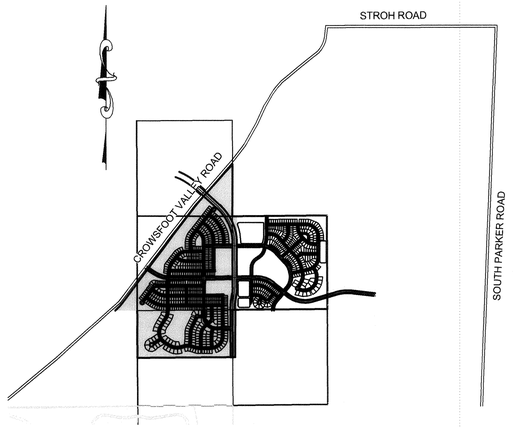
TRAILS AT CROWFOOT FILING 3

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 WILD LUPINE ST
5	SANITARY P&P ROSE MALLOW ST
6	SANITARY P&P ROSE MALLOW ST
7	SANITARY P&P TREFOIL LN
8	SANITARY P&P RED COSMOS POINT
9	WATER P&P WILD LUPINE STREET
10	WATER P&P ROSE MALLOW STREET
11	WATER P&P ROSE MALLOW STREET
12	WATER P&P TREFOIL LANE
13	WATER P&P RED COSMOS POINT
14	SANITARY SEWER DETAILS
15	SANITARY SEWER DETAILS
16	SANITARY SEWER DETAILS
17	WATER DETAILS
18	WATER DETAILS
19	WATER DETAILS
20	WATER DETAILS
21	WATER DETAILS
22	WATER DETAILS
23	WATER DETAILS



VICINITY MAP
SCALE: 1" = 2000'

MATERIALS LIST		
DESCRIPTION	QUANTITY	UNIT
8" SEWER (PVC)	3,580	L.F.
4' DIA. MANHOLE	19	EA.
4" SEWER SERVICE	98	EA.
CONNECTION TO EXISTING MAIN	2	EA.
6" WATERPIPE (DIP)	100	L.F.
8" WATERPIPE (PVC)	3,588	L.F.
6" GATE VALVE	5	EA.
8" GATE VALVE	10	EA.
8" MISC. FITTINGS	22	EA.
8" CAP WITH BLOW OFF	1	EA.
2" BLOW OFF VALVE (8" LINE-LOW POINT)	1	EA.
FIRE HYDRANT WITH 6" LEAD	8	EA.
DEEP BURY FIRE HYDRANT WITH 6" LEAD	1	EA.
DOMESTIC WATER SERVICE W/ METER	98	EA.
CONNECTION TO EXISTING MAIN	5	EA.

FIRE DEPARTMENT APPROVAL

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

(FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE) — DATE: 4-12-18

(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 SCHEDULINE 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: Drayton Sanderson
(DISTRICT REPRESENTATIVE)

DATE SIGNED: 4-11-19

APPROVED FOR CONSTRUCTION:
PARKER WATER AND SANITATION DISTRICT

BY: _____
(DISTRICT ENGINEER)

DATE SIGNED: 4/11/2019

PREPARED UNDER THE SUPERVISION OF

COLORADO LICENSED BRIAN P. WILSON 0050067 PROFESSIONAL ENGINEER 4-11-18

BRIAN P. WILSON
COLORADO P.E. 0050067

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

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

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

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

N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\F3 COVER.DWG, CODY A, 2/28/2018 1:19 PM

No.	Revisions	Date	Init.	Appr.	Date

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

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
COVER SHEET

SCALE:	FILE NO:
AS SHOWN	8130283701

DRAWN BY:	CHECKED BY:	DATE:
KJD	JJJ	APRIL 2017

SHEET NUMBER 1

GENERAL NOTES:

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

WATER MAIN NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PARKER WATER AND SANITATION DISTRICT ENGINEERING STANDARDS AND SPECIFICATIONS, LATEST REVISIONS. ALL WORK SHALL BE INSPECTED AND APPROVED BY PERSONNEL OF THE PARKER WATER SANITATION DISTRICT AND THE DISTRICT ENGINEER.
2. ALL WATER MAINS SHALL BE PER PWSD 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 PWSD MATERIALS SPECIFICATIONS.
4. THERE SHALL BE A MINIMUM COVER OF 4.5 FEET OVER ALL WATER MAINS.
5. FIRE HYDRANTS SHALL CONFORM TO AWWA C–502 "DRY BARREL FIRE HYDRANTS" PIPE HYDRANT ASSEMBLIES SHALL INCLUDE ALL PIPE, FITTINGS, VALVES, MATERIALS, AND LABOR WHICH ARE NECESSARY TO INSTALL THE HYDRANT COMPLETE IN PLACE. SEE MATERIALS SPECIFICATIONS FOR APPROVED MODELS
6. ALL BENDS, TEES, FIRE HYDRANTS, BLOW–OFFS AND PLUGS AT DEAD END MAINS SHALL BE PROTECTED FROM THRUST BY USING CONCRETE THRUST BLOCKS.
7. PRECAUTIONS SHALL BE TAKEN TO PROTECT THE INTERIOR OF PIPES, FITTINGS, AND VALVES AGAINST CONTAMINATION. ALL OPENINGS IN THE PIPELINE SHALL BE CLOSED WITH WATERTIGHT PLUGS WHEN PIPE LAYING IS STOPPED AT THE CLOSE OF THE DAY'S WORK OR FOR OTHER REASONS, SUCH AS REST BREAKS OR MEAL PERIODS. THE MORE CLOSELY THE RATE OF DELIVERY IS CORRELATED TO THE RATE OF PIPE LAYING, THE LOWER THE RISK OF CONTAMINATION.
8. CHLORINATION AND FLUSHING: ALL WATER MAINS SHALL BE INSTALLED AND CHLORINATED PER PARKER WATER AND SANITATION STANDARDS AND SPECIFICATIONS. THE LINES SHALL BE CHLORINATED IN ACCORDANCE WITH ANSI/AWWA C–651–92., "DISINFECTING WATER MAINS." PARKER WATER AND SANITATION DISTRICT REQUIRES THE INITIAL DOSAGE RATE OF DISINFECTION BE AT LEAST 50 MG PER LITER. CHLORINE TABLETS SHOULD BE ADHERED TO THE TOP OF THE PIPE SECTION WITH PERMATEX NO.1 (RED). THE CHLORINATION OF ANY FINISHED PIPELINE SHALL BE DONE PRIOR TO THE HYDROSTATIC TESTING.
9. HYDROSTATIC TESTING: ALL WATER MAINS SHALL BE TESTED PER THE REQUIREMENTS OF THE PARKER WATER AND SANITATION DISTRICT STANDARDS AND SPECIFICATIONS. ALL PIPE SHALL BE FIELD PRESSURE TESTED TO A MINIMUM OF 150 PSI. ALL TESTING SHALL BE DONE IN THE PRESENCE OF A PARKER WATER AND SANITATION DISTRICT INSPECTOR. LEAKAGE FOR EACH SECTION OF PIPE BETWEEN LINES VALVES SHALL NOT EXCEED THE LIMITS SET FOURTH 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 DETERMINED THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO PROCEEDING WITH THE EXCAVATION. ALL WORK PERFORMED IN THE AREA OF THE PUBLIC UTILITIES SHALL BE PERFORMED ACCORDING TO THE REQUIREMENTS OF THESE AGENCIES.
15. COMPACTION OF ALL TRENCHES MUST BE ATTAINED IN ACCORDANCE WITH THE SOILS REPORTS AND COMPACTION TEST RESULTS SUBMITTED TO THE DISTRICT ENGINEER PRIOR TO PROBATIONARY ACCEPTANCE.
16. VALVE BOXES: TYLER SCREW–TYPE 6 INCHES CAST IRON VALVE BOX ASSEMBLY SERIES 6860 WITH NO. 160 OVAL BASE. CLAY AND BAILEY SCREW–TYPE 6 INCH CAST IRON VALVE BOX ASSEMBLY NO. P–108 WITH NO. 106 LARGE OVAL BASE.
17. ALL PIPE LENGTHS ARE APPROXIMATE.
18. AT LEAST FIVE (5) DAYS PRIOR TO THE START OF CONSTRUCTION, A PRE–CONSTRUCTION MEETING WILL BE HELD AT THE OFFICE OF THE DISTRICT ENGINEER AND ATTENDED BY THE CONTRACTOR AND REPRESENTATIVE OF OTHER APPROVING AGENCIES. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE DISTRICT ENGINEER.

SANITARY SEWER NOTES:

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

DISTRICT ACCEPTANCE NOTES:

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

N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\F3 COVER.DWG, CODY A, 2/8/2018 1:19 PM

CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
1-800-922-1987
UNCC 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
COLORADO LICENSED BRIAN P. WILSON 0050067 PE PROFESSIONAL ENGINEER
4-11-18
BRIAN P. WILSON
COLORADO P.E. 0050067

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

No.	Revisions	Date	Init.	Appr.	Date

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

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
PARKER WATER AND SANITATION NOTES

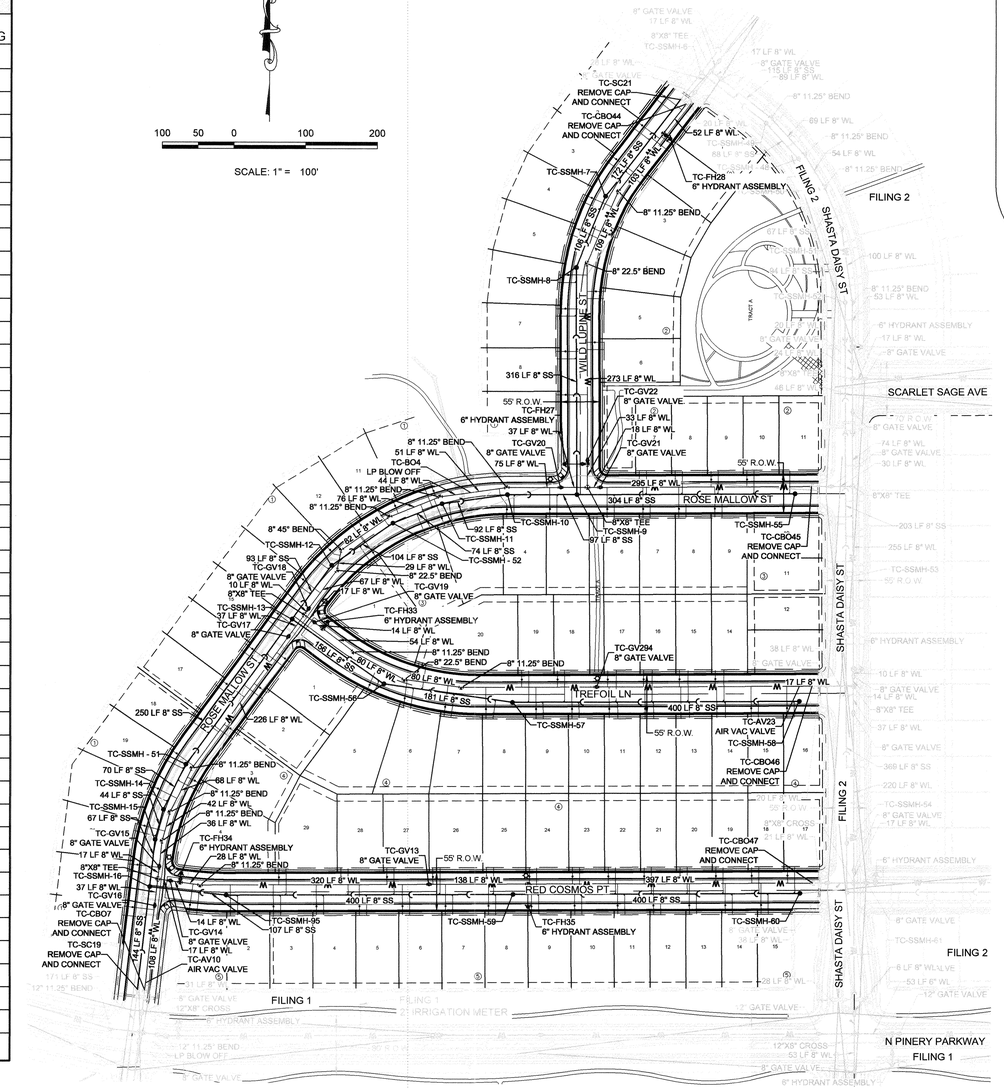
SCALE:	AS SHOWN	SHEET NUMBER	2
DRAWN BY:	KJD		
CHECKED BY:	JJJ	FILE NO:	8130283701
DATE:	APRIL 2017		

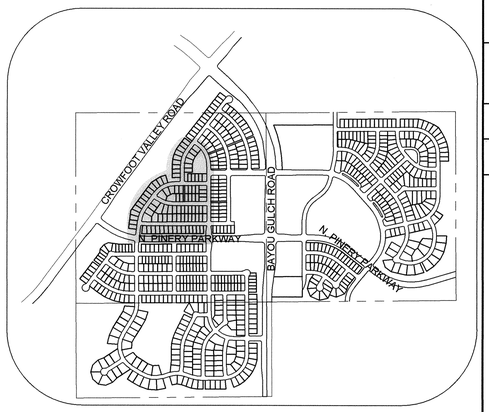
SERVICE TABLE			
FILING, BLOCK, LOT	STREET	SANITARY STATIONING	WATER STATIONING
F3,B1,L1	WILD LUPINE ST	15+70.06	15+80.06
F3,B1,L2	WILD LUPINE ST	15+18.83	15+28.83
F3,B1,L3	WILD LUPINE ST	14+58.79	14+68.63
F3,B1,L4	WILD LUPINE ST	13+98.17	14+08.93
F3,B1,L5	WILD LUPINE ST	13+51.43	13+59.94
F3,B1,L6	WILD LUPINE ST	12+94.78	13+06.82
F3,B1,L7	WILD LUPINE ST	12+49.35	12+59.60
F3,B1,L8	WILD LUPINE ST	11+89.97	11+99.97
F3,B1,L9	WILD LUPINE ST	11+29.97	11+39.97
F3,B1,L10	ROSE MALLOW ST	19+01.60	19+10.66
F3,B1,L11	ROSE MALLOW ST	18+34.91	18+54.48
F3,B1,L12	ROSE MALLOW ST	17+93.56	18+03.51
F3,B1,L13	ROSE MALLOW ST	17+31.25	17+56.20
F3,B1,L14	ROSE MALLOW ST	16+88.64	16+98.21
F3,B1,L15	ROSE MALLOW ST	16+23.96	16+39.32
F3,B1,L16	ROSE MALLOW ST	15+69.32	15+79.32
F3,B1,L17	ROSE MALLOW ST	15+09.32	15+19.32
F3,B1,L18	ROSE MALLOW ST	14+49.32	14+59.32
F3,B1,L19	ROSE MALLOW ST	13+88.66	13+99.44
F3,B1,L20	ROSE MALLOW ST	13+38.19	13+47.61
F3,B1,L21	ROSE MALLOW ST	12+87.01	12+96.94
F3,B1,L22	ROSE MALLOW ST	12+33.24	12+43.97
F3,B1,L23	ROSE MALLOW ST	11+71.35	11+83.97
F3,B2,L1	WILD LUPINE ST	15+78.23	16+04.56
F3,B2,L2	WILD LUPINE ST	15+22.70	15+32.70
F3,B2,L3	WILD LUPINE ST	14+62.70	14+72.66
F3,B2,L4	WILD LUPINE ST	13+71.15	13+81.54
F3,B2,L5	WILD LUPINE ST	12+72.87	12+84.07
F3,B2,L6	WILD LUPINE ST	12+02.30	12+12.30
F3,B2,L7	ROSE MALLOW ST	22+02.33	21+92.33
F3,B2,L8	ROSE MALLOW ST	22+52.33	22+42.33
F3,B2,L9	ROSE MALLOW ST	23+02.33	22+92.33
F3,B2,L10	ROSE MALLOW ST	23+52.33	23+42.33
F3,B2,L11	ROSE MALLOW ST	24+02.33	23+92.33
F3,B3,L1	ROSE MALLOW ST	17+85.16	17+95.48
F3,B3,L2	ROSE MALLOW ST	18+77.76	18+87.56
F3,B3,L3	ROSE MALLOW ST	19+25.60	19+07.04
F3,B3,L4	ROSE MALLOW ST	20+17.31	19+97.14
F3,B3,L5	ROSE MALLOW ST	20+77.31	20+67.31
F3,B3,L6	ROSE MALLOW ST	21+57.31	21+47.31
F3,B3,L7	ROSE MALLOW ST	22+07.31	21+97.31
F3,B3,L8	ROSE MALLOW ST	22+57.31	22+47.31
F3,B3,L9	ROSE MALLOW ST	23+07.31	22+97.31
F3,B3,L14	TREFOIL LN	16+27.13	16+15.13
F3,B3,L15	TREFOIL LN	15+77.13	15+65.13
F3,B3,L16	TREFOIL LN	15+27.13	15+15.13
F3,B3,L17	TREFOIL LN	14+77.13	14+65.13
F3,B3,L18	TREFOIL LN	14+05.13	13+95.13
F3,B3,L19	TREFOIL LN	13+55.13	13+45.13
F3,B3,L20	TREFOIL LN	12+06.42	11+95.37

SERVICE TABLE			
FILING, BLOCK, LOT	STREET	SANITARY STATIONING	WATER STATIONING
F3,B4,L1	ROSE MALLOW ST	15+85.88	15+95.88
F3,B4,L2	ROSE MALLOW ST	15+32.71	15+42.71
F3,B4,L3	ROSE MALLOW ST	14+62.71	14+72.71
F3,B4,L4	ROSE MALLOW ST	13+70.79	13+81.23
F3,B4,L5	TREFOIL LN	11+46.26	11+35.90
F3,B4,L6	TREFOIL LN	11+94.06	11+82.47
F3,B4,L7	TREFOIL LN	12+51.31	12+41.14
F3,B4,L8	TREFOIL LN	13+08.86	12+95.13
F3,B4,L9	TREFOIL LN	13+75.13	13+65.13
F3,B4,L10	TREFOIL LN	14+25.13	14+15.13
F3,B4,L11	TREFOIL LN	14+79.13	14+67.13
F3,B4,L12	TREFOIL LN	15+29.13	15+17.13
F3,B4,L13	TREFOIL LN	15+79.13	15+67.13
F3,B4,L14	TREFOIL LN	16+29.13	16+17.13
F3,B4,L15	TREFOIL LN	16+75.13	16+65.13
F3,B4,L16	TREFOIL LN	17+25.13	17+15.13
F3,B4,L17	RED COSMOS PT	19+00.06	18+90.06
F3,B4,L18	RED COSMOS PT	18+50.06	18+40.06
F3,B4,L19	RED COSMOS PT	18+00.06	17+90.06
F3,B4,L20	RED COSMOS PT	17+50.06	17+40.06
F3,B4,L21	RED COSMOS PT	17+00.06	16+90.06
F3,B4,L22	RED COSMOS PT	16+50.06	16+40.06
F3,B4,L23	RED COSMOS PT	16+00.06	15+90.06
F3,B4,L24	RED COSMOS PT	15+40.06	15+30.06
F3,B4,L25	RED COSMOS PT	14+80.06	14+70.06
F3,B4,L26	RED COSMOS PT	14+05.27	13+95.27
F3,B4,L27	RED COSMOS PT	13+41.27	13+31.27
F3,B4,L28	RED COSMOS PT	12+77.27	12+67.27
F3,B4,L29	RED COSMOS PT	11+90.68	11+80.68
F3,B5,L1	RED COSMOS PT	10+69.41	10+59.71
F3,B5,L2	RED COSMOS PT	11+22.91	11+12.91
F3,B5,L3	RED COSMOS PT	11+82.91	11+72.91
F3,B5,L4	RED COSMOS PT	12+42.91	12+32.91
F3,B5,L5	RED COSMOS PT	13+02.91	12+92.91
F3,B5,L6	RED COSMOS PT	13+62.91	13+52.91
F3,B5,L7	RED COSMOS PT	14+22.91	14+12.91
F3,B5,L8	RED COSMOS PT	14+82.91	14+72.91
F3,B5,L9	RED COSMOS PT	15+42.91	15+32.91
F3,B5,L10	RED COSMOS PT	16+02.91	15+92.91
F3,B5,L11	RED COSMOS PT	16+62.91	16+52.91
F3,B5,L12	RED COSMOS PT	17+12.91	17+02.91
F3,B5,L13	RED COSMOS PT	17+62.91	17+52.91
F3,B5,L14	RED COSMOS PT	18+12.91	18+02.91
F3,B5,L15	RED COSMOS PT	18+62.91	18+52.91

100 50 0 100 200

SCALE: 1" = 100'





KEYMAP
N.T.S.

LEGEND

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

ABBREVIATIONS

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

NOTES:
1. ALL WATER LINE IS IN PWSD ZONE 2.

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

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

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 plan(s), special review(s), grading permit, and/or other permits are complete, approved and on file with the Town of Parker.

Town of Parker, Director of Engineering — 04/18/2019 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) — 4-17-18 DATE

(NOTE- UNDERGROUND FIRE LINE (UFL) SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENTS OF NFPA24 WHEN SUBMITTING FOR REVIEW.)

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

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

PREPARED UNDER THE SUPERVISION OF
COLORADO LICENSED BRIAN P. WILSON 0050067 PROFESSIONAL ENGINEER
4-11-18
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 SCHEDULINE 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 _____

APPROVED FOR CONSTRUCTION:
PARKER WATER AND SANITATION DISTRICT

BY: _____ (DISTRICT ENGINEER) DATE _____

No.	Revisions	Date	Init.	Appr.	Date

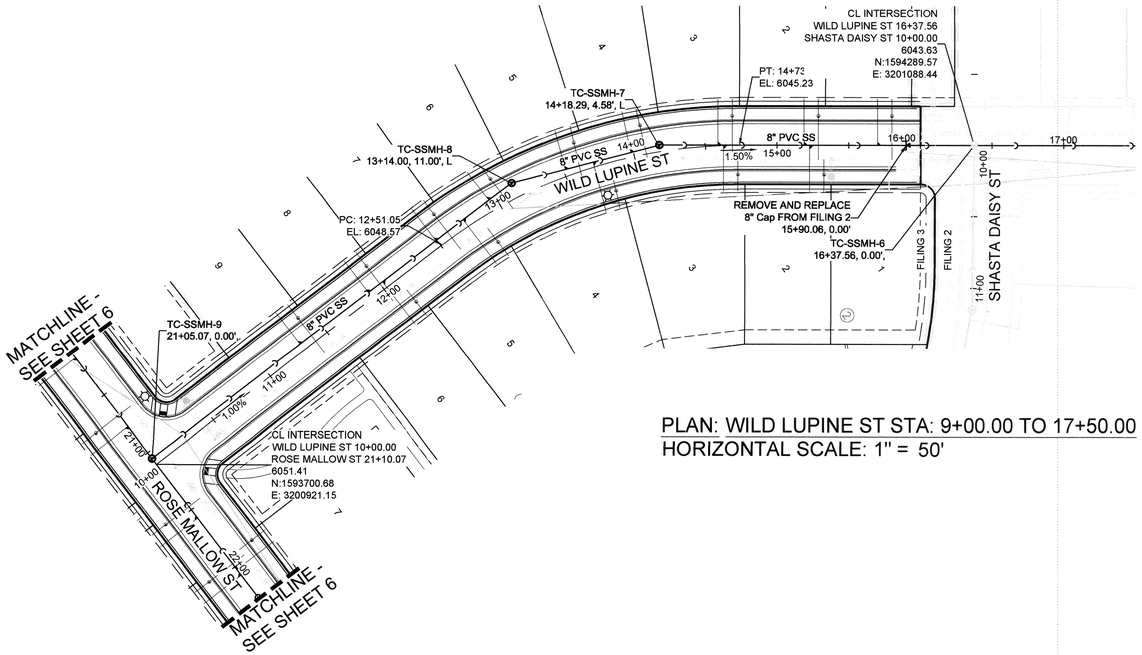
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546
CVL CONSULTANTS

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

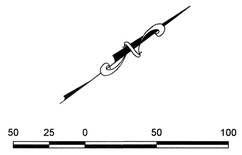
TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
AREA UTILITY PLAN

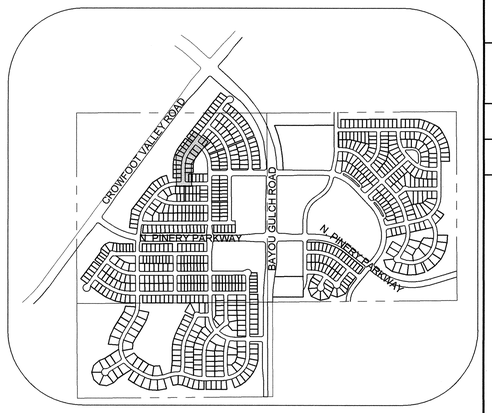
SCALE: AS SHOWN | FILE NO: 8130283701
DRAWN BY: JLR | CHECKED BY: JJJ | DATE: APRIL 2017
SHEET NUMBER 3

N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\PARKER WATER AND SANITATION\F3 AREA UTILITY PLAN.DWG, BRIANW, 3/2/2018 2:00 PM



PLAN: WILD LUPINE ST STA: 9+00.00 TO 17+50.00
HORIZONTAL SCALE: 1" = 50'





KEYMAP
N.T.S.

