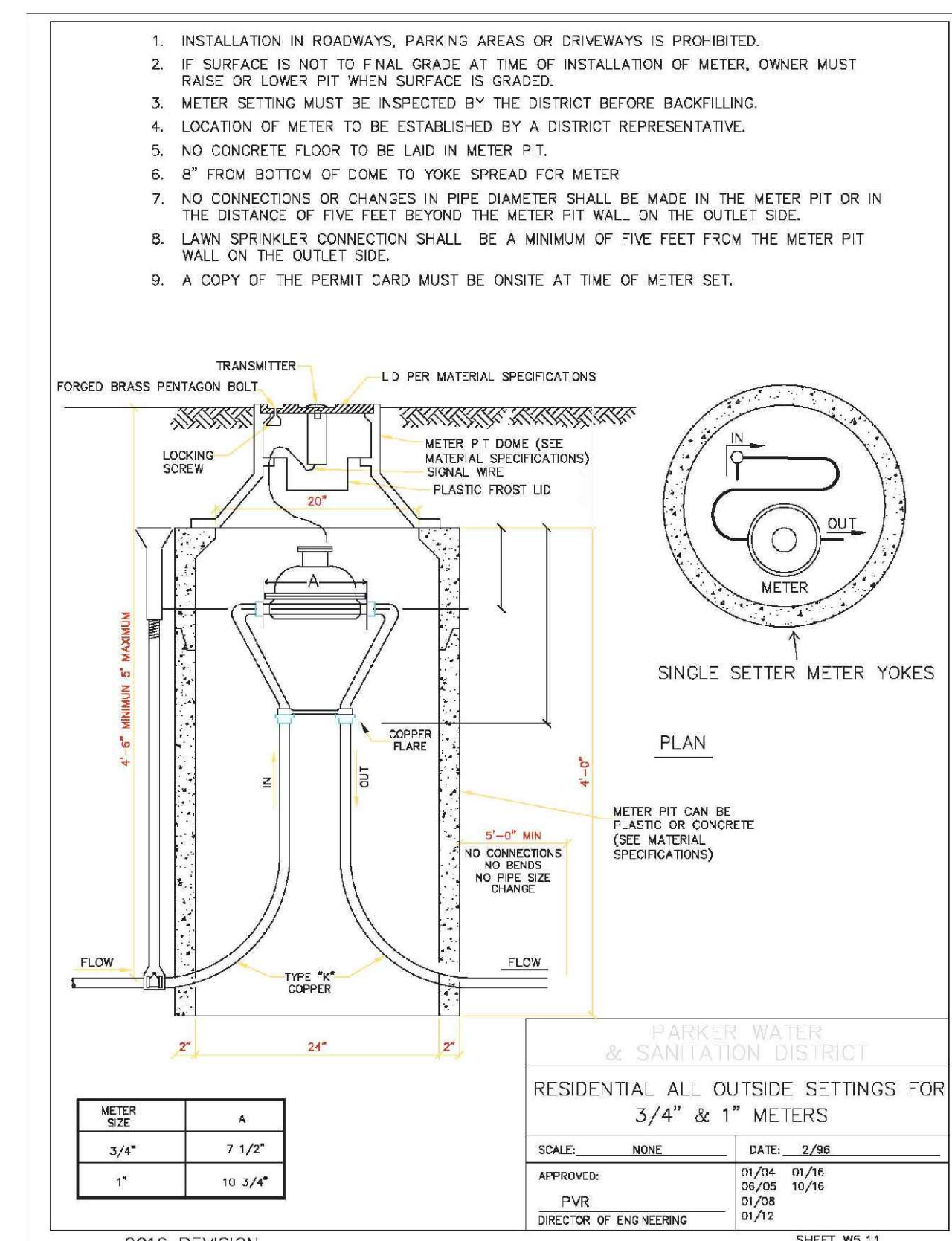
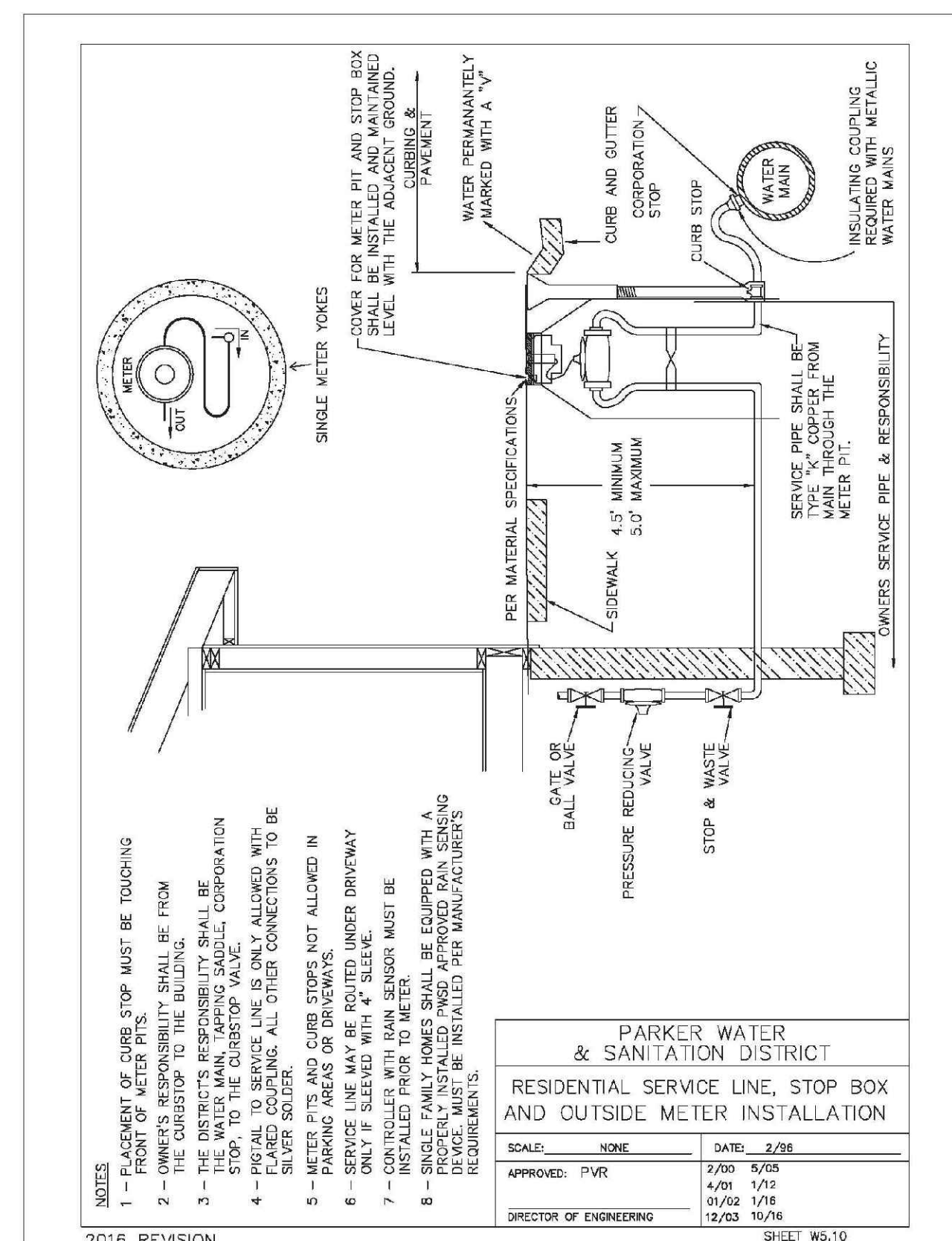
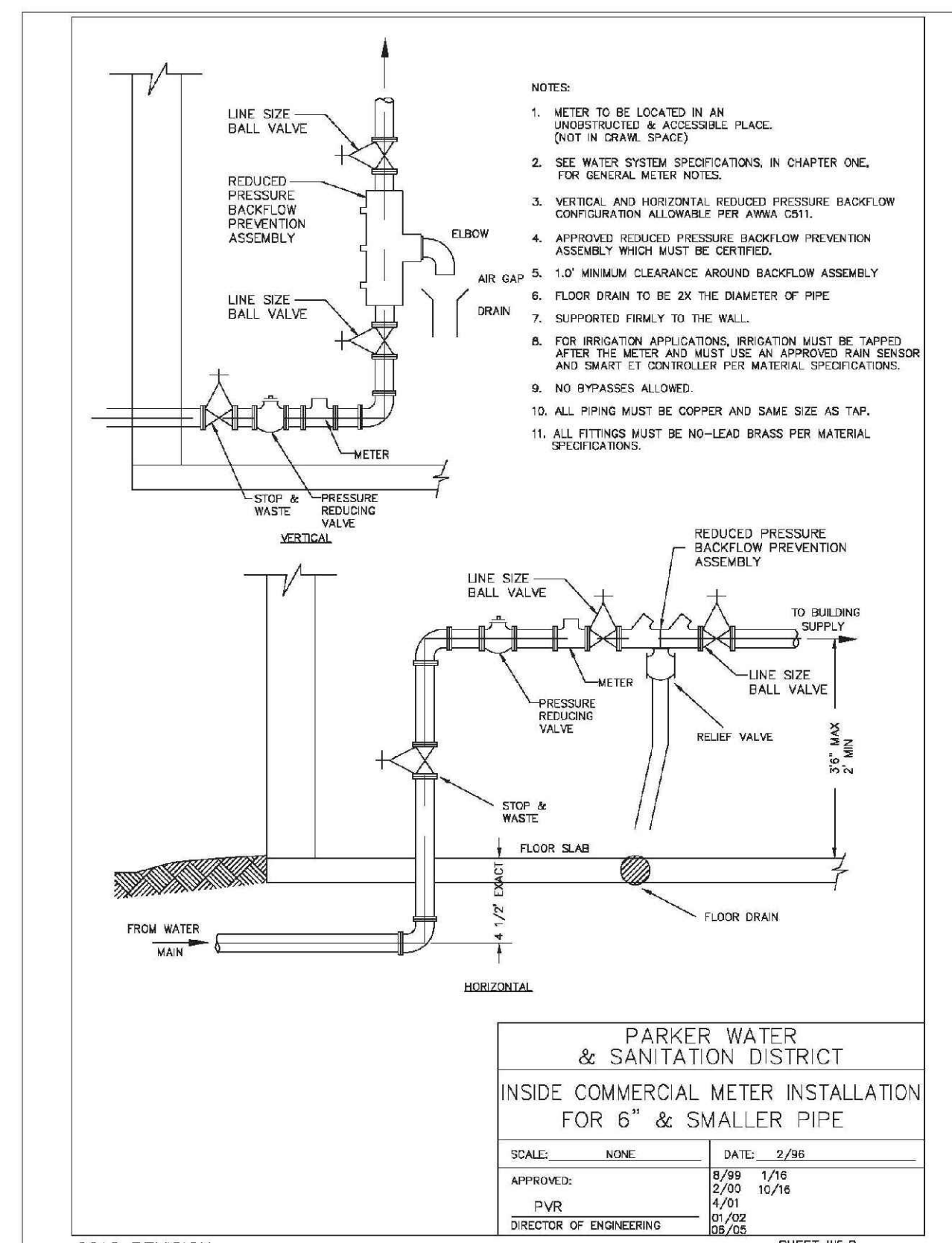
