



N:\PROJECTS\SSR RANCH\CHAD\ENGINEERING\SSR SHEET SETS\MULTIFAMILY\CD\DWG\10\PARKER WATER AND SANITATION\COVER.DWG, 4/22/2021 3:28 PM

**GENERAL NOTES:**

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PWSO ENGINEERING STANDARDS AND SPECIFICATIONS, LATEST VERSION.
- THE CONTRACTOR SHALL CONTACT ALL APPROPRIATE UTILITY COMPANIES AND THE TOWN OF PARKER, DOUGLAS COUNTY AND OTHER NEIGHBORING CITIES AND TOWNS 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.
- 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 THE CONTRACTOR DISCOVERS A DISCREPANCY IN LOCATIONS CONTACT THE PWSO IMMEDIATELY.
- PWSO ENGINEER AND OTHER APPROVING AGENCIES ARE TO BE NOTIFIED 48 HOURS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL OBTAIN, AT HIS EXPENSE, ALL PERMITS NECESSARY TO PERFORM THE PROPOSED WORK.
- ALL CONCRETE SHALL BE A MINIMUM OF CLASS A, 6 SACK, TYPE II, 3000-POUND COMPRESSION STRENGTH.
- THE DESIGN ENGINEER SHALL SUBMIT ONE (1) SET OF "AS-BUILT" DRAWINGS AND ELECTRONIC FILES TO THE DISTRICT ENGINEER FOR APPROVAL BY DISTRICT. AFTER APPROVAL HAS BEEN GRANTED BY THE DISTRICT ENGINEER, FULL SIZE PRINTS SHALL BE TRANSMITTED TO THE PWSO OFFICE.
- 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. ALL BACKFILL MATERIAL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY. COMPACTION TESTS MUST BE SUBMITTED TO DISTRICT ENGINEER PRIOR TO PROBATIONARY ACCEPTANCE.
- TRENCHES SHALL BE EXCAVATED AND THE PIPE EXPOSED FOR THE INSPECTION AT ANY LOCATION ON THE PROJECT IF SO ORDERED BY THE INSPECTOR.
- THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE PROPER FUNCTIONING OF LINES (WATER AND DEPTHS) 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.
- 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.
- ALL SERVICES WILL BE PERMANENTLY MARKED ON CURB FACE AS FOLLOWS:  
"X" FOR SANITARY SERVICE SEWERS  
"V" FOR WATER SERVICES
- NO TREES ALLOWED IN EASEMENTS OR WITHIN 8' OF WATER OR SANITARY SEWER MAINS IN RIGHT OF WAY.
- THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES ONE (1) SIGNED COPY OF THE PLANS WHICH HAVE BEEN APPROVED BY THE PWSO AND THE DISTRICT ENGINEER AND ONE (1) COPY OF THE LATEST PWSO SPECIFICATION MANUAL.

**WATER MAIN NOTES:**


- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PWSO ENGINEERING STANDARDS AND SPECIFICATIONS, LATEST REVISION.
- ALL WATER MAINS SHALL BE PER PWSO MATERIALS SPECIFICATIONS. ALL MATERIALS IN CONTACT WITH POTABLE WATER SHALL BE SUITABLE FOR CHLORINATED AND CHLORAMINATED WATER.
- ALL BENDS, PLUGS, REDUCERS, AND FIRE HYDRANTS TO BE RODDED OR MEGA-LUGGED. ALL FITTINGS SHALL BE WRAPPED PER PWSO MATERIALS SPECIFICATIONS.
- THERE SHALL BE A MINIMUM COVER OF 4.5 FEET OVER ALL WATER MAINS.
- FIRE HYDRANTS SHALL CONFORM TO AWWA C-502 "DRY BARREL FIRE HYDRANTS" PIPE HYDRANT ASSEMBLIES PER PWSO SPECIFICATIONS.
- ALL BENDS, TEES, FIRE HYDRANTS, BLOW-OFFS, AND PLUGS AT DEAD-END MAINS SHALL BE PROTECTED FROM THRUST WITH CONCRETE THRUST BLOCKS.
- 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.
- VALVES IN STREETS ARE TO BE LOCATED AT PROPERTY LINE EXTENSIONS EXCEPT FOR TAPPING TEES; WHERE AN ADDITIONAL VALVE SHALL BE PLACED ON THE TAPPING TEE. OTHER LOCATIONS SHOWN ON THE PLANS.
- WHEN NECESSARY TO LOWER OR RAISE WATER LINES AT STORM DRAINS AND OTHER UTILITY CROSSING, A MINIMUM CLEARANCE OF 1.5 FEET SHALL BE MAINTAINED BETWEEN OUTSIDE OF PIPES.
- THE CONTRACTOR SHALL NOTIFY THE PWSO 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.
- PIPE BEDDING SHALL BE A CLEAN, WELL-GRADED SAND OR SQUEEGEE SAND IN ACCORDANCE WITH PWSO STANDARDS AND SPECIFICATIONS, LATEST REVISION.
- THE CONTRACTOR SHALL NOTIFY THE PUBLIC UTILITY COMPANIES AND DETERMINE THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO PROCEEDING WITH THE EXCAVATION. ALL WORK PERFORMED IN THE AREA OF THE PUBLIC UTILITIES SHALL BE PERFORMED ACCORDING TO THE REQUIREMENTS OF THESE AGENCIES
- 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.
- 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, DESIGN ENGINEER, AND REPRESENTATIVE OF OTHER APPROVING AGENCIES.
- CHLORINATION AND FLUSHING: ALL WATER MAINS SHALL BE INSTALLED AND CHLORINATED PER PWSO SPECIFICATIONS. CHLORINATION OF FINISHED PIPELINE COMPLETED BEFORE HYDROSTATIC TESTING.
- HYDROSTATIC TESTING: ALL WATER MAINS SHALL BE TESTED PER THE REQUIREMENTS OF THE PWSO SPECIFICATIONS UP TO MINIMUM OF 150 PSI IN THE PRESENCE OF A PWSO INSPECTOR/ENGINEER.

**SANITARY SEWER NOTES:**

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PWSO ENGINEERING STANDARDS AND SPECIFICATIONS, LATEST VERSION.
- 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.
- 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 PWSO SPECIFICATIONS. USE RUBBER GASKETS FOR PVC ENCASEMENT.
- 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.
- 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.
- NO UNDERDRAIN SYSTEM WILL BE ALLOWED TO BE PLACED IN MAINLINE OR SEWER SERVICE TRENCHES.
- 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.
- ALL MANHOLES SHALL BE 48-INCHES IN DIAMETER WITH 24-INCH RING AND COVER, ECCENTRIC CONE UNLESS OTHERWISE SPECIFIED. ALL MANHOLES SHALL HAVE SHAPED INVERTS.
- PIPE BEDDING SHALL BE CLASS "B" AND SHALL CONFORM TO ASTM C-33 OR D-448 GRADATION NO. 6 OR NO. 67.
- 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.
- THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES ONE (1) SIGNED COPY OF THE PLANS WHICH HAVE BEEN APPROVED BY THE PWSO AND THE DISTRICT ENGINEER AND ONE (1) COPY OF THE LATEST PWSO SPECIFICATION MANUAL.
- ALL SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH THE PWSO STANDARDS AND SPECIFICATIONS PRIOR TO ACCEPTANCE OR ANY CONNECTION TO AN EXISTING SEWER LINE.
- PRIOR TO STARTING WORK WHERE SEWER MAIN IS TO BE CONNECTED TO EXISTING PWSO 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 PROBATIONARY ACCEPTANCE BY PWSO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PUMPING AND CLEANING THESE MANHOLES AND REMOVING THE PLUG WHEN INSTRUCTED BY THE DISTRICT.
- PRIOR TO PROBATIONARY ACCEPTANCE WALK-THROUGH, THE CONTRACTOR SHALL JET CLEAN THE ENTIRE SANITARY SEWER SYSTEM AND PUMP OUT AT THE PLUGGED MANHOLE.

**DISTRICT ACCEPTANCE NOTES:**

- 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.
- 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.
- 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.

|  |               |                 |                 |  |           |          |            |
|--|---------------|-----------------|-----------------|--|-----------|----------|------------|
| SHEET NUMBER   | DRAWN BY: KID | CHECKED BY: BPW | DATE: JUNE 2018 | SCALE:   | AS SHOWN  | FILE NO: | 8130283701 |
|  |               |                 |                 | TRAILS AT CROWFOOT<br>FILING 16 CONSTRUCTION DRAWINGS<br>PARKER WATER AND SANITATION NOTES |           |          |            |
| HR 935 LLC<br>7352 South Alton Way<br>CENTENNIAL, CO 80112   |               |                 |                 |         |           |          |            |
| 10333 E. Dry Creek Rd<br>Suite 240<br>Englewood, CO 80112<br>Tel: 720.482.952<br>www.cvlinc.net<br>westwoodjpa.com |               |                 |                 | No.  | Revisions | Date     | Appr.      |


**CALL 811**  
 TWO WORKING DAYS  
**BEFORE YOU DIG**  
**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  
  
BRIAN P. WILSON  
COLORADO P.E. 0050067

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

REVIEWED FOR CONFORMANCE TO PARKER WATER AND SANITATION DISTRICT STANDARDS.

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

APPROVED FOR CONSTRUCTION:  
PARKER WATER AND SANITATION DISTRICT

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

**LEGEND**

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

**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       |
| CCR | 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         |

**FIRE DEPARTMENT APPROVAL**

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

(FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE) \_\_\_\_\_ DATE \_\_\_\_\_

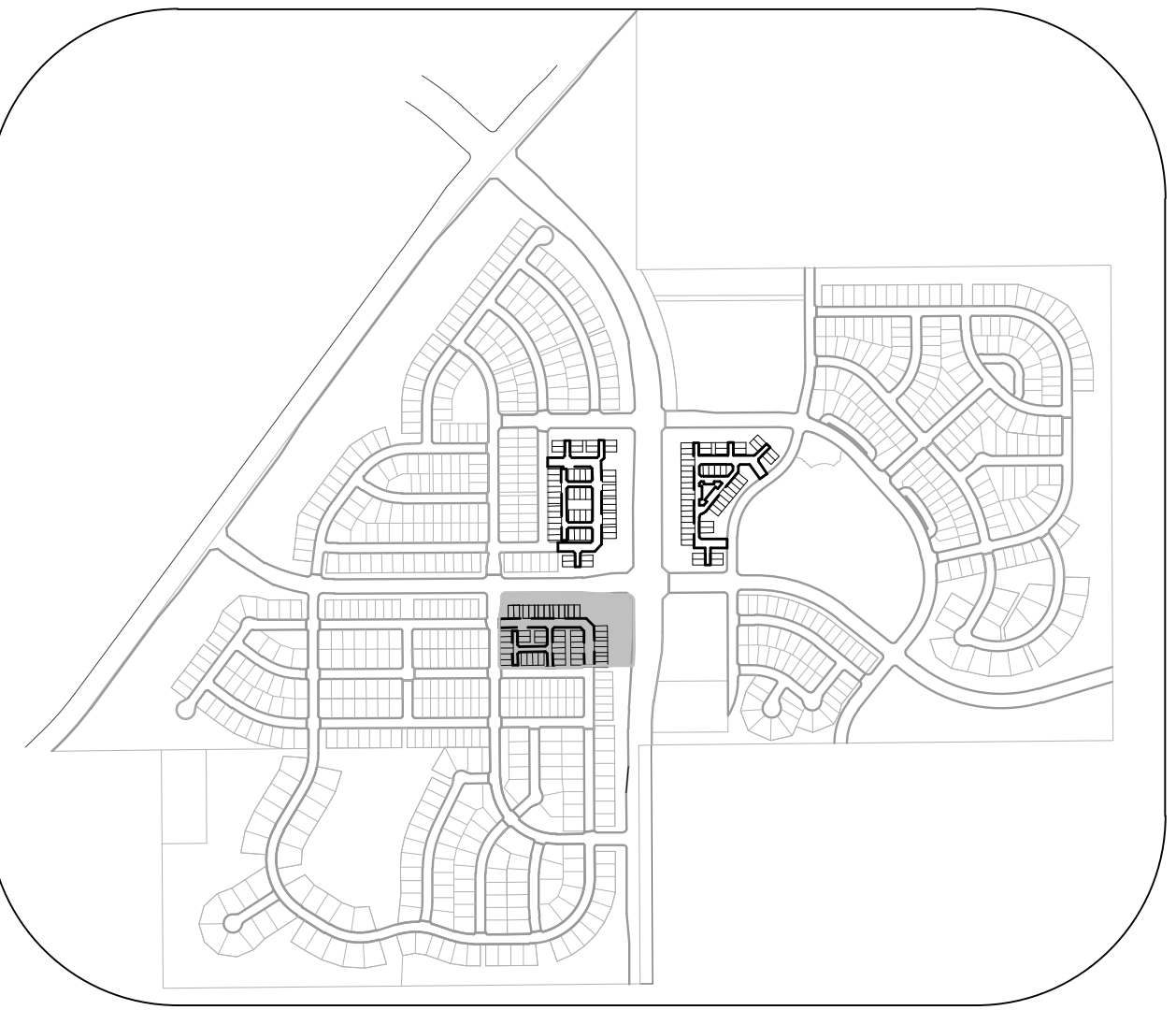
(NOTE- UNDERGROUND FIRE LINE (UFL) SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENTS OF NFA24 WHEN SUBMITTING FOR REVIEW.)

| FILING, BLOCK, LOT | STREET              | STATIONING |
|--------------------|---------------------|------------|
| F16,B1,L1          | BIRDS FOOT TRL      | 30+47.85   |
| F16,B1,L2          | BIRDS FOOT TRL      | 30+82.08   |
| F16,B1,L3          | BIRDS FOOT TRL      | 31+31.85   |
| F16,B1,L4          | BIRDS FOOT TRL      | 31+73.58   |
| F16,B1,L5          | BIRDS FOOT TRL      | 32+15.10   |
| F16,B1,L6          | BIRDS FOOT TRL      | 32+45.65   |
| F16,B1,L7          | BIRDS FOOT TRL      | 33+00.10   |
| F16,B1,L8          | BIRDS FOOT TRL      | 33+30.60   |
| F16,B1,L9          | BIRDS FOOT TRL      | 33+84.08   |
| F16,B1,L10         | BIRDS FOOT TRL      | 34+14.74   |
| F16,B1,L11         | FILING 16 SS EAST   | 10+36.57   |
| F16,B1,L12         | FILING 16 SS EAST   | 10+56.57   |
| F16,B1,L13         | FILING 16 SS EAST   | 11+20.57   |
| F16,B1,L14         | FILING 16 SS EAST   | 11+40.57   |
| F16,B1,L15         | FILING 16 SS EAST   | 12+04.57   |
| F16,B1,L16         | FILING 16 SS EAST   | 12+24.57   |
| F16,B2,L7          | FILING 16 SS WEST   | 10+60.92   |
| F16,B2,L8          | FILING 16 SS WEST   | 10+83.92   |
| F16,B2,L9          | FILING 16 SS WEST   | 10+63.92   |
| F16,B2,L10         | FILING 16 SS WEST   | 10+83.92   |
| F16,B2,L15         | FILING 16 SS MIDDLE | 10+62.00   |
| F16,B2,L16         | FILING 16 SS MIDDLE | 10+82.00   |
| F16,B2,L17         | FILING 16 SS MIDDLE | 11+26.00   |

| FILING, BLOCK, LOT | STREET              | STATIONING |
|--------------------|---------------------|------------|
| F16,B2,L17         | FILING 16 SS MIDDLE | 11+26.00   |
| F16,B2,L18         | FILING 16 SS MIDDLE | 11+46.00   |
| F16,B2,L19         | FILING 16 SS MIDDLE | 11+90.00   |
| F16,B2,L20         | FILING 16 SS MIDDLE | 12+10.00   |
| F16,B2,L21         | FILING 16 SS MIDDLE | 10+59.00   |
| F16,B2,L22         | FILING 16 SS MIDDLE | 10+85.00   |
| F16,B2,L23         | FILING 16 SS MIDDLE | 11+23.00   |
| F16,B2,L24         | FILING 16 SS MIDDLE | 11+49.00   |
| F16,B2,L25         | FILING 16 SS MIDDLE | 11+87.00   |
| F16,B2,L26         | FILING 16 SS MIDDLE | 12+10.00   |

| FILING, BLOCK, LOT | STREET         | STATIONING |
|--------------------|----------------|------------|
| F16,B1,L1          | BIRDS FOOT TRL | 30+87.68   |
| F16,B1,L2          | BIRDS FOOT TRL | 30+38.02   |
| F16,B1,L3          | BIRDS FOOT TRL | 31+22.02   |
| F16,B1,L4          | BIRDS FOOT TRL | 31+71.75   |
| F16,B1,L5          | BIRDS FOOT TRL | 32+06.09   |
| F16,B1,L6          | BIRDS FOOT TRL | 32+55.75   |
| F16,B1,L7          | BIRDS FOOT TRL | 32+90.09   |
| F16,B1,L8          | BIRDS FOOT TRL | 33+39.75   |
| F16,B1,L9          | BIRDS FOOT TRL | 33+74.09   |
| F16,B1,L10         | BIRDS FOOT TRL | 34+50.96   |
| F16,B1,L11         | HOP CLOVER TRL | 10+54.27   |
| F16,B1,L12         | HOP CLOVER TRL | 10+73.91   |
| F16,B1,L13         | HOP CLOVER TRL | 11+32.48   |
| F16,B1,L14         | HOP CLOVER TRL | 11+82.14   |
| F16,B1,L15         | HOP CLOVER TRL | 12+49.07   |
| F16,B1,L16         | HOP CLOVER TRL | 12+51.57   |
| F16,B2,L1          | ALPINE LILY LN | 10+09.67   |
| F16,B2,L2          | ALPINE LILY LN | 10+54.33   |
| F16,B2,L3          | ALPINE LILY LN | 10+71.17   |
| F16,B2,L4          | ALPINE LILY LN | 11+20.83   |
| F16,B2,L5          | ALPINE LILY LN | 11+35.17   |
| F16,B2,L6          | ALPINE LILY LN | 11+84.87   |
| F16,B2,L7          | ALPINE LILY LN | 10+07.17   |