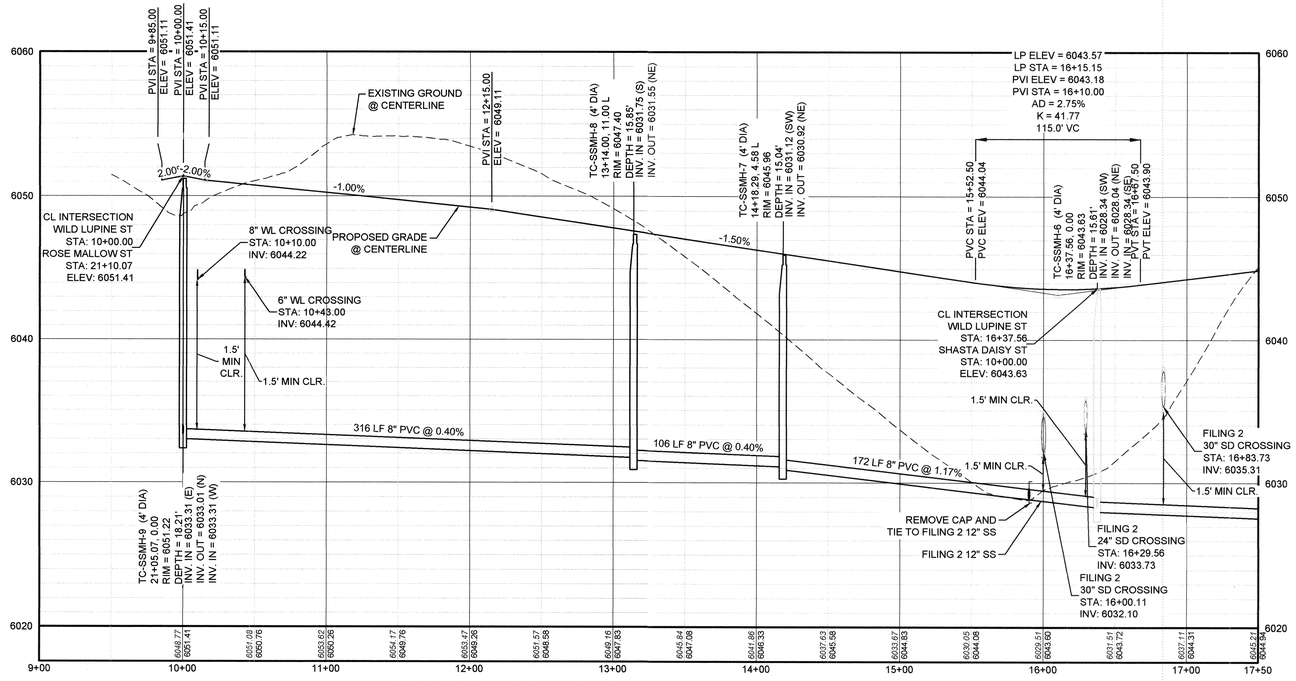
SANITARY SERVICE TABLE		
FILING, BLOCK, LOT	STREET	STATIONING
F3,B1,L1	WILD LUPINE ST	15+70.06
F3,B1,L2	WILD LUPINE ST	15+18.83
F3,B1,L3	WILD LUPINE ST	14+58.79
F3,B1,L4	WILD LUPINE ST	13+98.17
F3,B1,L5	WILD LUPINE ST	13+51.43
F3,B1,L6	WILD LUPINE ST	12+94.78
F3,B1,L7	WILD LUPINE ST	12+49.35
F3,B1,L8	WILD LUPINE ST	11+89.97
F3,B1,L9	WILD LUPINE ST	11+29.97
F3,B2,L1	WILD LUPINE ST	15+78.23
F3,B2,L2	WILD LUPINE ST	15+22.70
F3,B2,L3	WILD LUPINE ST	14+62.70
F3,B2,L4	WILD LUPINE ST	13+71.15
F3,B2,L5	WILD LUPINE ST	12+72.87
F3,B2,L6	WILD LUPINE ST	12+02.30

LEGEND

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

ABBREVIATIONS

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



PROFILE: WILD LUPINE ST STA: 9+00.00 TO 17+50.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

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

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
COLORADO LICENSED BRIAN P. WILSON 0050067 PROFESSIONAL ENGINEER
BRIAN P. WILSON
COLORADO P.E. 0050067

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

No.	Revisions	Date	Init.	Appr.	Date

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

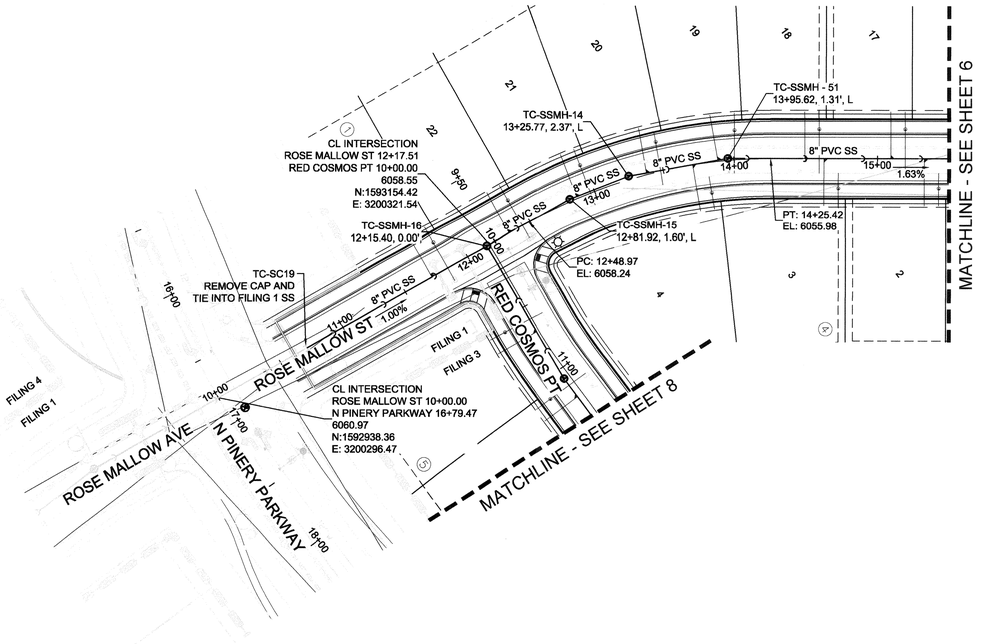
HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
SANITARY SEWER PLAN AND PROFILE
WILD LUPINE ST

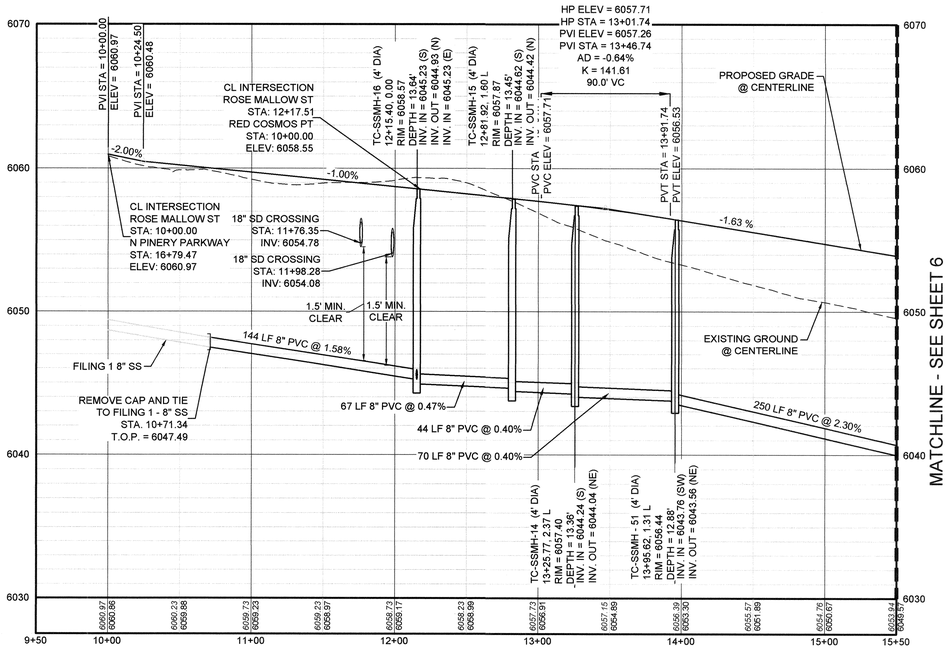
SCALE:	AS SHOWN	FILE NO:	8130283701
DRAWN BY:	KJD	CHECKED BY:	JJJ
DATE:	APRIL 2017		

SHEET NUMBER 4

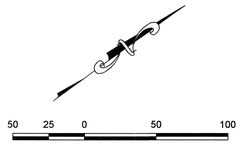
N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\SANITARY PLAN AND PROFILE\F3 WILD LUPINE ST SANITARY.DWG, HAYDENV, 3/2/2018 2:55 PM



PLAN: ROSE MALLOW ST STA: 9+50.00 TO 15+50.00
HORIZONTAL SCALE: 1" = 50'

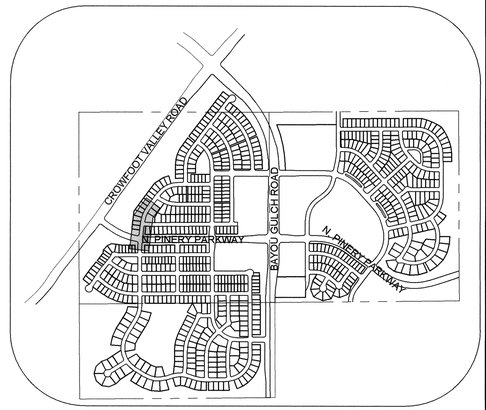


PROFILE: ROSE MALLOW ST STA: 9+50.00 TO 15+50.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'



SCALE: 1" = 50'

SANITARY SERVICE TABLE		
FILING, BLOCK, LOT	STREET	STATIONING
F3,B1,L17	ROSE MALLOW ST	15+09.32
F3,B1,L18	ROSE MALLOW ST	14+49.32
F3,B1,L19	ROSE MALLOW ST	13+88.66
F3,B1,L20	ROSE MALLOW ST	13+38.19
F3,B1,L21	ROSE MALLOW ST	12+87.01
F3,B1,L22	ROSE MALLOW ST	12+33.24
F3,B1,L23	ROSE MALLOW ST	11+71.35
F3,B4,L2	ROSE MALLOW ST	15+32.71
F3,B4,L3	ROSE MALLOW ST	14+62.71
F3,B4,L4	ROSE MALLOW ST	13+70.79



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	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	8"W 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	F.O EXISTING FIBER OPTIC LINE
PROPOSED STORM DRAIN INLET	OH EXISTING OVERHEAD POWER
PROPOSED STORM DRAIN MANHOLE	TEL EXISTING TELEPHONE LINE

ABBREVIATIONS

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

CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
1-800-922-1987
UNCC 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
COLORADO LICENSED BRIAN P. WILSON 0050067 PROFESSIONAL ENGINEER
BRIAN P. WILSON
COLORADO P.E. 0050067

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

No.	Revisions	Date	Init.	Appr.	Date

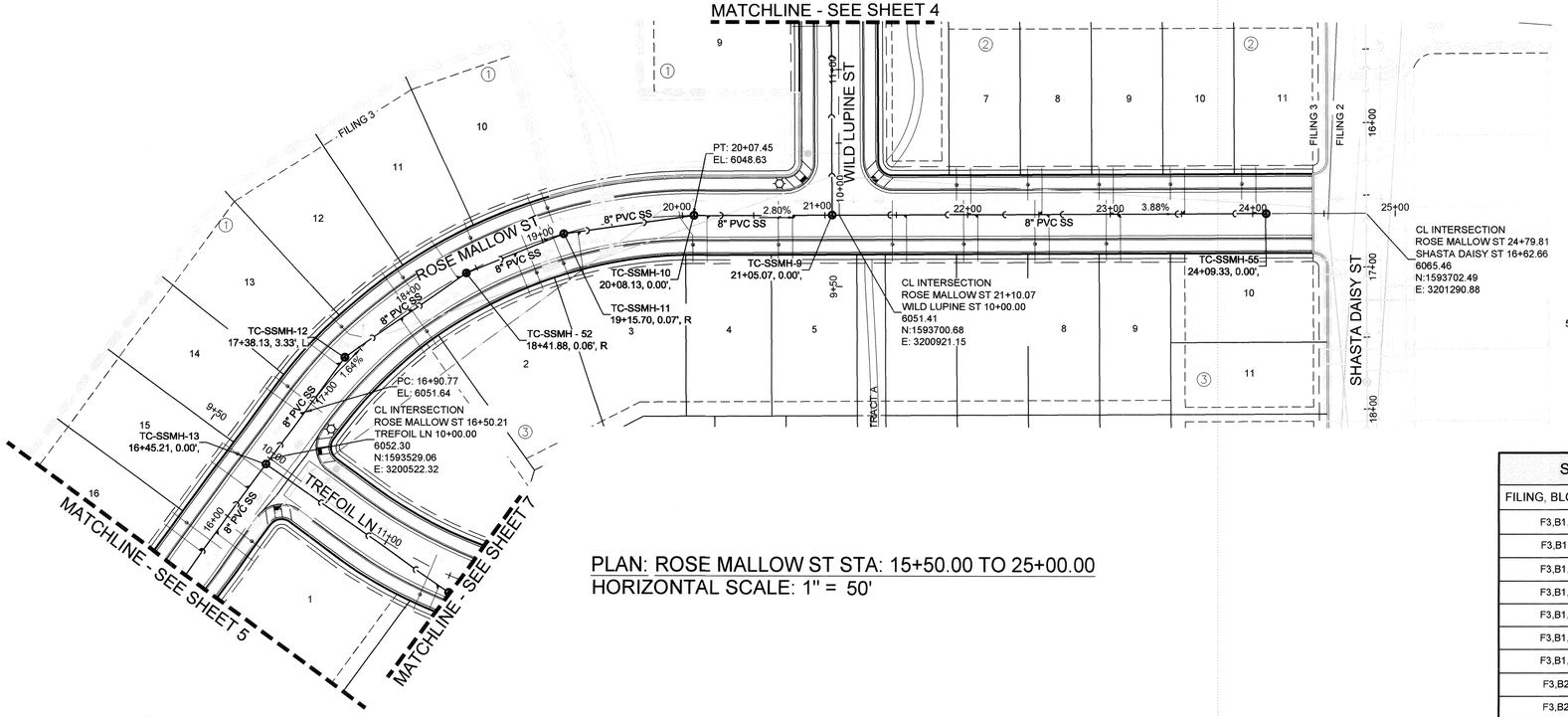
CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
SANITARY SEWER PLAN AND PROFILE
ROSE MALLOW ST

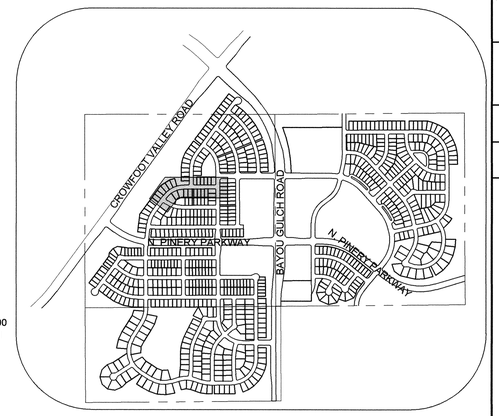
SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: JLR
CHECKED BY: JJJ
DATE: APRIL 2017
SHEET NUMBER 5

N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\SANITARY PLAN AND PROFILE\F3 ROSE MALLOW ST SANITARY.DWG, HAYDENV, 2/28/2018 1:38 PM



PLAN: ROSE MALLOW ST STA: 15+50.00 TO 25+00.00
HORIZONTAL SCALE: 1" = 50'

SCALE: 1" = 50'



KEYMAP
N.T.S.

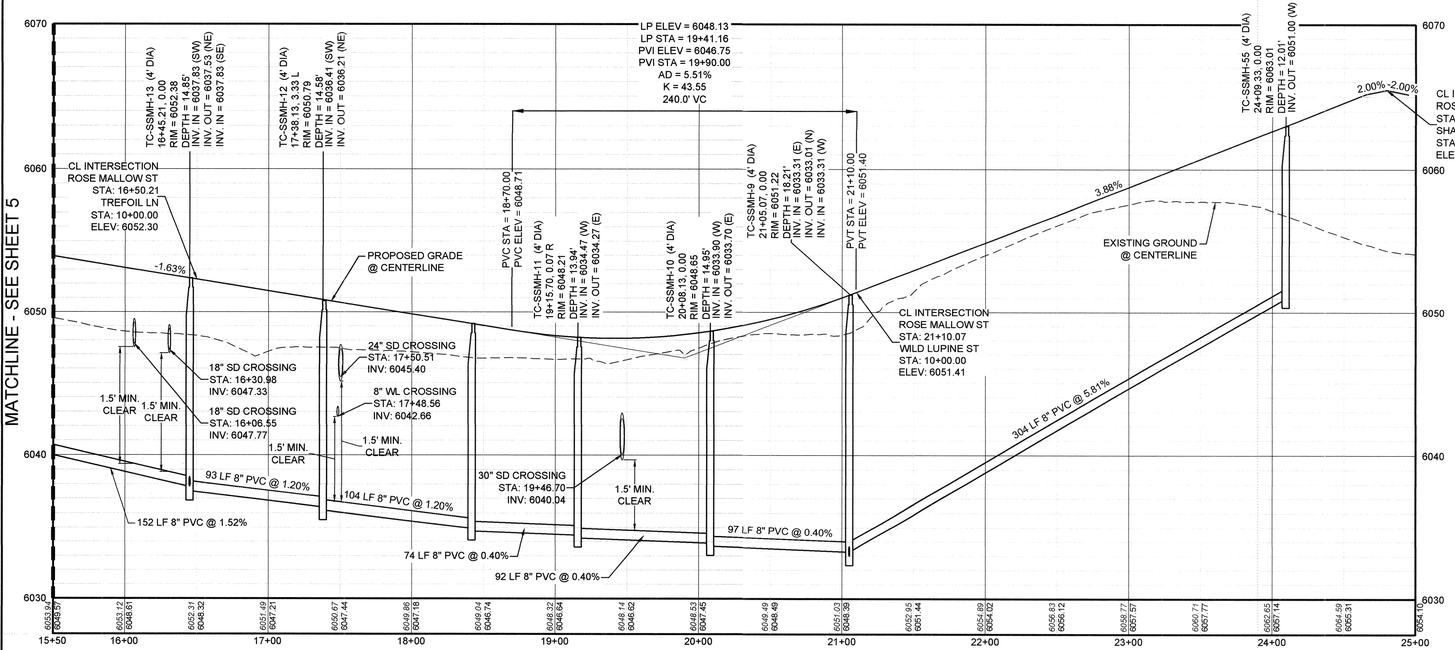
LEGEND

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

SANITARY SERVICE TABLE		
FILING, BLOCK, LOT	STREET	STATIONING
F3,B1,L10	ROSE MALLOW ST	19+01.60
F3,B1,L11	ROSE MALLOW ST	18+34.91
F3,B1,L12	ROSE MALLOW ST	17+93.56
F3,B1,L13	ROSE MALLOW ST	17+31.25
F3,B1,L14	ROSE MALLOW ST	16+88.64
F3,B1,L15	ROSE MALLOW ST	16+23.96
F3,B1,L16	ROSE MALLOW ST	15+69.32
F3,B2,L7	ROSE MALLOW ST	22+02.33
F3,B2,L8	ROSE MALLOW ST	22+52.33
F3,B2,L9	ROSE MALLOW ST	23+02.33
F3,B2,L10	ROSE MALLOW ST	23+52.33
F3,B2,L11	ROSE MALLOW ST	24+02.33
F3,B3,L1	ROSE MALLOW ST	17+85.16
F3,B3,L2	ROSE MALLOW ST	18+77.76
F3,B3,L3	ROSE MALLOW ST	19+25.60
F3,B3,L4	ROSE MALLOW ST	20+17.31
F3,B3,L5	ROSE MALLOW ST	20+77.31
F3,B3,L6	ROSE MALLOW ST	21+57.31
F3,B3,L7	ROSE MALLOW ST	22+07.31
F3,B3,L8	ROSE MALLOW ST	22+57.31
F3,B3,L9	ROSE MALLOW ST	23+07.31
F3,B4,L1	ROSE MALLOW ST	15+85.88

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



PROFILE: ROSE MALLOW ST STA: 15+50.00 TO 25+00.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
1-800-922-1987
UNCC 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
COLORADO LICENSED BRIAN P. WILSON 0050067 PROFESSIONAL ENGINEER
BRIAN P. WILSON
COLORADO P.E. 0050067

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

No.	Revisions	Date	Init.	Appr.	Date

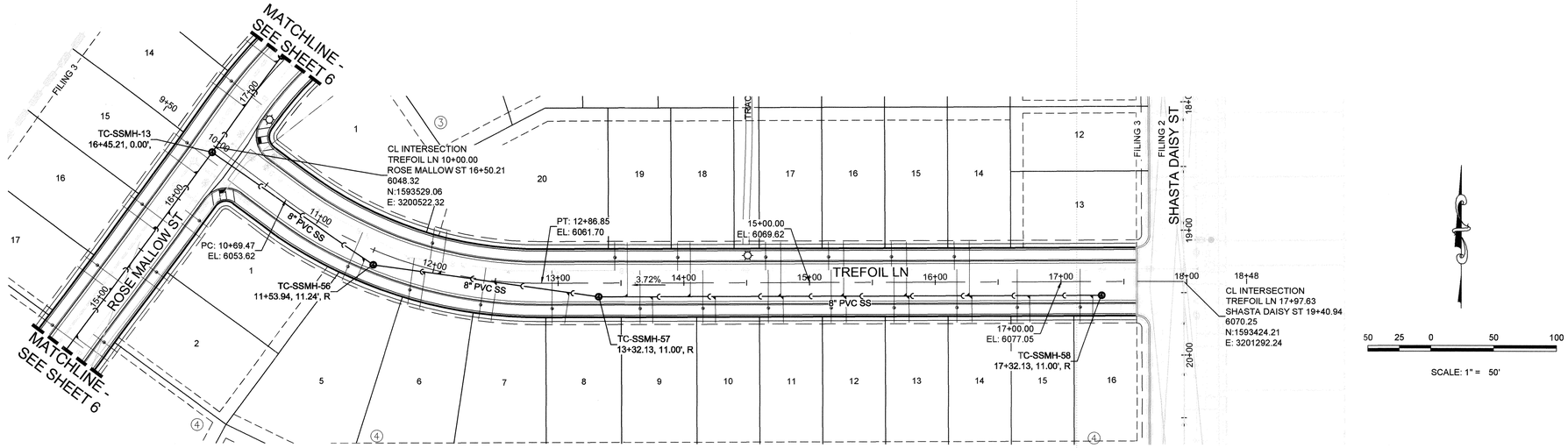
CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

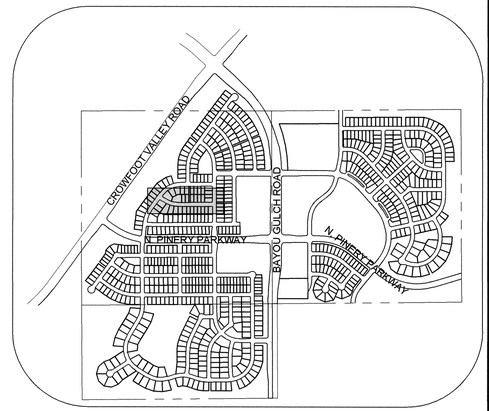
TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
SANITARY SEWER PLAN AND PROFILE
ROSE MALLOW ST

SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: JLR
CHECKED BY: JJJ
DATE: APRIL 2017
SHEET NUMBER 6

N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\SANITARY PLAN AND PROFILE\F3 ROSE MALLOW ST SANITARY DWG, HAYDENV, 3/2/2018 2:09 PM

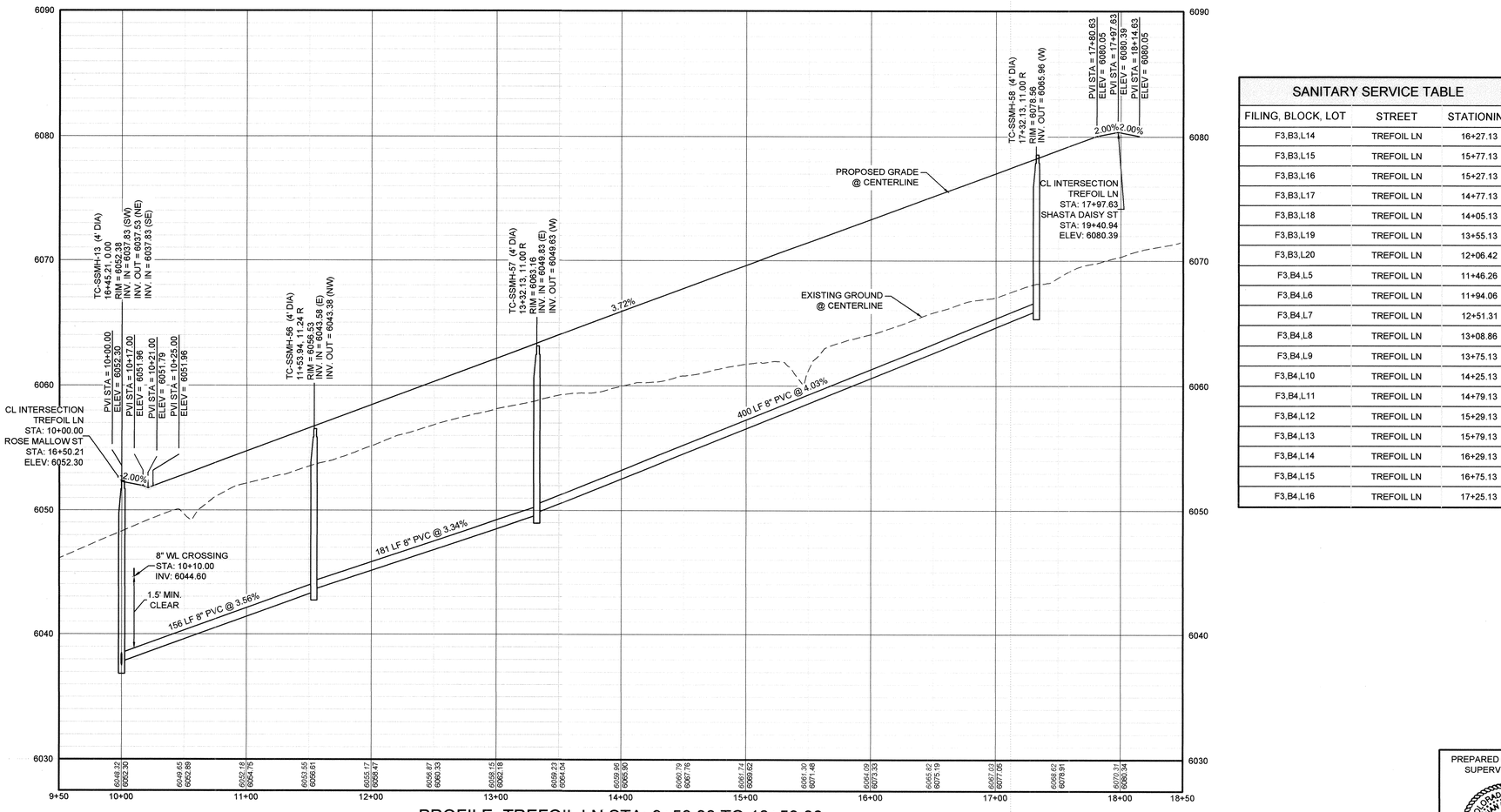


PLAN: TREFOIL LN STA: 9+50.00 TO 18+50.00
HORIZONTAL SCALE: 1" = 50'



KEYMAP
N.T.S.

SCALE: 1" = 50'



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

SANITARY SERVICE TABLE		
FILING, BLOCK, LOT	STREET	STATIONING
F3,B3,L14	TREFOIL LN	16+27.13
F3,B3,L15	TREFOIL LN	15+77.13
F3,B3,L16	TREFOIL LN	15+27.13
F3,B3,L17	TREFOIL LN	14+77.13
F3,B3,L18	TREFOIL LN	14+05.13
F3,B3,L19	TREFOIL LN	13+55.13
F3,B3,L20	TREFOIL LN	12+06.42
F3,B4,L5	TREFOIL LN	11+46.26
F3,B4,L6	TREFOIL LN	11+94.06
F3,B4,L7	TREFOIL LN	12+51.31
F3,B4,L8	TREFOIL LN	13+08.86
F3,B4,L9	TREFOIL LN	13+75.13
F3,B4,L10	TREFOIL LN	14+25.13
F3,B4,L11	TREFOIL LN	14+79.13
F3,B4,L12	TREFOIL LN	15+29.13
F3,B4,L13	TREFOIL LN	15+79.13
F3,B4,L14	TREFOIL LN	16+29.13
F3,B4,L15	TREFOIL LN	16+75.13
F3,B4,L16	TREFOIL LN	17+25.13

LEGEND

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

CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
1-800-922-1987
UNCC 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
COLORADO LICENSED BRIAN P. WILSON 0050067 PROFESSIONAL ENGINEER
BRIAN P. WILSON
COLORADO P.E. 0050067

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

No.	Revisions	Date	Init.	Appr.	Date

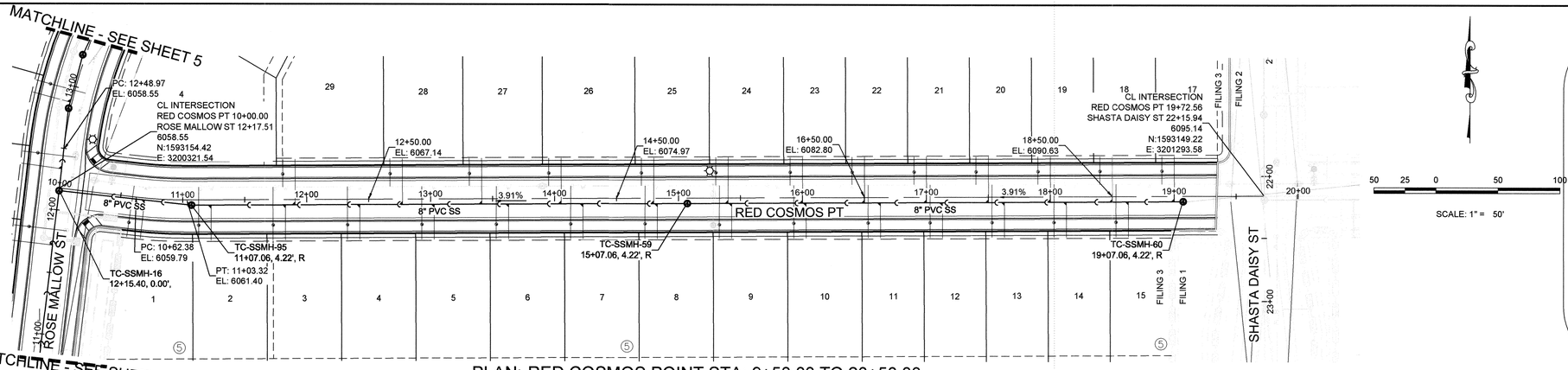
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546
CVL CONSULTANTS

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

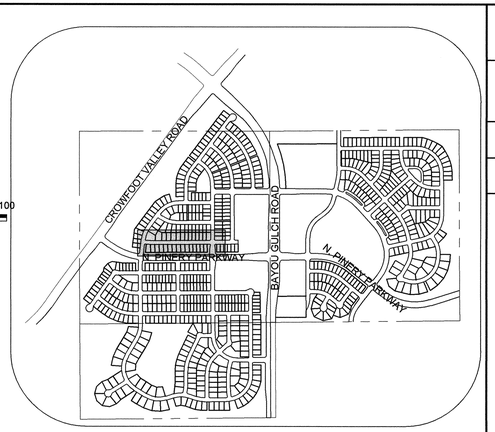
TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
SANITARY SEWER PLAN AND PROFILE
TREFOIL LN

SCALE:	AS SHOWN	FILE NO:	8130283701
DRAWN BY:	KJD		
CHECKED BY:	JJJ	DATE:	APRIL 2017
SHEET NUMBER	7		

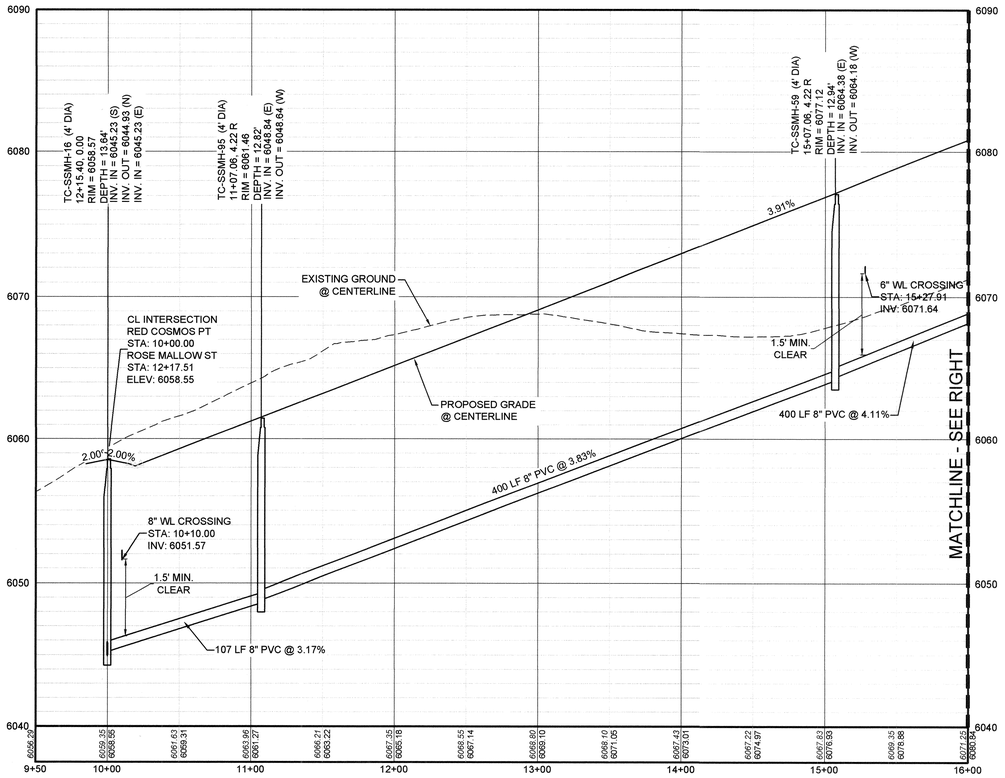
N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\SANITARY PLAN AND PROFILE\F3 TREFOIL LN SANITARY DWG, HAYDEN, 3/2/2018 2:56 PM



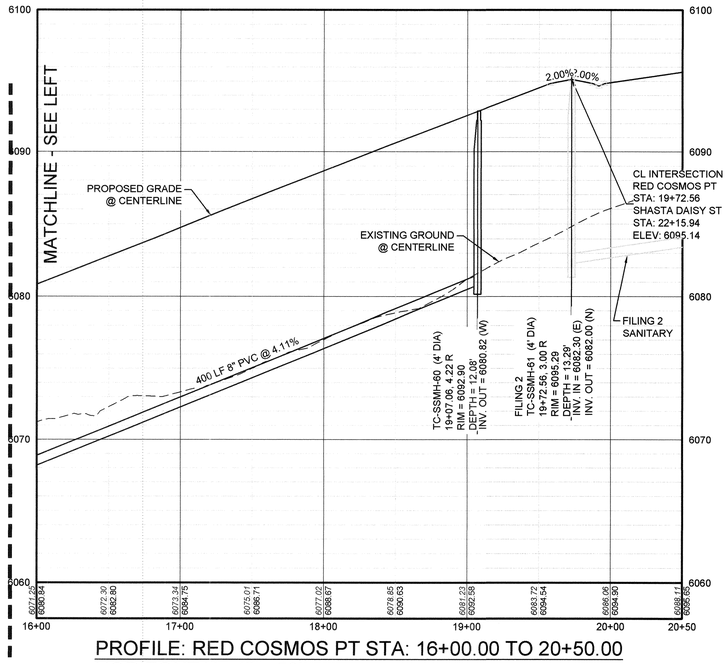
PLAN: RED COSMOS POINT STA: 9+50.00 TO 20+50.00
HORIZONTAL SCALE: 1" = 50'



KEYMAP
N.T.S.