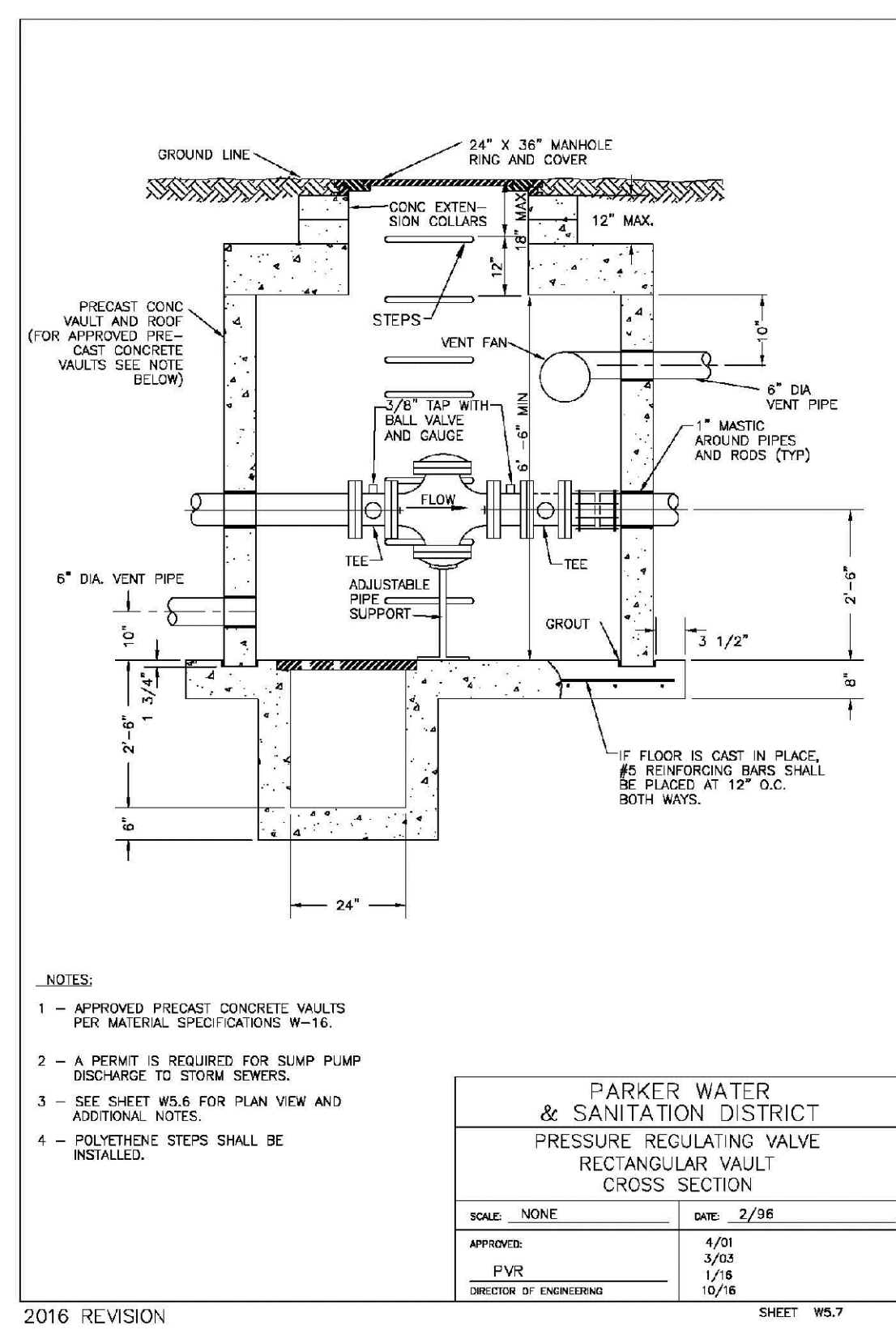
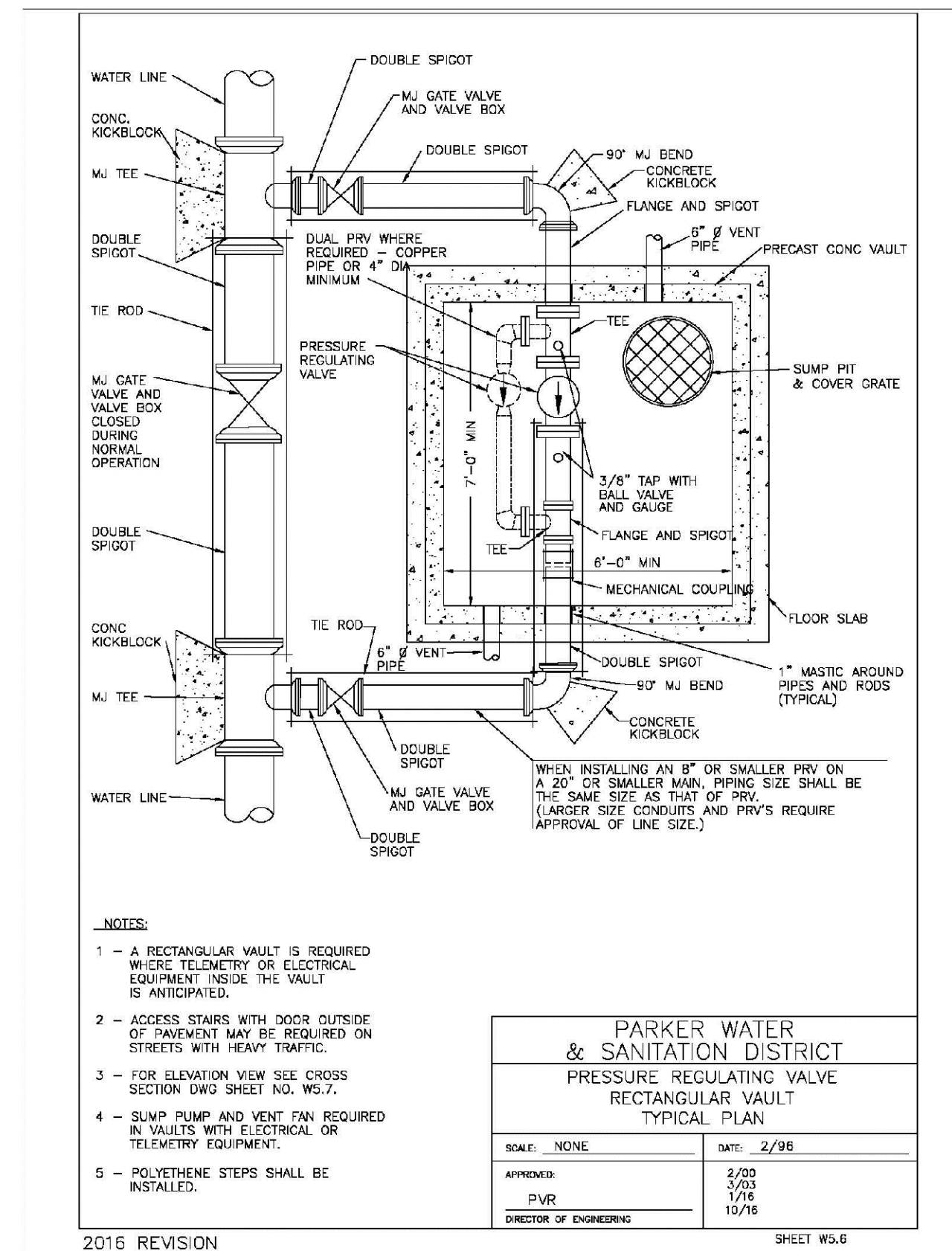
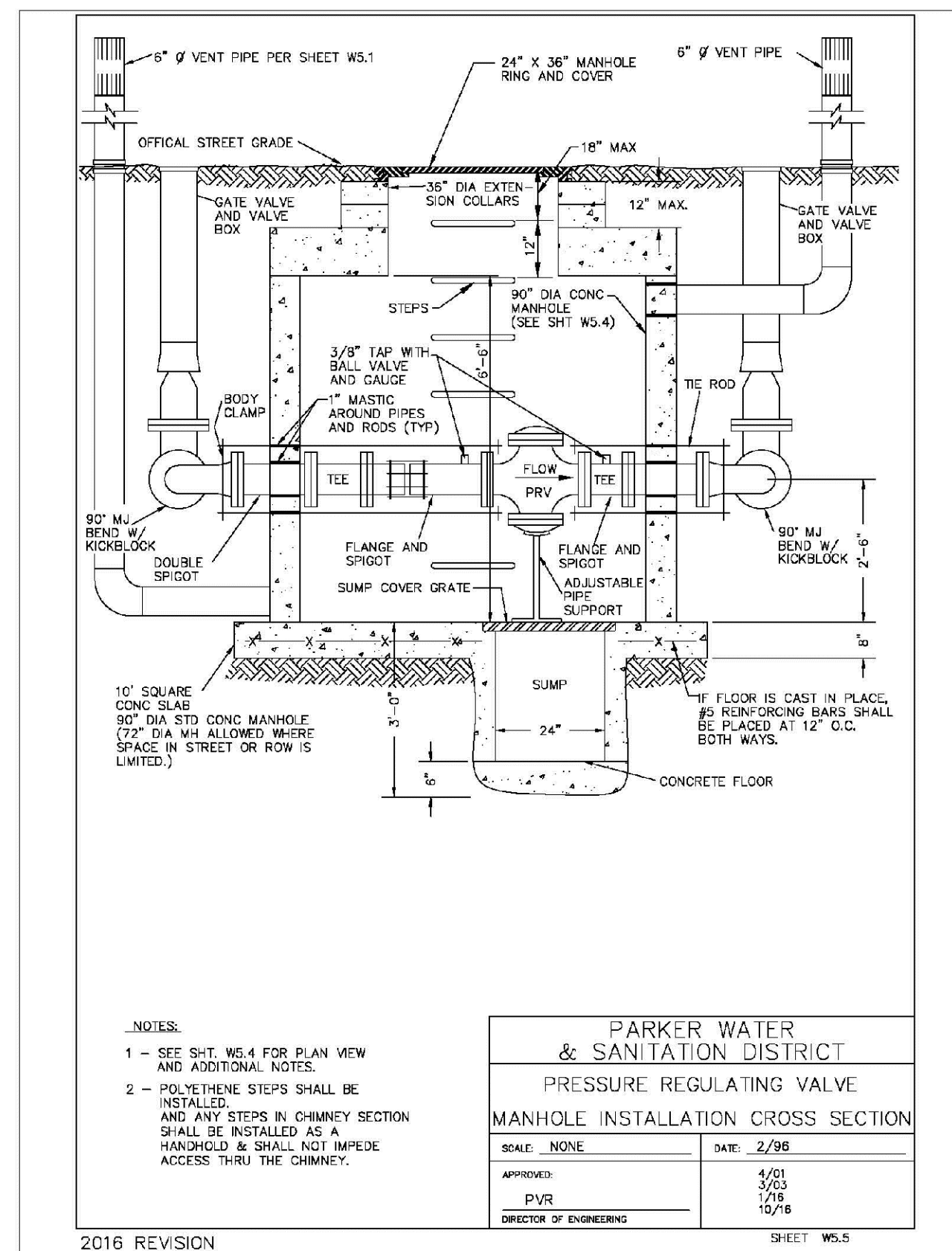