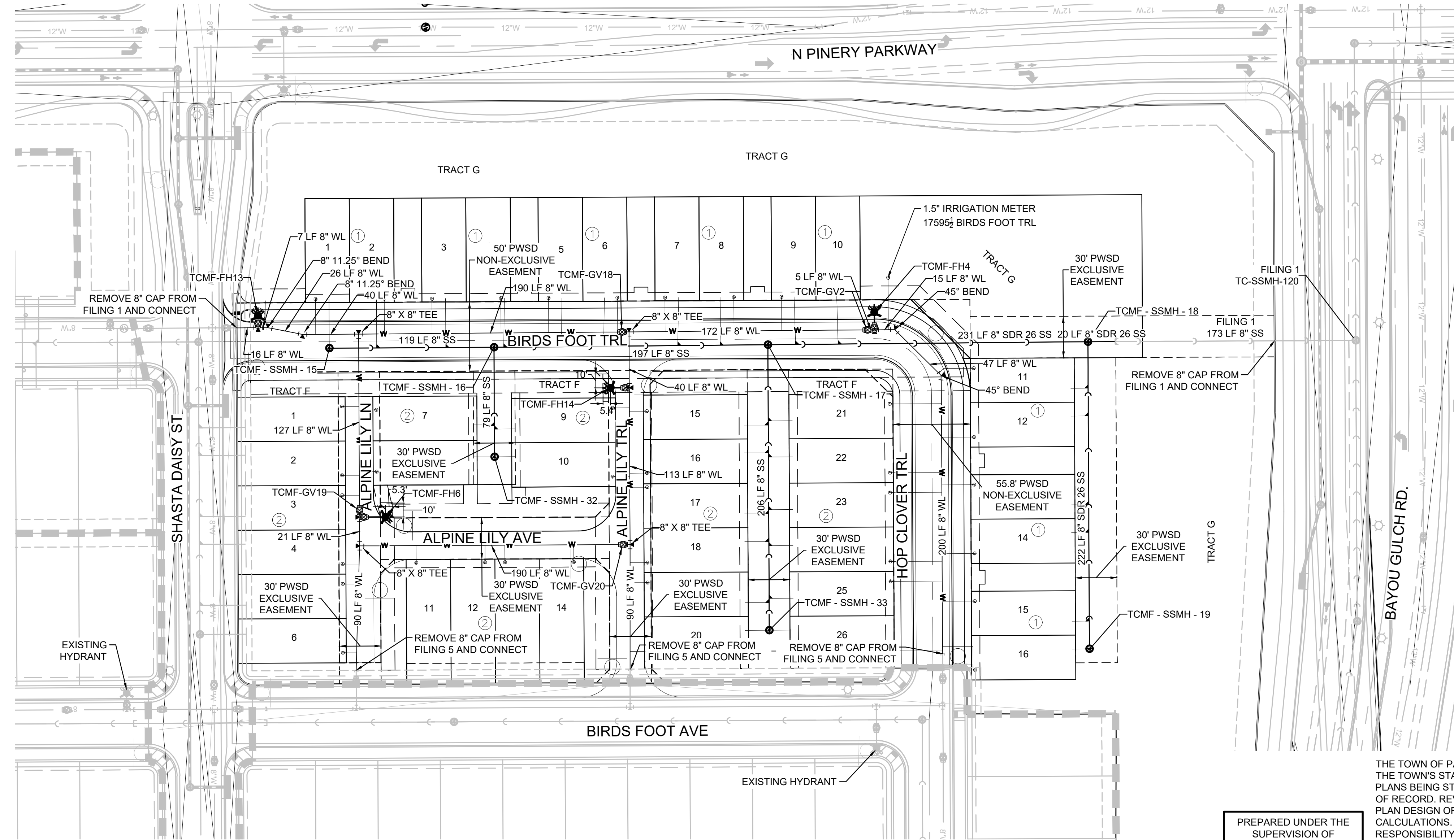
| FILING, BLOCK, LOT | STREET          | STATIONING |
|--------------------|-----------------|------------|
| F16,B2,L8          | ALPINE LILY LN  | 10+56.83   |
| F16,B2,L9          | ALPINE LILY TRL | 10+51.59   |
| F16,B2,L10         | ALPINE LILY TRL | 10+98.75   |
| F16,B2,L11         | ALPINE LILY ST  | 10+40.65   |
| F16,B2,L12         | ALPINE LILY ST  | 10+90.31   |
| F16,B2,L13         | ALPINE LILY ST  | 11+04.65   |
| F16,B2,L14         | ALPINE LILY ST  | 11+54.31   |
| F16,B2,L15         | ALPINE LILY TRL | 10+49.09   |
| F16,B2,L16         | ALPINE LILY TRL | 10+96.25   |
| F16,B2,L17         | ALPINE LILY TRL | 11+06.45   |
| F16,B2,L18         | ALPINE LILY TRL | 11+60.78   |
| F16,B2,L19         | ALPINE LILY TRL | 11+75.12   |
| F16,B2,L20         | ALPINE LILY TRL | 12+24.78   |
| F16,B2,L21         | HOP CLOVER TRL  | 10+98.14   |
| F16,B2,L22         | HOP CLOVER TRL  | 11+23.57   |
| F16,B2,L23         | HOP CLOVER TRL  | 11+37.91   |
| F16,B2,L24         | HOP CLOVER TRL  | 11+87.57   |
| F16,B2,L25         | HOP CLOVER TRL  | 12+01.91   |
| F16,B2,L26         | HOP CLOVER TRL  | 12+16.48   |



**KEYMAP**  
N.T.S.

**NOTES:**

- SANITARY SERVICES FOR BLOCK 7, LOTS 1-6 & 21-28 WILL BE INSTALLED WITH TRAILS AT CROWFOOT FILING 1.
- THE PROPOSED UTILITY CONNECTION WILL REQUIRE A TOWN RIGHT-OF-WAY PERMIT PRIOR TO COMMENCING WORK. THE TOWN PREFERS CONNECTIONS TO BE BORED TO THE EXTENT POSSIBLE, AND ANY STREET CUT ALLOWED BY THE TOWN WILL BE REQUIRED TO BE PATCHED ACCORDING TO THE TOWN'S CONSTRUCTION STANDARDS AND DETAILS. THE LIMITS OF PATCHING WILL BE DETERMINED BY THE TOWN AT THE TIME OF CONSTRUCTION. THE TOWN OF PARKER DOES NOT ALLOW ROADWAY CLOSURES FOR UTILITY WORK.
- SANITARY SEWER PIPE INSTALLED DEEPER THAN 20' SHALL BE SDR 26 PVC.



PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON  
COLORADO P.E. 0050607

THE TOWN OF PARKER REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE TOWN'S STANDARDS AND APPROVED VARIANCES. SUBJECT TO THESE IMPROVEMENTS WHICH MAY BE SHOWN. CONSTRUCTION CANNOT COMMENCE UNTIL ALL REQUIRED DRAINAGE/TRAFFIC REPORT(S), FINAL DEVELOPMENT PLAN(S), SPECIAL REVIEW(S), GRADING PERMIT, AND/OR OTHER PERMITS ARE COMPLETE, APPROVED AND ON FILE WITH THE TOWN OF PARKER.

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

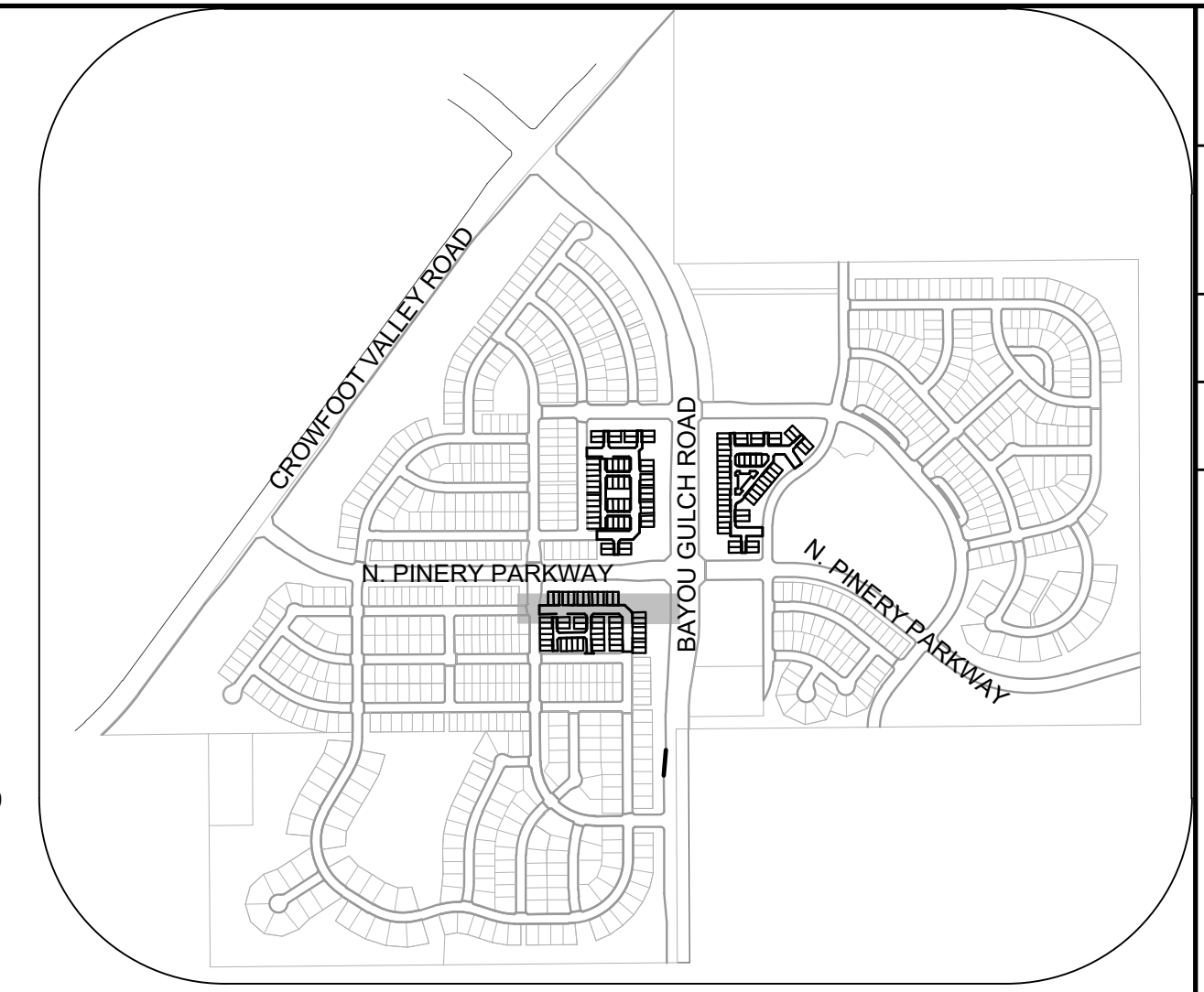
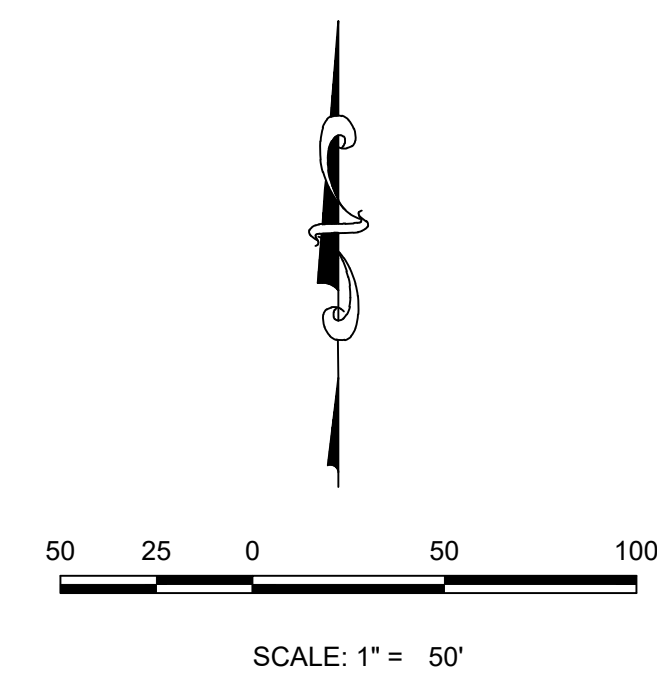
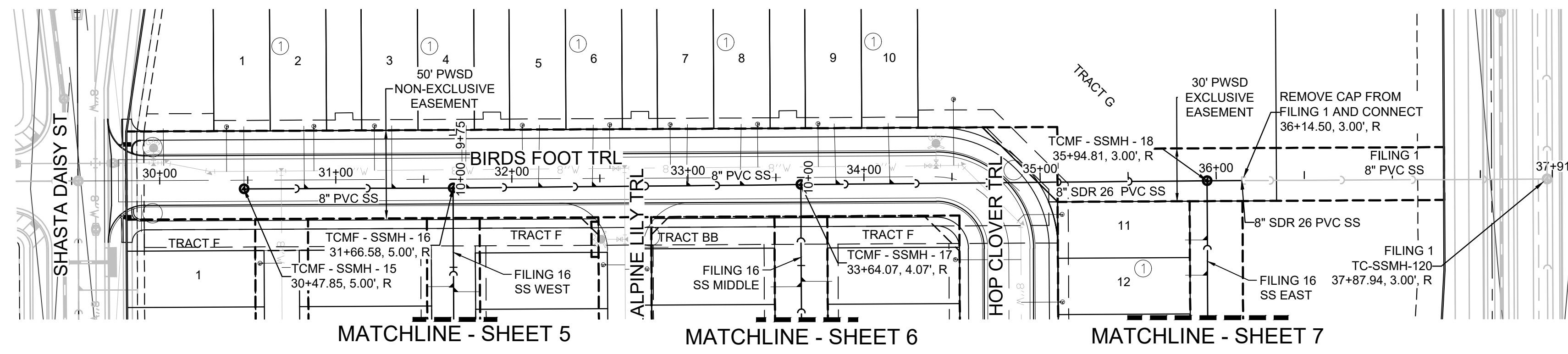
R:\PROJECTS\BENCH\CO\ENGINEERING\BENCH SETS\MULTIFAMILY\BIPARKER WATER AND SANITATION\AREA UTILITY PLANS\DWG. DTT0201.4220201.3.301.PM

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

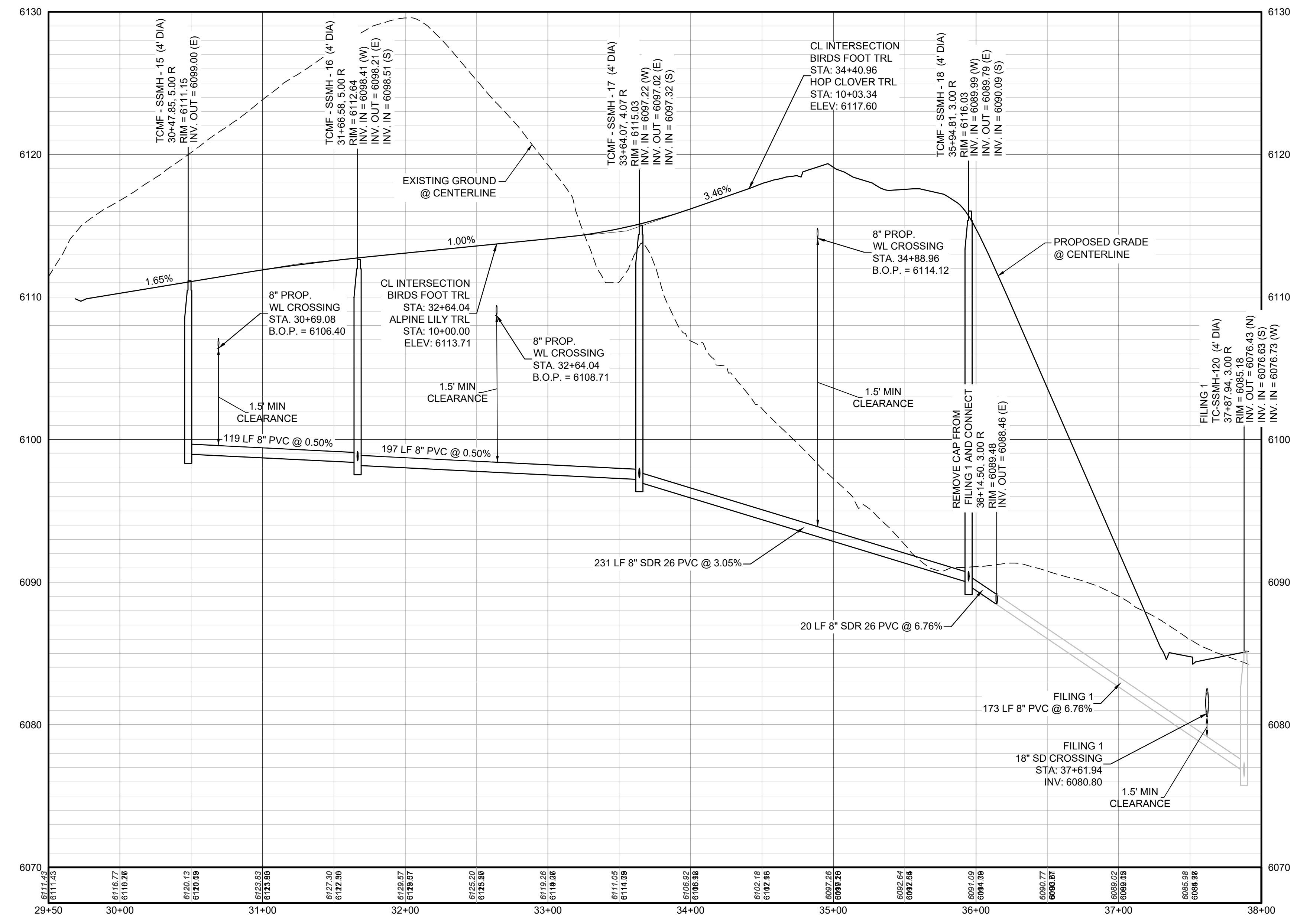
**BASIS OF BEARINGS:**  
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH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

|  |                     |                 |
|--|---------------------|-----------------|
| 10333 E. Dry Creek Rd.<br>Suite 240<br>Englewood, CO 80112<br>Tel:720.482.9522<br>www.cwllc.com<br>westwoodsps.com | Revisions           | Date            |
| <b>CWL</b><br>a Westwood team  |                     |                 |
| HR 935 LLC<br>7383 South Alton Way<br>CENTENNIAL, CO 80112   |                     |                 |
| <b>TRAILS AT CROWFOOT</b><br>FILING 16 CONSTRUCTION DRAWINGS<br>AREA UTILITY PLAN                                  |                     |                 |
| SCALE: AS SHOWN  | FILE NO: 8130283701 |                 |
| DRAWN BY: BFW  | CHECKED BY: BFW     | DATE: JUNE 2018 |
| SHEET NUMBER   | <b>3</b>            |                 |



**KEYMAP**  
N.T.S.

**PLAN: BIRDS FOOT TRL STA: 29+00.00 TO 38+00.00**  
HORIZONTAL SCALE: 1" = 50'



**PROFILE: BIRDS FOOT TRL STA: 29+50.00 TO 38+00.00**  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

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

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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.