PROFILE: RED COSMOS PT STA: 9+50.00 TO 16+00.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'



PROFILE: RED COSMOS PT STA: 16+00.00 TO 20+50.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

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	9675	EXISTING 5' CONTOUR
	PROPOSED WL FITTING WITH THRUST BLOCK	9680	EXISTING 1' CONTOUR
	PROPOSED FLARED END SECTION	5620	PROPOSED 5' CONTOUR
	PROPOSED LOW POINT BLOW-OFF	5607	PROPOSED 1' CONTOUR
AV	PROPOSED AIR VALVE		PROPOSED STORM DRAIN
	FUTURE PHASE VALVE		PROPOSED SEWER LINE WITH MANHOLE
	FUTURE FIRE HYDRANT		PROPOSED SEWER LATERAL
	PROPOSED LIGHT POLE	8"W	PROPOSED WATER LINE
	PROPOSED SIDEWALK		PROPOSED WATER LATERAL W/ METER
	PROPOSED SIDEWALK RAMP		SECTION LINE
10.00	EXISTING ELEVATION		FILING BOUNDARY
10.00	PROPOSED DESIGN ELEVATION	FO	EXISTING FIBER OPTIC LINE
	PROPOSED STORM DRAIN INLET	OH	EXISTING OVERHEAD POWER
4 5 6	PROPOSED STORM DRAIN MANHOLE	TEL	EXISTING TELEPHONE LINE

ABBREVIATIONS

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

SANITARY SERVICE TABLE

FILING, BLOCK, LOT	STREET	STATIONING
F3,B4,L17	RED COSMOS PT	19+00.06
F3,B4,L18	RED COSMOS PT	18+50.06
F3,B4,L19	RED COSMOS PT	18+00.06
F3,B4,L20	RED COSMOS PT	17+50.06
F3,B4,L21	RED COSMOS PT	17+00.06
F3,B4,L22	RED COSMOS PT	16+50.06
F3,B4,L23	RED COSMOS PT	16+00.06
F3,B4,L24	RED COSMOS PT	15+40.06
F3,B4,L25	RED COSMOS PT	14+80.06
F3,B4,L26	RED COSMOS PT	14+05.27
F3,B4,L27	RED COSMOS PT	13+41.27
F3,B4,L28	RED COSMOS PT	12+77.27
F3,B4,L29	RED COSMOS PT	11+90.68

SANITARY SERVICE TABLE

FILING, BLOCK, LOT	STREET	STATIONING
F3,B5,L1	RED COSMOS PT	10+69.41
F3,B5,L2	RED COSMOS PT	11+22.91
F3,B5,L3	RED COSMOS PT	11+82.91
F3,B5,L4	RED COSMOS PT	12+42.91
F3,B5,L5	RED COSMOS PT	13+02.91
F3,B5,L6	RED COSMOS PT	13+62.91
F3,B5,L7	RED COSMOS PT	14+22.91
F3,B5,L8	RED COSMOS PT	14+82.91
F3,B5,L9	RED COSMOS PT	15+42.91
F3,B5,L10	RED COSMOS PT	16+02.91
F3,B5,L11	RED COSMOS PT	16+62.91
F3,B5,L12	RED COSMOS PT	17+12.91
F3,B5,L13	RED COSMOS PT	17+62.91
F3,B5,L14	RED COSMOS PT	18+12.91
F3,B5,L15	RED COSMOS PT	18+62.91

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 68 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
COLORADO LICENSED BRIAN P. WILSON 0050067 PROFESSIONAL ENGINEER
BRIAN P. WILSON
COLORADO P.E. 0050067

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

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

No.	Revisions	Date	Init.	Appr.	Date

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

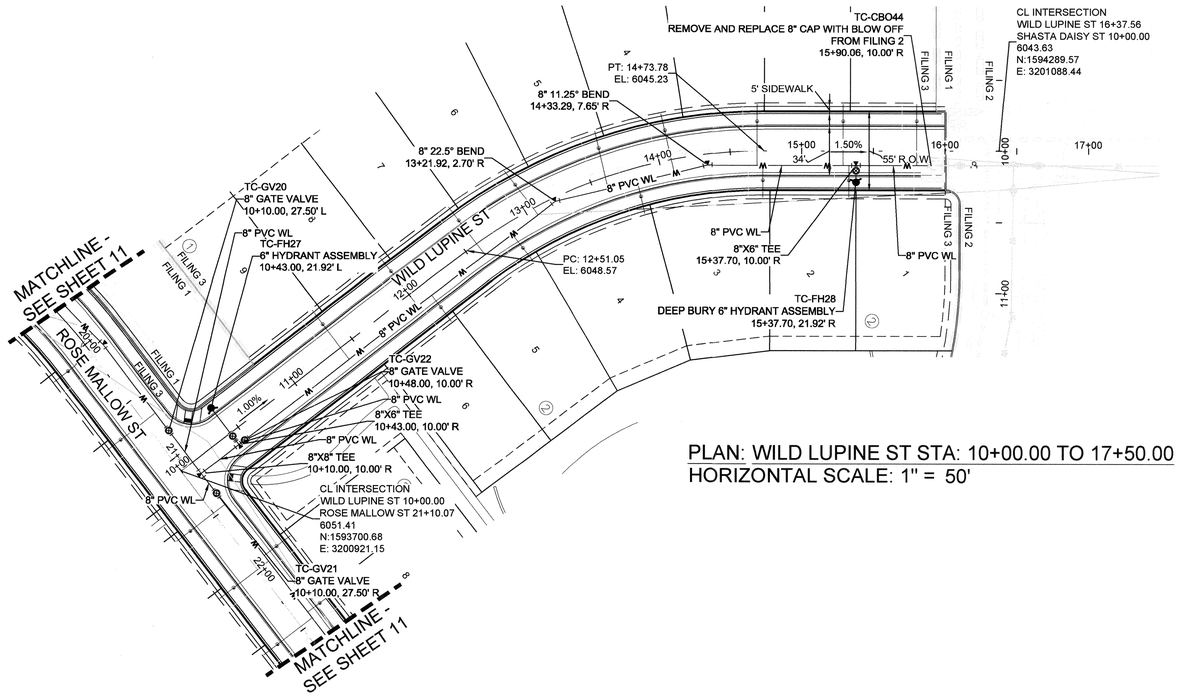
HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
SANITARY SEWER PLAN AND PROFILE
RED COSMOS POINT

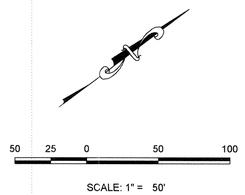
SCALE:	AS SHOWN	FILE NO:	8130283701
DRAWN BY:	KJD	CHECKED BY:	JJ
DATE:	APRIL 2017		

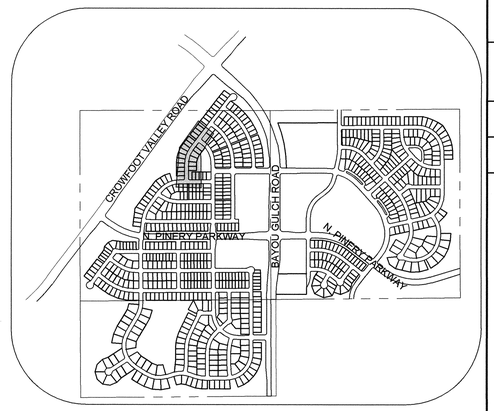
SHEET NUMBER 8

N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\SANITARY PLAN AND PROFILE\F3 RED COSMOS TIERR SANITARY.DWG, BRIANW, 2/28/2018 1:47 PM



PLAN: WILD LUPINE ST STA: 10+00.00 TO 17+50.00
HORIZONTAL SCALE: 1" = 50'





KEYMAP
N.T.S.

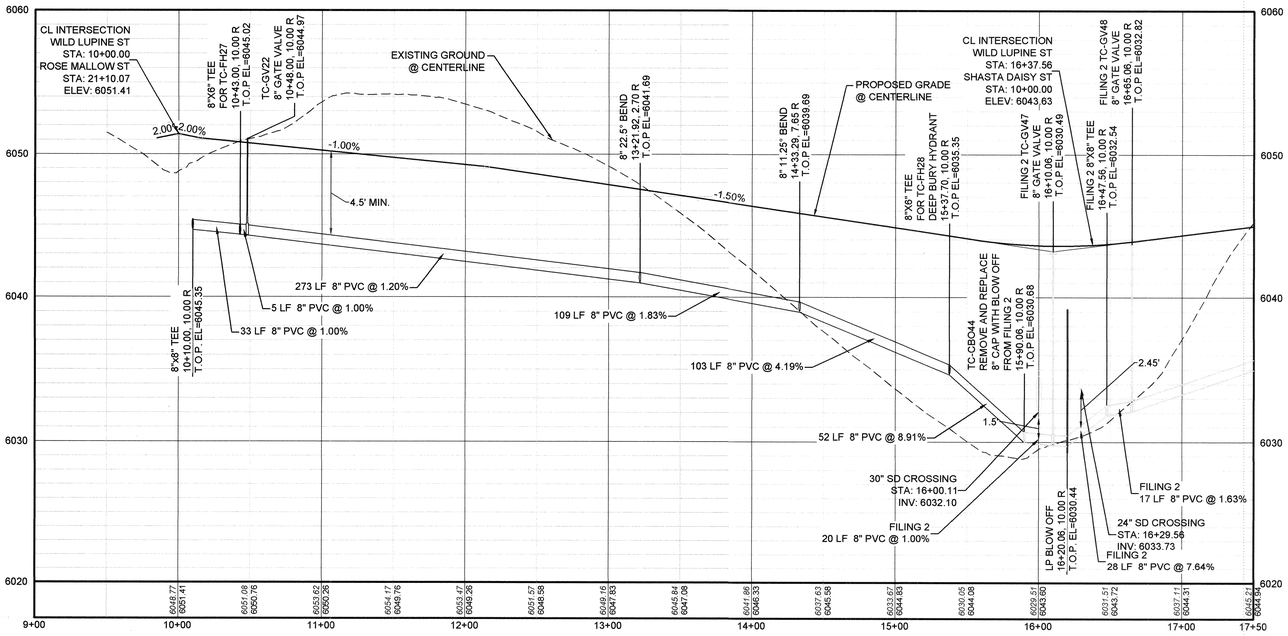
LEGEND

(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	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	8"W PROPOSED WATER LINE
PROPOSED SIDEWALK	PROPOSED WATER LATERAL W/ METER
PROPOSED SIDEWALK RAMP	SECTION LINE
10.00 EXISTING ELEVATION	FILING BOUNDARY
10.00 PROPOSED DESIGN ELEVATION	FO EXISTING FIBER OPTIC LINE
PROPOSED STORM DRAIN INLET	OH EXISTING OVERHEAD POWER
PROPOSED STORM DRAIN MANHOLE	TEL EXISTING TELEPHONE LINE

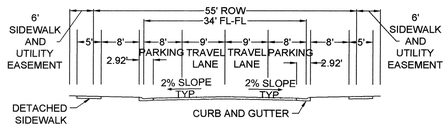
ABBREVIATIONS

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

WATER SERVICE TABLE		
FILING, BLOCK, LOT	STREET	STATIONING
F3,B1,L1	WILD LUPINE ST	15+80.06
F3,B1,L2	WILD LUPINE ST	15+28.83
F3,B1,L3	WILD LUPINE ST	14+68.63
F3,B1,L4	WILD LUPINE ST	14+08.93
F3,B1,L5	WILD LUPINE ST	13+59.94
F3,B1,L6	WILD LUPINE ST	13+06.82
F3,B1,L7	WILD LUPINE ST	12+59.60
F3,B1,L8	WILD LUPINE ST	11+99.97
F3,B1,L9	WILD LUPINE ST	11+39.97
F3,B2,L1	WILD LUPINE ST	16+04.56
F3,B2,L2	WILD LUPINE ST	15+32.70
F3,B2,L3	WILD LUPINE ST	14+72.66
F3,B2,L4	WILD LUPINE ST	13+81.54
F3,B2,L5	WILD LUPINE ST	12+84.07
F3,B2,L6	WILD LUPINE ST	12+12.30



PROFILE: WILD LUPINE ST STA: 9+00.00 TO 17+50.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'



RESIDENTIAL LOCAL

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

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
COLORADO LICENSED BRIAN P. WILSON 0050067 PROFESSIONAL ENGINEER
4-11-18
BRIAN P. WILSON
COLORADO P.E. 0050067

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

No.	Revisions	Date	Init.	Appr.	Date

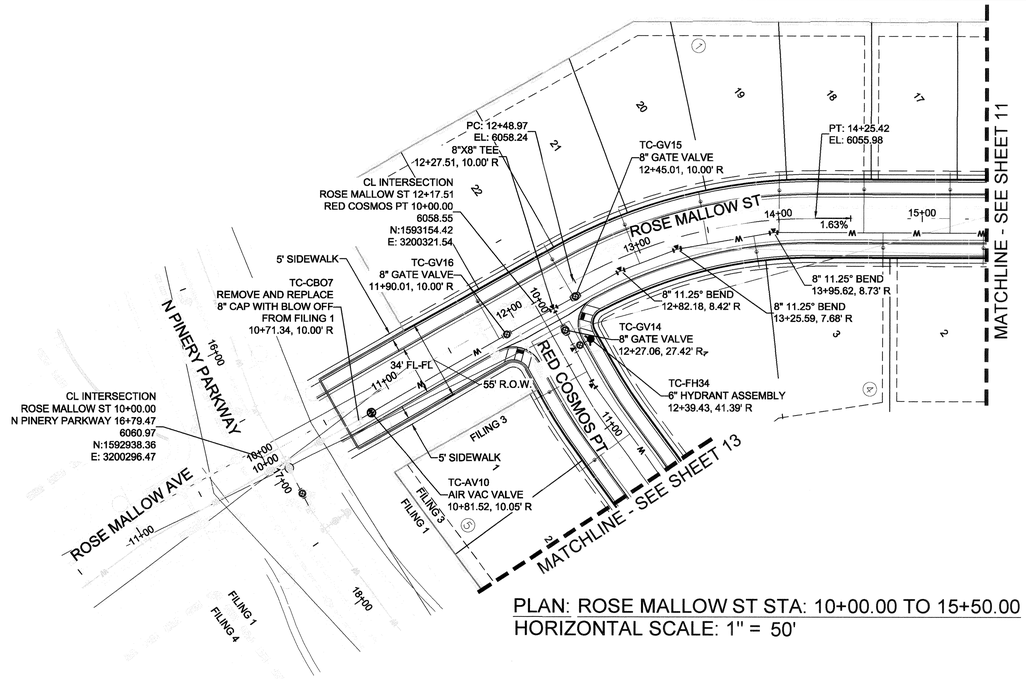
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546
CVL CONSULTANTS

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

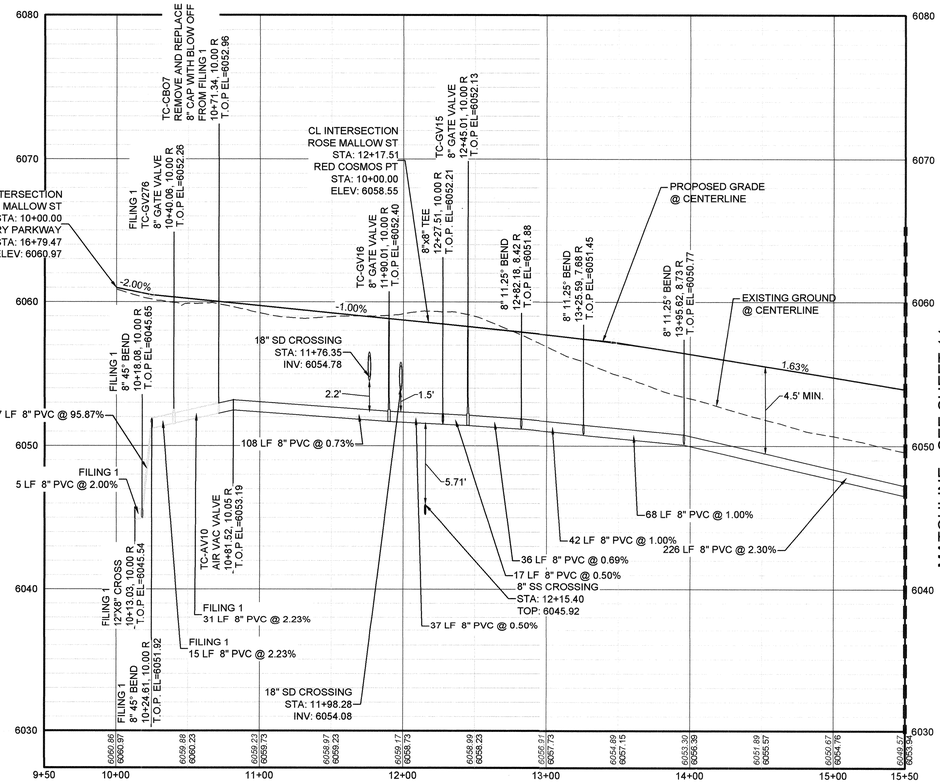
TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
WATER PLAN & PROFILE
WILD LUPINE STREET

SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: RHR
CHECKED BY: JJ
DATE: APRIL 2017
SHEET NUMBER 9

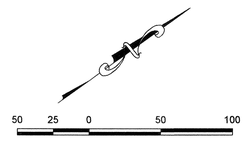
N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\WATER PLAN AND PROFILE\F3 WILD LUPINE STREET WATER.DWG, HAYDENV, 3/2/2018 3:01 PM



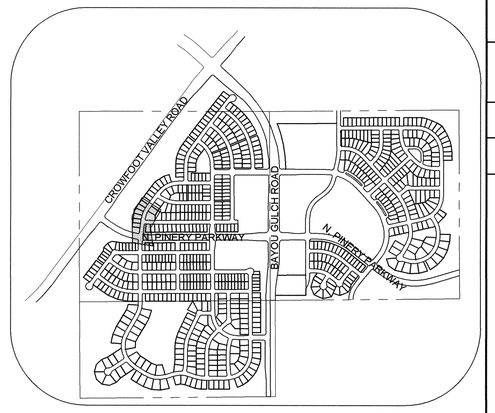
PLAN: ROSE MALLOW ST STA: 10+00.00 TO 15+50.00
HORIZONTAL SCALE: 1" = 50'



PROFILE: ROSE MALLOW ST STA: 9+50.00 TO 15+50.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'



SCALE: 1" = 50'



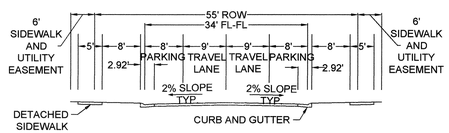
KEYMAP
N.T.S.

LEGEND

2	BLOCK NUMBER
A	LOT TYPE
6	LOT NUMBER
	PROPOSED BUTTERFLY VALVE
	PROPOSED CAP WITH END OF LINE BLOWOFF
	PROPOSED REDUCER
	PROPOSED VALVE
	PROPOSED FIRE HYDRANT
	PROPOSED WL FITTING WITH THRUST BLOCK
	PROPOSED FLARED END SECTION
	PROPOSED LOW POINT BLOW-OFF
AV	PROPOSED AIR VALVE
	FUTURE PHASE VALVE
	FUTURE FIRE HYDRANT
	PROPOSED LIGHT POLE
	PROPOSED SIDEWALK
	PROPOSED SIDEWALK RAMP
10.00	EXISTING ELEVATION
10.00	PROPOSED DESIGN ELEVATION
	PROPOSED STORM DRAIN INLET
4 5 6	PROPOSED STORM DRAIN MANHOLE
	PROPOSED RANGE POINT
	CENTERLINE
	RIGHT-OF-WAY
	PROPERTY LINE
	EDGE OF PAVEMENT
	PROPOSED DIRECTION OF FLOW
1.0%	PROPOSED SLOPE & DIRECTION
5615	EXISTING 5' CONTOUR
5611	EXISTING 1' CONTOUR
5620	PROPOSED 5' CONTOUR
5607	PROPOSED 1' CONTOUR
	PROPOSED STORM DRAIN
	PROPOSED SEWER LINE WITH MANHOLE
	PROPOSED SEWER LATERAL
8"W	PROPOSED WATER LINE
	PROPOSED WATER LATERAL W/ METER
	SECTION LINE
	FILING BOUNDARY
FO	EXISTING FIBER OPTIC LINE
OH	EXISTING OVERHEAD POWER
TEL	EXISTING TELEPHONE LINE

WATER SERVICE TABLE

FILING, BLOCK, LOT	STREET	STATIONING
F3,B1,L17	ROSE MALLOW ST	15+19.32
F3,B1,L18	ROSE MALLOW ST	14+59.32
F3,B1,L19	ROSE MALLOW ST	13+99.44
F3,B1,L20	ROSE MALLOW ST	13+47.61
F3,B1,L21	ROSE MALLOW ST	12+96.94
F3,B1,L22	ROSE MALLOW ST	12+43.97
F3,B1,L23	ROSE MALLOW ST	11+83.97
F3,B4,L2	ROSE MALLOW ST	15+42.71
F3,B4,L3	ROSE MALLOW ST	14+72.71
F3,B4,L4	ROSE MALLOW ST	13+81.23



RESIDENTIAL LOCAL

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

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

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
COLORADO LICENSED
BRIAN P. WILSON
0050067
PROFESSIONAL ENGINEER
BRIAN P. WILSON
COLORADO P.E. 0050067

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

No.	Revisions	Date	Init.	Appr.	Date

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

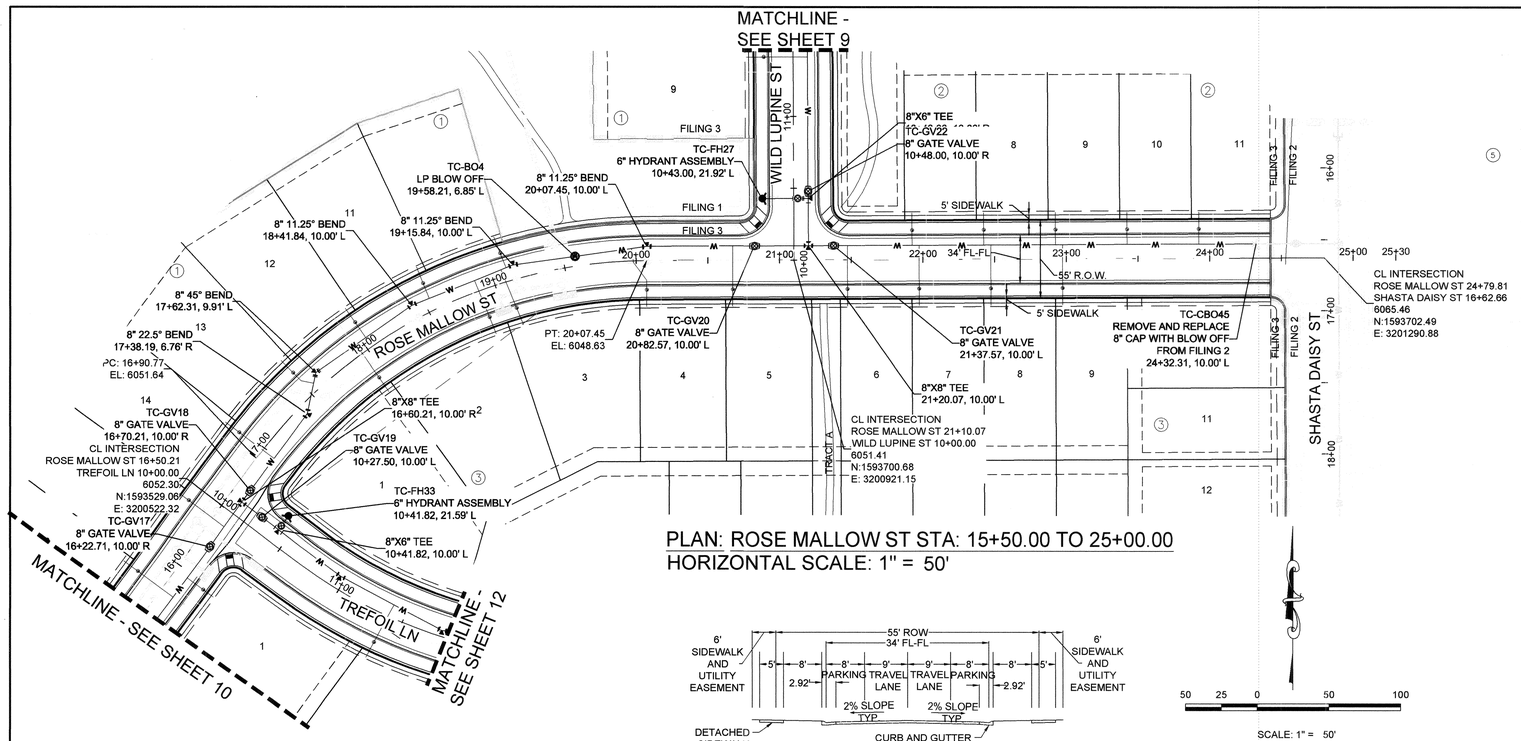
HR 935 LLC
7352 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
WATER PLAN & PROFILE
ROSE MALLOW STREET