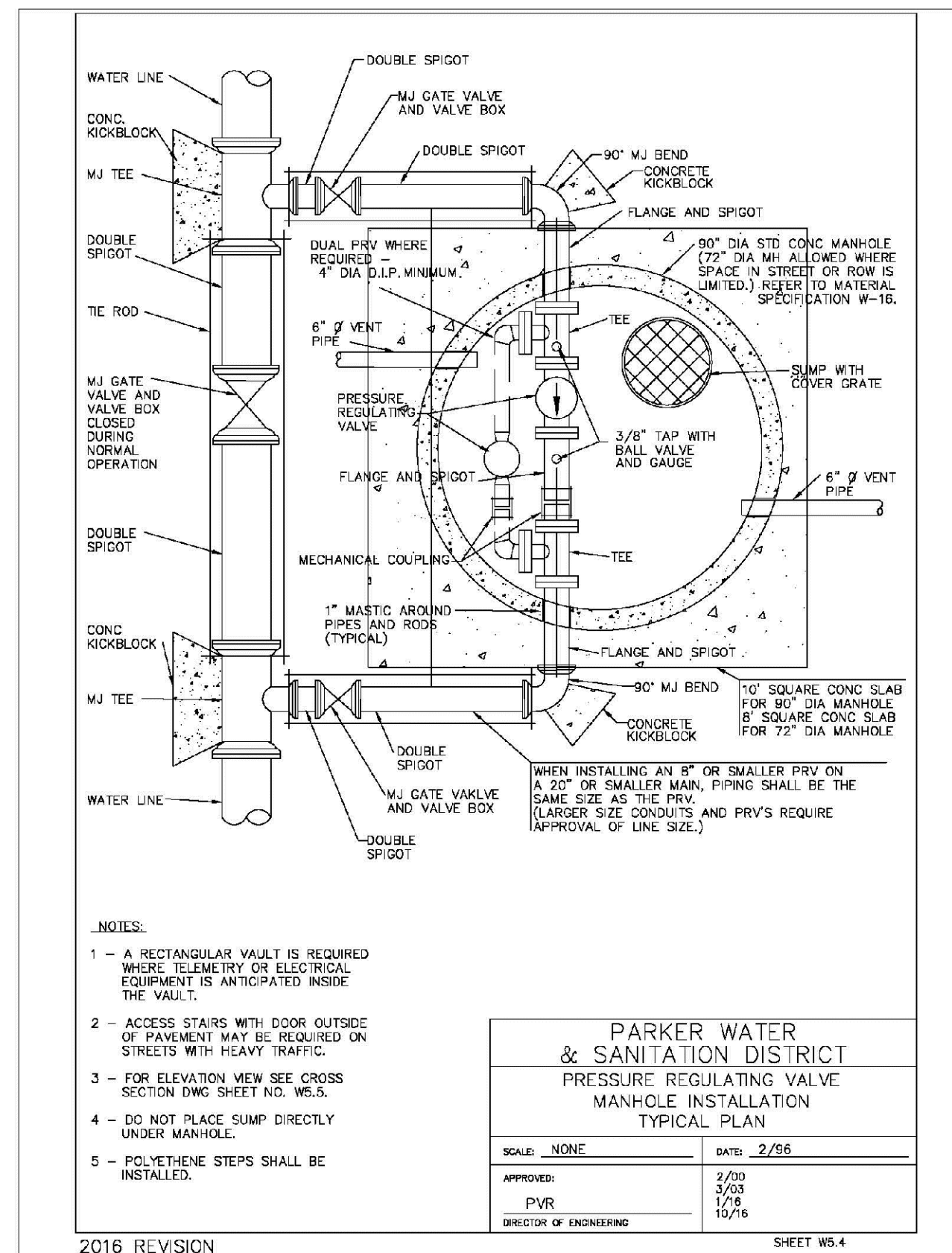
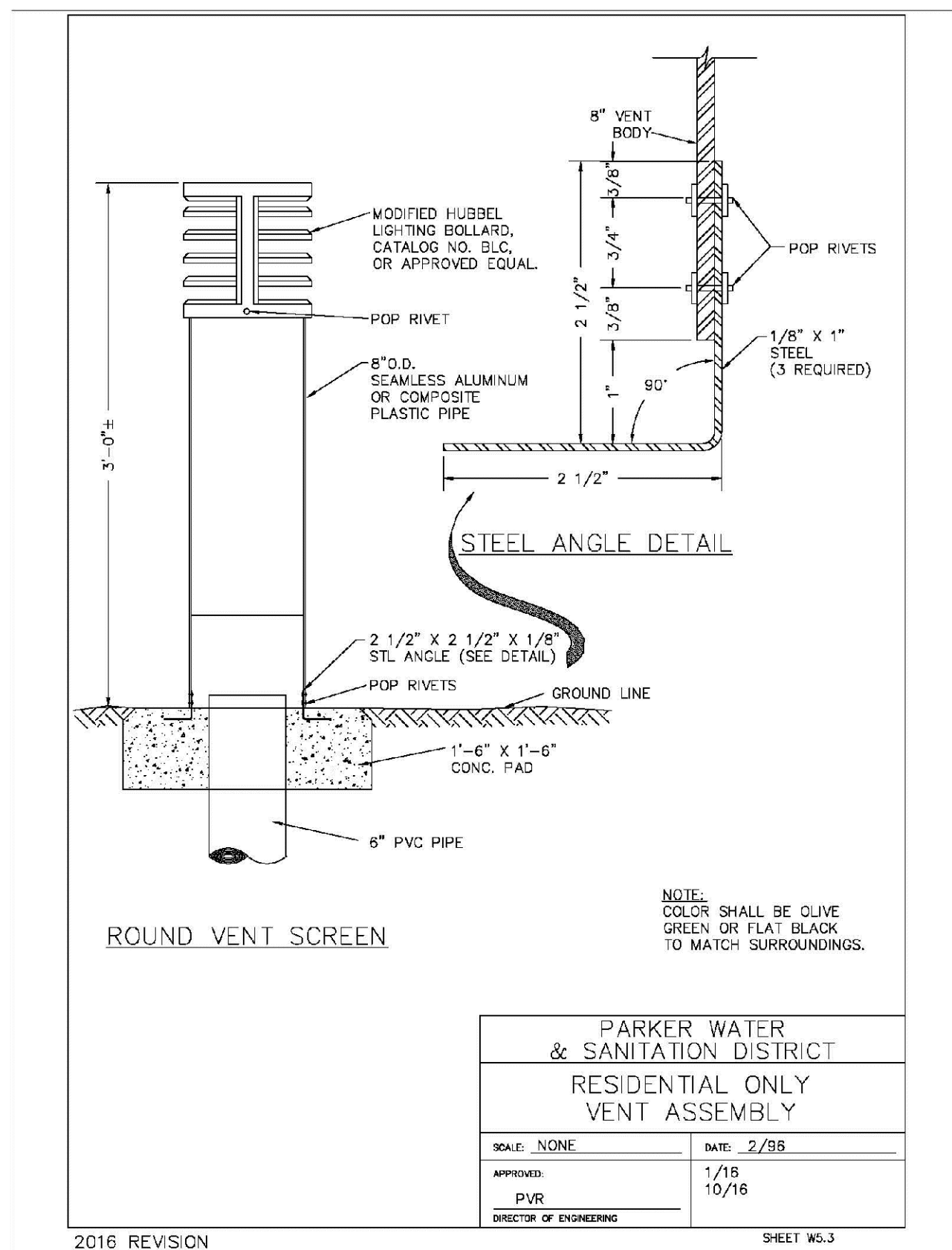
TRAILS AT CROWFOOT
FILING 7 CONSTRUCTION DRAWINGS
WATER DETAILS

SCALE: AS SHOWN
FILE NO: 8130283701

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

SHEET NUMBER: 15

DATE: 8/15/16
APPR.:
Revisions:
No.:



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CENTER OF COLORADO

SHEET NUMBER	DRAWN BY: JF	CHECKED BY: JJ	DATE: AUGUST 2017	SCALE: AS SHOWN	FILE NO: 8130283701	Revisions	Date	Appr.	Date
				TRAILS AT CROWFOOT FILING 7 CONSTRUCTION DRAWINGS WATER DETAILS	HR 935 LLC 7353 South Alton Way CENTENNIAL, CO 80112	No.	Date		Date

17

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