**LEGEND**

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

**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              | ROP    | 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         |

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

N:\PROJECTS\SSHS RANCH\ENGINEERING\SSHS SETS\MULTIFAMILY\CD\SS\10\PARSER WATER AND SANITATIONSANITARY SEWER SHEET SBIRDS FOOT TRAIL DWG.DWG, 4/22/2021, 3:33 PM

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|     |           |      |       |       |      |
|-----|-----------|------|-------|-------|------|
| NO. | REVISIONS | DATE | INIT. | APPR. | DATE |
|     |           |      |       |       |      |
|     |           |      |       |       |      |
|     |           |      |       |       |      |

10333 E. Dry Creek Rd  
Suite 240  
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Tel: 720.482.952  
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westwoodjpa.com

**CVL**  
a Westwood team

HR 935 LLC  
7353 South Alton Way  
CENTENNIAL, CO 80112

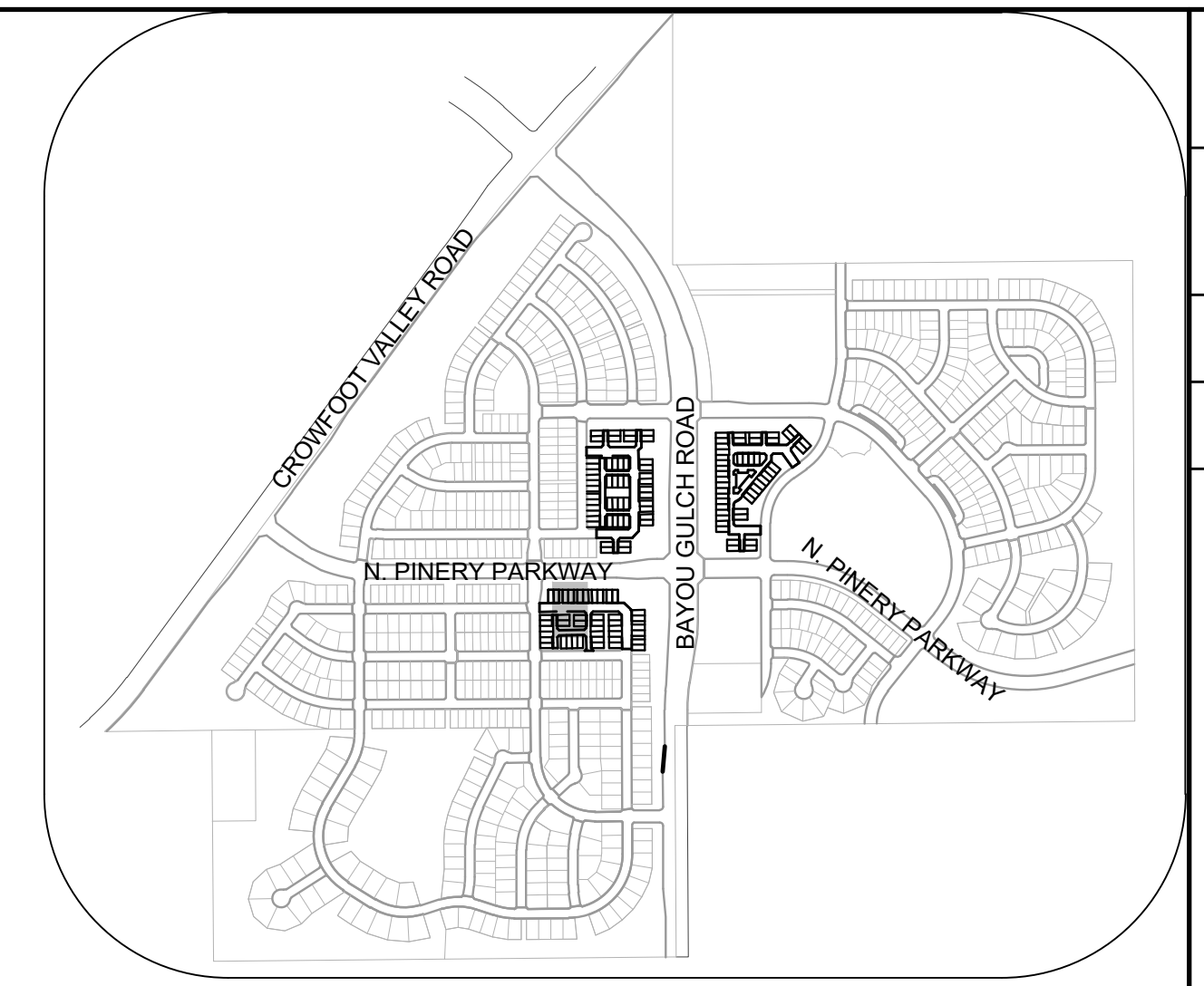
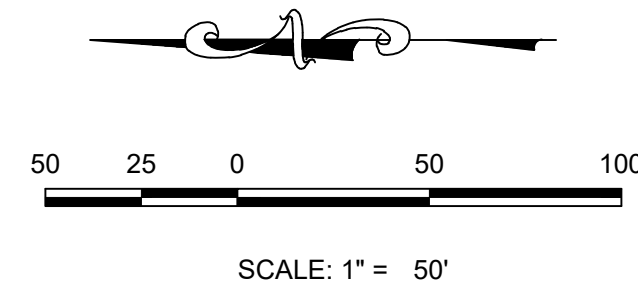
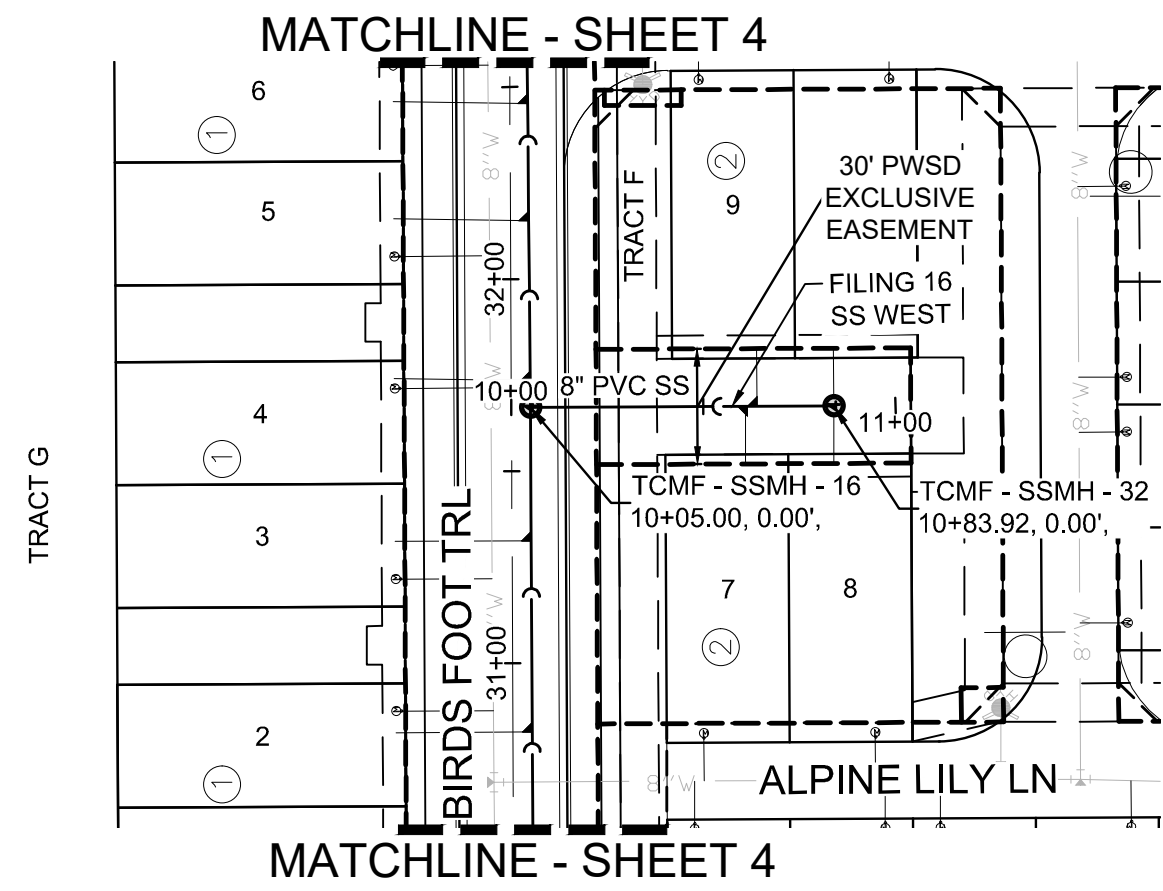
**TRAILS AT CROWFOOT**  
FILING 16 CONSTRUCTION DRAWINGS  
SANITARY SEWER PLAN & PROFILE  
BIRDS FOOT TRAIL

SCALE: AS SHOWN  
FILE NO: 8130283701

DRAWN BY: RRR  
CHECKED BY: BPW  
DATE: JUNE 2018

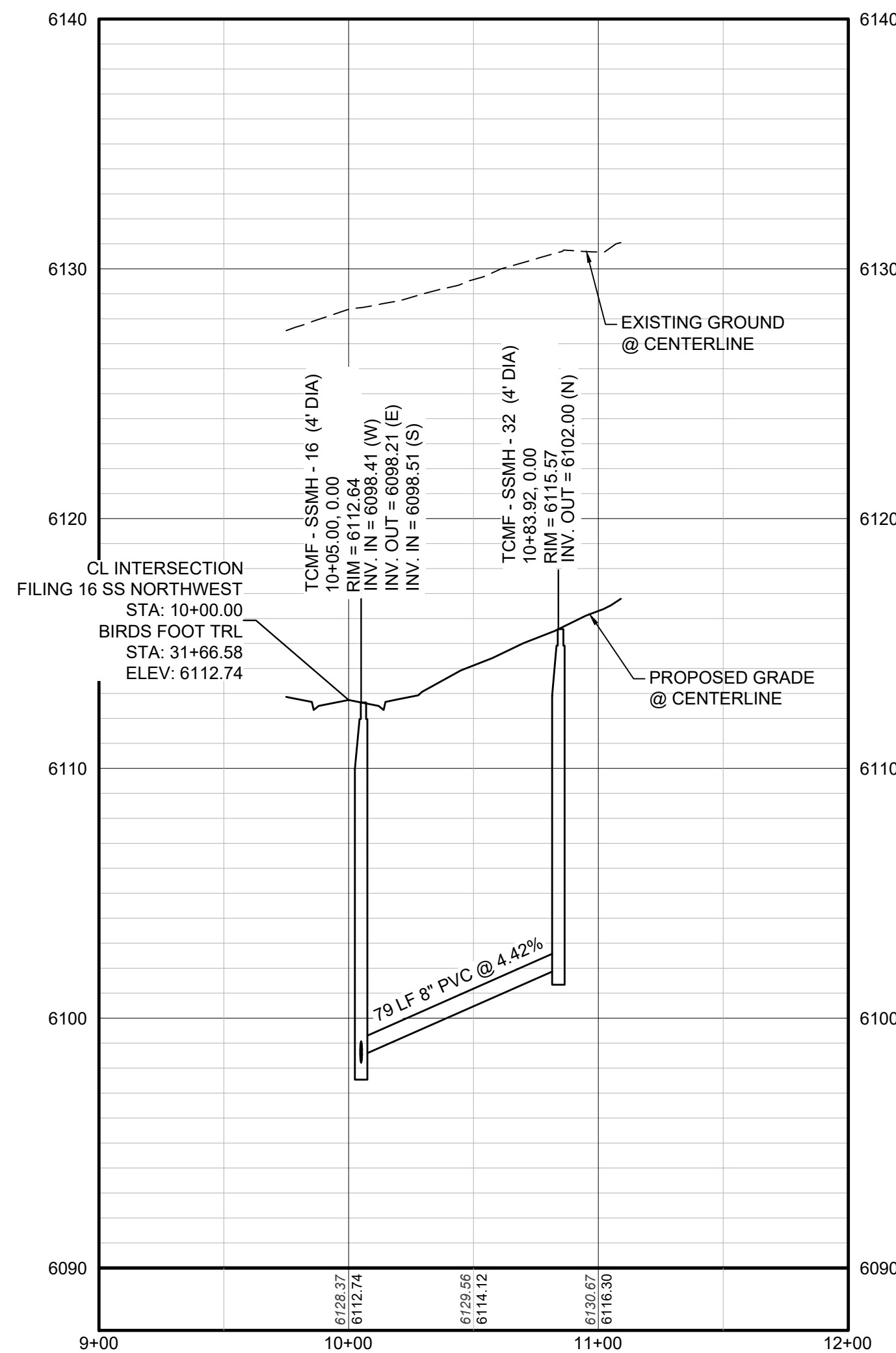
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**KEYMAP**  
N.T.S.

**PLAN: FILING 16 SS WEST STA: 9+00.00 TO 12+00.00**  
HORIZONTAL SCALE: 1" = 50'



**PROFILE: FILING 16 SS WEST STA: 9+00.00 TO 12+00.00**  
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                 | ---  | EXISTING 5' CONTOUR              |
| ⊕      | PROPOSED WL FITTING WITH THRUST BLOCK | ---  | EXISTING 1' CONTOUR              |
| ⊕      | PROPOSED FLARED END SECTION           | ---  | PROPOSED 5' CONTOUR              |
| ⊕      | PROPOSED LOW POINT BLOW-OFF           | ---  | PROPOSED 1' CONTOUR              |
| ⊕      | PROPOSED AIR VALVE                    | ---  | PROPOSED STORM DRAIN             |
| ⊕      | FUTURE PHASE VALVE                    | ---  | PROPOSED SEWER LINE WITH MANHOLE |
| ⊕      | FUTURE FIRE HYDRANT                   | ---  | PROPOSED SEWER LATERAL           |
| ⊕      | PROPOSED LIGHT POLE                   | ---  | PROPOSED WATER LINE              |
| ⊕      | PROPOSED SIDEWALK RAMP                | ---  | PROPOSED WATER LATERAL W/ METER  |
| 10.00  | EXISTING ELEVATION                    | ---  | SECTION LINE                     |
| 10.00  | PROPOSED DESIGN ELEVATION             | ---  | FILING BOUNDARY                  |
| ⊕      | PROPOSED STORM DRAIN INLET            | ---  | FO                               |
| ⊕      | PROPOSED STORM DRAIN MANHOLE          | ---  | OH                               |
| ⊕      |                                       | ---  | TEL                              |
|        |                                       | ---  | PWSD EASEMENT                    |
|        |                                       | ---  | TYP. EASEMENT                    |

| 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              | ROP    | 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         |

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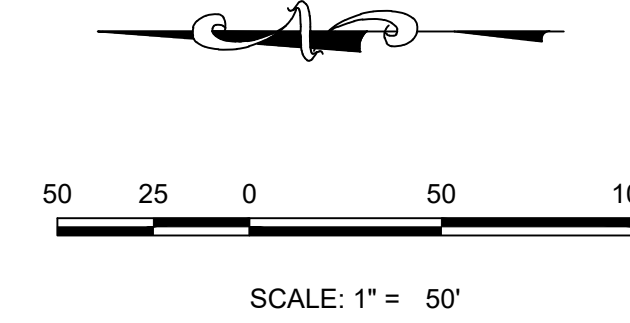
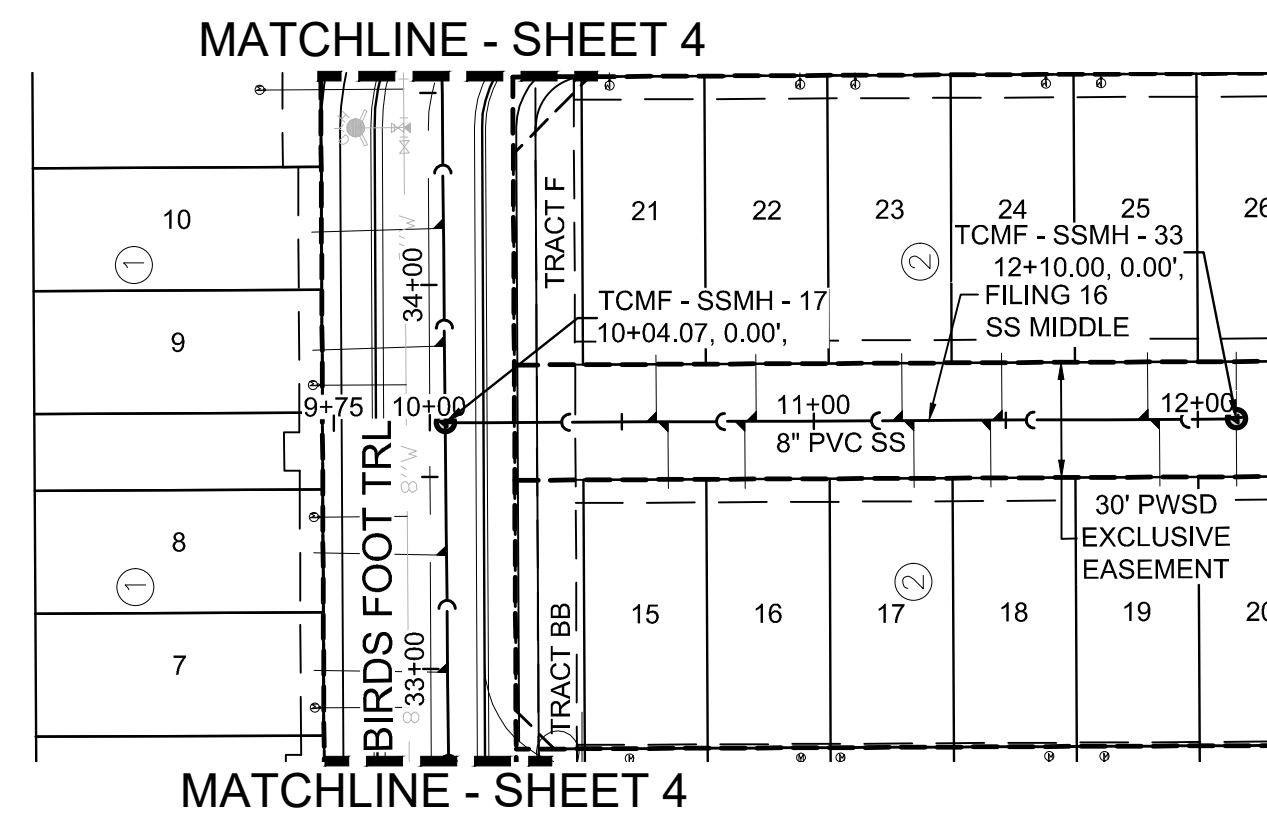
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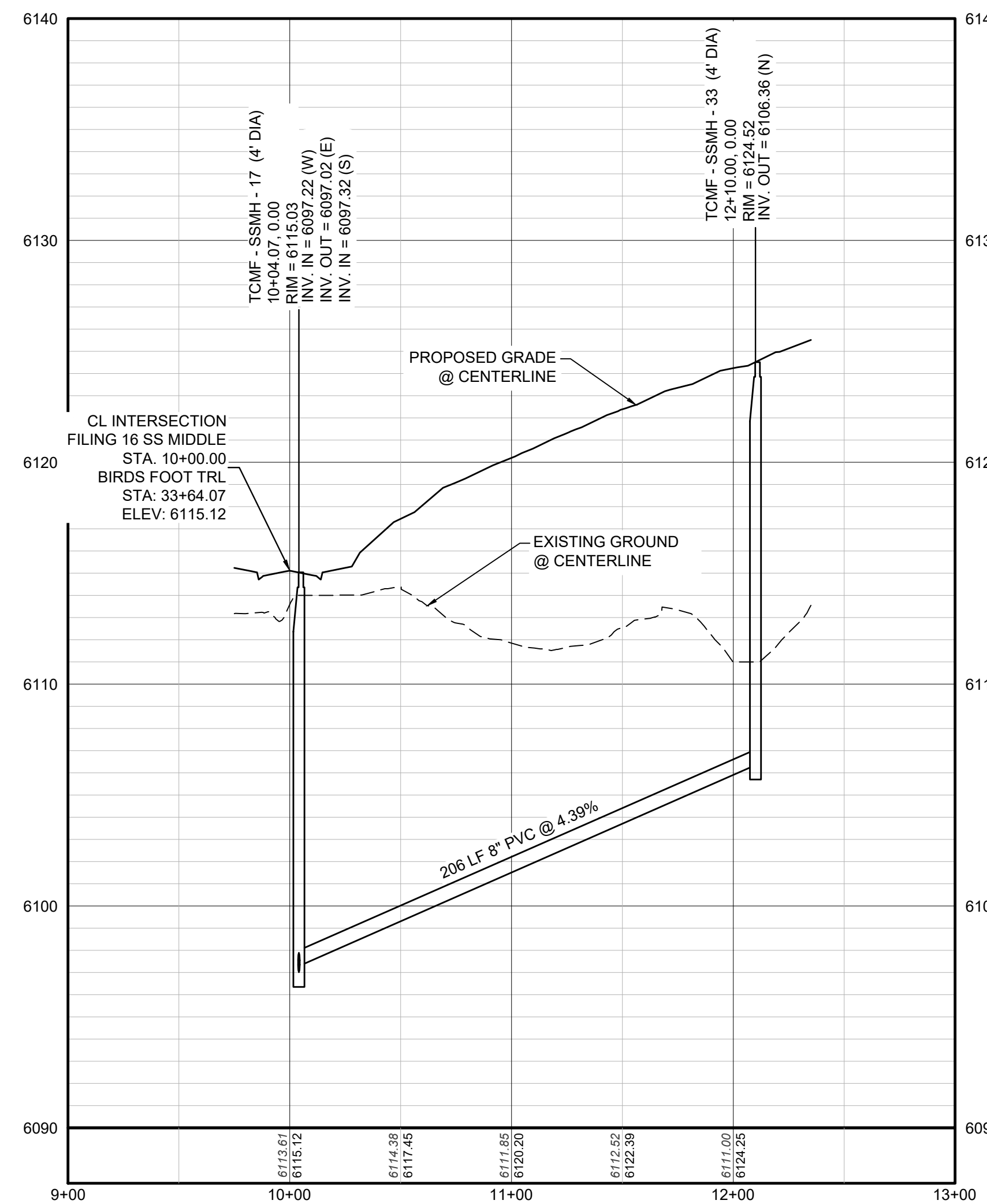
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|                          |  |                    |  |                        |
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| DRAWN BY:<br>RRR         | CHECKED BY:<br>BPW   | DATE:<br>JUNE 2018 | SCALE:<br>AS SHOWN   | FILE NO:<br>8130283701 |
|                          |  |                    | TRAILS AT CROWFOOT<br>FILING 16 CONSTRUCTION DRAWINGS<br>SANITARY SEWER PLAN & PROFILE<br>FILING 16 SS NORTHWEST |                        |
| SHEET NUMBER<br><b>5</b> | 10333 E. Dry Creek Rd<br>Suite 240<br>Englewood, CO 80112<br>Tel: 720.482.952<br>www.cvlinc.net<br>westwoodjps.com |                    | a Westwood team  |                        |
|                          | HR 935 LLC<br>7353 South Alton Way<br>CENTENNIAL, CO 80112   |                    | Revisions  |                        |
|                          |  |                    | No.  | Date                   |
|                          |  |                    | Init.  | Date                   |
|                          |  |                    | Appr.  | Date                   |