DRAWN BY:	RHR	SCALE:	AS SHOWN
CHECKED BY:	JJ	FILE NO:	8130283701
DATE:	APRIL 2017		

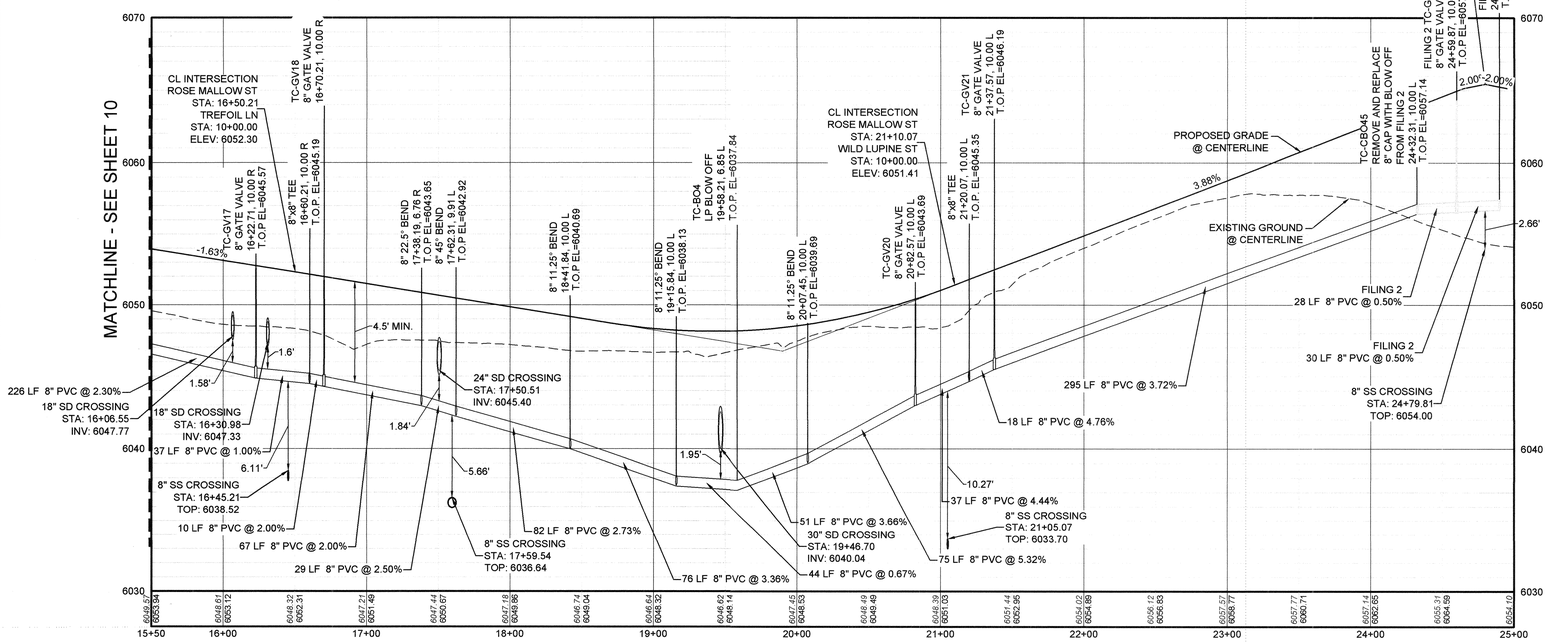
SHEET NUMBER 10

N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CIVD\SFS\PARKER WATER AND SANITATION\WATER PLAN AND PROFILE\FS ROSE MALLOW STREET WATER.DWG, HAYDEN V, 2/28/2018 1:55 PM



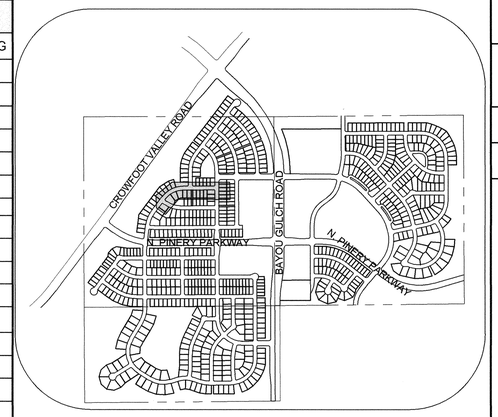
PLAN: ROSE MALLOW ST STA: 15+50.00 TO 25+00.00
HORIZONTAL SCALE: 1" = 50'

RESIDENTIAL LOCAL



PROFILE: ROSE MALLOW ST STA: 15+50.00 TO 25+00.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

WATER SERVICE TABLE		
FILING, BLOCK, LOT	STREET	STATIONING
F3,B1,L10	ROSE MALLOW ST	19+10.66
F3,B1,L11	ROSE MALLOW ST	18+54.48
F3,B1,L12	ROSE MALLOW ST	18+03.51
F3,B1,L13	ROSE MALLOW ST	17+56.20
F3,B1,L14	ROSE MALLOW ST	16+98.21
F3,B1,L15	ROSE MALLOW ST	16+39.32
F3,B1,L16	ROSE MALLOW ST	15+79.32
F3,B2,L7	ROSE MALLOW ST	21+92.33
F3,B2,L8	ROSE MALLOW ST	22+42.33
F3,B2,L9	ROSE MALLOW ST	22+92.33
F3,B2,L10	ROSE MALLOW ST	23+42.33
F3,B2,L11	ROSE MALLOW ST	23+92.33
F3,B3,L1	ROSE MALLOW ST	17+95.48
F3,B3,L2	ROSE MALLOW ST	18+87.56
F3,B3,L3	ROSE MALLOW ST	19+07.04
F3,B3,L4	ROSE MALLOW ST	19+97.14
F3,B3,L5	ROSE MALLOW ST	20+67.31
F3,B3,L6	ROSE MALLOW ST	21+47.31
F3,B3,L7	ROSE MALLOW ST	21+97.31
F3,B3,L8	ROSE MALLOW ST	22+47.31
F3,B3,L9	ROSE MALLOW ST	22+97.31
F3,B4,L1	ROSE MALLOW ST	15+95.88



KEYMAP
N.T.S.

LEGEND

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

ABBREVIATIONS

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

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

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
COLORADO LICENSED BRIAN P. WILSON 0050067 PROFESSIONAL ENGINEER
BRIAN P. WILSON
COLORADO P.E. 0050067

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

No.	Revisions	Date	Init.	Appr.	Date

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

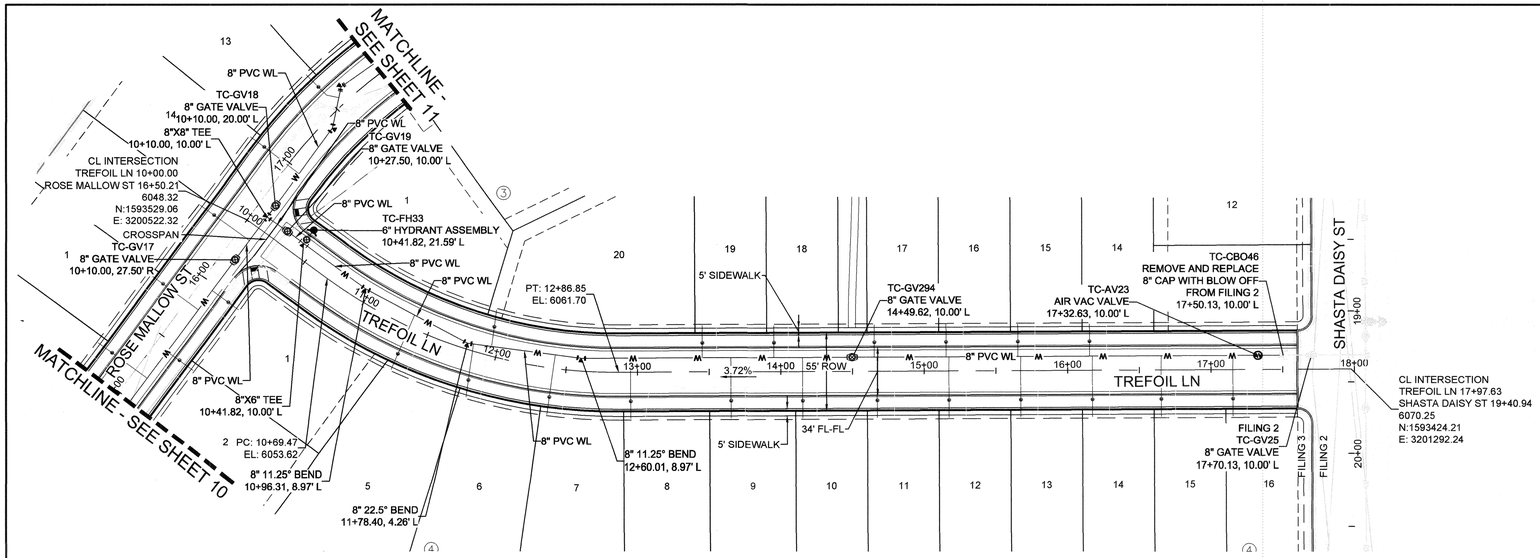
HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
WATER PLAN & PROFILE
ROSE MALLOW STREET

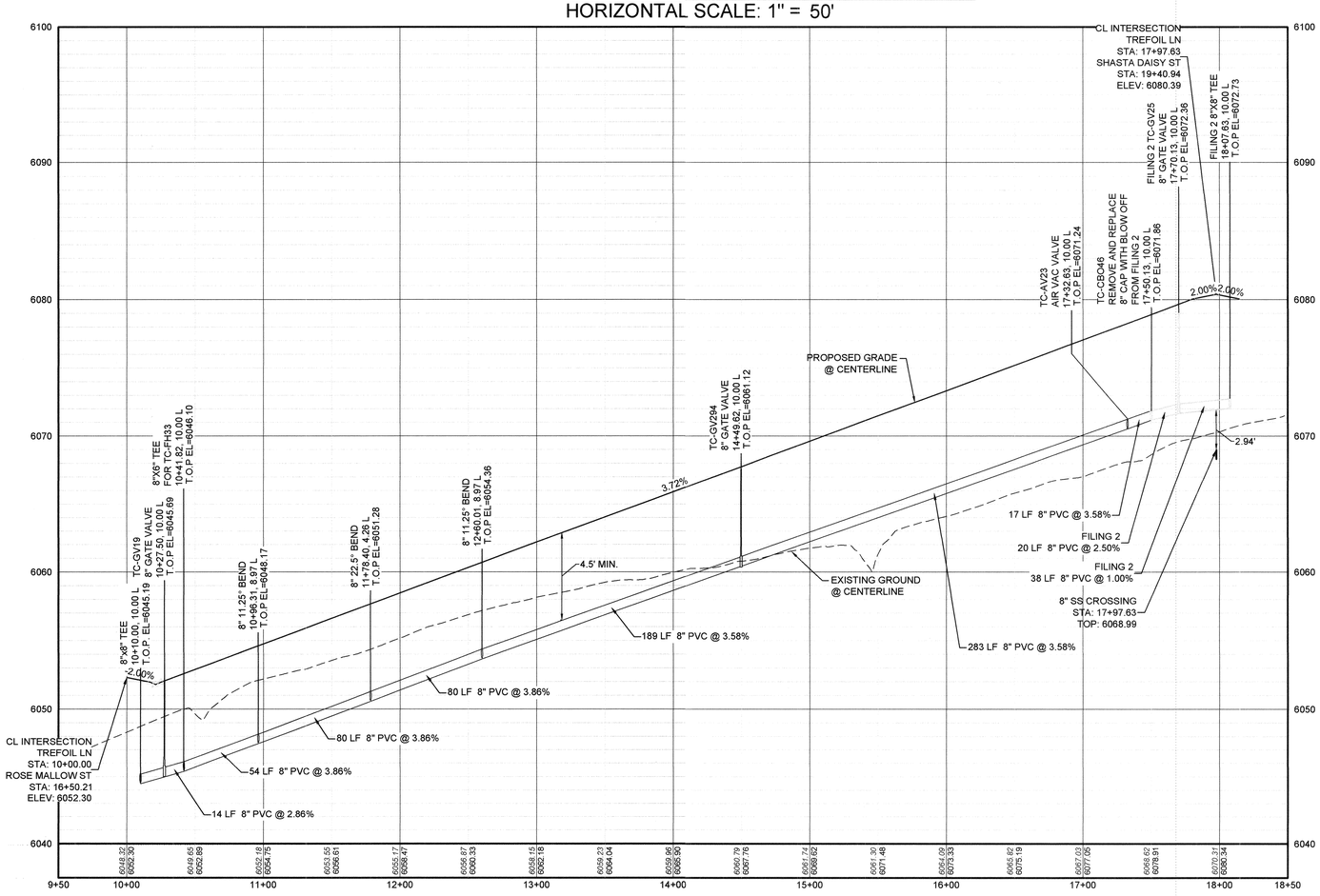
SCALE:	AS SHOWN
FILE NO:	8130283701
DRAWN BY:	RRR
CHECKED BY:	JJ
DATE:	APRIL 2017

SHEET NUMBER 11

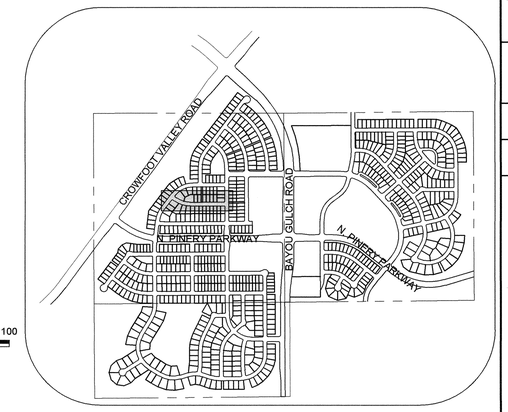
N:\PROJECTS\WISS RANCH\CAD\ENGINEERING\SHEET SETS\COS\FS\PARKER WATER AND SANITATION\WATER PLAN AND PROFILE\FS ROSE MALLOW STREET WATER.DWG, HAYDENV, 2/28/2018 1:58 PM



PLAN: TREFOIL LN STA: 9+50.00 TO 18+50.00
HORIZONTAL SCALE: 1" = 50'



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



KEYMAP
N.T.S.

LEGEND

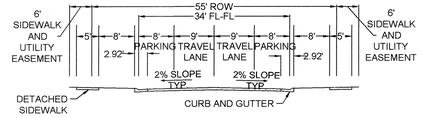
- BLOCK NUMBER
- LOT TYPE
- LOT NUMBER
- PROPOSED BUTTERFLY VALVE
- PROPOSED CAP WITH END OF LINE BLOWOFF
- PROPOSED REDUCER
- PROPOSED VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED WL FITTING WITH THRUST BLOCK
- PROPOSED FLARED END SECTION
- PROPOSED LOW POINT BLOW-OFF
- PROPOSED AIR VALVE
- FUTURE PHASE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

WATER SERVICE TABLE

FILING, BLOCK, LOT	STREET	STATIONING
F3,B3,L14	TREFOIL LN	16+15.13
F3,B3,L15	TREFOIL LN	15+65.13
F3,B3,L16	TREFOIL LN	15+15.13
F3,B3,L17	TREFOIL LN	14+65.13
F3,B3,L18	TREFOIL LN	13+95.13
F3,B3,L19	TREFOIL LN	13+45.13
F3,B3,L20	TREFOIL LN	11+95.37
F3,B4,L5	TREFOIL LN	11+35.90
F3,B4,L6	TREFOIL LN	11+82.47
F3,B4,L7	TREFOIL LN	12+41.14
F3,B4,L8	TREFOIL LN	12+95.13
F3,B4,L9	TREFOIL LN	13+65.13
F3,B4,L10	TREFOIL LN	14+15.13
F3,B4,L11	TREFOIL LN	14+67.13
F3,B4,L12	TREFOIL LN	15+17.13
F3,B4,L13	TREFOIL LN	15+67.13
F3,B4,L14	TREFOIL LN	16+17.13
F3,B4,L15	TREFOIL LN	16+65.13
F3,B4,L16	TREFOIL LN	17+15.13

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



RESIDENTIAL LOCAL

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

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
COLORADO LICENSED BRIAN P. WILSON 0050067 PROFESSIONAL ENGINEER
BRIAN P. WILSON
COLORADO P.E. 0050067

APPROVED
APR 11 2018
PARKER WATER AND SANITATION DISTRICT

APPROVED
APR 11 2018
PARKER WATER AND SANITATION DISTRICT

No.	Revisions	Date	Init.	Appr.	Date

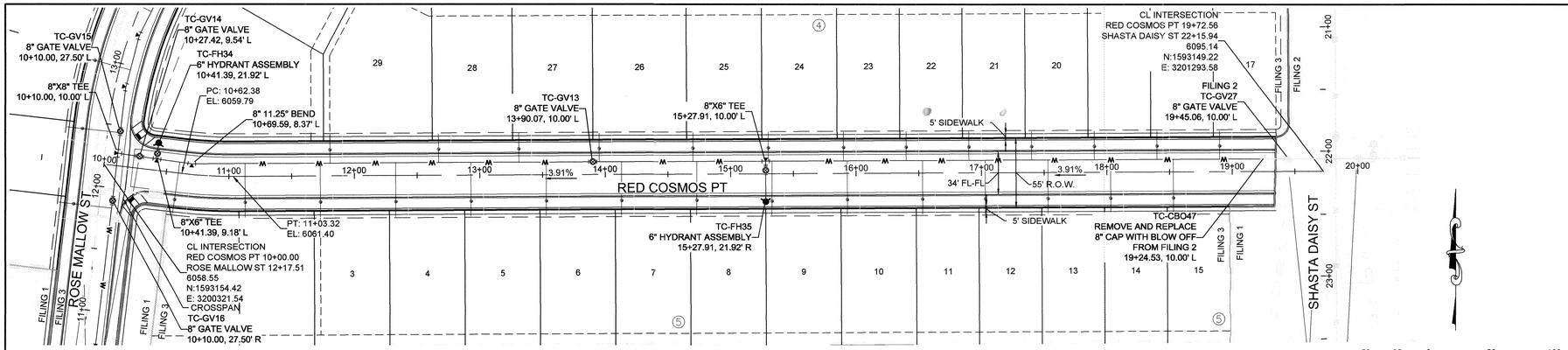
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546
CVL CONSULTANTS

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
WATER PLAN & PROFILE
TREFOIL LANE

SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: RHR
CHECKED BY: JJJ
DATE: APRIL 2017
SHEET NUMBER 12

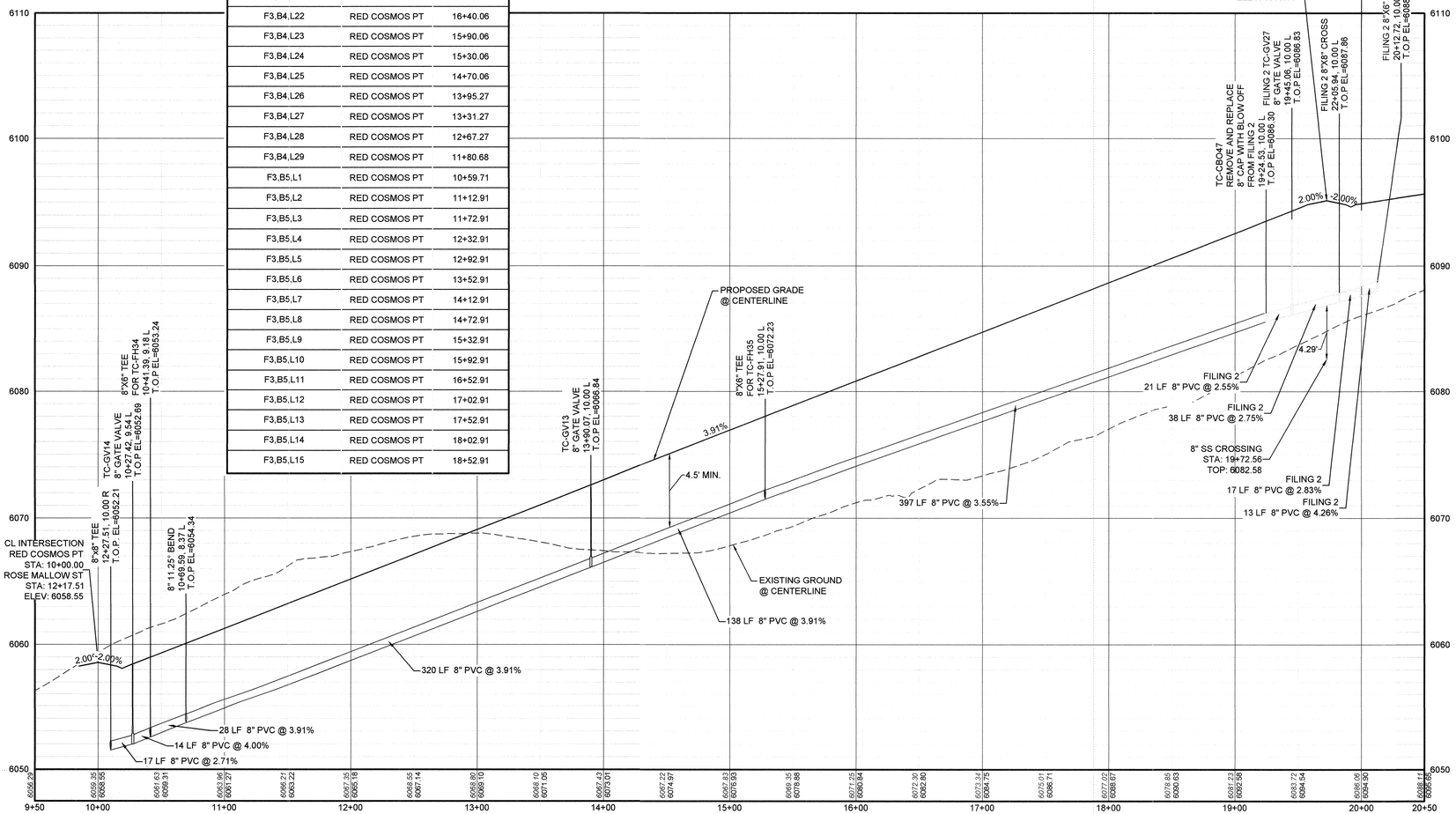
N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CO7S\F3\PARKER WATER AND SANITATION\WATER PLAN AND PROFILE\F3 TREFOIL LANE WATER.DWG, BRIANW, 3/22/2018 2:43 PM



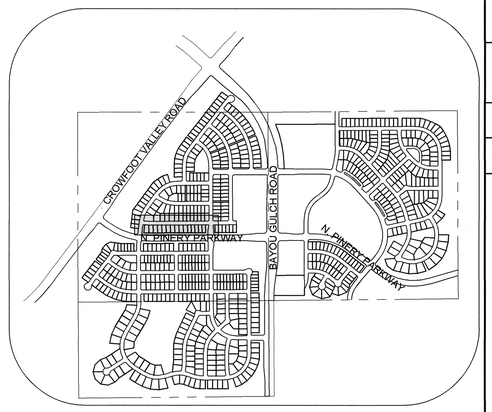
PLAN: RED COSMOS PT STA: 9+50.00 TO 20+50.00
HORIZONTAL SCALE: 1" = 50'

SCALE: 1" = 50'

WATER SERVICE TABLE		
FILING, BLOCK, LOT	STREET	STATIONING
F3,B4,L17	RED COSMOS PT	18+90.06
F3,B4,L18	RED COSMOS PT	18+40.06
F3,B4,L19	RED COSMOS PT	17+90.06
F3,B4,L20	RED COSMOS PT	17+40.06
F3,B4,L21	RED COSMOS PT	16+90.06
F3,B4,L22	RED COSMOS PT	16+40.06
F3,B4,L23	RED COSMOS PT	15+90.06
F3,B4,L24	RED COSMOS PT	15+30.06
F3,B4,L25	RED COSMOS PT	14+70.06
F3,B4,L26	RED COSMOS PT	13+95.27
F3,B4,L27	RED COSMOS PT	13+31.27
F3,B4,L28	RED COSMOS PT	12+67.27
F3,B4,L29	RED COSMOS PT	11+80.68
F3,B5,L1	RED COSMOS PT	10+59.71
F3,B5,L2	RED COSMOS PT	11+12.91
F3,B5,L3	RED COSMOS PT	11+72.91
F3,B5,L4	RED COSMOS PT	12+32.91
F3,B5,L5	RED COSMOS PT	12+92.91
F3,B5,L6	RED COSMOS PT	13+52.91
F3,B5,L7	RED COSMOS PT	14+12.91
F3,B5,L8	RED COSMOS PT	14+72.91
F3,B5,L9	RED COSMOS PT	15+32.91
F3,B5,L10	RED COSMOS PT	15+92.91
F3,B5,L11	RED COSMOS PT	16+52.91
F3,B5,L12	RED COSMOS PT	17+02.91
F3,B5,L13	RED COSMOS PT	17+52.91
F3,B5,L14	RED COSMOS PT	18+02.91
F3,B5,L15	RED COSMOS PT	18+52.91



PROFILE: RED COSMOS PT STA: 9+50.00 TO 20+50.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'



KEYMAP
N.T.S.

LEGEND

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

ABBREVIATIONS

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

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

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
COLORADO LICENSED BRIAN P. WILSON 0050067 PROFESSIONAL ENGINEER
BRIAN P. WILSON
COLORADO P.E. 0050067

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

No.	Revisions	Date	Init.	Appr.	Date

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

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
WATER PLAN & PROFILE
RED COSMOS POINT

SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: RHR
CHECKED BY: JJJ
DATE: APRIL 2017
SHEET NUMBER 13

N:\PROJECTS\HSS RANCH\CAD\ENGINEERING\SHEET SETS\CDS\PARKER WATER AND SANITATION\WATER PLAN AND PROFILE\F3 RED COSMOS TERRACE WATER.DWG, HAYDEN V, 3/2/2018 2:03 PM

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 PRESSENT AT TIME OF INSPECTION UNLESS COORDINATED WITH DISTRICT INSPECTOR.

INSTALLATION NOTES:

SEWER

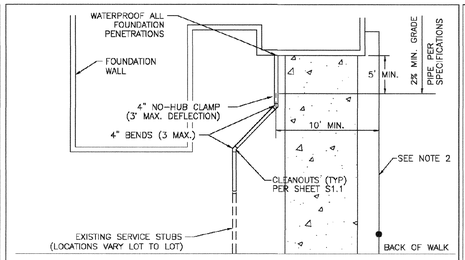
1. ACCEPTABLE PIPE MATERIALS ARE TO BE SDR 35 PVC PIPE, ABS PIPE AND PVC SCHD 40 PIPE. APPROVED BEDDING IS TO BE SQUEEGEE.
2. NO-HUB CLAMPS SHALL BE USED TO JOIN 2 MALE PIPE ENDS WITH A MAXIMUM DEFLECTION OF 3°.
3. MINIMUM GRADE SHALL BE 2%.
4. INSTALLATION SHALL INCLUDE NO MORE THAN 3 BENDS. 90° BENDS 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 PERMANANTELY 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

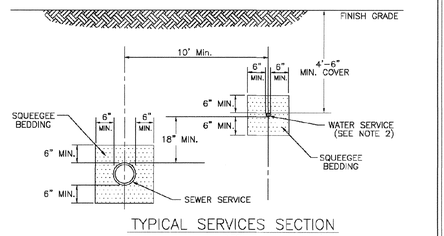
SCALE: NONE	DATE: 2/96
APPROVED: PVR	01/02 10/16 1/08 1/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S1.1



TYPICAL SERVICES PLAN VIEW

NTS



TYPICAL SERVICES SECTION

NTS

NOTE

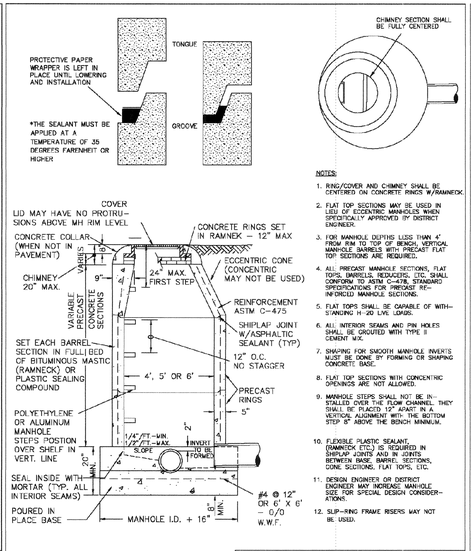
1. SEE SHEET S1.1 FOR DISTRICT POLICIES AND INSTALLATION NOTES.
2. TYPICAL WATER SERVICES SHOWN ON SHEET W1.2 IN WATER DETAILS.

PARKER WATER & SANITATION DISTRICT

TYPICAL SEWER SERVICES

SCALE: NONE	DATE: 2/96
APPROVED: PVR	2/00 01/02 01/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S1.2



NOTES:

1. RING/COVER AND CHIMNEY SHALL BE CENTERED ON CONCRETE RINGS W/RAMNECK.
2. FLAT TOP SECTIONS MAY BE USED IN LIEU OF ECCENTRIC MANHOLES WHEN SPECIFICALLY APPROVED BY DISTRICT ENGINEER.
3. FOR MANHOLE DEPTHS LESS THAN 4' FROM RIM TO TOP OF BENCH, VERTICAL MANHOLE BARRELS WITH PRECAST FLAT TOP SECTIONS ARE REQUIRED.
4. ALL PRECAST MANHOLE SECTIONS, FLAT TOPS, BARRELS, REDUCERS, ETC. SHALL CONFORM TO ASTM C-478, STANDARD SPECIFICATIONS FOR PRECAST REINFORCED MANHOLE SECTIONS.
5. FLAT TOPS SHALL BE CAPABLE OF WITHSTANDING H-20 LIVE LOADS.
6. ALL INTERIOR SEAMS AND PIN HOLES SHALL BE GROUTED WITH TYPE II CEMENT MIX.
7. SHAPING FOR SMOOTH MANHOLE INVERTS MUST BE DONE BY FORMING OR SHAPING CONCRETE BASE.
8. FLAT TOP SECTIONS WITH CONCENTRIC OPENINGS ARE NOT ALLOWED.
9. MANHOLE STEPS SHALL NOT BE INSTALLED OVER THE FLOW CHANNEL. THEY SHALL BE PLACED 12" APART IN A VERTICAL ALIGNMENT WITH THE BOTTOM STEP 8" ABOVE THE BENCH MINIMUM.
10. FLEXIBLE PLASTIC SEALANT (RAMNECK ETC.) IS REQUIRED IN SHIPLAP JOINTS AND IN JOINTS BETWEEN BASE, BARREL SECTIONS, CONE SECTIONS, FLAT TOPS, ETC.
11. DESIGN ENGINEER OR DISTRICT ENGINEER MAY INCREASE MANHOLE SIZE FOR SPECIAL DESIGN CONSIDERATIONS.
12. SLIP-RING FRAME RISERS MAY NOT BE USED.

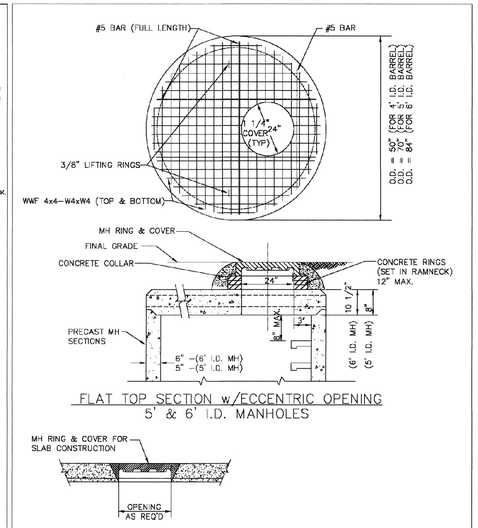
PIPE I.D.	MANHOLE I.D.
18" & SMALLER	4'-0"
21" TO 48"	5'-0"
54"	6'-0"
60" & LARGER	SPECIAL DESIGN

PARKER WATER & SANITATION DISTRICT

PARKER MANHOLE ECCENTRIC CONE

SCALE: NONE	DATE: 2/96
APPROVED: PVR	4/01 10/16 01/02 1/08 1/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S3.1



FLAT TOP SECTION w/ECCENTRIC OPENING
5' & 6' I.D. MANHOLES

SECTION
(NON-ADJUSTABLE RING & COVER TO BE CAST IN FLAT TOP)

ALTERNATE RING & COVER
(TO BE USED ONLY WHEN SPECIFICALLY AUTHORIZED.)

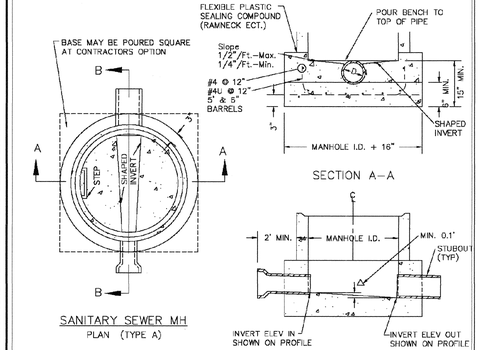
PARKER WATER & SANITATION DISTRICT

PRECAST MANHOLE - 5' & 6' I.D. WITH ECCENTRIC CONE

SCALE: NONE	DATE: 2/96
APPROVED: PVR	01/02 01/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S3.3

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT



SANITARY SEWER MH
PLAN (TYPE A)

NOTES:

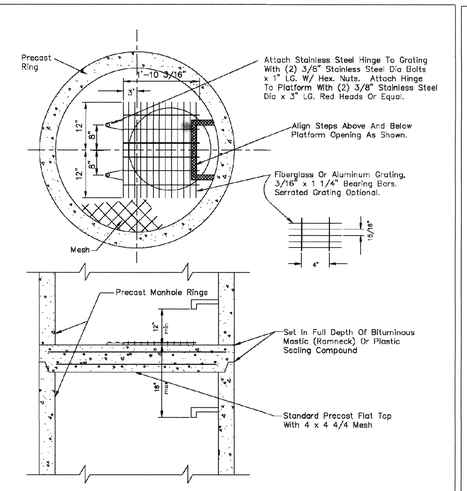
1. Manhole barrel min. thickness to be 5".
2. Shaping for smooth manhole inverts may be done by forming or shaping with cement mortar (San. Sewer).
3. The manhole steps shall conform to District Standards and Specifications.
4. Precast sections to conform to A.S.T.M C-478.
5. All dead-end manholes, that call out a stub out, shall be thru at 0.40% minimum slope.
6. Stub outs shall extend 2'-0" 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. 0.1' 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: 2/96
APPROVED: PVR	01/02 01/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S3.5



NOTES:

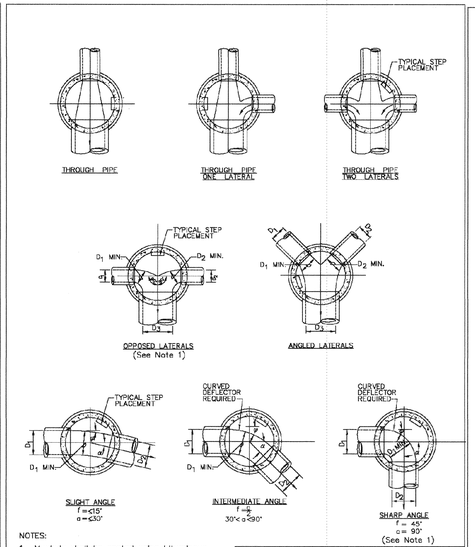
1.1 Maximum distance between platforms shall be 15' vertically.
1.2 All hardware used inside a manhole shall be stainless steel.
1.3 Manholes over 20' deep shall submit structural calculations on base and wall sizing.

PARKER WATER & SANITATION DISTRICT

INTERMEDIATE PLATFORM FOR MANHOLES OVER 20' DEPTH

SCALE: NONE	DATE: 2/96
APPROVED: PVR	2/00 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S3.6



NOTES:

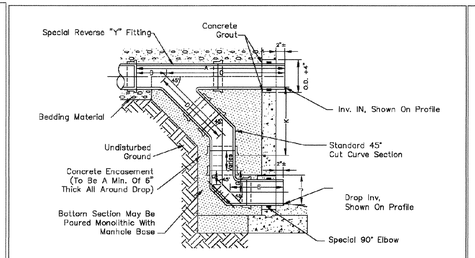
1. Manhole shall be coated using bituminous mastic (ramneck) or plastic sealing compound.

PARKER WATER & SANITATION DISTRICT

TYPICAL BASE CHANNELIZATION DETAILS

SCALE: NONE	DATE: 2/96
APPROVED: PVR	01/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S3.7



SECTION THRU DROP

PIPE I.D.	A	B	C	D	E	F	G	H	J	M	AM
8"	60"	36"	24"	18"	21"	4 1/8"	8"	4 3/8"	15"	15 7/8"	27 7/8"
10"	60"	36"	24"	18"	21"	4 1/8"	8"	4 3/8"	15"	15 7/8"	27 7/8"
12"	60"	36"	24"	18"	21"	4 1/8"	8"	4 3/8"	15"	15 7/8"	27 7/8"
15"	78"	54"	42"	30"	34"	5 1/8"	10"	5 3/4"	20"	21 7/8"	33 7/8"
18"	78"	54"	42"	30"	34"	5 1/8"	10"	5 3/4"	20"	21 7/8"	33 7/8"
21"	78"	54"	42"	30"	34"	5 1/8"	10"	5 3/4"	20"	21 7/8"	33 7/8"
24"	78"	54"	42"	30"	34"	5 1/8"	10"	5 3/4"	20"	21 7/8"	33 7/8"
27"	78"	54"	42"	30"	34"	5 1/8"	10"	5 3/4"	20"	21 7/8"	33 7/8"
30"	78"	54"	42"	30"	34"	5 1/8"	10"	5 3/4"	20"	21 7/8"	33 7/8"
36"	78"	54"	42"	30"	34"	5 1/8"	10"	5 3/4"	20"	21 7/8"	33 7/8"
42"	78"	54"	42"	30"	34"	5 1/8"	10"	5 3/4"	20"	21 7/8"	33 7/8"
48"	78"	54"	42"	30"	34"	5 1/8"	10"	5 3/4"	20"	21 7/8"	33 7/8"

NOTES:

1. Vit 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.

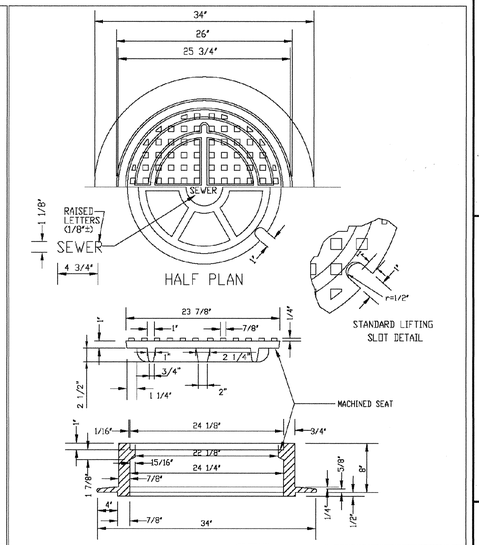
OUTSIDE DROP MANHOLE CONSTRUCTION

PARKER WATER & SANITATION DISTRICT

OUTSIDE DROP MANHOLE CONSTRUCTION

SCALE: NONE	DATE: 2/96
APPROVED: PVR	01/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S3.8



NOTE:

1. Casting Specifications: ASTM A-48 With A Minimum Tensile Strength Of 25 KSI (Class 25)
2. All Casting To Be Dipped In Asphalt Base Paint (Or Approved Equal).
3. No other manhole lids will be accepted without prior approval from the District Engineer.

PARKER WATER & SANITATION DISTRICT

24" DIAMETER RING AND COVER

SCALE: NONE	DATE: 2/96
APPROVED: PVR	01/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S3.9

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

N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\F3 SANITARY SEWER DETAILS.DWG, TOMO, 3/22/2018 2:56 PM

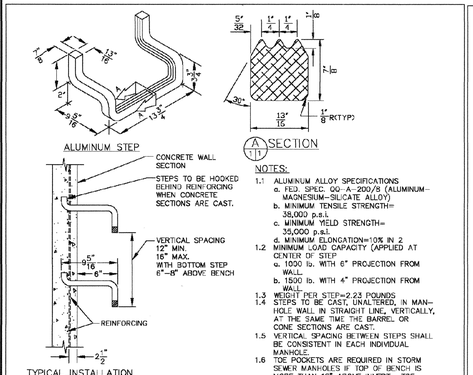
No.	Revisions	Date	Init.	Appr.	Date

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

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
SANITARY SEWER DETAILS

SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: JF
CHECKED BY: JJJ
DATE: APRIL 2017
SHEET NUMBER: 14

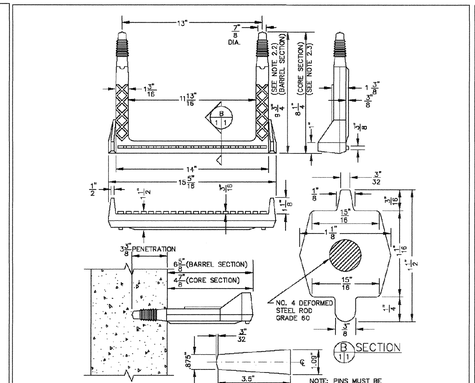


PARKER WATER & SANITATION DISTRICT

STANDARD EXTRUDED ALUMINUM MANHOLE STEP

SCALE: NONE	DATE: 2/96
APPROVED: PVR	01/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S3.10



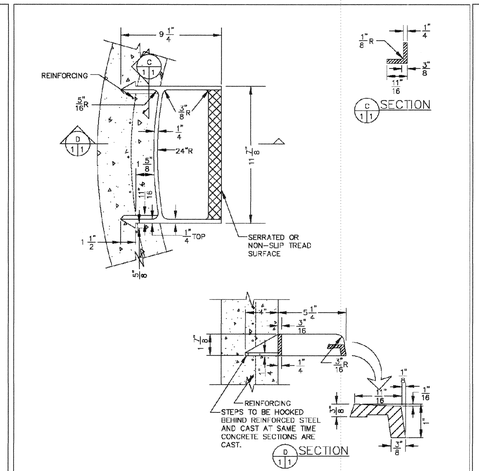
POLYPROPYLENE REINFORCED PLASTIC STEP

PARKER WATER & SANITATION DISTRICT

POLYPROPYLENE REINFORCED PLASTIC MANHOLE STEP

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

2016 REVISION — SHEET S3.11



CAST ALUMINUM MANHOLE STEP

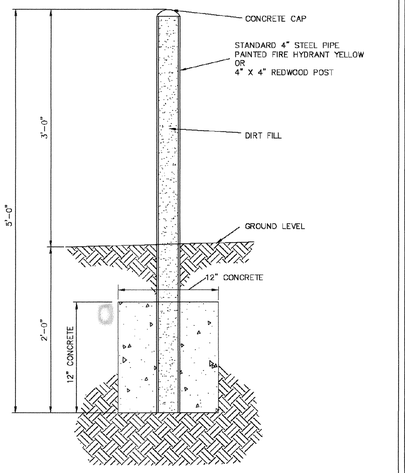
NOTES:
3.1 THE CAST ALUMINUM MANHOLE STEP SHALL ONLY BE USED WHEN SPECIFIED ON THE DRAWINGS.
3.2 ALUMINUM ALLOY SPECIFICATIONS:
a. ALLOY DESIGNATION ALMAC 35
b. MIN. TENSILE STRENGTH= 40 K.S.I.
c. MIN. YIELD STRENGTH= 20 K.S.I.
d. MIN. SHEAR STRENGTH= 27.45 K.S.I.
e. ELONGATION= 10% IN 2
f. BRINELL HARDNESS= 70
3.3 MINIMUM LOAD CAPACITY, STEP SPACING AND ALIGNMENT, TOE POCKET DETAILS AND OTHER APPLICABLE NOTES OR DETAILS SPECIFIED FOR EXTRUDED ALUMINUM MANHOLE STEP SHALL ALSO APPLY TO THIS STANDARD.
3.4 MIN. WT. = 2.0 lb.

PARKER WATER & SANITATION DISTRICT

CAST ALUMINUM MANHOLE STEP

SCALE: NONE	DATE: 2/96
APPROVED: PVR	01/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S3.12



MARKER POST DETAIL

STEEL PIPE
STENCILED IDENTIFICATION MARKS ON POSTS SHALL FACE THE APPURTENANCE WITH 2" STENCILS INDICATING TYPE OF APPURTENANCE (MH, 12" VALVE, ETC.) AND THE DISTANCE IN FEET AND INCHES FROM POST.

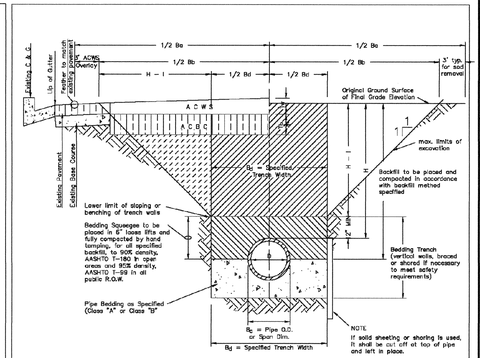
REDWOOD POST
ROUTER LETTERS AND NUMBERS INTO POST. PAINT LETTERS AND NUMBERS BLACK.

PARKER WATER & SANITATION DISTRICT

MARKER POST DETAIL

SCALE: NONE	DATE: 2/98
APPROVED: PVR	2/00 10/16 4/01 1/06 1/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S3.13



TYPICAL TRENCH DETAIL

t_p = Thickness of Asphaltic Concrete Base Course (A C B C)

T_w = Thickness of Asphaltic Concrete Wearing Surface (A C W S)

T_p = Total Asphalt Thickness ($t_p + T_w$)

B_c = Outside Pipe or Conduit Span Dimension

B_d = Specified Bedding Trench Width and Max Bedding Trench Width at a point 12" above Top of Pipe (See Note 2)

B_p = Max. Poy Width of Asphaltic Concrete Base Course (or Asphaltic Concrete Cold Mix) (See Note 3)

B_w = Max. Poy Width of Asphaltic Concrete Wearing Surface or Seal Replacement (See Note 3)

H = Depth of Surface to Top of Pipe

H-i= Depth from Surface to 1 ft. above Top of Pipe

NOTES

1. *Sloping or benching of trench side walls, where permitted shall be in accordance with applicable Federal, State and Local safety regulations.*
2. *Trench shall be braced and shored as necessary to afford safe working conditions or to protect adjacent utilities, structures, etc., (unless otherwise specified on the drawings) or to prevent delay in the removal, replacement or relocation of curb and gutter, utilities, sidewalk, structures, etc. outside the maximum limits of excavation as shown and the contractor shall be responsible for protection of same.*
3. *If dimension "B_d" is ≤ 0', then existing asphalt pavement shall be removed and replaced up to the gutter. Maximum asphalt pay widths, B_p & B_w shall then be based upon this actual width.*

TABLE II
ASPHALT AND BASE COURSE REPLACEMENT SCHEDULE

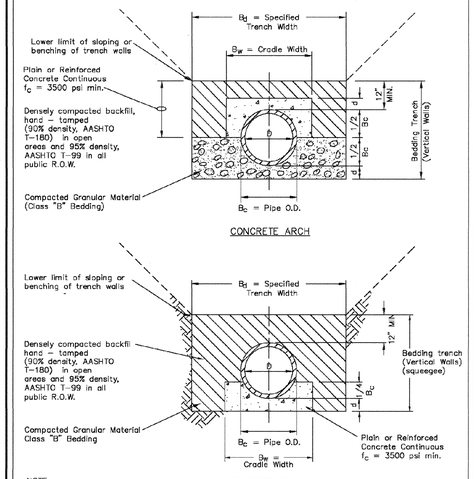
STREET WIDTH	ASPHALTIC BASE COURSE (t_p)	ASPHALTIC WEARING SURFACE (T_w)	TOTAL THICKNESS (T_p)
UP TO 36'	4"	2"	6"
36' TO 44'	4"	3"	7"
44' TO 48'	5"	3"	8"
WIDER THAN 48'	6"	3"	9"

PARKER WATER & SANITATION DISTRICT

SEWER TRENCHING AND BEDDING DETAIL

SCALE: NONE	DATE: 2/96
APPROVED: PVR	5/98 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S4.1



NOTE:
The Design Engineer shall be responsible for structural design of the concrete cradle and/or concrete arch.

TABLE III

NOMINAL DIAMETER (D)	MINIMUM THICKNESS (d)	MIN. WIDTH OF CRADLE (B_w)
18" & smaller	6"	B_c + 8"
21" to 24"	6"	B_c + 8"
27" to 33"	8"	B_c + 8"
36" to 42"	10"	1.25 B_c
48" & larger	1/4 D	1.25 B_c

CLASS "A" BEDDING

PARKER WATER & SANITATION DISTRICT

TRENCHING AND BEDDING DETAIL - CLASS "A"

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

2016 REVISION — SHEET S4.2

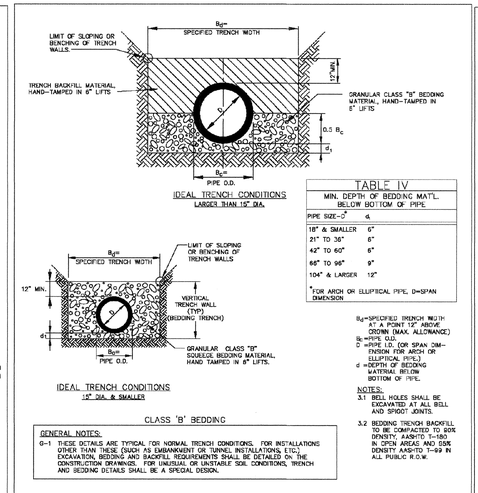


TABLE IV MIN. DEPTH OF BEDDING MAT'L. BELOW BOTTOM OF PIPE	
PIPE SIZE-D"	d_1
18" & SMALLER	6"
21" TO 36"	6"
42" TO 60"	6"
66" TO 96"	9"
104" & LARGER	12"

*FOR ARCH OR ELLIPTICAL PIPE. D=SPAN DIMENSION

B_d=SPECIFIED TRENCH WIDTH AT A POINT 12" ABOVE CROWN (MAX. ALLOWANCE)
B_c=PIPE O.D.
D =PIPE I.D. (OR SPAN DIMENSION FOR ARCH OR ELLIPTICAL PIPE).
d =DEPTH OF BEDDING MATERIAL BELOW BOTTOM OF PIPE.

NOTES:
3.1 BELL HOLES SHALL BE EXCAVATED AT ALL BELL AND SPIGOT JOINTS.
3.2 BEDDING TRENCH BACKFILL TO BE COMPACTED TO 90% DENSITY, AASHTO T-180 IN OPEN AREAS AND 95% DENSITY AASHTO T-99 IN ALL PUBLIC R.O.W.

CLASS 'B' BEDDING

GENERAL NOTES:
G-1 THESE DETAILS ARE TYPICAL FOR NORMAL TRENCH CONDITIONS. FOR INSTALLATIONS OTHER THAN THESE (SUCH AS EMBANKMENT OR TUNNEL INSTALLATIONS, ETC.) EXCAVATION, BEDDING AND BACKFILL REQUIREMENTS SHALL BE DETAILED ON THE CONSTRUCTION DRAWINGS. FOR UNUSUAL OR UNSTABLE SOIL CONDITIONS, TRENCH AND BEDDING DETAILS SHALL BE A SPECIAL DESIGN.

PARKER WATER & SANITATION DISTRICT

TRENCHING AND BEDDING CLASS "B"

SCALE: NONE	DATE: 2/96
APPROVED: PVR	5/98 7/00 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S4.3

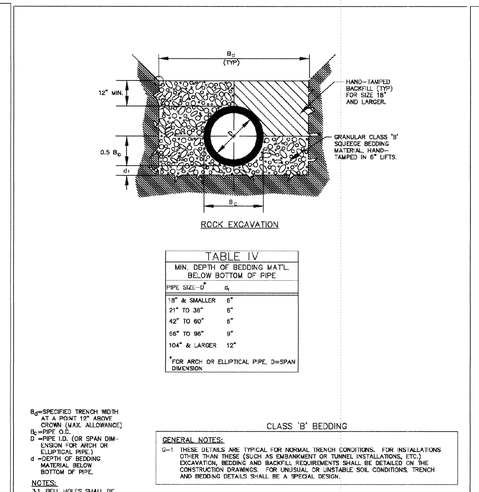


TABLE IV MIN. DEPTH OF BEDDING MAT'L. BELOW BOTTOM OF PIPE	
PIPE SIZE-D"	d_1
18" & SMALLER	6"
21" TO 36"	6"
42" TO 60"	6"
66" TO 96"	9"
104" & LARGER	12"

*FOR ARCH OR ELLIPTICAL PIPE. D=SPAN DIMENSION

B_d=SPECIFIED TRENCH WIDTH AT A POINT 12" ABOVE CROWN (MAX. ALLOWANCE)
B_c=PIPE O.D.
D =PIPE I.D. (OR SPAN DIMENSION FOR ARCH OR ELLIPTICAL PIPE).
d =DEPTH OF BEDDING MATERIAL BELOW BOTTOM OF PIPE.

NOTES:
3.1 BELL HOLES SHALL BE EXCAVATED AT ALL BELL AND SPIGOT JOINTS.
3.2 BEDDING TRENCH BACKFILL TO BE COMPACTED TO 90% DENSITY AASHTO T-180 IN OPEN AREAS AND 95% DENSITY AASHTO T-99 IN ALL PUBLIC R.O.W.

CLASS 'B' BEDDING

GENERAL NOTES:
G-1 THESE DETAILS ARE TYPICAL FOR NORMAL TRENCH CONDITIONS. FOR INSTALLATIONS OTHER THAN THESE (SUCH AS EMBANKMENT OR TUNNEL INSTALLATIONS, ETC.) EXCAVATION, BEDDING AND BACKFILL REQUIREMENTS SHALL BE DETAILED ON THE CONSTRUCTION DRAWINGS. FOR UNUSUAL OR UNSTABLE SOIL CONDITIONS, TRENCH AND BEDDING DETAILS SHALL BE A SPECIAL DESIGN.

PARKER WATER & SANITATION DISTRICT

TRENCHING AND BEDDING CLASS "B"

SCALE: NONE	DATE: 2/96
APPROVED: PVR	5/98 7/00 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S4.4

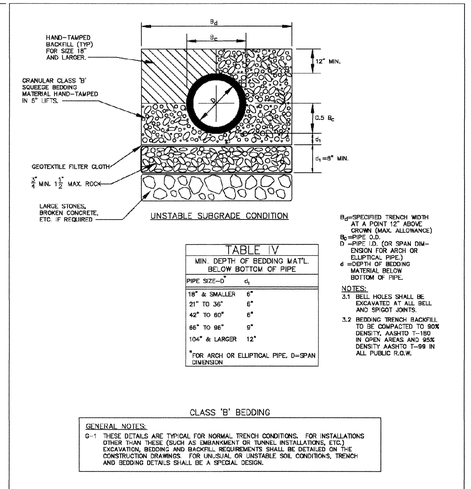


TABLE IV MIN. DEPTH OF BEDDING MAT'L. BELOW BOTTOM OF PIPE	
PIPE SIZE-D"	d_1
18" & SMALLER	6"
21" TO 36"	6"
42" TO 60"	6"
66" TO 96"	9"
104" & LARGER	12"

*FOR ARCH OR ELLIPTICAL PIPE. D=SPAN DIMENSION

B_d=SPECIFIED TRENCH WIDTH AT A POINT 12" ABOVE CROWN (MAX. ALLOWANCE)
B_c=PIPE O.D.
D =PIPE I.D. (OR SPAN DIMENSION FOR ARCH OR ELLIPTICAL PIPE).
d =DEPTH OF BEDDING MATERIAL BELOW BOTTOM OF PIPE.

NOTES:
3.1 BELL HOLES SHALL BE EXCAVATED AT ALL BELL AND SPIGOT JOINTS.
3.2 BEDDING TRENCH BACKFILL TO BE COMPACTED TO 90% DENSITY, AASHTO T-180 IN OPEN AREAS AND 95% DENSITY AASHTO T-99 IN ALL PUBLIC R.O.W.

CLASS 'B' BEDDING

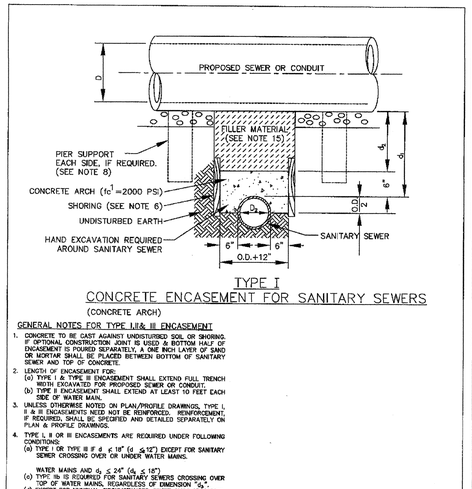
GENERAL NOTES:
G-1 THESE DETAILS ARE TYPICAL FOR NORMAL TRENCH CONDITIONS. FOR INSTALLATIONS OTHER THAN THESE (SUCH AS EMBANKMENT OR TUNNEL INSTALLATIONS, ETC.) EXCAVATION, BEDDING AND BACKFILL REQUIREMENTS SHALL BE DETAILED ON THE CONSTRUCTION DRAWINGS. FOR UNUSUAL OR UNSTABLE SOIL CONDITIONS, TRENCH AND BEDDING DETAILS SHALL BE A SPECIAL DESIGN.