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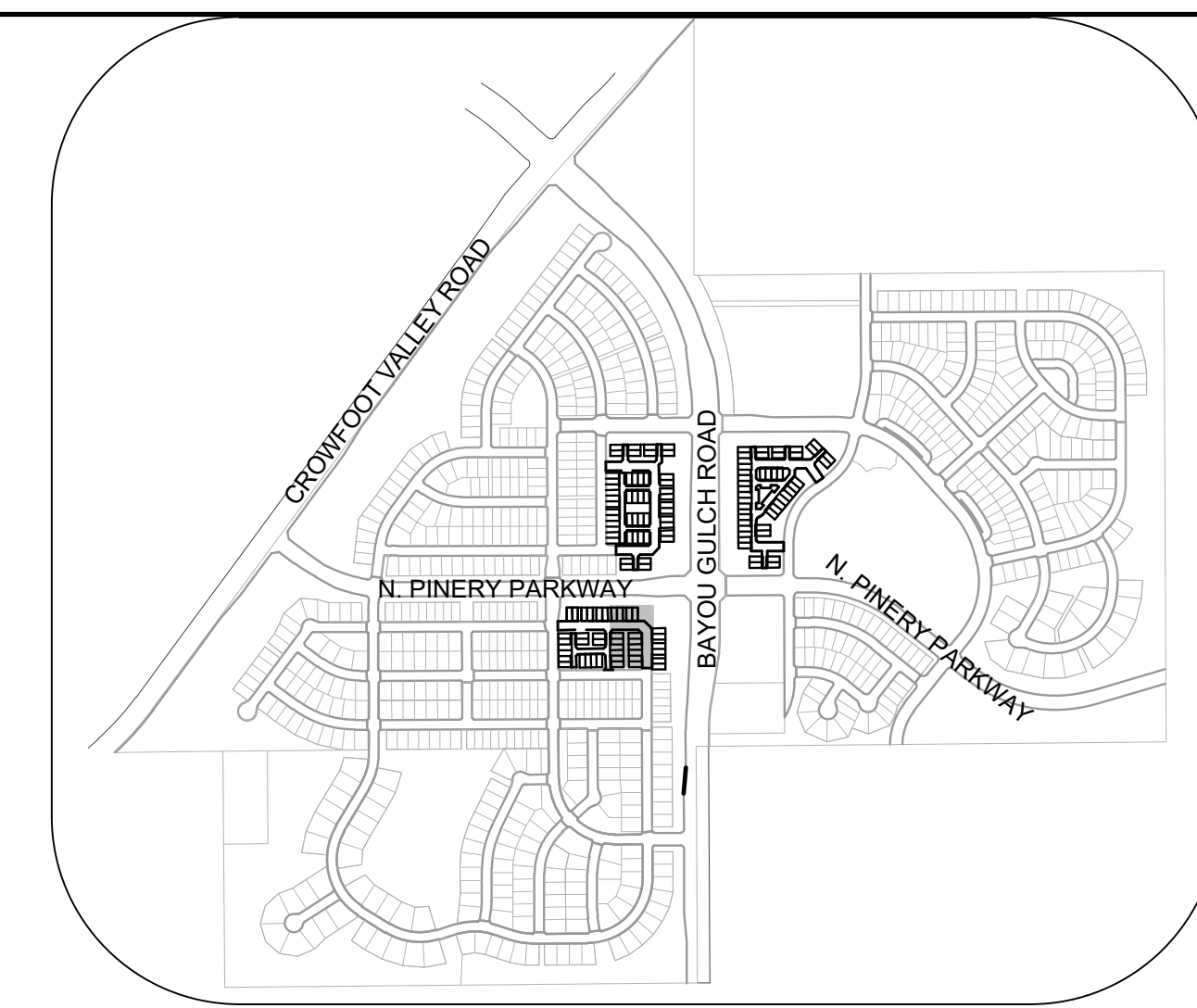
PLAN: FILING 16 SS MIDDLE STA: 9+00.00 TO 13+00.00  
HORIZONTAL SCALE: 1" = 50'



PROFILE: FILING 16 SS MIDDLE STA: 9+00.00 TO 13+00.00  
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**KEYMAP**  
N.T.S.

**LEGEND**

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

**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              | ROP    | 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                      |
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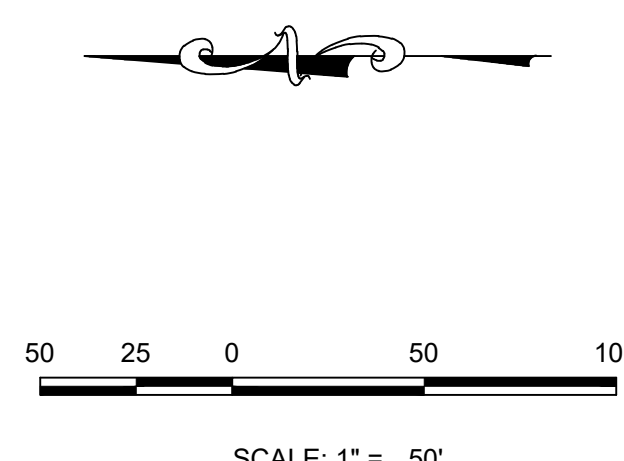
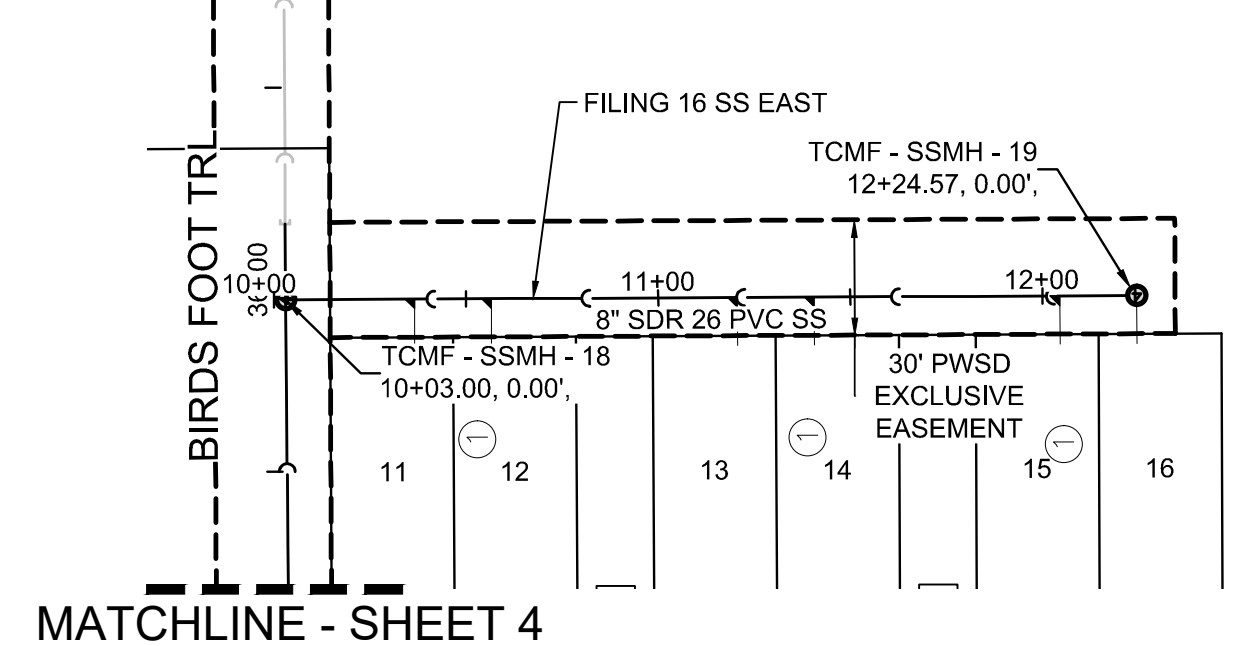
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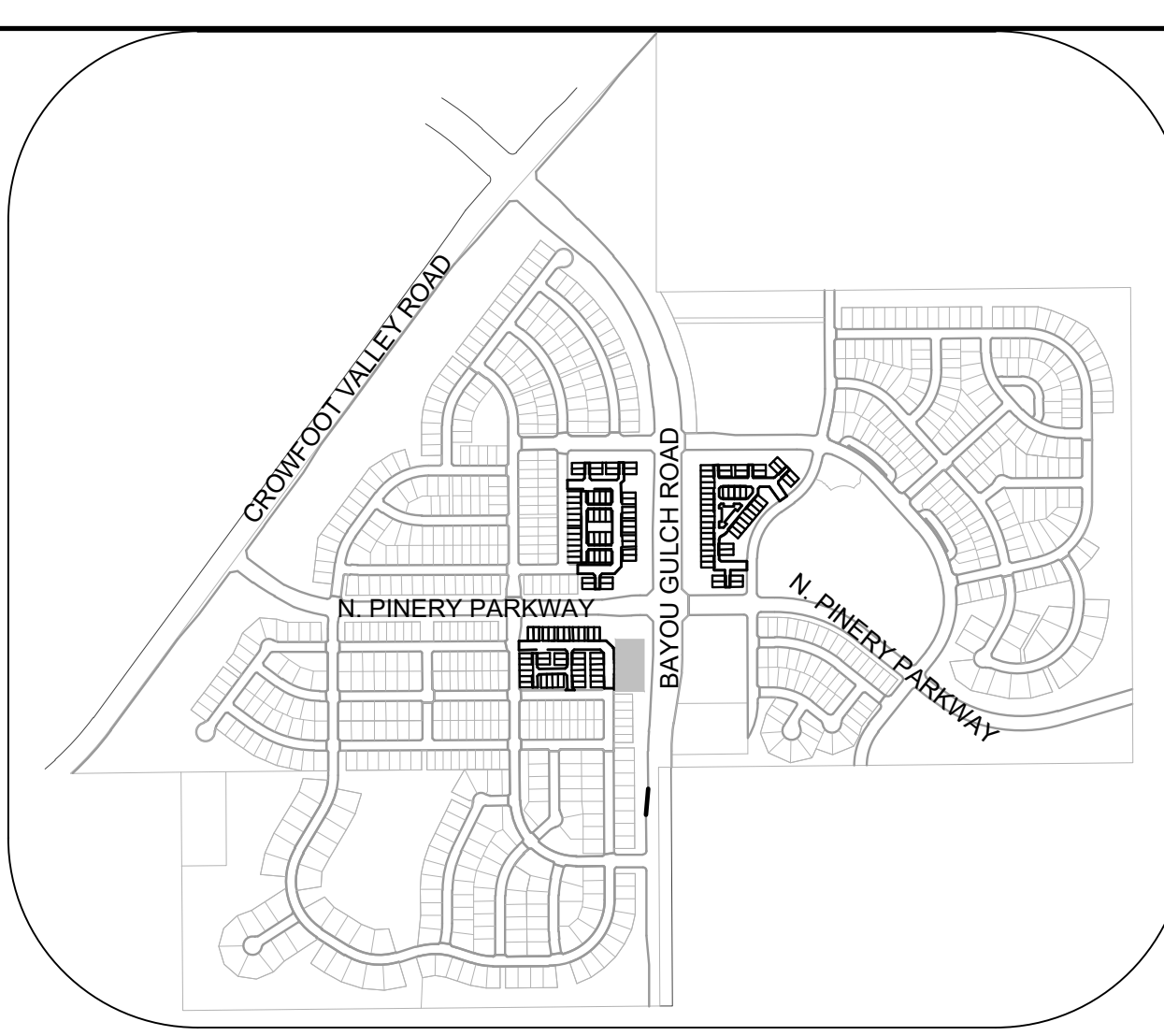
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1-800-922-1987

|                          |                    |  |  |                        |
|--------------------------|--------------------|--|--|------------------------|
| DRAWN BY:<br>RRR         | CHECKED BY:<br>BPW | DATE:<br>JUNE 2018   | SCALE:<br>AS SHOWN   | FILE NO:<br>8130283701 |
|                          |                    |  | TRAILS AT CROWFOOT<br>FILING 16 CONSTRUCTION DRAWINGS<br>SANITARY SEWER PLAN & PROFILE<br>FILING 16 SS NORTHEAST |                        |
| SHEET NUMBER<br><b>6</b> |                    | 10333 E. Dry Creek Rd<br>Suite 240<br>Englewood, CO 80112<br>Tel: 720.482.952<br>www.cvlinc.net<br>westwoodjpa.com |  | Revisions              |
|                          |                    |  |  |                        |
|                          |                    | <b>HR 935 LLC</b><br>7353 South Alton Way<br>CENTENNIAL, CO 80112  |  |                        |

MATCHLINE - SHEET 4



PLAN: FILING 16 SS EAST STA: 9+00.00 TO 12+00.00  
HORIZONTAL SCALE: 1" = 50'



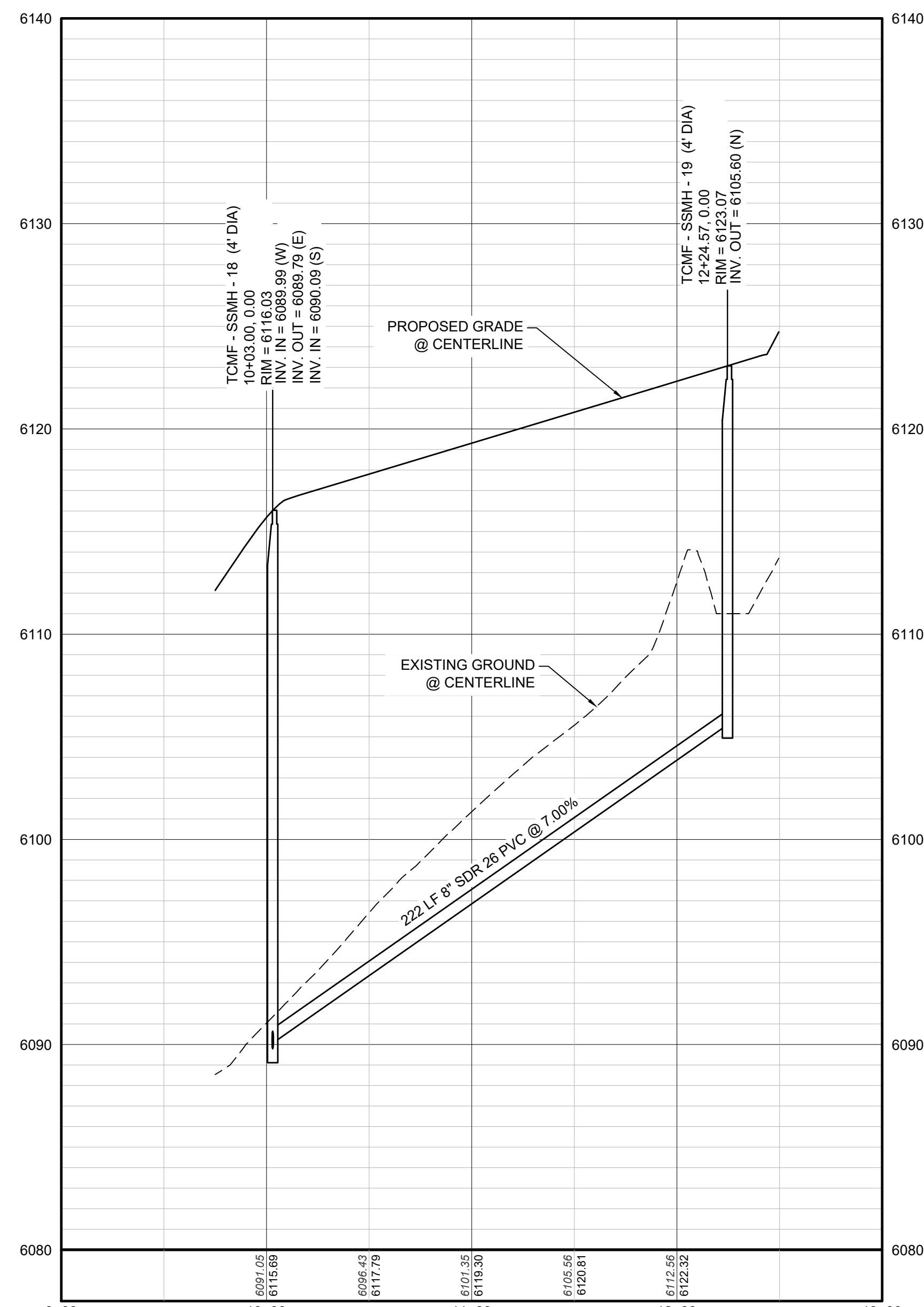
KEYMAP  
N.T.S.