PARKER WATER & SANITATION DISTRICT

TRECHING AND BEDDING CLASS "B"

SCALE: NONE	DATE: 2/96
APPROVED: PVR	5/98 2/00 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S4.5



TYPE I
CONCRETE ENCASEMENT FOR SANITARY SEWERS
(CONCRETE ARCH)

GENERAL NOTES FOR TYPE I,II& III ENCASEMENT

1. CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED A 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.
2. LENGTH OF ENCASEMENT FOR:
   (a) TYPE I & TYPE II ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT;
   (b) TYPE III ENCASEMENT SHALL EXTEND AT LEAST 10 FEET EACH SIDE OF WATER MAIN.
3. 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.
4. TYPE I, II OR III ENCASEMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
   (a) TYPE I OR TYPE III IF $d \geq 18"$ ($d_4 \leq 12"$) EXCEPT FOR SANITARY SEWER CROSSING OVER OR UNDER WATER MAINS.
   WATER MAINS AND $d_4 \leq 24"$ ($d_4 \leq 18"$)
   (c) TYPE IIb IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TYPE IIb WATER MAINS, REGARDLESS OF DIMENSION "d_4".
   (d) EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS, OR WHERE UNUSUAL SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASEMENT WILL NORMALLY NOT BE NECESSARY.
   (e) IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF DUCTILE IRON PIPE (AWWA C-150 OR C-151), CONCRETE ENCASEMENT MAY NOT BE REQUIRED.
5. FILLER MATERIAL BETWEEN CONDUITS TO BE:
   (a) APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC OR
   (b) COMPACTED CLASS "B" BEDDING IF d_4 & $d_5 > 6"$
   (IF d_4 OR $d_5 \leq 6"$ USE TYPE IIb ENCASEMENT POUR CONCRETE ON UNDISTURBED SOIL)
6. SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
7. THESE ENCASEMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS.
8. IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, PIER 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 I

SCALE: NONE	DATE: 2/96
APPROVED: JPN	
DISTRICT ENGINEER	

2008 REVISION — SHEET 6

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

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

N:\PROJECTS\WEISS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\D'S SANITARY SEWER DETAILS.DWG, TOMO, 2/28/2018 2:05 PM

No.	Revisions	Date	Init.	Appr.	Date

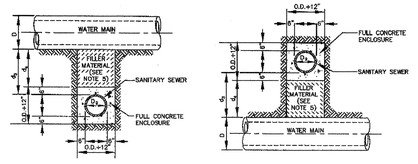
CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
SANITARY SEWER DETAILS

SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: JF
CHECKED BY: JJJ
DATE: APRIL 2017

SHEET NUMBER 15



TYPE II a
SANITARY SEWER CROSSING UNDER WATER MAIN
IF d_3 > 2 ft., ENCASEMENT NOT REQUIRED

TYPE II b
SANITARY SEWER CROSSING OVER TOP OF WATER MAIN
FULL ENCASEMENT REQUIRED REGARDLESS OF DIMENSION d_3.

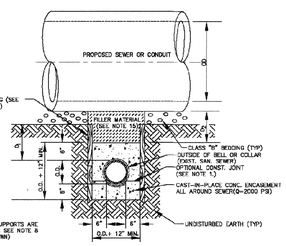
TYPE II
CONCRETE ENCASEMENT FOR SANITARY SEWERS CROSSING OVER OR UNDER WATER MAIN

GENERAL NOTES FOR TYPE I,II& III ENCASEMENT

1. CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED A 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.
2. LENGTH OF ENCASEMENT FOR:
   (a) TYPE I & TYPE III ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
   (b) TYPE II ENCASEMENT SHALL EXTEND AT LEAST TO FELT EACH SIDE OF WATER MAIN.
3. 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.
4. TYPE I, II OR III ENCASEMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
   (a) TYPE I OR TYPE III IF $d_1 \leq 18"$ ($d_1 \leq 12"$) EXCEPT FOR SANITARY SEWER CROSSING OVER OR UNDER WATER MAINS.
   WATER MAINS AND $d_3 \leq 24"$ ($d_1 \leq 18"$)
   (c) TYPE IIb IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS, REGARDLESS OF DIMENSION "d_3".
   (d) EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS, OR WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASEMENT WILL NORMALLY BE SATISFACTORY.
   (e) IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF DUCTILE IRON PIPE (AWWA C-150 OR C-151), CONCRETE ENCASEMENT MAY NOT BE REQUIRED.
5. FILLER MATERIAL BETWEEN CONDUITS TO BE:
   (a) APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC IF $d_3 \leq 6"$.
   (b) COMPACTED CLASS "B" BEDDING IF d_3 & $d_4 > 6"$ (IF $d_3 > 6"$ FOR TYPE IIb ENCASEMENT POUR CONCRETE ON UNDISTURBED SOIL)
6. SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
7. THESE ENCASEMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS.
8. IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, PIER 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 1/08
DISTRICT ENGINEER	

2008 REVISION — SHEET 7



TYPE III
CONCRETE ENCASEMENT FOR SANITARY SEWERS

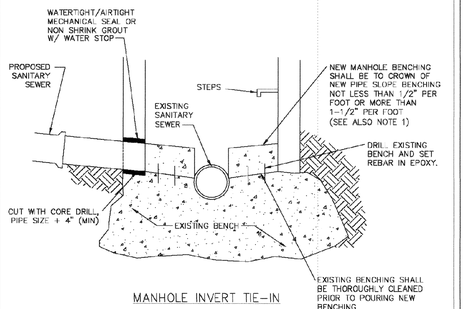
(FULL ENCASEMENT) NO SCALE

GENERAL NOTES FOR TYPE I,II& III ENCASEMENT

1. CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED A 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.
2. LENGTH OF ENCASEMENT FOR:
   (a) TYPE I & TYPE III ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
   (b) TYPE II ENCASEMENT SHALL EXTEND AT LEAST TO FELT EACH SIDE OF WATER MAIN.
3. 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.
4. TYPE I, II OR III ENCASEMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
   (a) TYPE I OR TYPE III IF D, $\leq 18"$ ($D_1 \leq 12"$) EXCEPT FOR SANITARY SEWER CROSSING OVER OR UNDER WATER MAINS.
   (b) TYPE IIa IS REQUIRED FOR SANITARY SEWERS CROSSING UNDER WATER MAINS AND $D_3 \leq 24"$ ($D_1 \leq 18"$)
   (c) TYPE IIb IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS, REGARDLESS OF DIMENSION "D_3".
   (d) EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS, ON WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASEMENT WILL NORMALLY BE SATISFACTORY.
   (e) IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF DUCTILE IRON PIPE (AWWA C-150 OR C-151), CONCRETE ENCASEMENT MAY NOT BE REQUIRED.
5. FILLER MATERIAL BETWEEN CONDUITS TO BE:
   (a) APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC IF $D_3 \leq 6"$.
   (b) COMPACTED CLASS "B" BEDDING IF D_3 & $D_4 > 6"$ (IF $D_3 > 6"$ FOR TYPE IIb ENCASEMENT POUR CONCRETE ON UNDISTURBED SOIL)
6. SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
7. THESE ENCASEMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS.
8. IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, PIER 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.
9. CONCRETE ENCASED PIPING SHALL BE LINED WITH FELT LAYER.

PARKER WATER & SANITATION DISTRICT	
CONCRETE ENCASEMENT TYPE III	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	5/98 1/15 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S4.8

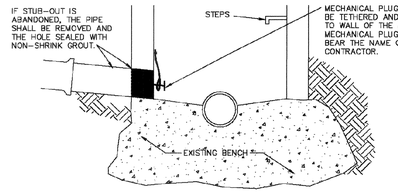


MANHOLE INVERT TIE-IN

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	1/16 10/16
DIRECTOR OF ENGINEERING	

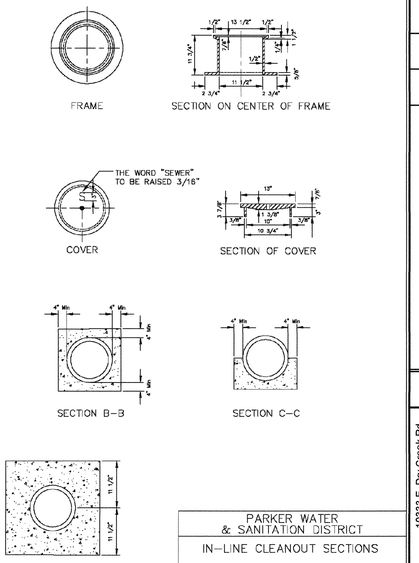
2016 REVISION — SHEET S4.9



MANHOLE STUB-OUT DETAIL

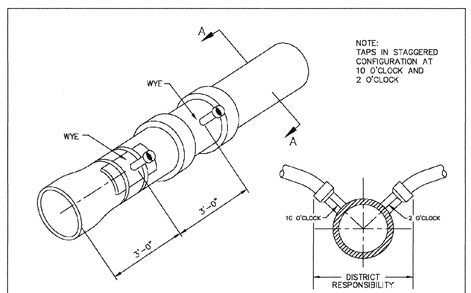
PARKER WATER & SANITATION DISTRICT	
MANHOLE STUB-OUT DETAIL	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S4.10



PARKER WATER & SANITATION DISTRICT	
IN-LINE CLEANOUT SECTIONS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	2/00 1/08 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S4.12



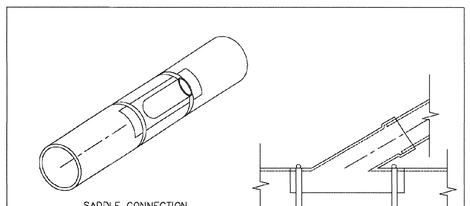
SECTION A – A

Sewer service connections shall be positioned at either the 2 o'clock or the 10 o'clock postion 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.

DOMESTIC SEWER TAPPING DETAIL

PARKER WATER & SANITATION DISTRICT	
DOMESTIC SEWER TAPPING DETAIL	
SCALE: NONE	DATE: 2/96
APPROVED: PVR	4/01 1/08 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S4.13



Y – SADDLE DETAIL

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	1/15 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET S4.14

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

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

N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\F3 SANITARY SEWER DETAILS.DWG, TOMO, 2/28/2018 2:05 PM

No.	Revisions	Date	Init.	Appr.	Date

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

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
SANITARY SEWER DETAILS

SCALE:	AS SHOWN	FILE NO:	8130283701
DRAWN BY:	JF	DATE:	APRIL 2017
CHECKED BY:	JJJ		

SHEET NUMBER 16

INSPECTION POLICY:

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

INSTALLATION NOTES:

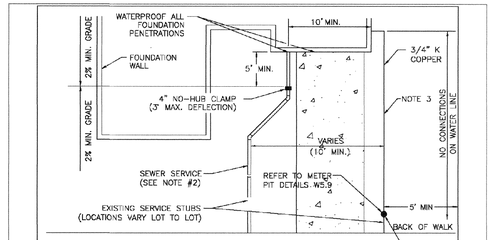
WATER

1. ACCEPTABLE PIPE MATERIALS SHALL BE K-COPPER TUBING. (3/4" MIN.)
2. APPROVED BEDDING TO BE SQUEEGEE.
3. ONLY ONE COUPLING WILL BE ALLOWED BETWEEN THE STUB-IN AND BUILDING. COMPRESSION COUPLINGS WILL NOT BE ALLOWED ON NEW CONSTRUCTION. SILVER SOLDERED JOINTS MUST BE USED ON SERVICES LARGER THAN 3/4". SILVER SOLDERED JOINTS MUST BE INSPECTED BY PWSD PRIOR TO BURIAL. FLARED COUPLINGS WILL BE ALLOWED ON ALL SERVICES 3/4" AND SMALLER.
4. A WATER SERVICE WHICH CROSSES A SEWER SERVICE CAN DO SO ONLY AT A 45-90° ANGLE. WATER SERVICES SHALL BE LOCATED A MINIMUM OF 18" ABOVE SEWER SERVICE.
5. WATER SERVICE FOUNDATION PENETRATIONS SHALL BE WATERPROOFED USING MASTIC OR OTHER APPROVED METHOD, CRAWL SPACE REQUIRES CONTINOUS 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 PWSD 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:
    "V" FOR SANITARY SEWER SERVICE
    "V" FOR WATER SERVICES
13. NO SPLICES OR FLARED COUPLINGS ALLOWED ON SERVICES LARGER THAN 3/4". SILVER SOLDIERED JOINTS MUST BE USED IN MOVING STOPBOXES ON SERVICES LARGER THAN 3/4". SILVER SOLDERED JOINTS MUST BE INSPECTED BY PWSD PRIOR TO BURIAL. FLARED COUPLINGS WILL BE ALLOWED ON ALL SERVICES 3/4" AND SMALLER.

DISTRICT POLICIES & INSTALLATION NOTES FOR WATER SERVICES

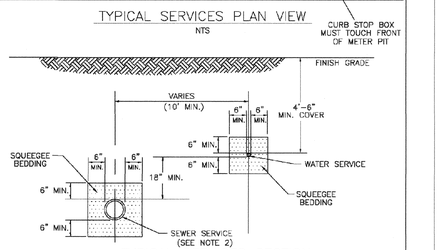
SCALE: NONE	DATE: 2/05
APPROVED: PVR, DIRECTOR OF ENGINEERING	1/04, 1/16, 10/15

2016 REVISION — SHEET W1.1



TYPICAL SERVICES PLAN VIEW

NTS



TYPICAL SERVICES SECTION

NTS

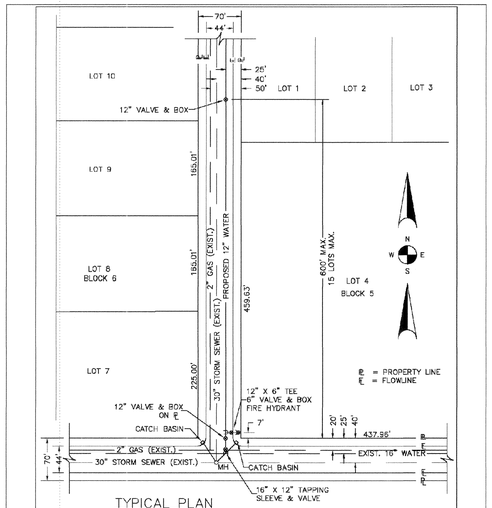
NOTE

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.

TYPICAL WATER SERVICES

SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	1/04, 10/15, 08/05, 12/07, 1/16

2016 REVISION — SHEET W1.2



TYPICAL PLAN

NOTES:

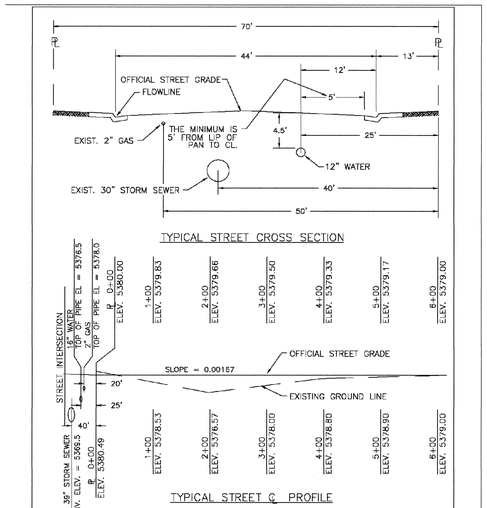
1. SEE "TYPICAL STREET CROSS SECTION — TYPICAL STREET ℄ PROFILE" DRAWING.
2. ALL FIRE HYDRANTS TO BE LOCATED AT POINTS OTHER THAN CORNER INTERSECTIONS SHALL BE INSTALLED AT A LOT LINE EXTENDED.

PARKER WATER & SANITATION DISTRICT

WATER DISTRIBUTION SYSTEM TYPICAL PLAN

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

2016 REVISION — SHEET W2.1



TYPICAL STREET CROSS SECTION

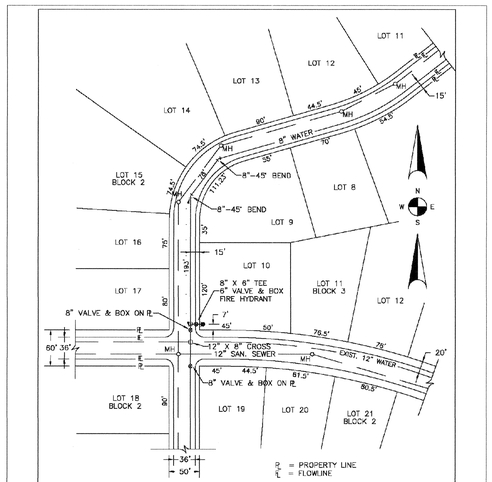
TYPICAL STREET ℄ PROFILE

PARKER WATER & SANITATION DISTRICT

TYPICAL STREET CROSS SECTION TYPICAL STREET ℄ PROFILE

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

2016 REVISION — SHEET W2.2



TYPICAL PLAN FOR CURVED STREETS

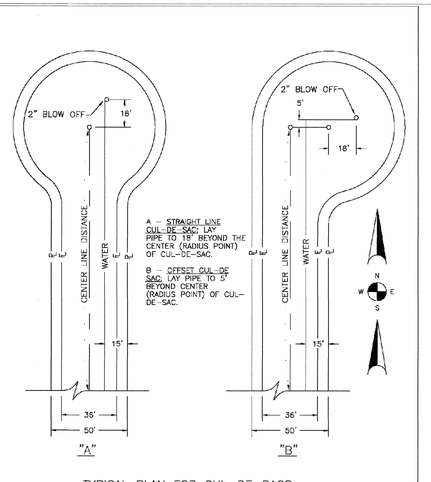
NOTE: WATER AND SEWER MAY NEVER BE CLOSER THAN 10' HORIZONTALLY AND MUST MAINTAIN A MINIMUM OF 5' FROM THE LIP OF PAN ON THE GUTTER.

PARKER WATER & SANITATION DISTRICT

WATER DISTRIBUTION SYSTEM TYPICAL PLAN FOR CURVED STREETS

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

2016 REVISION — SHEET W2.3



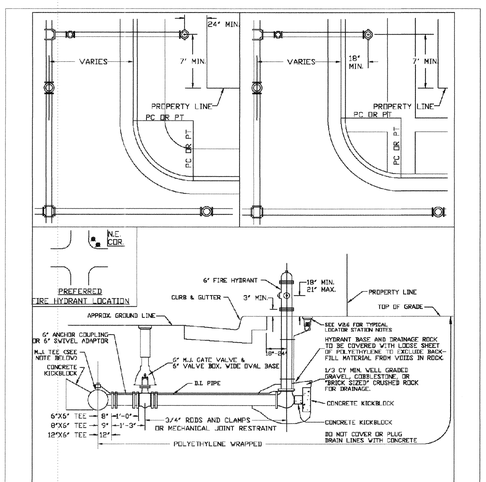
TYPICAL PLAN FOR CUL-DE-SACS

PARKER WATER & SANITATION DISTRICT

WATER DISTRIBUTION SYSTEM TYPICAL PLAN FOR CUL-DE-SACS

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

2015 REVISION — SHEET W2.4



NOTES:

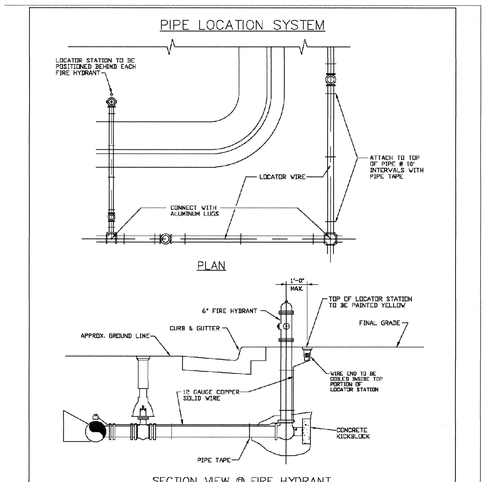
1. ALTERNATE TO THIS ABOVE: FASTEN M.J. VALVE DIRECTLY TO A M.J. ANCHOR TEE VALVE CALLS SHOWN, ETC.)
2. NO HORIZONTAL OR VERTICAL BENDS ARE ALLOWED IN FIRE HYDRANT BRANCH.
3. NO PORTION OF FIRE HYDRANT MAY [illegible] WALK AREA.
4. NO PORTION OF FIRE HYDRANT EXTENSIONS MAY [illegible] WALK AREA.
5. FIRE HYDRANT EXTENSIONS MAY NOT BE MORE THAN TWO SECTIONS.

PARKER WATER & SANITATION DISTRICT

FIRE HYDRANTS LOCATION & INSTALLATION

SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	4/01, 10/16, 01/02, 12/07, 1/16

2016 REVISION — SHEET W2.5



NOTES:

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

PARKER WATER & SANITATION DISTRICT

LOCATOR WIRE DETAILS

SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	4/01, 01/02, 01/16, 10/16

2016 REVISION — SHEET W2.6

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

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\F3 WATER DETAILS.DWG, CODY.A, 2/28/2018 2:05 PM

No.	Revisions	Date	Init.	Appr.	Date

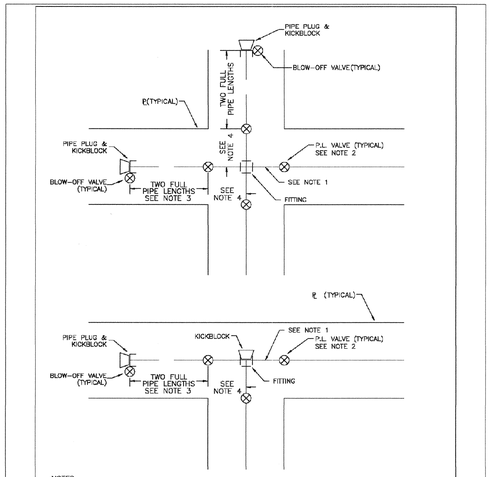
CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
WATER DETAILS

SCALE: AS SHOWN	FILE NO: 8130283701
DRAWN BY: JF	
CHECKED BY: JJJ	
DATE: APRIL 2017	

SHEET NUMBER 17



NOTES:

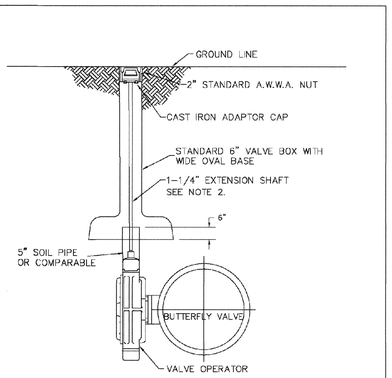
1. LAY PIPE FROM FITTING TO PL
2. INSTALL VALVE AT PL
3. STUB OUT TWO FULL PIPE LENGTHS FROM VALVE AND BLOW-OFF VALVE. PLUG END OF PIPE AND INSTALL KICKBLOCK.
4. ALTERNATIVE TO NOTE 3: ROD ON MECHANICAL JOINT RESTRAINT FROM VALVE TO FITTING AND ELIMINATE THE TWO FULL LENGTHS OF PIPE OUT OF VALVE AND TEMPORARY BLOW-OFF.

PARKER WATER & SANITATION DISTRICT

PIPING AT STREET INTERSECTIONS FUTURE CONNECTIONS

SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	01/02 01/16 10/18

2016 REVISION — SHEET W2.7



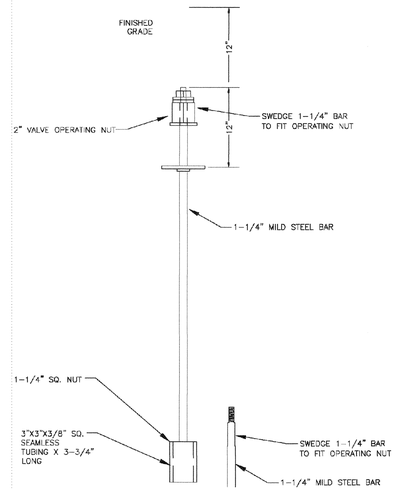
1. THE VALVE BOX SHALL NOT BE PLACED DIRECTLY ON SOIL PIPE.
2. VALVE EXTENSIONS ONLY ALLOWED FOR VALVES DEEPER THAN 9 FT, SEE DETAIL W3.2.

PARKER WATER & SANITATION DISTRICT

TRANSMISSION MAIN BUTTERFLY VALVE INSTALLATION

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

2016 REVISION — SHEET W3.1



NOTES:

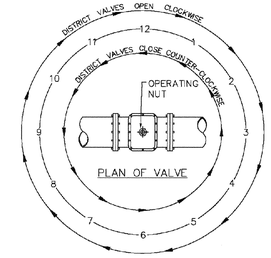
1. VALVE EXTENSIONS ONLY ALLOWED ON VALVES DEEPER THAN 9 FEET.

PARKER WATER & SANITATION DISTRICT

VALVE OPERATOR EXTENSION

SCALE: NONE	DATE: 5/98
APPROVED: PVR DIRECTOR OF ENGINEERING	2/00 12/07 1/16 10/16

2016 REVISION — SHEET W3.3



NOTE:
ONLY RIGHT HAND OPENING VALVES ALLOWED.

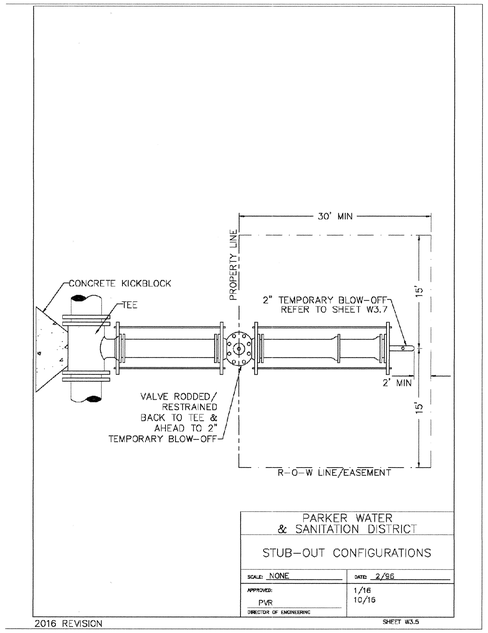
VALVE OPENING & CLOSING PROCEDURE

PARKER WATER & SANITATION DISTRICT

VALVE OPERATION

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

2016 REVISION — SHEET W3.4

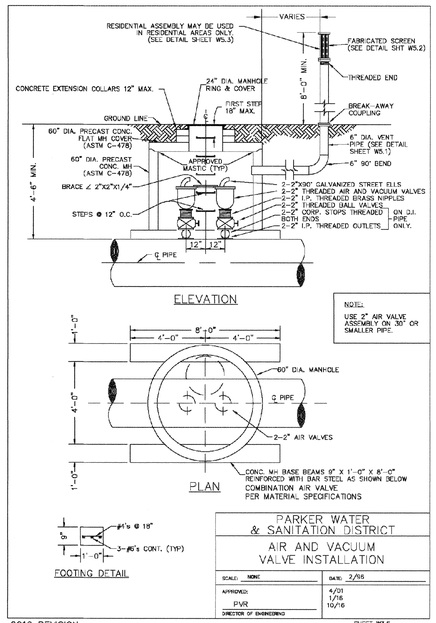


PARKER WATER & SANITATION DISTRICT

STUB-OUT CONFIGURATIONS

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

2016 REVISION — SHEET W3.5

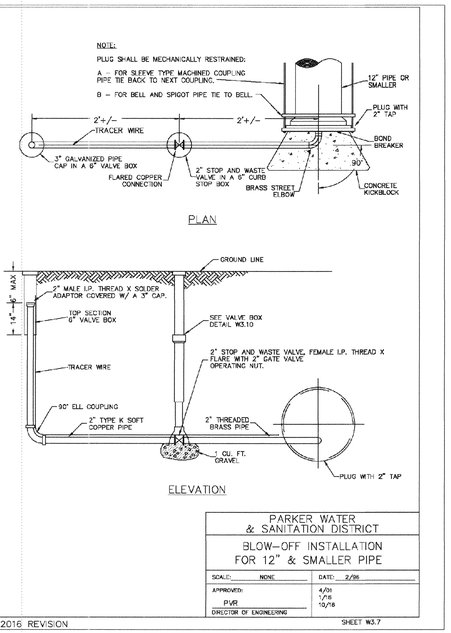


PARKER WATER & SANITATION DISTRICT

AIR AND VACUUM VALVE INSTALLATION

SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	4/01 1/16 10/16

2016 REVISION — SHEET W3.6

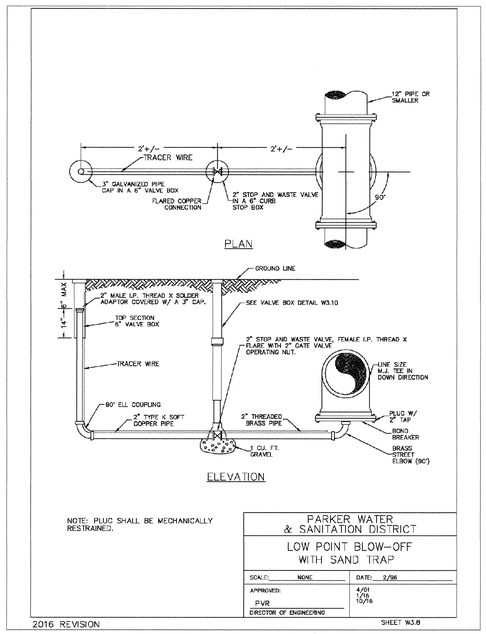


PARKER WATER & SANITATION DISTRICT

BLOW-OFF INSTALLATION FOR 12" & SMALLER PIPE

SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	4/01 1/16 10/16

2016 REVISION — SHEET W3.7



NOTE: PLUG SHALL BE MECHANICALLY RESTRAINED.