LEGEND

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

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              | ROP    | 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: FILING 16 SS EAST STA: 9+00.00 TO 13+00.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

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

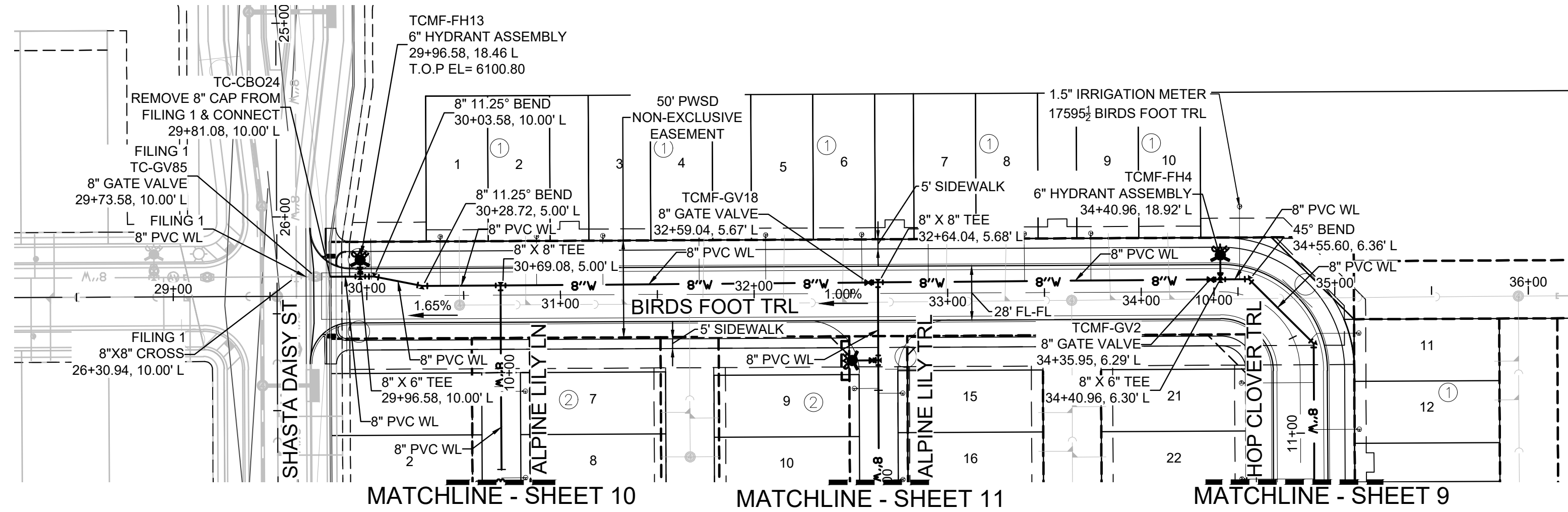
BENCHMARK  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

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

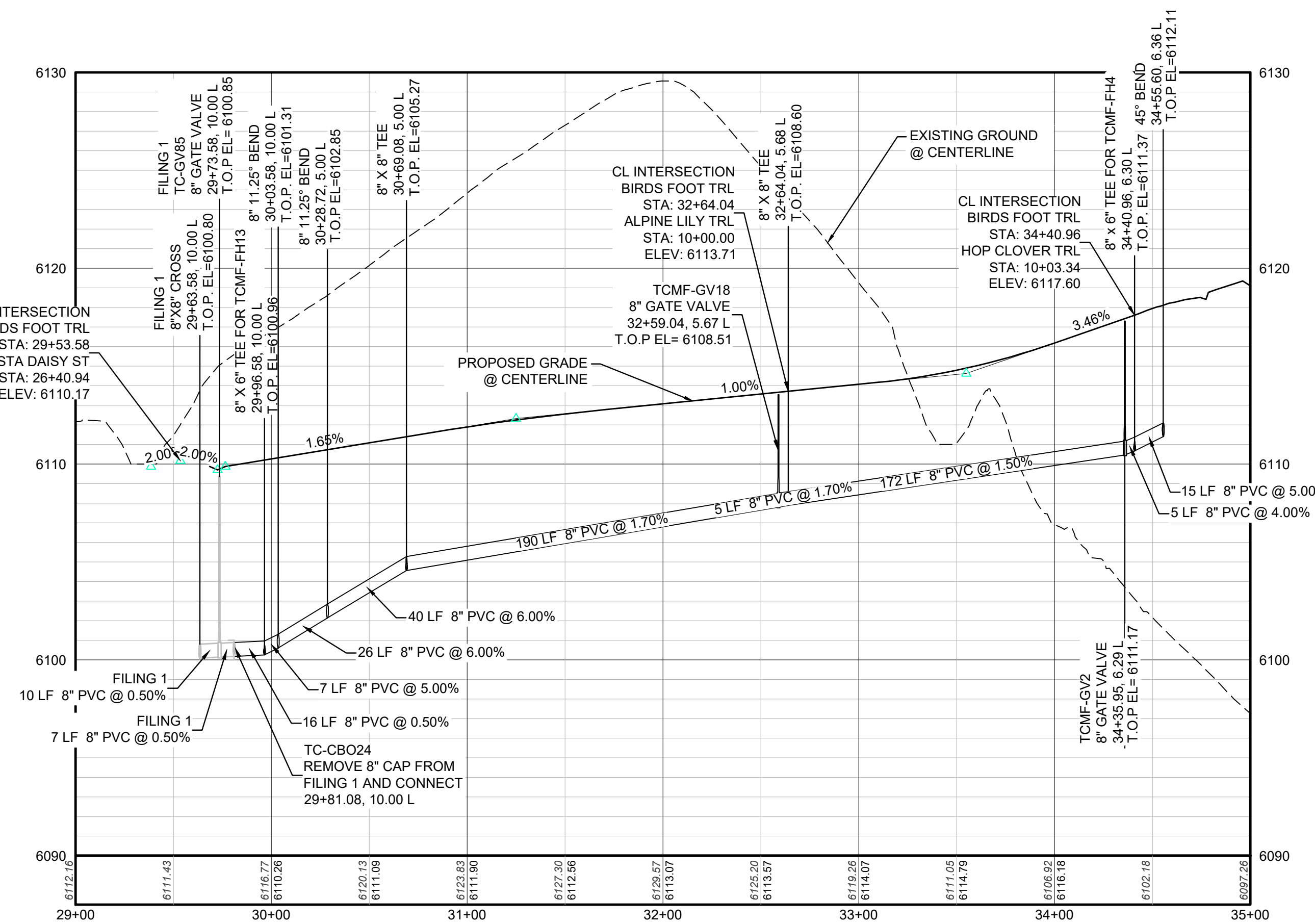
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|--|------------------|--------------------|--------------------|---|------------------------|
| SHEET NUMBER   | DRAWN BY:<br>RRR | CHECKED BY:<br>BPW | DATE:<br>JUNE 2018 | SCALE:<br>AS SHOWN  | FILE NO:<br>8130283701 |
|  |                  |                    |                    | TRAILS AT CROWFOOT<br>FILING 16 CONSTRUCTION DRAWINGS<br>SANITARY SEWER PLAN & PROFILE<br>7 - FILING 16 SS EAST |                        |
| 10333 E. Dry Creek Rd<br>Suite 240<br>Englewood, CO 80112<br>Tel: 720.482.952<br>www.cvlinc.net<br>westwoodjpa.com |                  |                    |                    |   |                        |
| a Westwood team  |                  |                    |                    |   |                        |
| HR 935 LLC<br>7353 South Alton Way<br>CENTENNIAL, CO 80112   |                  |                    |                    |   |                        |
| Revisions  |                  |                    |                    |   |                        |
| No.  | Date             | Init.              | Appr.              | Date  |                        |

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BEFORE YOU DIG  
UNCC  
UTILITY NOTIFICATION  
CENTER OF COLORADO  
1-800-922-1987

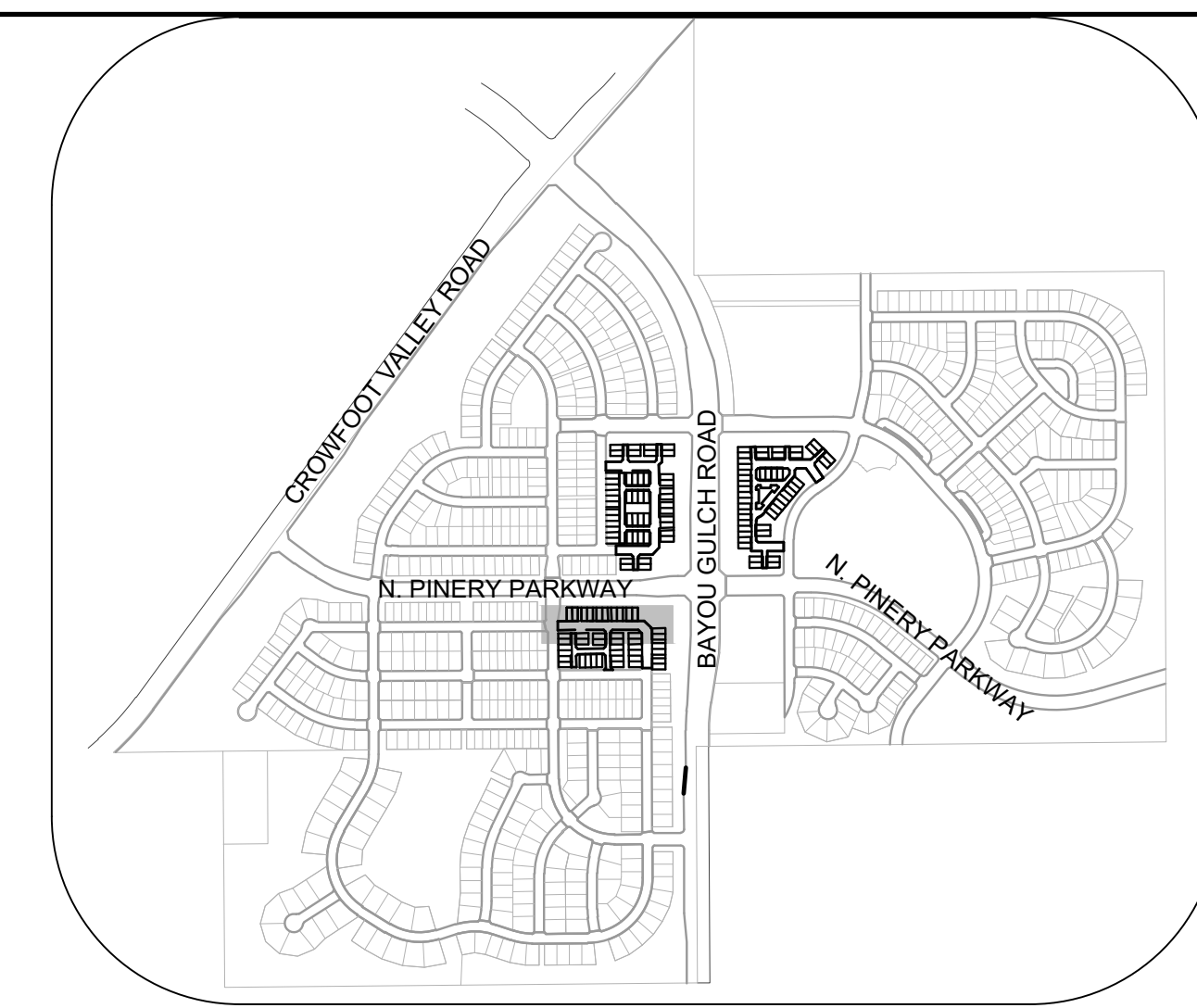
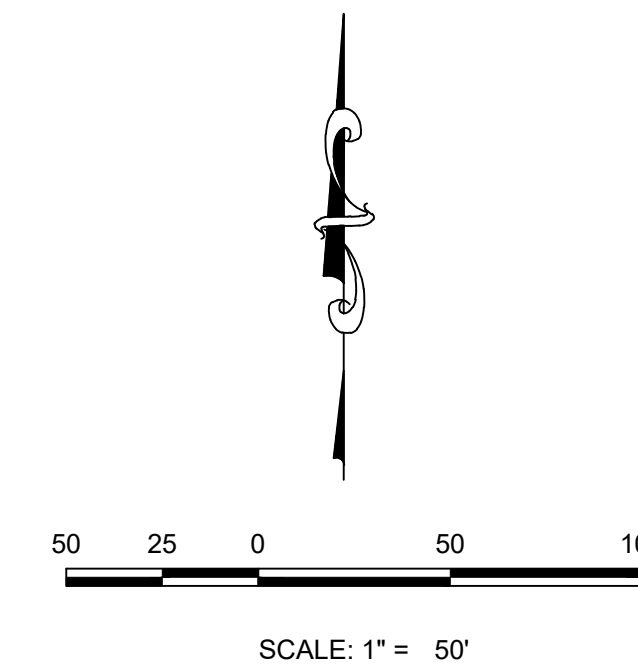
N:\PROJECTS\SS RANCH\ENGINEERING\SSHEET SETS\MULTIFAMILY\CD\SS\FILING 16 SS EAST DWG.DWG, DTTORBIN, 4/22/2018 3:37 PM



PLAN: BIRDS FOOT TRL STA: 29+00.00 TO 35+00.00  
HORIZONTAL SCALE: 1" = 50'



PROFILE: BIRDS FOOT TRL STA: 29+00.00 TO 35+00.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'



KEYMAP  
N.T.S.

LEGEND

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

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              | ROP    | 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         |

|  |  |   |                    |                        |                  |                    |                    |                          |
|--|--|---|--------------------|------------------------|------------------|--------------------|--------------------|--------------------------|
| 10333 E. Dry Creek Rd<br>Suite 240<br>Englewood, CO 80112<br>Tel: 720.482.952<br>www.cvlinc.net<br>westwoodjpa.com | HR 935 LLC<br>7353 South Alton Way<br>CENTENNIAL, CO 80112 | TRAILS AT CROWFOOT<br>FILING 16 CONSTRUCTION DRAWINGS<br>WATER PLAN & PROFILE<br>BIRDS FOOT TRAIL | SCALE:<br>AS SHOWN | FILE NO:<br>8130283701 | DRAWN BY:<br>RRR | CHECKED BY:<br>BPW | DATE:<br>JUNE 2018 | SHEET NUMBER<br><b>8</b> |
| Revisions  | No.  | Date  | Init.              | Appr.                  | Date             |                    |                    |                          |

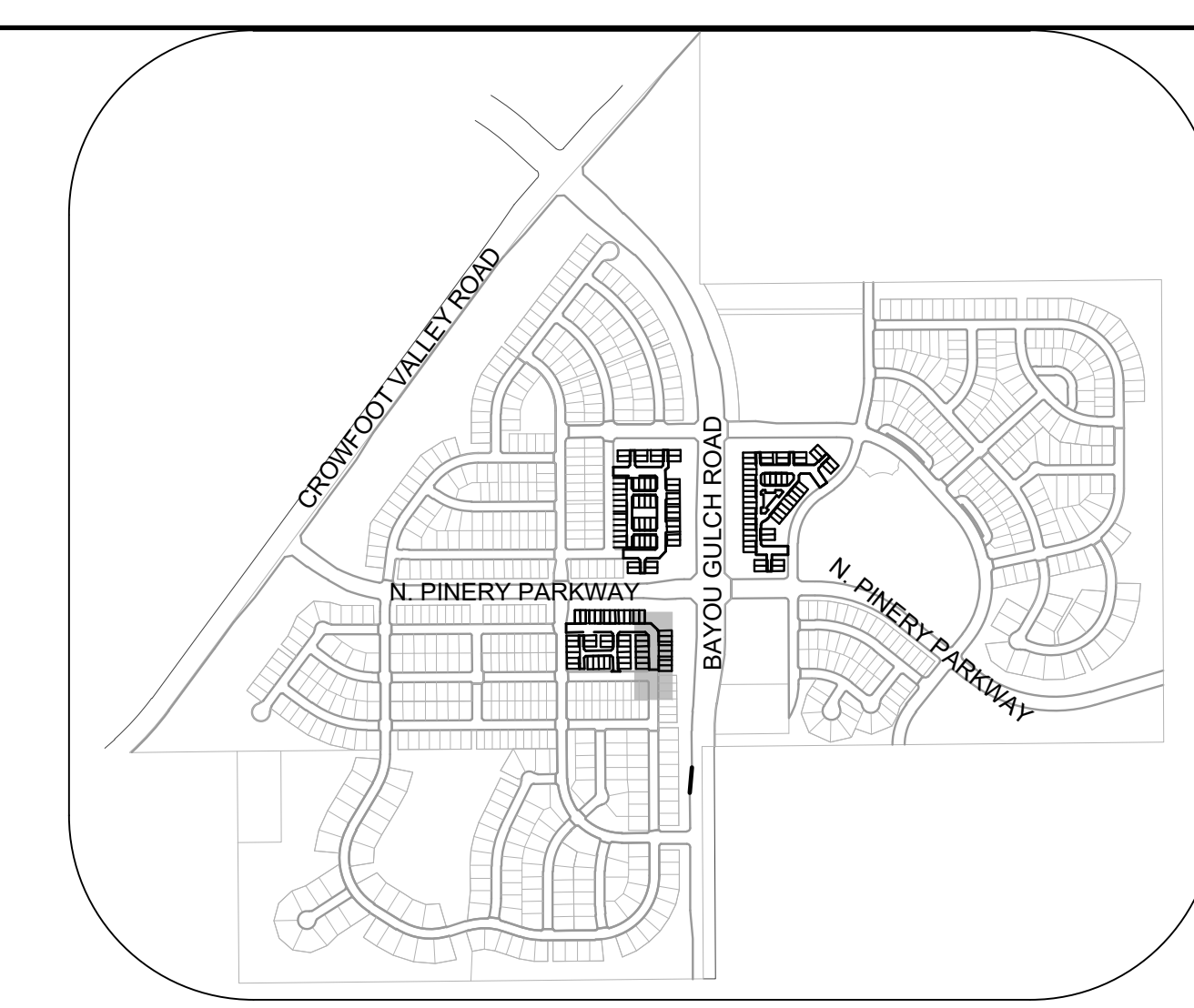
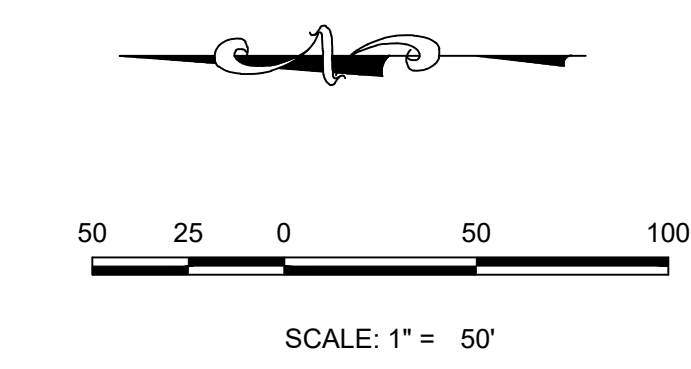
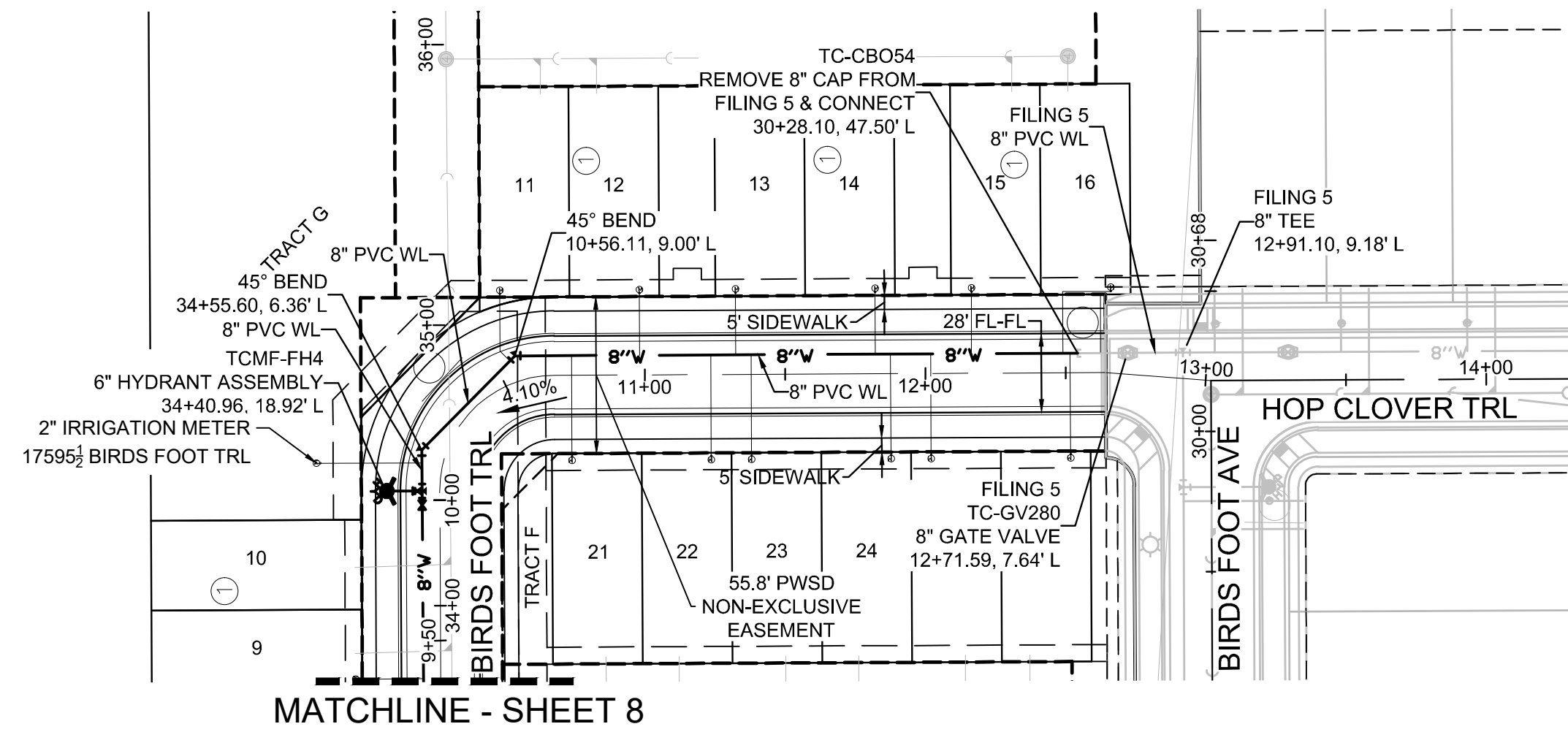
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BENCHMARK  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870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