PARKER WATER & SANITATION DISTRICT

LOW POINT BLOW-OFF WITH SAND TRAP

SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	4/01 1/16 10/16

2016 REVISION — SHEET W3.8

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

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

N:\PROJECTS\HSS RANCH\CAD\ENGINEERING\SHEET SETS\COS\SP\PARKER WATER AND SANITATION\F3 WATER DETAILS.DWG, CODY A, 2/28/2018 2:05 PM

No.	Revisions	Date	Init.	Appr.	Date

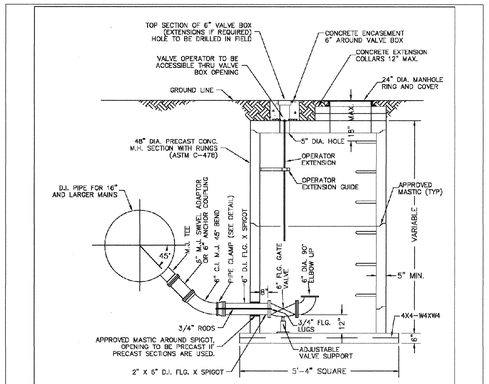
CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

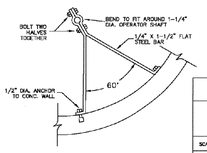
TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
WATER DETAILS

SCALE:	AS SHOWN	FILE NO:	8130283701
DRAWN BY:	JF	DATE:	APRIL 2017
CHECKED BY:	JJJ		

SHEET NUMBER 18



ELEVATION

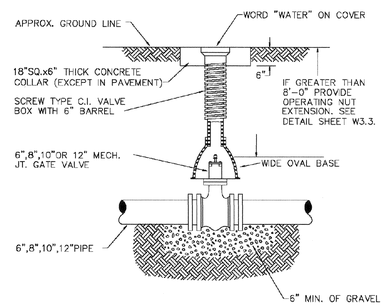


EXTENSION GUIDE

NOTE: THIS BLOW-OFF INSTALLATION MAY BE REPLACED BY A FIRE HYDRANT WHERE APPROVED BY THE DISTRICT FOR 16" AND 20" MAINS.

PARKER WATER & SANITATION DISTRICT	
TRANSMISSION MAIN BLOW-OFF INSTALLATION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	4/01 01/02 01/16 10/16

2016 REVISION — SHEET W3.9



6-INCH VALVE BOXES

CHECK MATERIAL SPECIFICATIONS

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

PARKER WATER & SANITATION DISTRICT	
VALVE BOX DETAIL	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	5/98 12/16 8/98 12/07 1/16

2016 REVISION — SHEET W3.10

LENGTH OF TIED PIPE

PIPE SIZE		4"			6"			8"			12"			16"			20"			24"		
		D	L	G	D	L	G	D	L	G	D	L	G	D	L	G	D	L	G	D	L	G
TEE OR VALVE		3/4"	8.6'	M.S.	3/4"	13.0'	M.S.	3/4"	20.0'	M.S.	3/4"	40.0'	M.S.	3/4"	60.0'	A.S.	1"	R6.0'	A.S.	–	155.0'	–
BEND WITH ONE FLANGED END		3/4"	8.6'	M.S.	3/4"	13.0'	M.S.	3/4"	20.0'	M.S.	3/4"	40.0'	M.S.	3/4"	60.0'	A.S.	1"	R6.0'	A.S.	–	155.0'	–
45° BEND		3/4"	2.6'	M.S.	3/4"	4.0'	M.S.	3/4"	6.0'	M.S.	3/4"	1'-0"	M.S.	1"	18.0'	M.S.	3/4"	24.0'	A.S.	–	49.0'	–
22-1/2° BEND		3/4"	1.0'	M.S.	3/4"	1.0'	M.S.	3/4"	2.0'	M.S.	3/4"	3.0'	M.S.	3/4"	5.0'	M.S.	3/4"	6.0'	M.S.	–	12.0'	–
11-1/4° BEND		3/4"	0.0'	M.S.	3/4"	0.0'	M.S.	3/4"	1.0'	M.S.	3/4"	1.0'	M.S.	3/4"	1.0'	M.S.	3/4"	1.0'	M.S.	3/4"	2.0'	M.S.

NOTES:
1. LENGTH OF TIED PIPE MEASURED EACH WAY FROM VALVES AND BENDS.
2. CLAMPS AND RODS NOT ALLOWED FOR 24" AND LARGER PIPES.
3. D = DIAMETER, L = LENGTH, G = GRADE, M.S. = MILD STEEL, A.S. = A.S.T.M. 193 GR. B7.
4. MINIMUM 4'0" SPECIAL COVER REQUIRED.
5. BASED ON 150 PSI INTERNAL PRESSURE.
6. M.S. MEANS MILD STEEL ROD A.S.T.M. STANDARD DESIGNATION A-36.
7. A.S. MEANS MFG. STRENGTH ROD A.S.T.M. STANDARD DESIGNATION A-193 GRADE B-7.
8. NUTS SHALL BE A.S.T.M. STANDARD DESIGNATION A-307 GRADE A HEAVY HEX NUTS.
9. SEE TIE ROD DETAIL SHEET W3.12. ALSO, TIE ROD COUPLING DETAILS, CLAMP DETAILS AND SET CLAMP DETAILS.
10. LENGTH REFERS TO THE AMOUNT OF PIPE WHICH MUST BE TIED TOGETHER. TIES ARE NOT REQUIRED ON THE PIPE ITSELF.
11. STAR BOLTS NOT ALLOWED ON PIPE LARGER THAN 16".
12. MINIMUM OF 4 RODS REQUIRED ON 16" PIPE IF STAR BOLTS ARE USED.
13. TEES ARE TO BE RODDED ON BRANCH ONLY.

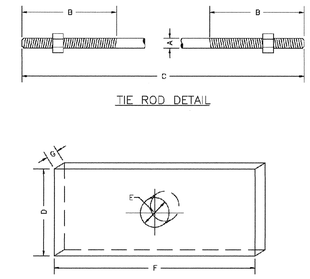
TIE OR VALVE

90° BEND

45 BEND

PARKER WATER & SANITATION DISTRICT	
LENGTH OF TIED PIPE	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	4/01 1/16 10/16

2016 REVISION — SHEET W3.11



TIE RODS

A	B	C
ROD DIAMETER	THREAD LENGTH	ROD LENGTH
3/4"	6"	11" & 20"
1"	8"	11" & 20"
1-1/4"	ALL THREAD	11" & 20"

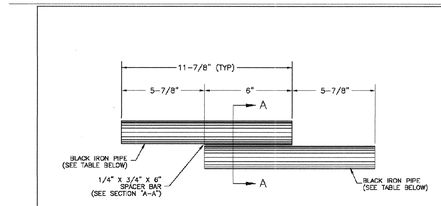
WASHERS

D	E	F	G
WIDTH	HOLE DIAMETER	LENGTH	THICKNESS
3"	7/8"	6"	3/8"
4"	1-1/8"	7"	1/2"
	1-3/8"	7"	5/8"

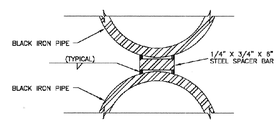
NOTES:
1. SEE TIED JOINTS ROD DIMENSIONS SHEET.
2. SEE CLAMP DETAILS AND DIMENSIONS (SHEET W3.15) FOR PROPER PLACEMENT OF WASHERS.

PARKER WATER & SANITATION DISTRICT	
TIE ROD AND WASHER DETAILS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	1/18 10/16

2016 REVISION — SHEET W3.12



TIE ROD COUPLING DETAIL



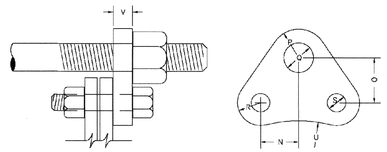
SECTION "A-A"

NOTE:
BLACK IRON PIPE = SCHEDULE 40.

ROD SIZE	PIPE DIAMETER
3/4"	1"
1"	1-1/4"
1-1/4"	1-1/2"

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

2016 REVISION — SHEET W3.13



FLANGE LUG DETAIL

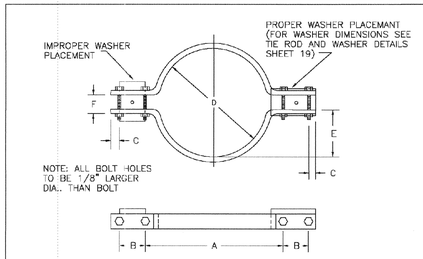
DIMENSIONS (IN INCHES)

PIPE DIA.	N	O	U.S. 1006 P	U.S. 1006 Q	U.S. 1006 ROD SIZE	W.S. 906 P	W.S. 906 Q	W.S. 906 ROD SIZE	R	S	U	V	PIPE DIA.
4	1-7/16	3	1	7/8	3/4	1	7/8	3/4	7/8	3/4	2-7/8	3/4	4
6	1-5/16	3-1/4	1	7/8	3/4	1	7/8	3/4	7/8	7/8	3-1/4	7/8	6
8	2-7/16	3-3/4	1	7/8	3/4	1	7/8	3/4	7/8	7/8	4-1/8	7/8	8
12	2-3/16	5-3/4	1-1/8	7/8	3/4	1-1/4	1-1/8	1	1-1/8	1	7-1/4	7/8	12
16	2-7/16	7-3/4	1-1/8	7/8	3/4	1-1/2	1-3/8	1-1/4	1-1/4	1-1/8	9-3/8	1-1/8	16
20	3-7/16	9-3/4	1-1/8	1-1/8	1	1-7/16	1-1/4	1-1/4	1-7/16	1-1/4	11-7/16	1-1/4	20
24	RODS AND CLAMPS NOT ALLOWED												24

NOTES:
1. M.S. MEANS MILD STEEL ROD A.S.T.M. STANDARD DESIGNATION A-36. (NUTS SHALL BE A.S.T.M. STANDARD DESIGNATION A-307 GRADE A OR B HEXAGON HEAVY SERIES).
2. H.S. MEANS HIGH STRENGTH STEEL ROD A.S.T.M. STANDARD DESIGNATION A-193 GRADE B7. (NUTS SHALL BE A.S.T.M. STANDARD DESIGNATION A-194 GRADE 2H).
3. FLANGE LUGS SHALL NOT BE USED ON VALVES.

PARKER WATER & SANITATION DISTRICT	
FLANGE LUG DETAIL	
SCALE: NONE	DATE: 3/98
APPROVED: PVR DIRECTOR OF ENGINEERING	1/16 10/16

2016 REVISION — SHEET W3.14



CLAMP DETAILS

DIMENSIONS

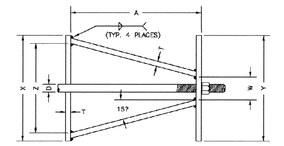
TABLE OF DIMENSIONS FOR CLAMPS

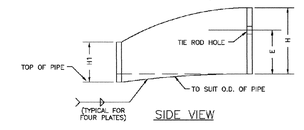
PIPE DIA.	BAR SIZE	A BELL CLAMP	A BODY CLAMP	B BELL CLAMP	B BODY CLAMP	C	D BELL CLAMP	D BODY CLAMP	E BELL CLAMP	E BODY CLAMP	F BELL CLAMP	F BODY CLAMP	BOLT SIZES BELL CLAMP	BOLT SIZES BODY CLAMP	PIPE DIA.
4	1-1/2X1/2	9-3/4	7-1/2	3-1/2	3-1/2	1	6-3/4	4-7/8	2-3/4	1-13/16	1-1/4	1-1/4	3X1/2	2-1/2X3/8	4
6	2X1/2	13	9-1/2	4	4-1/2	2	2	18-1/4	7-1/8	4-1/8	2-15/16	2	1-1/4	3-1/2X1/2	6
8	2-1/2X1/2	15	12-1/4	4-3/4	4-1/2	1-1/4	1-1/2	18-1/4	9-1/4	5-1/8	4	2	1-1/4	4-1/2X1/2	8
12	2-1/2X5/8	17-1/2	16-5/8	4-5/8	4-3/4	1	1-1/4	16-1/2	13-1/2	6	5-1/2	2-1/2	2-1/2	4-1/2X5/8	12
16	3X3/4	24-1/2	21-7/8	4-1/2	4-3/4	1-1/2	1-1/2	19-3/4	17-1/2	8-5/8	7-1/2	3	2-1/2	5-1/2X5/8	16
20	3X3/4	30-1/2	25-3/8	4-1/2	4-3/4	1-1/2	1-1/2	24-3/4	21-3/4	10-7/8	9-1/2	3	2-3/4	5-1/2X5/8	20
24	RODS AND CLAMPS NOT ALLOWED														24

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

PARKER WATER & SANITATION DISTRICT	
CLAMP DETAILS AND DIMENSIONS	
SCALE: NONE	DATE: 2/95
APPROVED: PVR DIRECTOR OF ENGINEERING	12/07 1/16 10/16

2016 REVISION — SHEET W3.15





HARNESS LUG DIMENSIONS

CARRIER PIPE NOMINAL DIA.	STUD DIA. D	A	W	Z	T	H	E	H1	Y	X
4" TO 16"	3/4"	5"	1-3/4"	4-7/16"	3/8"	4-1/2"	3-1/4"	2"	5-1/4"	5-11/16"
20"	1"	5-3/4"	1-3/4"	4-7/16"	3/8"	4-1/2"	3-1/4"	2"	5-1/4"	5-11/16"

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

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

2016 REVISION — SHEET W3.16

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

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

N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\F3 WATER DETAILS.DWG, CODY A, 2/28/2018 2:26 PM

No.	Revisions	Date	Init.	Appr.	Date

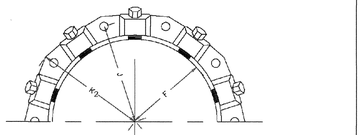
CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
WATER DETAILS

SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: JF
CHECKED BY: JJJ
DATE: APRIL 2017

SHEET NUMBER 19



MECHANICAL JOINT RESTRAINT



WEDGE DETAIL

BOLT HOLE DETAIL

	NOMINAL PIPE SIZE	NO. OF BOLTS	NO. OF WEDGES	K2 INCHES	J INCHES	H INCHES	M INCHES	
P	4"	2	2					P
V	6"	6	3	11.12	9.5	7.00	0.88	V
C	8"	8	4	13.37	11.75	9.15	1.00	C
	10"	8	6	15.62	14.00	11.20	1.00	
D	12"	8	8	17.88	16.25	13.30	1.25	D
	4"	4	2					
I	6"	8	3	11.12	9.5	7.00	0.88	I
	8"	8	4	13.37	11.75	9.15	1.00	
	10"	8	6	15.62	14.00	11.20	1.00	
	12"	8	8	17.88	16.25	13.30	1.25	

NOTES:

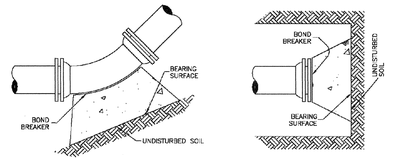
1. DIMENSIONS FOR 16" AND 20" D.I. PIPE NOT SHOWN.

PARKER WATER & SANITATION DISTRICT

MECHANICAL JOINT RESTRAINT DETAILS

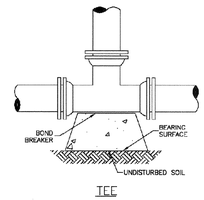
SCALE: NONE	DATE: 2/95
APPROVED: PVR, DIRECTOR OF ENGINEERING	2/00 12/07 1/15 10/16

2016 REVISION — SHEET W3.17

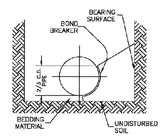


11-1/4°, 22-1/2°, 45° & 90° BENDS

DEAD END



TEE



TYPICAL CROSS SECTION

NOTES:

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

MINIMUM BEARING SURFACE AREA (IN SQUARE FEET)

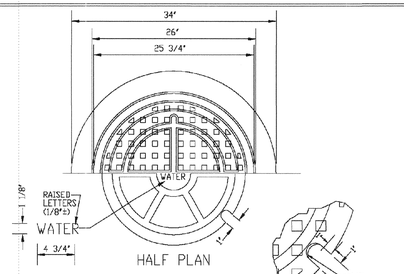
SIZE OF PIPE	BENDS 11-1/4°	22-1/2°	45°	90°	TEE OR DEAD END
4"	1.00	1.00	1.00	1.80	1.90
6"	1.00	1.25	2.25	4.00	3.00
8"	1.00	2.00	4.00	7.05	5.25
12"	2.00	4.25	8.55	15.25	11.50
16"	3.50	6.50	12.50	23.00	16.50
20"	5.00	10.00	19.50	35.50	25.00
24"	6.50	13.00	26.00	47.00	33.00

PARKER WATER & SANITATION DISTRICT

CONCRETE KICKBLOCKS
BEARING SURFACES AND INSTALLATION

SCALE: NONE	DATE: 2/95
APPROVED: PVR, DIRECTOR OF ENGINEERING	4/01 1/16 10/16

2016 REVISION — SHEET W3.18



NOTE:

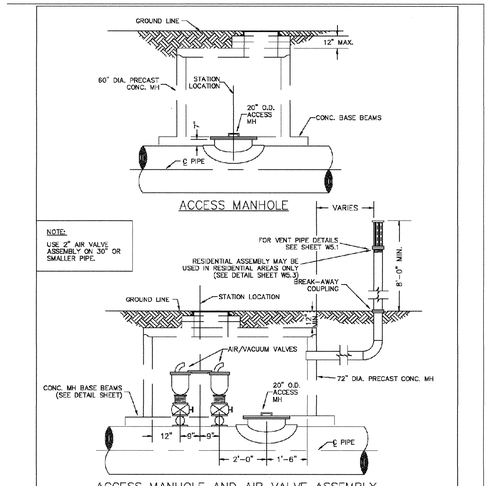
1. Coating Specifications: ASTM A-48 With A Minimum Tensile Strength Of 25 KSI (Class 25)
2. All Coating To Be Dipped In Asphalt Base Paint (Or Approved Equal)

PARKER WATER & SANITATION DISTRICT

24" DIAMETER RING AND COVER

SCALE: NONE	DATE: 6/05
APPROVED: PVR, DIRECTOR OF ENGINEERING	12/07 1/16 10/16

2016 REVISION — SHEET W3.19



NOTE:

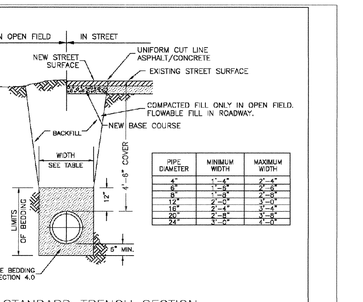
SEE SHEET W3.6 FOR CONCRETE MANHOLE BASE BEAMS AND AIR/VACUUM VALVE DETAILS.

PARKER WATER & SANITATION DISTRICT

ACCESS MANHOLE ASSEMBLY

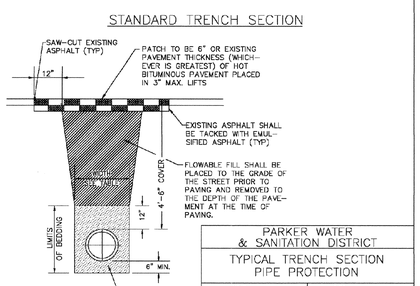
SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	4/01 1/16 10/16

2016 REVISION — SHEET W3.20



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

STANDARD TRENCH SECTION



STREET CUT PATCH

PARKER WATER & SANITATION DISTRICT

TYPICAL TRENCH SECTION
PIPE PROTECTION

SCALE: NONE	DATE: 2/95
APPROVED: PVR, DIRECTOR OF ENGINEERING	1/16 10/16

2016 REVISION — SHEET W4.1

PIPE BEDDING:

(a) Installation of Bedding and Pipe: 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 pipes. Bell holes shall be dug deep enough to provide a minimum of six inches (6") of clearance between the bell 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 bell holes.

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

The limits of bedding shall be from six inches (6") below the bottom of the pipe to twelve inches (12") above the top of the pipe. Approved backfill may then be installed to the groundline. See Chapter 2 of these Standards for backfill and compaction of backfill.

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

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

Well-Graded Sand for (24-inch or large diameter)

Sieve Size	Total Percent Passing by Weight
3/8 Inch	100
No. 4	70-100
No. 8	26-93
No. 16	20-80
No. 30	6-58
No. 50	2-30
No. 100	1-10
No. 200	0-3

Squeegee Sand
for use with 20-inch or smaller

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

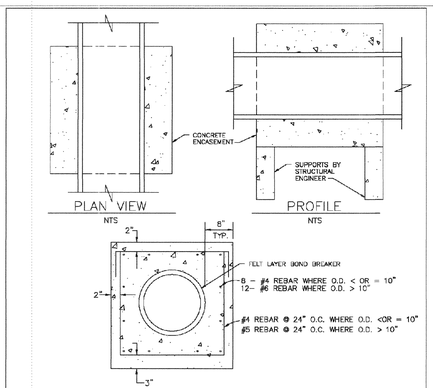
If approved by the District, fines form the trench walls and spoils pile may be used to provide uniform support for the pips. No rock or stone larger than that allowed by the sieve analysis, or any other detrimental substance, shall be placed closer to the pipe than six inches (6"). Approved bedding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

PARKER WATER & SANITATION DISTRICT

PIPE BEDDING

SCALE: NONE	DATE: 2/95
APPROVED: PVR, DIRECTOR OF ENGINEERING	5/88 2/00 1/16 10/16

2016 REVISION — SHEET W4.2



NOTES:

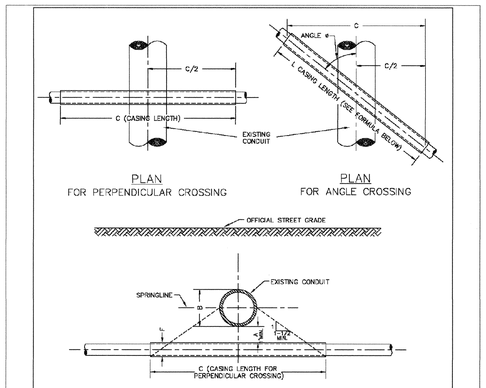
1. ALL CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3,000 PSI USING TYPE I PORTLAND CEMENT AND 3/4" AGGREGATE. ALL CONCRETE SHALL HAVE 5-7% ENTRAINED AIR CONTENT AND A MAXIMUM SLUMP OF 4".
2. ALL REINFORCEMENT SHALL CONFORM TO ASTM A615,GRADE 60.
3. ALL REINFORCEMENT SHALL HAVE 2" MIN. CONCRETE COVER.
4. 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: 5/88
APPROVED: PVR, DIRECTOR OF ENGINEERING	1/16 10/16

2016 REVISION — SHEET W4.3



FORMULA FOR FINDING C:

$$C = B + (2)(1.5)\left[\frac{1}{\sin\phi}\right] + A + F$$

- B = PERPENDICULAR CROSSING CASING LENGTH
- O.D. = WATER DEPARTMENT CONDUIT O.D.
- 1.5 = RATIO OF MIN. SLOPE
- A = CONSTANT
- F = 1/2 O.D. WATER DEPARTMENT CONDUIT
- CASING O.D. = VERTICAL DISTANCE BETWEEN CASING AND WATER DEPARTMENT CONDUIT

FORMULA FOR FINDING L:

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

NOTES:

1. FINAL APPROVAL OF BORING AND CASING METHOD AND MATERIALS SHALL BE OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION.

PARKER WATER & SANITATION DISTRICT

BORED CROSSINGS BENEATH CONDUITS

SCALE: NONE	DATE: 2/96
APPROVED: PVR, DIRECTOR OF ENGINEERING	2/00 1/16 10/16

2016 REVISION — SHEET W4.4

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

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

N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\F3 WATER DETAILS.DWG, CODY A, 2/28/2018 2:06 PM

No.	Revisions	Date	Init.	Appr.	Date

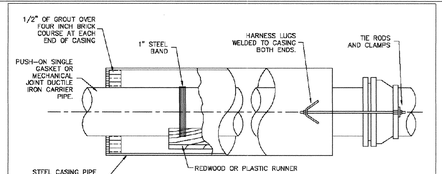
CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
WATER DETAILS

SCALE: AS SHOWN	FILE NO: 8130283701
DRAWN BY: JF	
CHECKED BY: JJJ	
DATE: APRIL 2017	

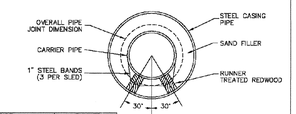
SHEET NUMBER 20



SLED DETAIL

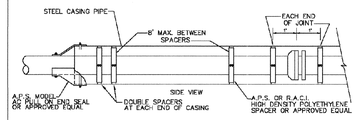
NOTES:

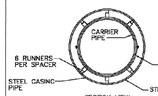
1. REDWOOD RUNNER LENGTH TO BE 75% OF LAYING LENGTH.
2. SEE SHEET W4.4 FOR CASING LENGTH.



CARRIER PIPE NOMINAL DIA.	CASING PIPE MIN. O.D.	CASING PIPE MIN. WALL THICK.	RUNNER SIZE
4"	12"	0.188"	3" X 4"
6"	16"	0.250"	3" X 4"
8"	18"	0.282"	3" X 4"
12"	22"	0.344"	3" X 4"
16"	28"	0.406"	3" X 5"
20"	32"	0.469"	3" X 6"

PIPE CASING DETAIL





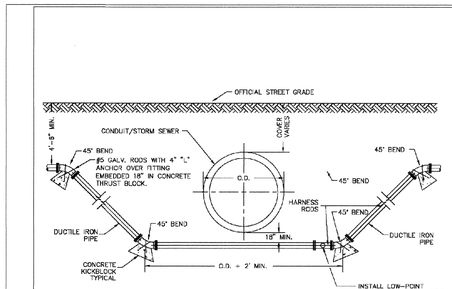
PARKER WATER & SANITATION DISTRICT

BORE CASING DETAILS

SCALE: NONE	DATE: 2/98
APPROVED: PVR DIRECTOR OF ENGINEERING	2/00 1/16 10/16

2016 REVISION

SHEET W4.5



NOTES:

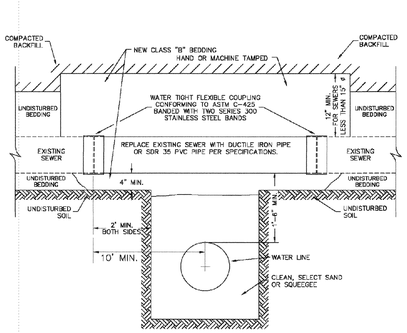
1. LENGTH OF EXTENSION OF PIPE AND HARNESS RODS SHALL BE IN ACCORDANCE WITH THESE ENGINEERING STANDARDS.
2. ALL WATER MAINS TWELVE (12") INCHES OR SMALLER, WHERE CROSS UNDER CONDUITS/STORM SEWER SHALL BE DUCTILE IRON OR PVC PER SPECIFICATIONS.
3. A BORED CROSSING MAY BE REQUIRED BY THE ENGINEER.
4. CONCRETE KICKBLOCKS PER SHEET W3.18.

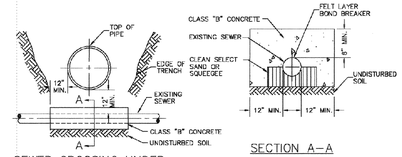
CONDUIT OR STORM SEWER CROSSING

SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	3/96 10/16 2/00 12/07 1/18

2016 REVISION

SHEET W4.6





SEWER CROSSING UNDER LESS THAN 18" BETWEEN PIPES

SECTION A-A

1. PIPE SHALL BE WRAPPED WITH FELT LAYER BEFORE ENCASING.

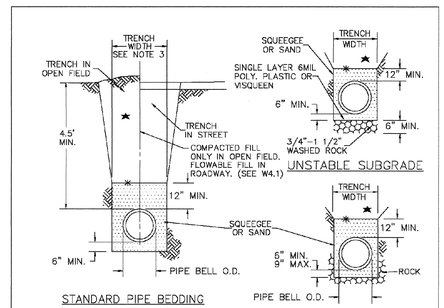
PARKER WATER & SANITATION DISTRICT

CROSSING STORM & SANITARY SEWERS

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

2016 REVISION

SHEET W4.7



STANDARD PIPE BEDDING

PIPE BEDDING IN ROCK

★ MACHINE COMPACTED TRENCH BACKFILL

✱ LIMIT OF SLOPING OR BENCHING OF TRENCH WALLS

UNDISTURBED GROUND

NOTES:

1. MIN. COVER TO BE BELOW FINAL STREET GRADE CONSTRUCTION OF WATER MAIN MAY NOT START UNTIL FINAL GRADE WITHIN 1 FOOT.
2. TRENCH TO BE BRACED OR SHEETED AS NECESSARY FOR THE PROTECTION OF OTHER UTILITIES AND TO MEET OSHA SAFETY REQUIREMENT.
3. TRENCH WIDTH SHALL NOT BE MORE THAN 16" NOR LESS THAN 12" WIDER THAN THE LARGEST OUTSIDE DIAMETER OF THE PIPE LAID THEREIN (BELL OR COUPLING O.D. IF APPLICABLE). REFER TO SHEET W4.1 FOR DIMENSIONS.