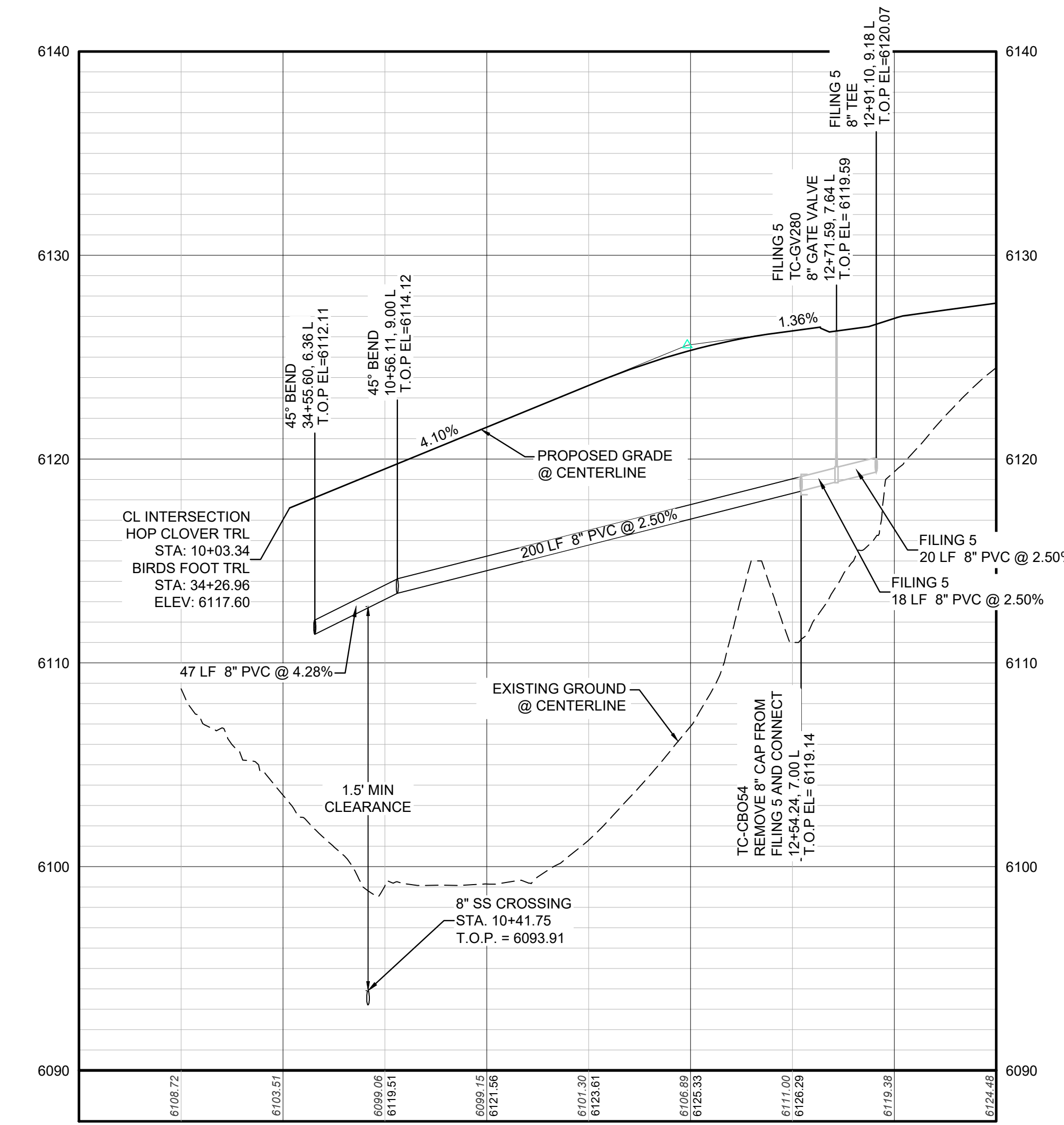
BASIS OF BEARINGS:  
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PREPARED UNDER THE SUPERVISION OF  
BRIAN P. WILSON  
COLORADO P.E. 0050067



**KEYMAP**  
N.T.S.

**PLAN: HOP CLOVER TRL STA: 9+50.00 TO 14+00.00**  
HORIZONTAL SCALE: 1" = 50'



**PROFILE: HOP CLOVER TRL STA: 9+00.00 TO 13+50.00**  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

**LEGEND**

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

**ABBREVIATIONS**

|     |                        |        |                                 |
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| BVC | BEGIN VERTICAL CURVE   | PVC    | POLYVINYL CHLORIDE              |
| BVP | BEGIN VERTICAL PROFILE | PVI    | PT. OF VERTICAL INTERSECTION    |
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| EL  | ELEVATION              | ROP    | 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         |

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Tel: 720.482.952  
www.cvlinc.net  
westwoodjpa.com

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

**TRAILS AT CROWFOOT**  
FILING 16 CONSTRUCTION DRAWINGS  
WATER PLAN & PROFILE  
HOP CLOVER TRAIL

SCALE: AS SHOWN  
FILE NO: 8130283701  
DRAWN BY: RRR  
CHECKED BY: BPW  
DATE: JUNE 2018

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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  
  
BRIAN P. WILSON  
COLORADO P.E. 0050067

SHEET NUMBER **9**

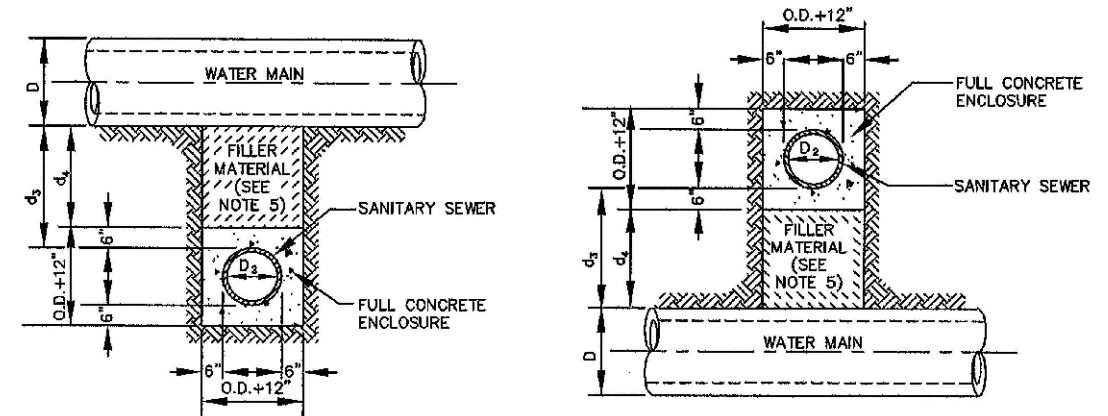




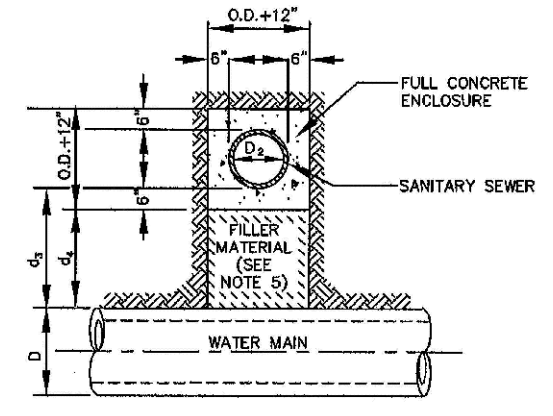








**TYPE IIa**  
SANITARY SEWER CROSSING UNDER WATER MAIN  
If  $d_s > 2$  ft., ENCASMENT NOT REQUIRED



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

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

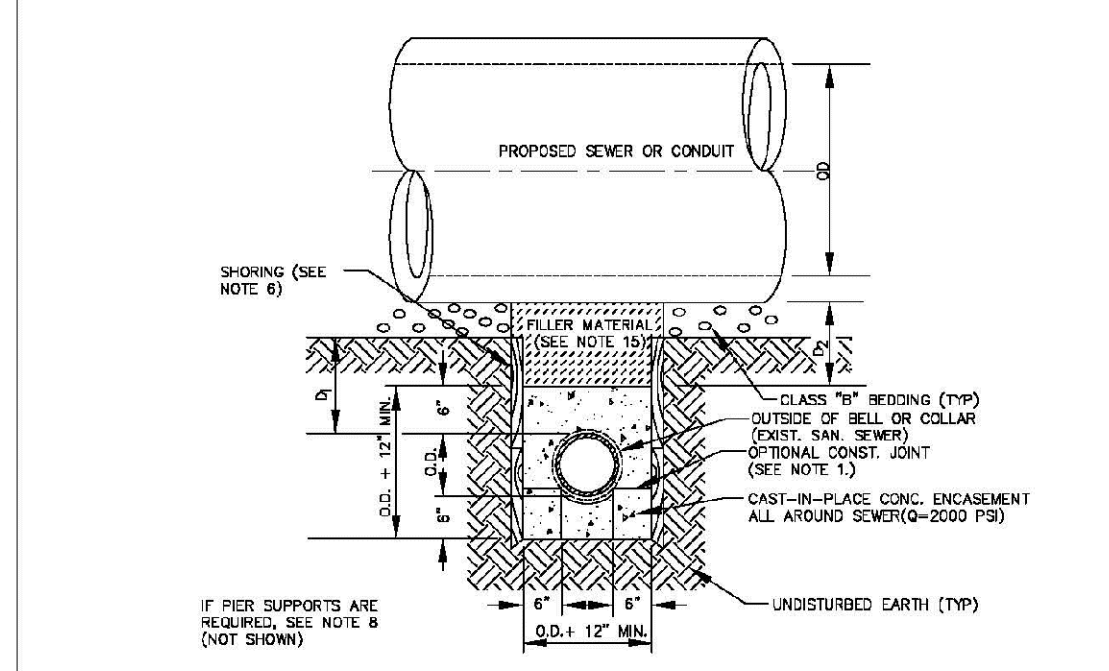
**GENERAL NOTES FOR TYPE I, II & III ENCASMENT**

- CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED & BOTTOM HALF OF ENCASMENT IS POURED SEPARATELY, A ONE INCH LAYER OF SAND OR MORTAR SHALL BE PLACED BETWEEN BOTTOM OF SANITARY SEWER AND TOP OF CONCRETE.
- LENGTH OF ENCASMENT FOR:
  - TYPE I & TYPE II ENCASMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
  - TYPE III ENCASMENT SHALL EXTEND AT LEAST TO FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I, II & III ENCASMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I, II OR III ENCASMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
  - TYPE I OR TYPE II IF  $d_s \leq 18"$  (IF  $d_s \leq 12"$ ) EXCEPT FOR SANITARY SEWERS CROSSING OVER OR UNDER WATER MAINS.
  - TYPE II IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS, REGARDLESS OF DIMENSION  $d_s$ .
  - EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS, OR WHERE UNUSUAL SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASMENT WILL NORMALLY BE SATISFACTORY.
  - IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF DUCTILE IRON PIPE (AWWA C-150 OR C-151), CONCRETE ENCASMENT MAY NOT BE REQUIRED.
- FILLER MATERIAL BETWEEN CONDUITS TO BE:
  - APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF  $d_s \leq 4"$  OR  $d_s \leq 6"$ .
  - COMPACTED CLASS "B" BEDDING IF  $d_s \leq 4"$  OR  $d_s > 6"$  (IF  $d_s > 6"$  FOR TYPE III ENCASMENT POUR CONCRETE ON UNDISTURBED SOIL).
- SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASMENT.
- THESE ENCASMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS. IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, PIPE SUPPORTS ON EACH SIDE OF SANITARY SEWER MAY ALSO BE REQUIRED. IF REQUIRED, SUPPORTS SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN AND PROFILE DRAWINGS.

PARKER WATER & SANITATION DISTRICT  
CONCRETE ENCASMENT TYPE II

|                   |            |
|-------------------|------------|
| SCALE: NONE       | DATE: 2/98 |
| APPROVED: JFN     | 5/98       |
|                   | 4/01       |
| DISTRICT ENGINEER | 1/08       |

SHEET 7



**TYPE III**  
CONCRETE ENCASMENT FOR SANITARY SEWERS (FULL ENCASMENT) NO SCALE

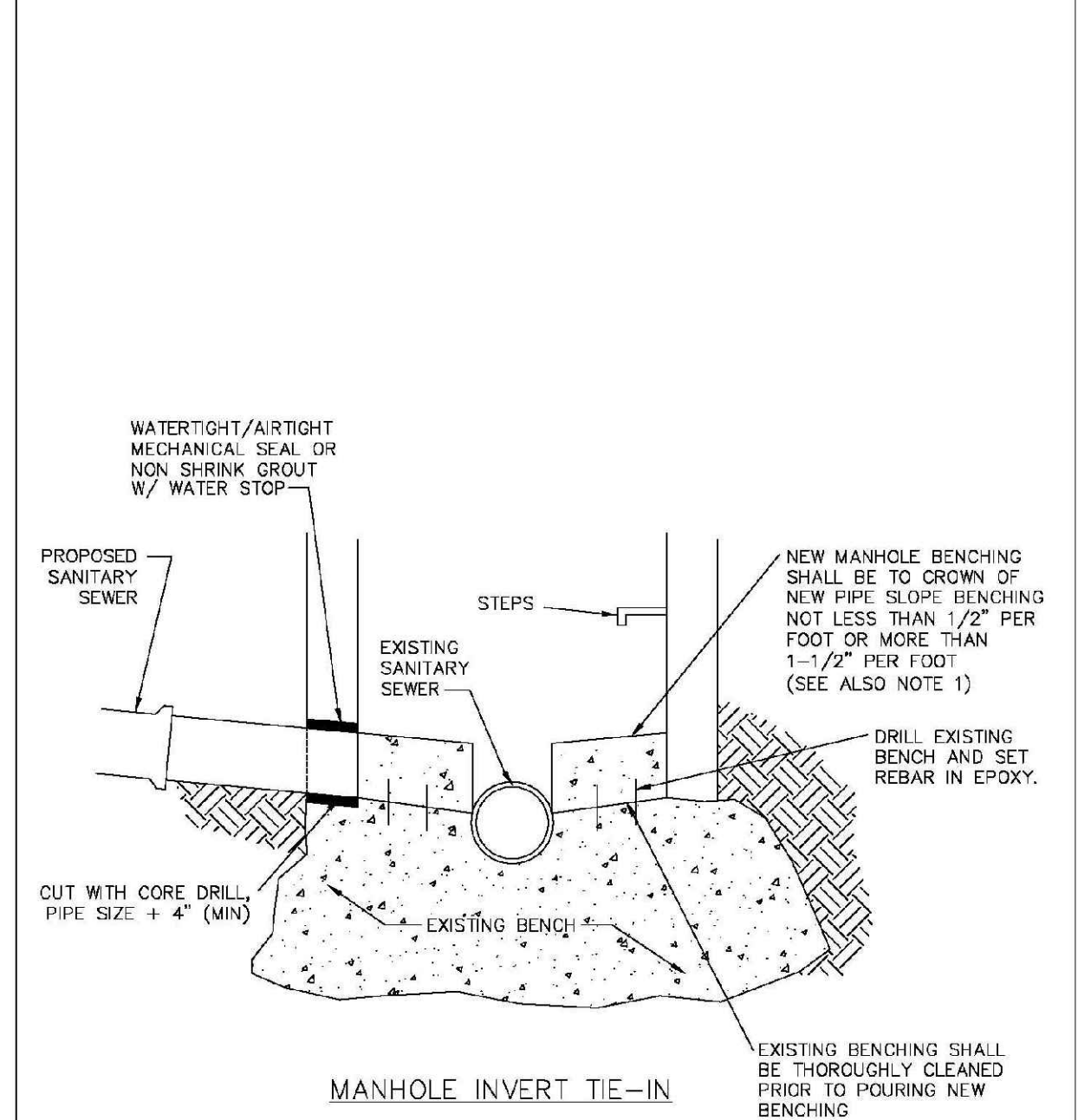
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- CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED & BOTTOM HALF OF ENCASMENT IS POURED SEPARATELY, A ONE INCH LAYER OF SAND OR MORTAR SHALL BE PLACED BETWEEN BOTTOM OF SANITARY SEWER AND TOP OF CONCRETE.
- LENGTH OF ENCASMENT FOR:
  - TYPE I & TYPE II ENCASMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
  - TYPE III ENCASMENT SHALL EXTEND AT LEAST TO FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I, II & III ENCASMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, TO BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I, II OR III ENCASMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
  - TYPE I OR TYPE II IF  $d_s \leq 18"$  (IF  $d_s \leq 12"$ ) EXCEPT FOR SANITARY SEWERS CROSSING OVER OR UNDER WATER MAINS.
  - TYPE II IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS, REGARDLESS OF DIMENSION  $d_s$ .
  - TYPE III IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS, REGARDLESS OF DIMENSION  $d_s$ .
  - EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS, OR WHERE UNUSUAL SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASMENT WILL NORMALLY BE SATISFACTORY.
  - IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF DUCTILE IRON PIPE (AWWA C-150 OR C-151), CONCRETE ENCASMENT MAY NOT BE REQUIRED.
- FILLER MATERIAL BETWEEN CONDUITS TO BE:
  - APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF  $d_s \leq 4"$  OR  $d_s \leq 6"$ .
  - COMPACTED CLASS "B" BEDDING IF  $d_s \leq 4"$  OR  $d_s > 6"$  (IF  $d_s > 6"$  FOR TYPE III ENCASMENT POUR CONCRETE ON UNDISTURBED SOIL).
- SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASMENT.
- THESE ENCASMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS. IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, PIPE SUPPORTS ON EACH SIDE OF SANITARY SEWER MAY ALSO BE REQUIRED. IF REQUIRED, SUPPORTS SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN AND PROFILE DRAWINGS.
- CONCRETE ENCASED PIPING SHALL BE LINED WITH FILL.

PARKER WATER & SANITATION DISTRICT  
CONCRETE ENCASMENT TYPE III

|                         |            |
|-------------------------|------------|
| SCALE: NONE             | DATE: 2/98 |
| APPROVED: PVR           | 5/98       |
|                         | 1/78       |
| DIRECTOR OF ENGINEERING | 10/78      |

SHEET 8A.8

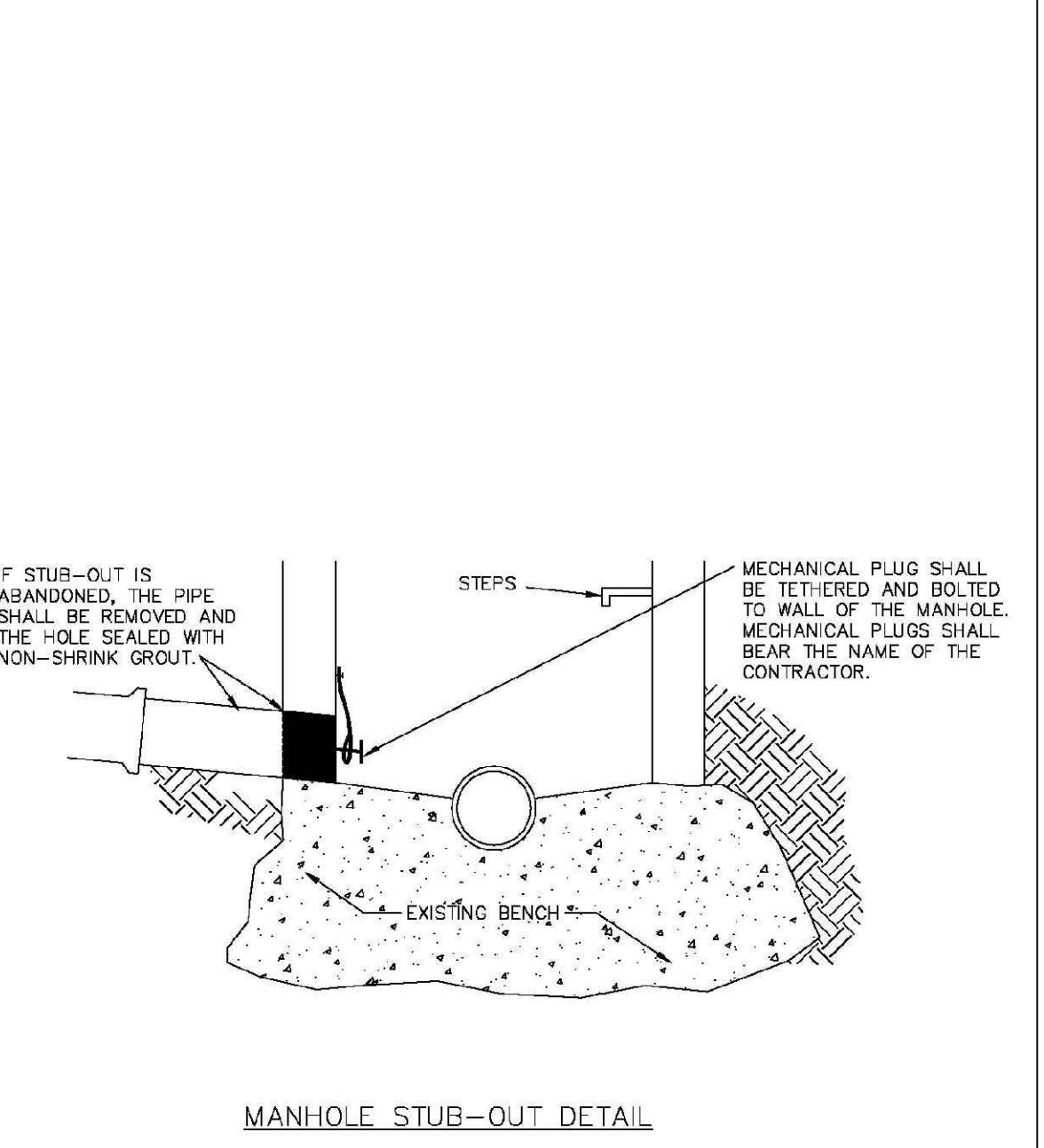


**MANHOLE INVERT TIE-IN**

PARKER WATER & SANITATION DISTRICT  
MANHOLE INVERT TIE-IN DETAIL

|                         |            |
|-------------------------|------------|
| SCALE: NONE             | DATE: 2/98 |
| APPROVED: PVR           | 1/78       |
|                         | 10/78      |
| DIRECTOR OF ENGINEERING |            |

SHEET 8A.9

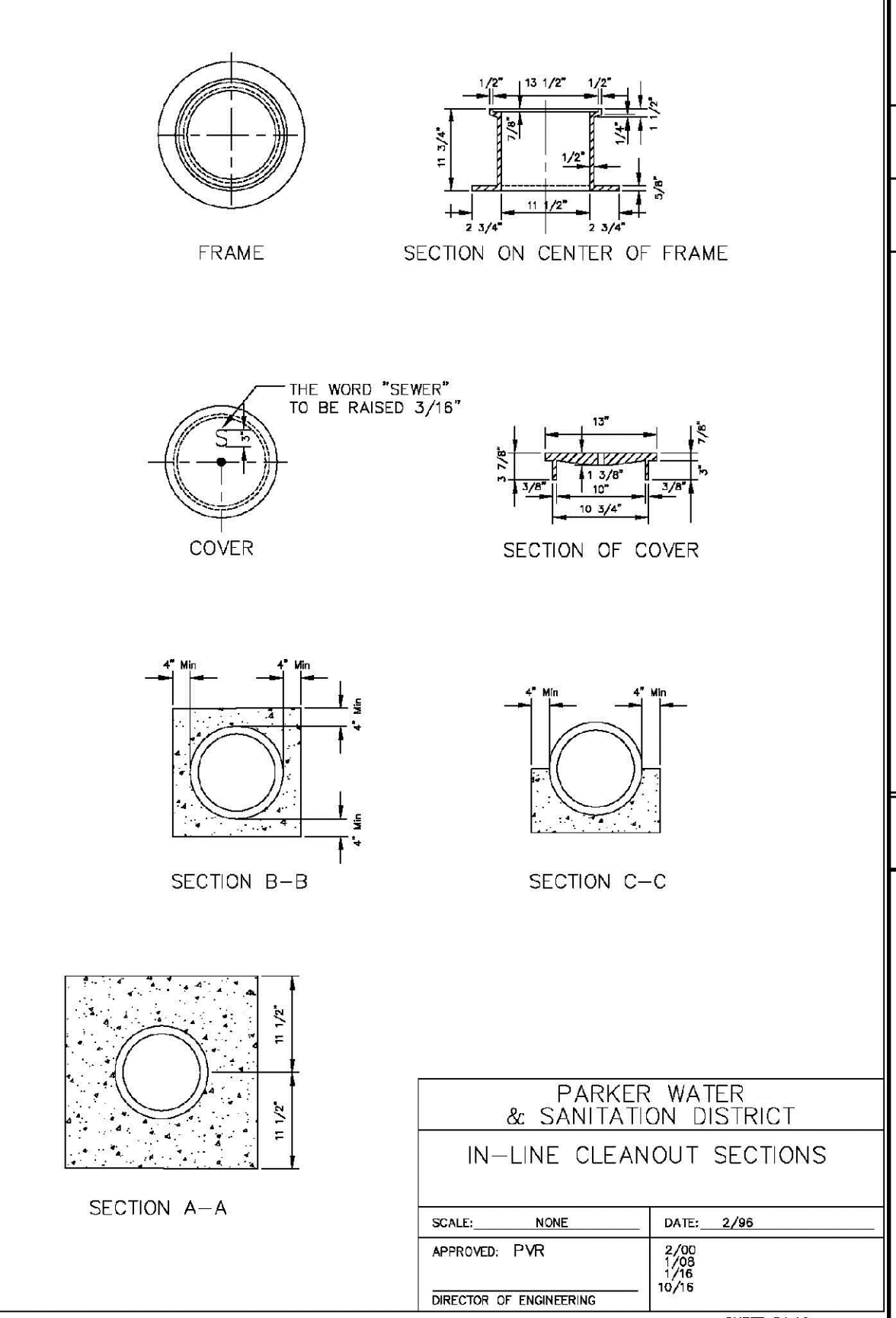


**MANHOLE STUB-OUT DETAIL**

PARKER WATER & SANITATION DISTRICT  
MANHOLE STUB-OUT DETAIL

|                         |            |
|-------------------------|------------|
| SCALE: NONE             | DATE: 2/98 |
| APPROVED: PVR           | 1/78       |
|                         | 10/78      |
| DIRECTOR OF ENGINEERING |            |

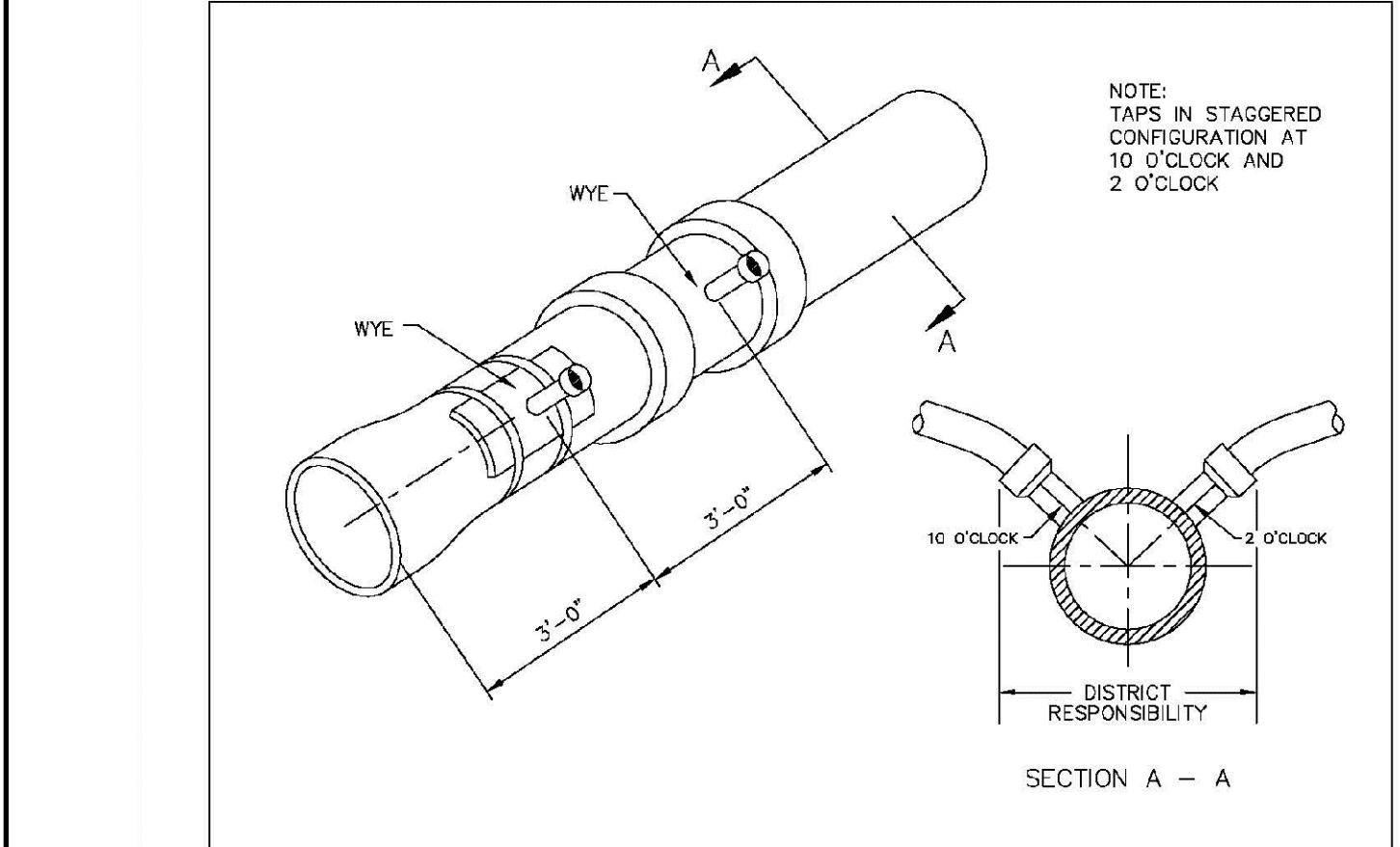
SHEET 8A.10



PARKER WATER & SANITATION DISTRICT  
IN-LINE CLEANOUT SECTIONS

|                         |            |
|-------------------------|------------|
| SCALE: NONE             | DATE: 2/98 |
| APPROVED: PVR           | 2/00       |
|                         | 7/98       |
| DIRECTOR OF ENGINEERING | 10/78      |

SHEET 8A.12

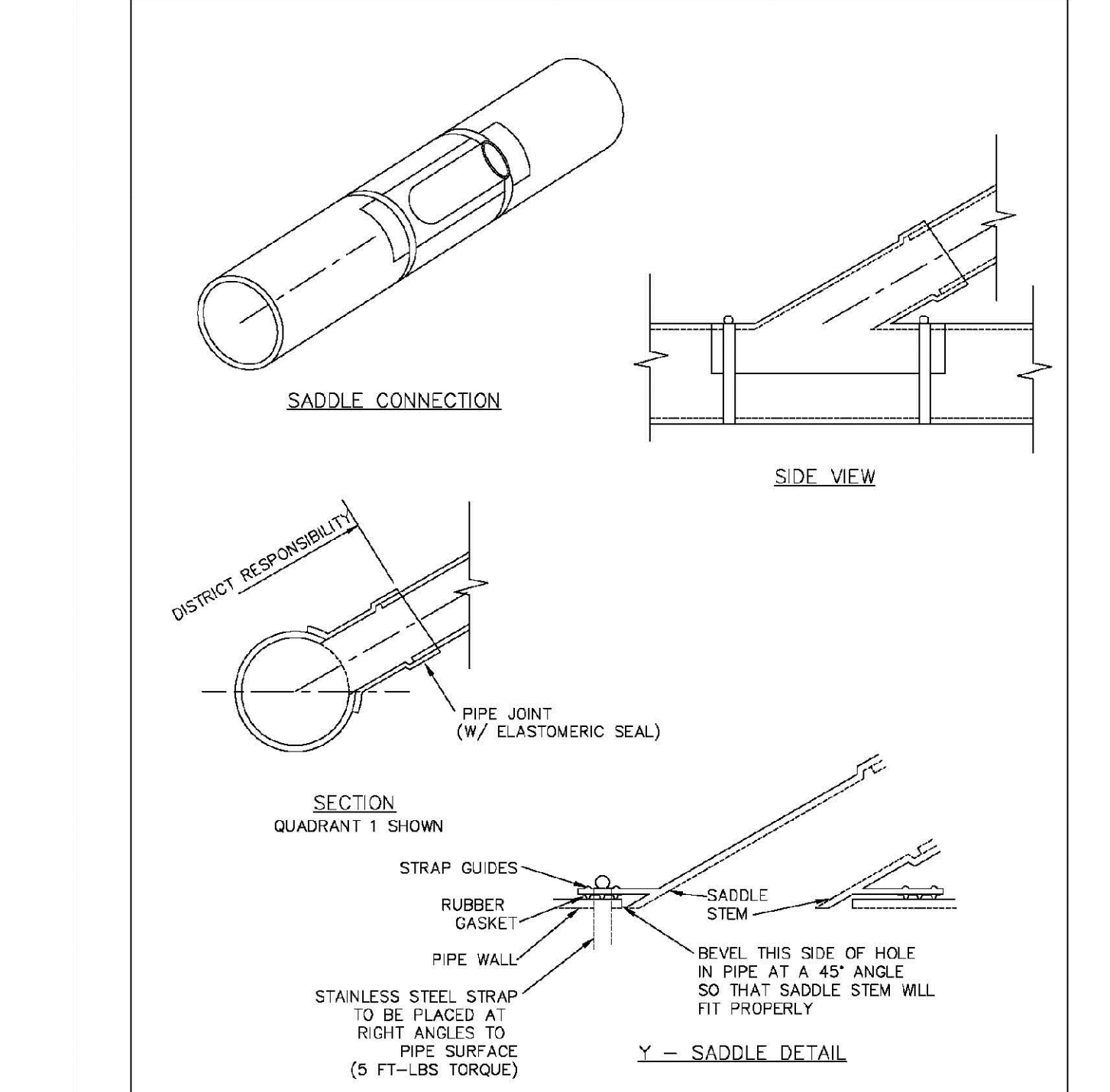


Sewer service connections shall be positioned at either the 2 o'clock or the 10 o'clock position on the circumference of the sewer main. On new installations, tee or wye fittings shall be used. When tapping into existing sewer main, a saddle connection and approved coring method shall be used. The minimum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

PARKER WATER & SANITATION DISTRICT  
DOMESTIC SEWER TAPPING DETAIL

|                         |            |
|-------------------------|------------|
| SCALE: NONE             | DATE: 2/98 |
| APPROVED: PVR           | 4/01       |
|                         | 1/08       |
| DIRECTOR OF ENGINEERING | 10/78      |

SHEET 8A.13



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

|                         |            |
|-------------------------|------------|
| SCALE: NONE             | DATE: 2/98 |
| APPROVED: PVR           | 1/78       |
|                         | 10/78      |
| DIRECTOR OF ENGINEERING |            |

SHEET 8A.14

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Tel: 720.482.952  
www.cvlinc.net  
westwoodjps.com

HR 935 LLC  
7352 South Alton Way  
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT  
FILING 16 CONSTRUCTION DRAWINGS  
SANITARY SEWER DETAILS

SCALE: AS SHOWN  
FILE NO: 8130283701

DRAWN BY: RRR  
CHECKED BY: BPW  
DATE: JUNE 2018

SHEET NUMBER 15

Revisions

|     |      |       |       |      |
|-----|------|-------|-------|------|
| No. | Date | Init. | Appr. | Date |
|     |      |       |       |      |







### MECHANICAL JOINT RESTRAINT

WEDGE DETAIL      BOLT HOLE DETAIL

| NOMINAL PIPE SIZE | NO. OF BOLTS | NO. OF WEDGES | W2 INCHES | J INCHES | F INCHES | M INCHES | P |
|-------------------|--------------|---------------|-----------|----------|----------|----------|---|
| 4"                | 2            | 2             |           |          |          |          |   |
| 6"                | 5            | 3             | 11.12     | 9.5      | 7.00     | 0.88     | V |
| 8"                | 8            | 4             | 13.37     | 11.75    | 9.15     | 1.00     | V |
| 10"               | 9            | 5             | 15.62     | 14.00    | 11.20    | 1.00     | C |
| 12"               | 9            | 5             | 17.88     | 16.25    | 13.30    | 1.25     | C |
| 4"                | 4            | 2             |           |          |          |          | D |
| 6"                | 8            | 3             | 11.12     | 9.5      | 7.00     | 0.88     | D |
| 8"                | 8            | 4             | 13.37     | 11.75    | 9.15     | 1.00     | D |
| 10"               | 8            | 5             | 15.62     | 14.00    | 11.20    | 1.00     | I |
| 12"               | 9            | 5             | 17.88     | 16.25    | 13.30    | 1.25     | I |

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

PARKER WATER & SANITATION DISTRICT  
MECHANICAL JOINT RESTRAINT DETAILS

SCALE: NONE      DATE: 2/96

APPROVED: 2/00  
PVR 1/18  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W3.17

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

DEAD END      TYPICAL CROSS SECTION

MINIMUM BEARING SURFACE AREA (IN SQUARE FEET)

| SIZE OF | BENDS   |         |       | TEE OR DEAD END |
|---------|---------|---------|-------|-----------------|
|         | 11-1/4" | 22-1/2" | 45"   | 90"             |
| 4"      | 1.00    | 1.00    | 1.00  | 1.00            |
| 6"      | 1.00    | 1.25    | 2.25  | 3.00            |
| 8"      | 1.00    | 2.00    | 4.00  | 7.00            |
| 10"     | 1.50    | 3.50    | 12.50 | 18.50           |
| 12"     | 2.00    | 5.00    | 18.50 | 28.00           |
| 24"     | 3.50    | 15.00   | 45.00 | 53.00           |

NOTES:  
1. ALL VALVES, TEES, BENDS AND PLUGS SHALL BE RESTRAINED AND KICKBLOCKED.  
2. BEARING SURFACES SHOWN IN CHART ARE MINIMUM.  
3. BASED ON 150 PSI PIPE PRESSURE PLUS WATER HAMMER:  
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.

PARKER WATER & SANITATION DISTRICT  
CONCRETE KICKBLOCKS BEARING SURFACES AND INSTALLATION

SCALE: NONE      DATE: 2/96

APPROVED: 4/01  
PVR 1/18  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W3.18

### 24" DIAMETER RING AND COVER

HALF PLAN      STANDARD LIFTING SLOT DETAIL

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

PARKER WATER & SANITATION DISTRICT  
24" DIAMETER RING AND COVER

SCALE: NONE      DATE: 6/05

APPROVED: 12/07  
PVR 1/18  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W3.19

### ACCESS MANHOLE AND AIR VALVE ASSEMBLY

ACCESS MANHOLE AND AIR VALVE ASSEMBLY

NOTE:  
1. USE 2" AIR VALVE ASSEMBLY ON 30" OR SMALLER PIPE.  
RESIDENTIAL ASSEMBLY MAY BE USED IN RESIDENTIAL AREAS ONLY (SEE DETAIL SHEET W3.3)

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: 4/01  
PVR 1/18  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W3.20

### STANDARD TRENCH SECTION

STANDARD TRENCH SECTION

| PIPE DIAMETER | MINIMUM WIDTH | MAXIMUM WIDTH |
|---------------|---------------|---------------|
| 4"            | 1'-4"         | 2'-4"         |
| 6"            | 1'-6"         | 2'-6"         |
| 8"            | 1'-8"         | 2'-8"         |
| 10"           | 2'-0"         | 3'-0"         |
| 12"           | 2'-2"         | 3'-2"         |
| 24"           | 6'-0"         | 4'-0"         |

STREET CUT PATCH

PARKER WATER & SANITATION DISTRICT  
TYPICAL TRENCH SECTION PIPE PROTECTION

SCALE: NONE      DATE: 2/96

APPROVED: 1/18  
PVR 10/16  
DIRECTOR OF ENGINEERING

2016 REVISION      SHEET W4.1

### PIPE BEDDING

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

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

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

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

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

| Sieve Size | Total Percent Passing by Weight |
|------------|---------------------------------|
| 3/8 inch   | 100                             |
| No. 4      | 70-100                          |
| No. 6      | 35-65                           |
| No. 10     | 20-50                           |
| No. 20     | 5-25                            |
| No. 30     | 1-10                            |
| No. 100    | 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 from the trench walls and spoils pile may be used to provide uniform support for the pipe. No rock or stone larger than that allowed by the sieve analysis, or any other detrimental materials, shall be placed closer to the pipe than six inches (6"). Approved bedding materials shall be stockpiled on the jobsite to be used in the event natural materials become unsatisfactory. The District reserves the right to require the use of the specified bedding material at any time.