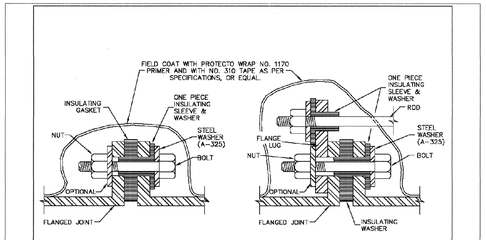
PARKER WATER & SANITATION DISTRICT

BEDDING DETAILS

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

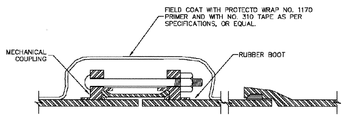
2016 REVISION

SHEET W4.8



INSULATED JOINT

INSULATED ROD



INSULATED MECHANICAL COUPLING

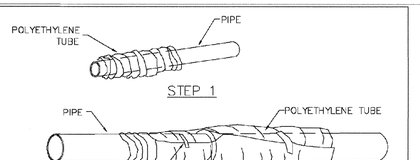
PARKER WATER & SANITATION DISTRICT

INSULATED JOINTS, RODS AND MECHANICAL COUPLINGS

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

2016 REVISION

SHEET W4.10



FIELD INSTALLATION – POLYETHYLENE WRAP

STEP 1 – PLACE TUBE OF POLYETHYLENE MATERIAL ON PIPE PRIOR TO LOWERING IT INTO TRENCH.

STEP 2 – PULL THE TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE.

STEP 3 – OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE SHALL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP OF PIPE AND TAPED IN PLACE.

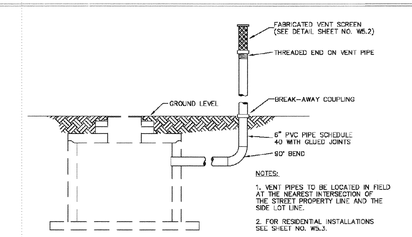
PARKER WATER & SANITATION DISTRICT

POLYETHYLENE WRAP

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

2016 REVISION

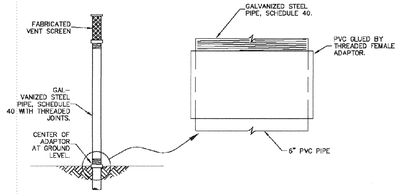
SHEET W4.11



NOTES:

1. VENT PIPES TO BE LOCATED IN FIELD AT THE NEAREST INTERSECTION OF THE STREET PROPERTY LINE AND THE SIDE LOT LINE.
2. FOR RESIDENTIAL INSTALLATIONS SEE SHEET NO. W5.3.

VENT PIPE INSTALLATION



VENT PIPE AND BREAK-AWAY COUPLING DETAILS

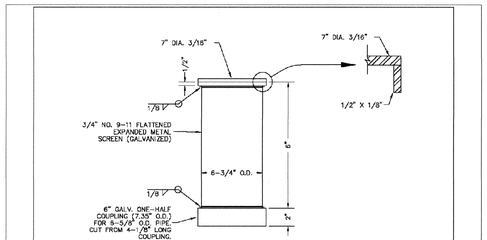
PARKER WATER & SANITATION DISTRICT

VENT PIPE INSTALLATION AND DETAILS

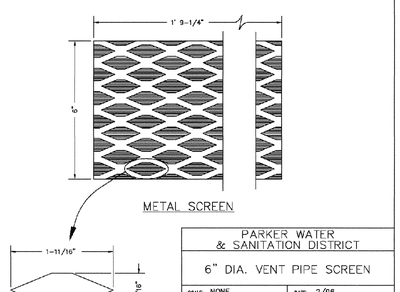
SCALE: NONE	DATE: 2/98
APPROVED: PVR DIRECTOR OF ENGINEERING	1/16 10/16

2016 REVISION

SHEET W5.1



ELEVATION
SCREEN FOR 6" VENT PIPE



PARKER WATER & SANITATION DISTRICT

6" DIA. VENT PIPE SCREEN

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

2016 REVISION

SHEET W5.2

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

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

N:\PROJECTS\WEISS RANCH\CAD\ENGINEERING\SHEET SETS\CDT3\F3\PARKER WATER AND SANITATION\F3 WATER DETAILS.DWG, CODY A, 2/28/2018 2:06 PM

No.	Revisions	Date	Init.	Appr.	Date

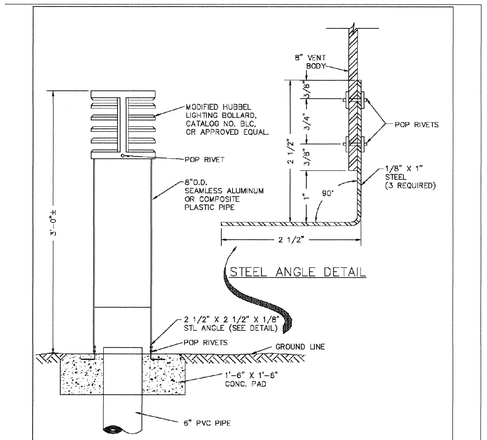
CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

HR 935 LLC
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
WATER DETAILS

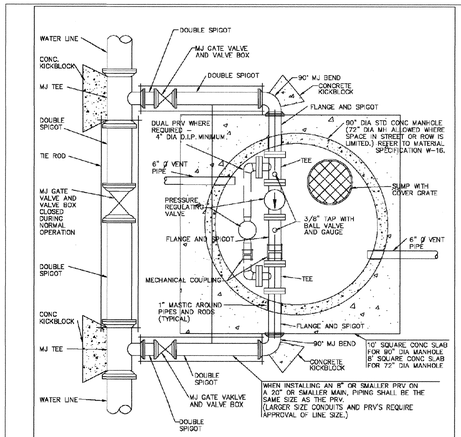
SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: JE
CHECKED BY: JJJ
DATE: APRIL 2017

SHEET NUMBER 21



PARKER WATER & SANITATION DISTRICT	
RESIDENTIAL ONLY VENT ASSEMBLY	
SCALE: NONE	DATE: 2/86
APPROVED: PVR DIRECTOR OF ENGINEERING	1/16 10/16

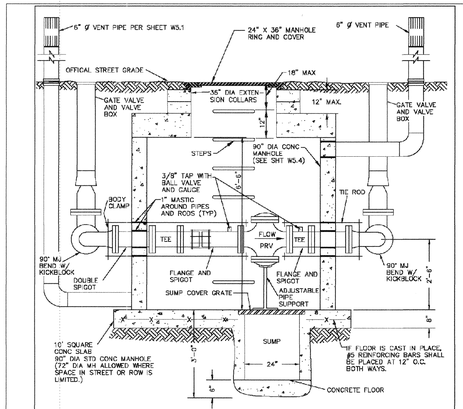
2016 REVISION — SHEET W5.3



NOTES:
1 – A RECTANGULAR VAULT IS REQUIRED WHERE TELEMETRY OR ELECTRICAL EQUIPMENT IS ANTICIPATED INSIDE THE VAULT.
2 – ACCESS STAIRS WITH DOOR OUTSIDE OF PAVEMENT MAY BE REQUIRED ON STREETS WITH HEAVY TRAFFIC.
3 – FOR ELEVATION VIEW SEE CROSS SECTION DWG SHEET NO. W5.5
4 – DO NOT PLACE SUMP DIRECTLY UNDER MANHOLE.
5 – POLYETHENE STEPS SHALL BE INSTALLED.

PARKER WATER & SANITATION DISTRICT	
PRESSURE REGULATING VALVE MANHOLE INSTALLATION TYPICAL PLAN	
SCALE: NONE	DATE: 2/86
APPROVED: PVR DIRECTOR OF ENGINEERING	2/00 3/03 1/16 10/16

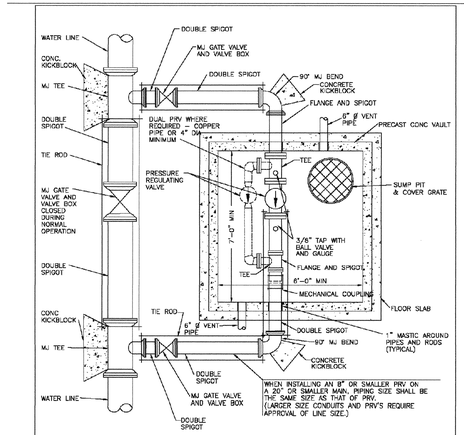
2016 REVISION — SHEET W5.4



NOTES:
1 – SEE SHT. W5.4 FOR PLAN VIEW AND ADDITIONAL NOTES.
2 – POLYETHENE STEPS SHALL BE INSTALLED. AND ANY STEPS IN CHIMNEY SECTION SHALL BE INSTALLED AS A HANGHOLD & SHALL NOT IMPEDE ACCESS THRU THE CHIMNEY.

PARKER WATER & SANITATION DISTRICT	
PRESSURE REGULATING VALVE MANHOLE INSTALLATION CROSS SECTION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	4/01 3/03 1/16 10/16

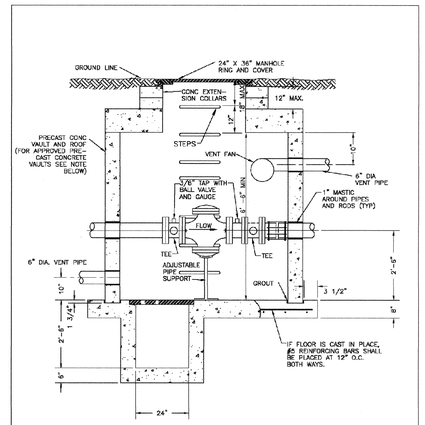
2016 REVISION — SHEET W5.5



NOTES:
1 – A RECTANGULAR VAULT IS REQUIRED WHERE TELEMETRY OR ELECTRICAL EQUIPMENT INSIDE THE VAULT IS ANTICIPATED.
2 – ACCESS STAIRS WITH DOOR OUTSIDE OF PAVEMENT MAY BE REQUIRED ON STREETS WITH HEAVY TRAFFIC.
3 – FOR ELEVATION VIEW SEE CROSS SECTION DWG SHEET NO. W5.7.
4 – SUMP PUMP AND VENT FAN REQUIRED IN VAULTS WITH ELECTRICAL OR TELEMETRY EQUIPMENT.
5 – POLYETHENE STEPS SHALL BE INSTALLED.

PARKER WATER & SANITATION DISTRICT	
PRESSURE REGULATING VALVE RECTANGULAR VAULT TYPICAL PLAN	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	2/00 3/03 1/16 10/16

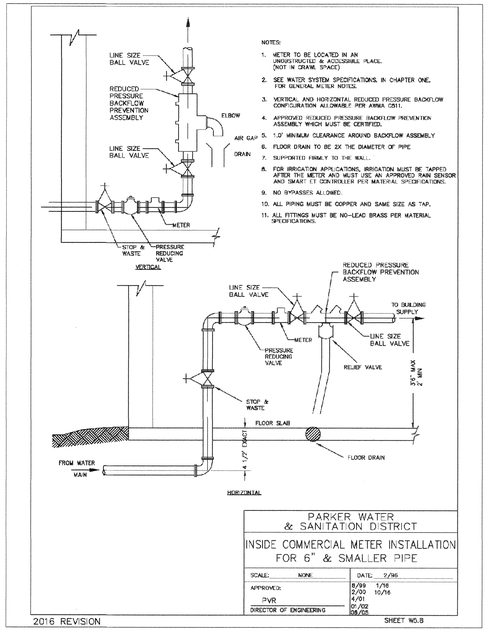
2016 REVISION — SHEET W5.6



NOTES:
1 – APPROVED PRECAST CONCRETE VAULTS PER MATERIAL SPECIFICATIONS W-16.
2 – A PERMIT IS REQUIRED FOR SUMP PUMP DISCHARGE TO STORM SEWERS.
3 – SEE SHEET W5.6 FOR PLAN VIEW AND ADDITIONAL NOTES.
4 – POLYETHENE STEPS SHALL BE INSTALLED.

PARKER WATER & SANITATION DISTRICT	
PRESSURE REGULATING VALVE RECTANGULAR VAULT CROSS SECTION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	4/01 3/03 1/16 10/16

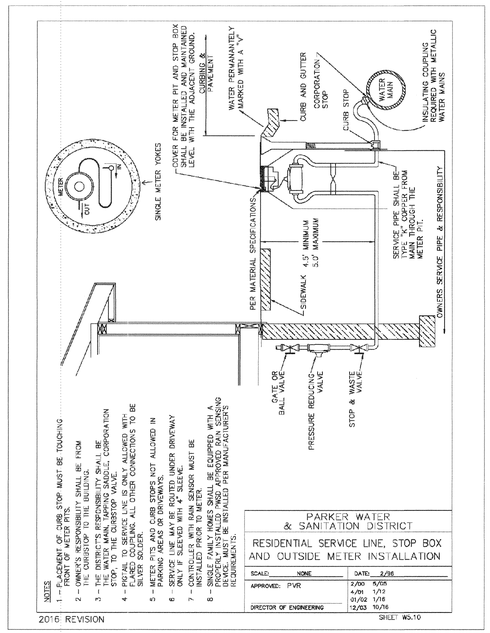
2016 REVISION — SHEET W5.7



NOTES:
1. METER TO BE LOCATED IN AN UNOBSTRUCTED & ACCESSIBLE PLACE. (NOT IN CRAWL SPACE)
2. SEE WATER SYSTEM SPECIFICATIONS, IN CHAPTER ONE, FOR GENERAL METER NOTES.
3. VERTICAL AND HORIZONTAL REDUCED PRESSURE BACKFLOW CONFIGURATION ALLOWABLE PER AWWA C511.
4. APPROVED REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY WHICH MUST BE CERTIFIED.
5. 1.0' MINIMUM CLEARANCE AROUND BACKFLOW ASSEMBLY
6. FLOOR DRAIN TO BE 2X THE DIAMETER OF PIPE
7. SUPPORTED FIRMLY TO THE WALL.
8. FOR IRRIGATION APPLICATIONS, IRRIGATION MUST BE "ZAPPED" AFTER THE METER AND MUST USE AN APPROVED RAIN SENSOR AND SMART-ET CONTROLLER PER MATERIAL SPECIFICATIONS.
9. NO BYPASSES ALLOWED.
10. ALL PIPING MUST BE COPPER AND SAME SIZE AS TAP.
11. ALL FITTINGS MUST BE NO-LEAD BRASS PER MATERIAL SPECIFICATIONS.

PARKER WATER & SANITATION DISTRICT	
INSIDE COMMERCIAL METER INSTALLATION FOR 6" & SMALLER PIPE	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	8/99 1/16 2/00 10/16 4/01 07/02 08/05

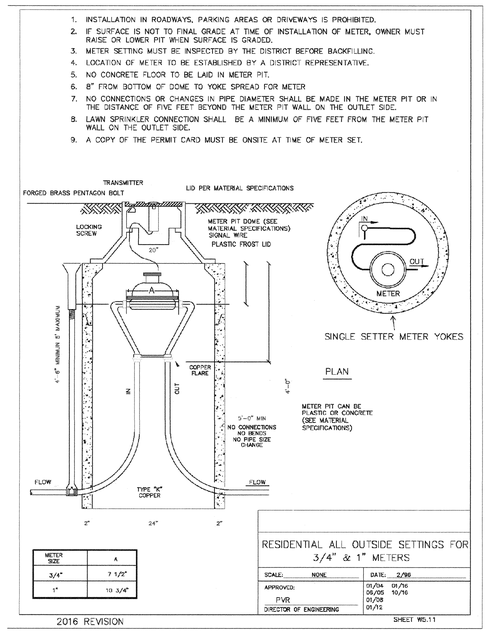
2016 REVISION — SHEET W5.8



NOTES
1 – ALIGNMENT OF CURB STOP MUST BE TOUCHING FRONT OF METER PITS.
2 – OWNER'S RESPONSIBILITY SHALL BE FROM THE WATER MAIN TO THE METER.
3 – THE DISTRICTS RESPONSIBILITY SHALL BE THE WATER MAIN, TAPPING SADDLE, CORPORATION STOP, METER PIT AND METER.
4 – PIGTAIL TO SERVICE LINE IS ONLY ALLOWED WITH FLARED COUPLING. ALL OTHER CONNECTIONS TO BE SOLDERED.
5 – METER PITS AND CURB STOPS NOT ALLOWED IN PARKING AREAS OR DRIVEWAYS.
6 – SERVICE LINE ALLOWED UNDER DRIVEWAY ONLY IF SLEEVED WITH 4" SLEEVE.
7 – CONTRACTOR'S WITH RAIN SENSOR MUST BE REGISTERED WITH THE DISTRICT.
8 – SINGLE FAMILY HOMES SHALL BE EQUIPPED WITH A PROPERLY INSTALLED PRSD APPROVED RAIN SENSING IRRIGATION SYSTEM INSTALLED PER MANUFACTURER'S REQUIREMENTS.

PARKER WATER & SANITATION DISTRICT	
RESIDENTIAL SERVICE LINE, STOP BOX AND OUTSIDE METER INSTALLATION	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	2/00 5/05 4/01 1/12 01/02 1/16 12/03 10/16

2016 REVISION — SHEET W5.10



METER SIZE	A
3/4"	7 1/2"
1"	10 3/4"

RESIDENTIAL ALL OUTSIDE SETTINGS FOR 3/4" & 1" METERS	
SCALE: NONE	DATE: 2/96
APPROVED: PVR DIRECTOR OF ENGINEERING	05/04 06/96 06/05 10/16 05/08 01/12

2016 REVISION — SHEET W5.11

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

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

N:\PROJECTS\HEISS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\F3 WATER DETAILS.DWG, CODY A, 2/28/2018 2:26 PM

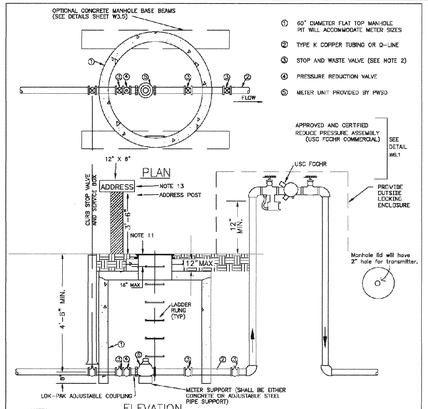
No.	Revisions	Date	Init.	Appr.	Date

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

HR 935 LLC
7355 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
WATER DETAILS

SHEET NUMBER	DRAWN BY:	SCALE:	FILE NO:
22	JF	AS SHOWN	8130283701
	CHECKED BY: JJJ		
	DATE: APRIL 2017		



NOTES:

1 – MANHOLE BASE BEAMS SHALL BE REQUIRED FOR INSTALLATIONS IN DRIVEWAYS, OR PARKING AREAS.
2 – STOP AND WASTE VALVE TO BE INSTALLED.
3 – JOINTS INSIDE METER VAULT SHALL BE EITHER THREADED OR SOLDERED.
4 – SEE WATER SYSTEM SPECIFICATIONS FOR GENERAL METER NOTES.
5 – NO CONCRETE TO BE LAID IN FLOOR OF METER M.H.
6 – METER SHALL BE FLANGED WITH BRASS COMPANION FLANGES.
7 – NO CONNECTIONS OR CHANGES IN PIPE DIAMETER SHALL BE MADE IN THE METER PIT OR IN THE DISTANCE OF FIVE FEET BEYOND THE METER PIT ON THE OUTLET SIDE.
8 – RAIN SENSOR AND ET CONTROLLER MUST BE PRESENT.
9 – VALVE MUST BE CENTERED IN STOP BOX. NO DEBRIS OR STANDING WATER IN STOP BOX.
10 – PLACEMENT OF STOP BOX MUST BE TOUCHING FRONT OF METER PIT.
11 – SEE SHEET W3.19 FOR MANHOLE RING AND COVER DETAIL.
12 – BACKFLOW MUST BE INSTALLED PRIOR TO SETTING METER.
13 – LETTERS ON POST OR BACKFLOW ENCLOSURE 2" OR GREATER.
14 – RAIN SENSOR AND ET CONTROLLER MUST BE PROVIDED AND INSTALLED PER MANUFACTURER'S REQUIREMENTS.

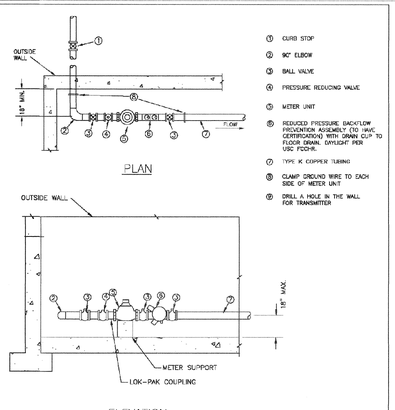
METER	YOKE DISTANCE
1.5"	13.25" WITH ADJUSTABLE FLANGE FOR GASKET
2"	17.25" WITH ADJUSTABLE FLANGE FOR GASKET

IRRIGATION ONLY
NOT TO BE USED IN COMMERCIAL OR NON-SINGLE FAMILY RESIDENTIAL WITHOUT EXPRESS PERMISSION OF THE PWSD ENGINEER.

PARKER WATER & SANITATION DISTRICT
OUTSIDE SETTING FOR 1 1/2" & 2" METER FOR IRRIGATION

SCALE: NONE	DATE: 2/96
APPROVED: PVR	1/04 06/05 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET W5.12



NOTES

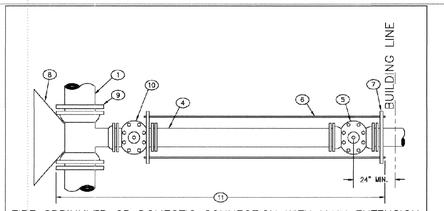
1 – PIPE JOINT SHALL BE THREADED OR SOLDERED WITH SILVER SOLDER.
2 – INSTALLATION MUST ALLOW ACCESS FOR MAINTENANCE AND BE PROTECTED FROM FREEZING.
3 – SEE WATER SYSTEM SPECIFICATIONS FOR GENERAL METER NOTES.
4 – COMPANION FLANGES SHALL BE BRASS.
5 – METER SUPPORT SHALL BE EITHER CONCRETE OR ADJ. STEEL PIPE (SEE SHEET W3.10)
6 – 1.0' MINIMUM CLEARANCE AROUND BACKFLOW DEVICE
7 – FLOOR DRAIN TO BE 2K PIPE SIZE
8 – FOR IRRIGATION USES, ADD RAIN SENSOR AND SMART ET CONTROLLER

METER	YOKE DISTANCE
1.5"	13.25" WITH ADJUSTABLE FLANGE FOR GASKET
2"	17.25" WITH ADJUSTABLE FLANGE FOR GASKET

PARKER WATER & SANITATION DISTRICT
INSIDE SETTING FOR 1 1/2" & 2" METER

SCALE: NONE	DATE: 2/99
APPROVED: PVR	8/99 01/02 01/16 2/00 05/05 10/16 4/01 07/06
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET W5.14

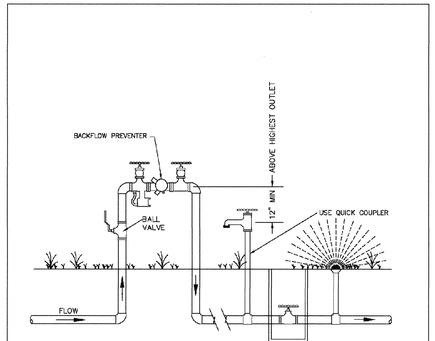


① EXISTING MAIN
② TAPPING SLEEVE
③ TAPPING VALVE
④ DOUBLE SPROT PIPE
⑤ PROPERTY LINE VALVE
⑥ TIE RODS
⑦ PIPE CLAMP
⑧ CONCRETE KICKBLOCK
⑨ M.J. ANCHORING TEE (SWIVEL TEE)
⑩ M.J. VALVE
⑪ POLYETHYLENE WRAPPED

PARKER WATER & SANITATION DISTRICT
3" AND LARGER DOMESTIC AND FIRE SPRINKLER CONNECTIONS

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

2016 REVISION — SHEET W5.18

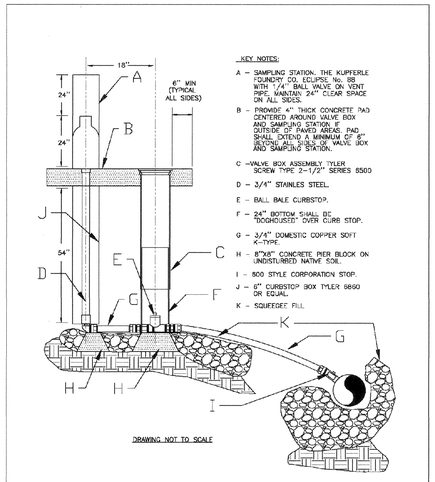


NOTE:
1. ALL IRRIGATION SYSTEMS MUST BE CONNECTED DOWN STREAM OF METER.
2. PROVIDE ENCLOSURE.

PARKER WATER & SANITATION DISTRICT
REDUCED PRESSURE BACKFLOW

SCALE: NONE	DATE: 2/96
APPROVED: PVR	2304 06/05 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET W5.1



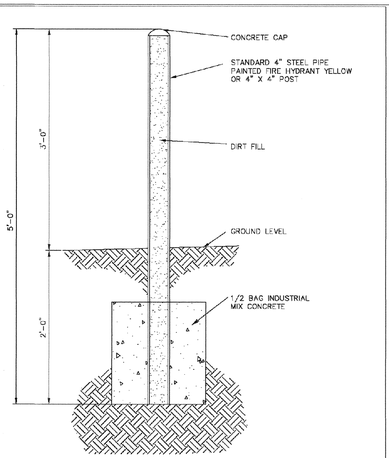
KEY NOTES:

A – SAMPLING STATION. THE KUPFERLE FOUNDRY CO. ECLIPSE, No. 88 WITH 1/4" BALL VALVE ON VENT PIPE. MAINTAIN 24" CLEAR SPACE ON ALL SIDES.
B – PROVIDE 4" THICK CONCRETE PAD CENTERED AROUND VALVE BOX AND SAMPLING STATION. IF OUTSIDE OF PAVED AREAS, PAD SHALL EXTEND A MINIMUM OF 6" BEYOND ALL SIDES OF VALVE BOX AND SAMPLING STATION.
C –VALVE BOX ASSEMBLY TYLER SCREW TYPE 2–1/2" SERIES 8500
D – 3/4" STAINLES STEEL.
E – BALL BALE CURBSTOP.
F – 24" BOTTOM SHALL BE "DOGHOUSED" OVER CURB STOP.
G – 3/4" DOMESTIC COPPER SOFT K–TYPE.
H – 8"X8" CONCRETE PIER BLOCK ON UNDISTURBED NATIVE SOIL.
I – 600 STYLE CORPORATION STOP.
J – 6" CURBSTOP BOX TYLER 9860 OR EQUAL.
K – SQUEEGEE FILL

PARKER WATER & SANITATION DISTRICT
WATER QUALITY SAMPLING STATION

SCALE: NONE	DATE: 2/16
APPROVED: PVR	2004 06/05 1/16 10/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET W6.2



STEEL PIPE
STENCILED IDENTIFICATION MARKS WITH BLACK PAINT ON POSTS SHALL FACE THE APPURTENANCE, WITH 2" STENCILS INDICATING TYPE OF APPURTENANCE (MH, 12" VALVE, ETC.) AND THE DISTANCE IN FEET AND INCHES FROM POST.

REDWOOD POST
ROUTER LETTERS AND NUMBERS INTO POST. PAINT LETTERS AND NUMBERS BLACK, OR CUT NUMBERS INTO THE WOOD.

PARKER WATER & SANITATION DISTRICT
MARKER POST

SCALE: NONE	DATE: 2/96
APPROVED: PVR	2/00 10/16 4/01 12/07 1/16
DIRECTOR OF ENGINEERING	

2016 REVISION — SHEET W6.3

APPROVED
APR 11 2019
PARKER WATER AND SANITATION DISTRICT

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

N:\PROJECTS\HESS RANCH\CAD\ENGINEERING\SHEET SETS\CD'S\F3\PARKER WATER AND SANITATION\F3 WATER DETAILS.DWG, CODY A, 2/28/2018 2:05 PM

No.	Revisions	Date	Init.	Appr.	Date

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

HR 935 LLC
7353 S. Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FILING 3 CONSTRUCTION DRAWINGS
WATER DETAILS

SCALE:	FILE NO:
AS SHOWN	8130283701

DRAWN BY:	CHECKED BY:	DATE:
JF	JW	APRIL 2017

SHEET NUMBER 23