PARKER WATER & SANITATION DISTRICT  
PIPE BEDDING

SCALE: NONE      DATE: 2/96

APPROVED: 5/08  
PVR 2/00  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W4.2

### WATERLINE ENCASEMENT

PLAN VIEW      PROFILE

TYPICAL SECTION

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

PARKER WATER & SANITATION DISTRICT  
WATERLINE ENCASEMENT

SCALE: NONE      DATE: 5/08

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

2016 REVISION      SHEET W4.3

### PERPENDICULAR CROSSING

PLAN FOR PERPENDICULAR CROSSING      PLAN FOR ANGLE CROSSING

PROFILE

FORMULA FOR FINDING C:

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

FORMULA FOR FINDING L:

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

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: 2/00

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

2016 REVISION      SHEET W4.4

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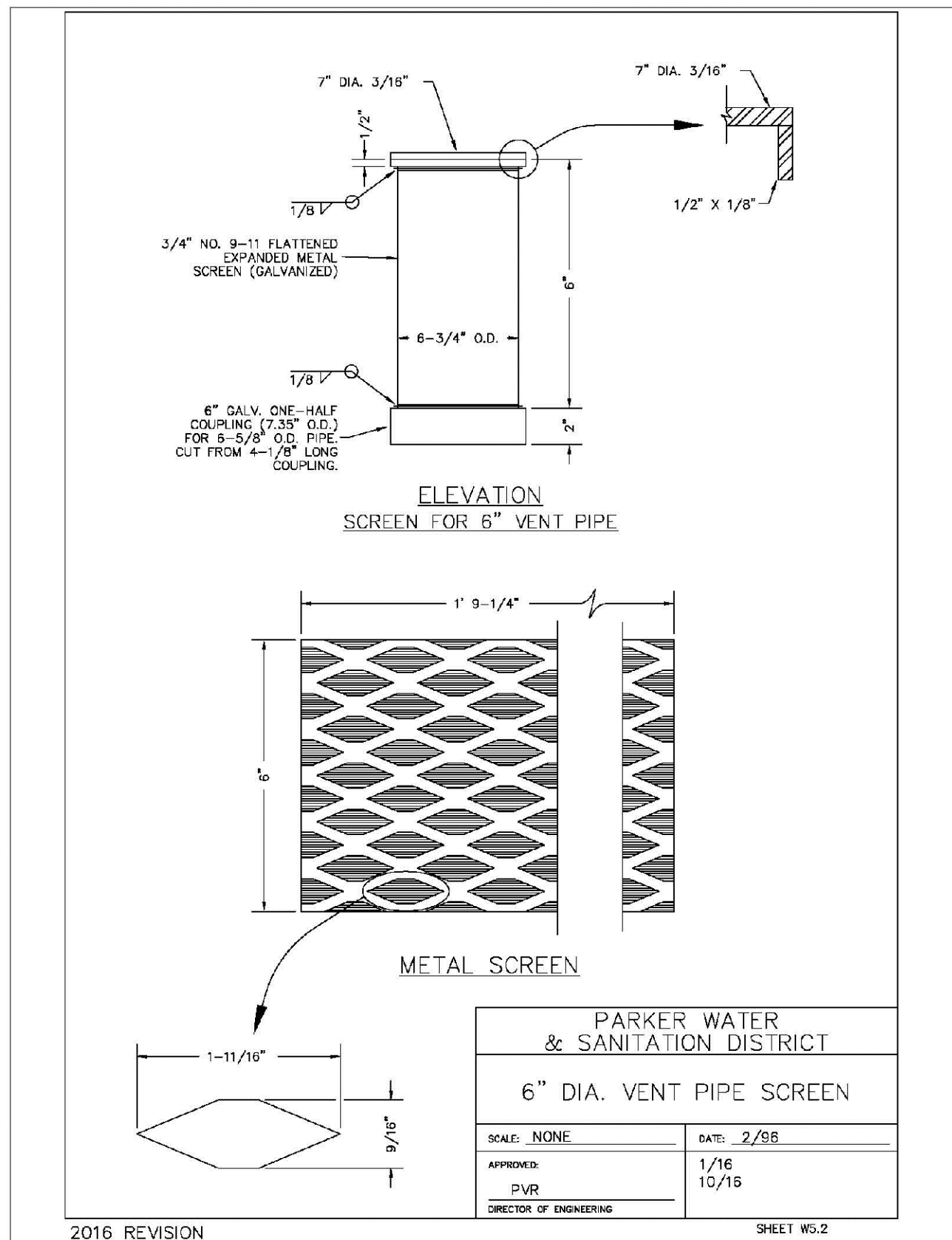
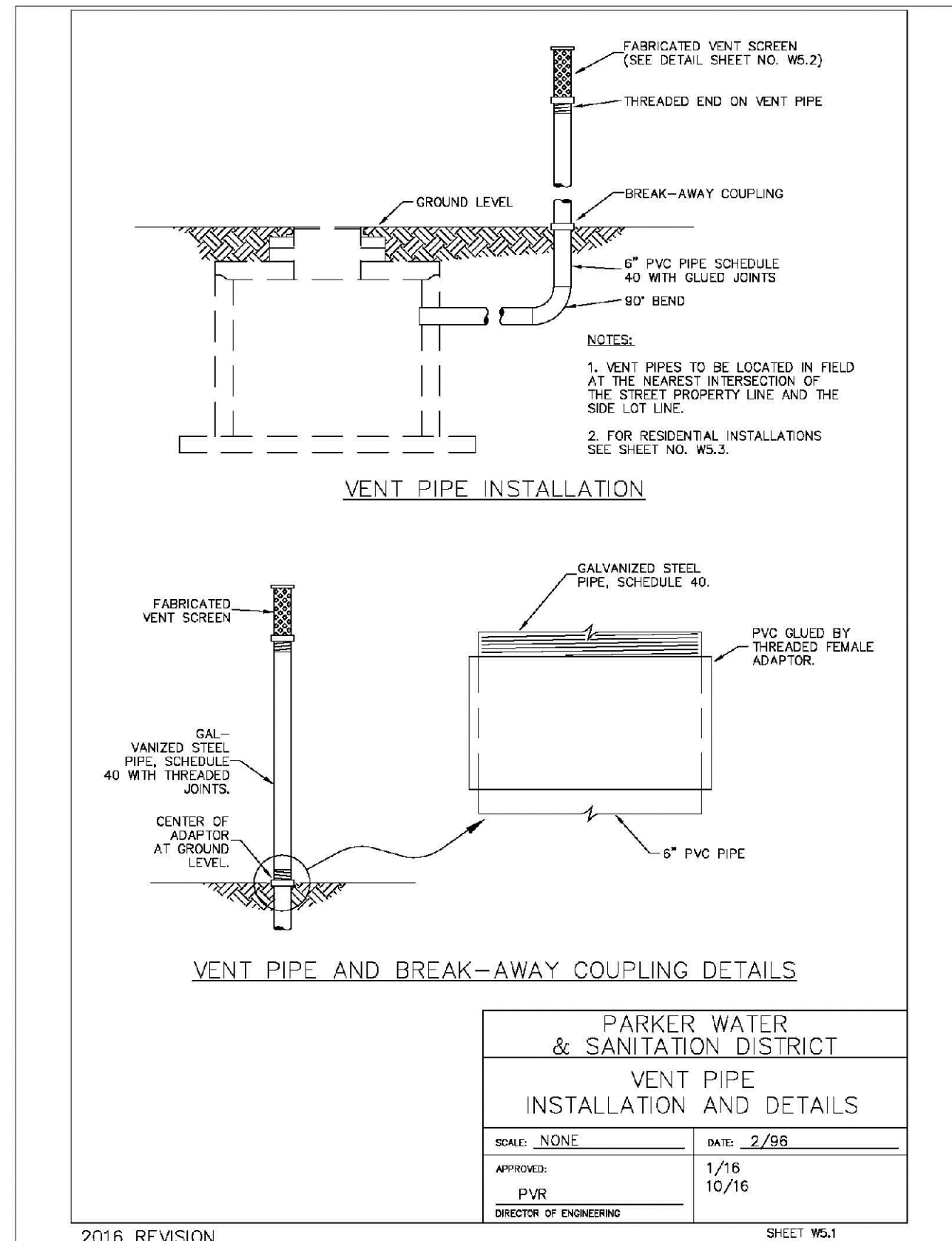
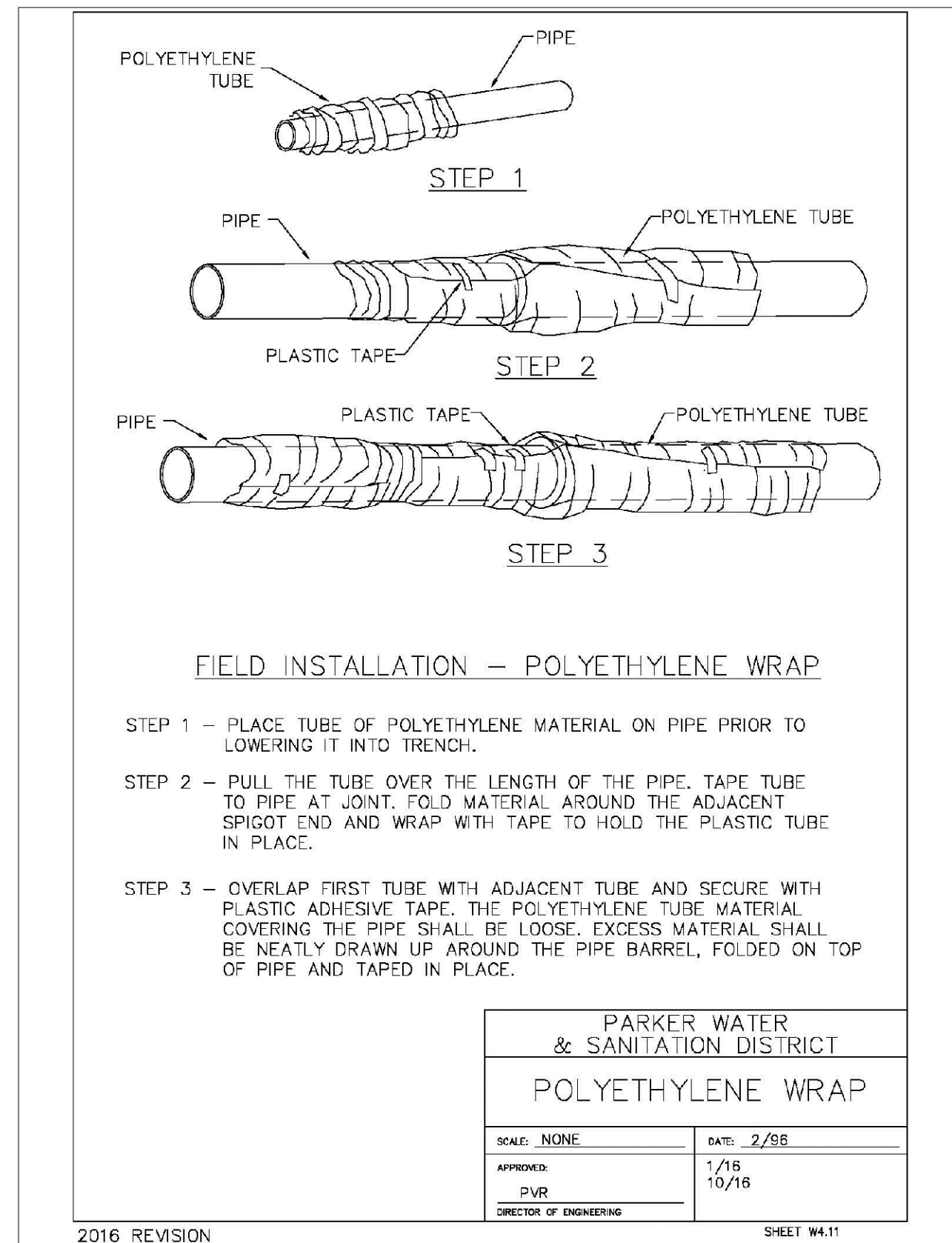
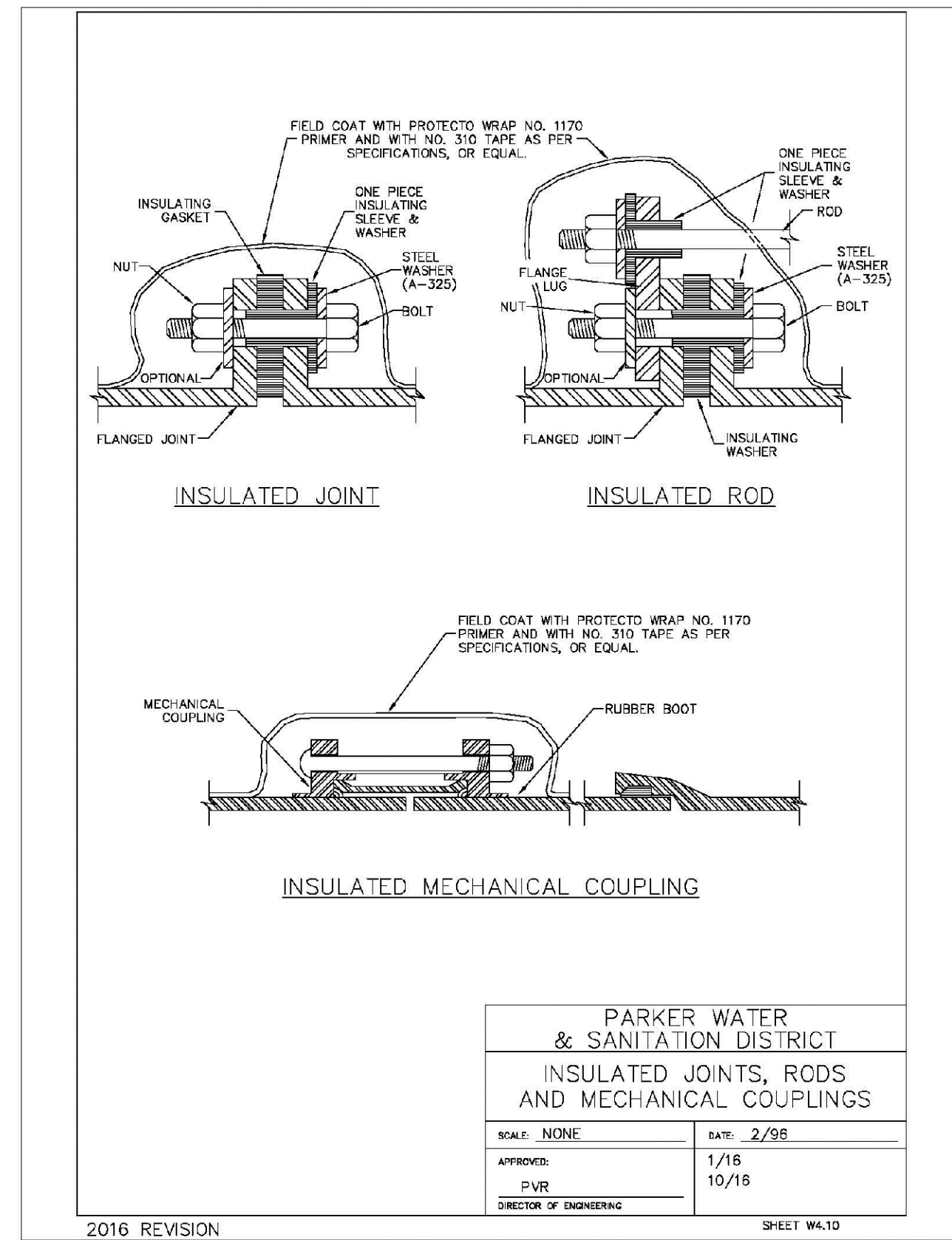
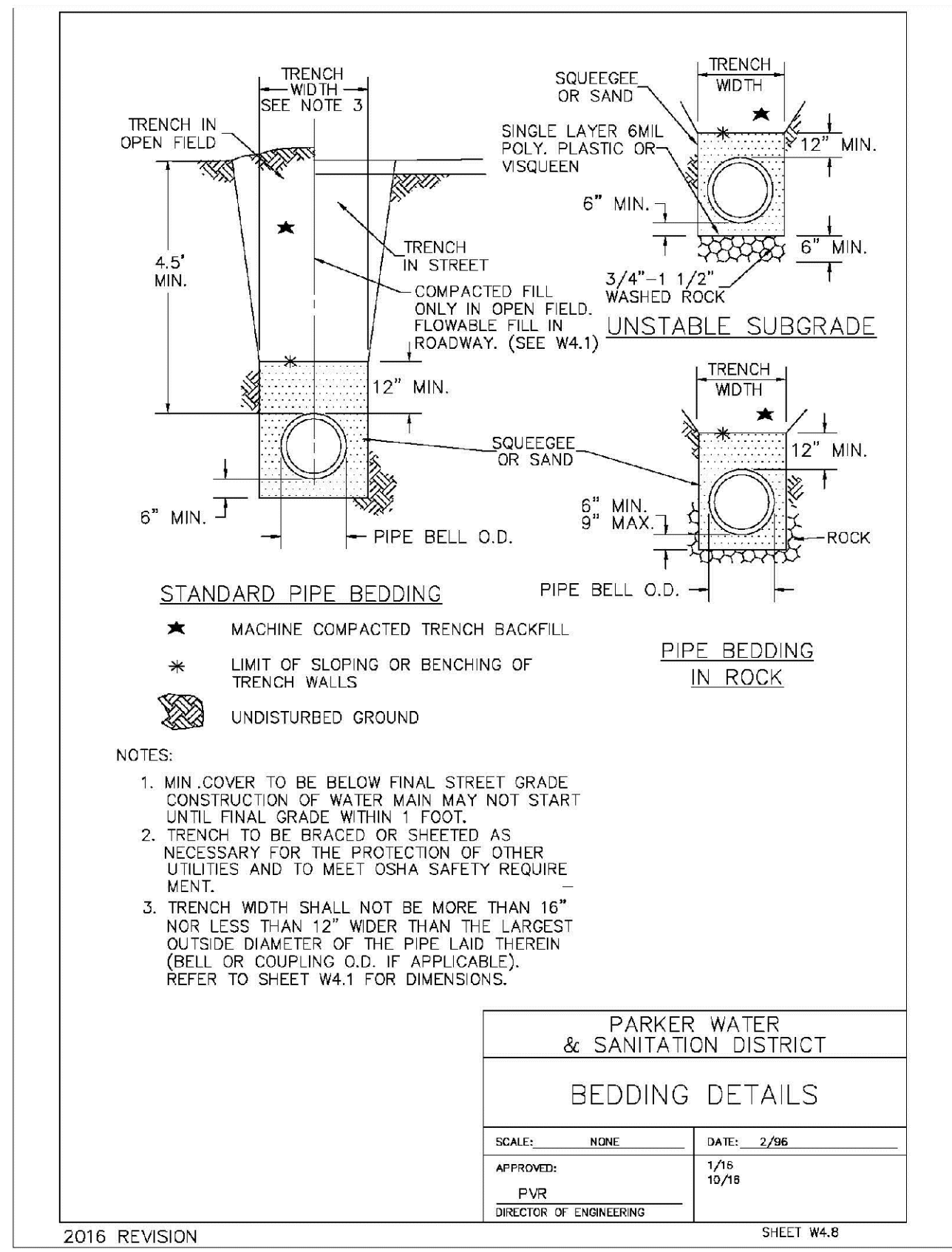
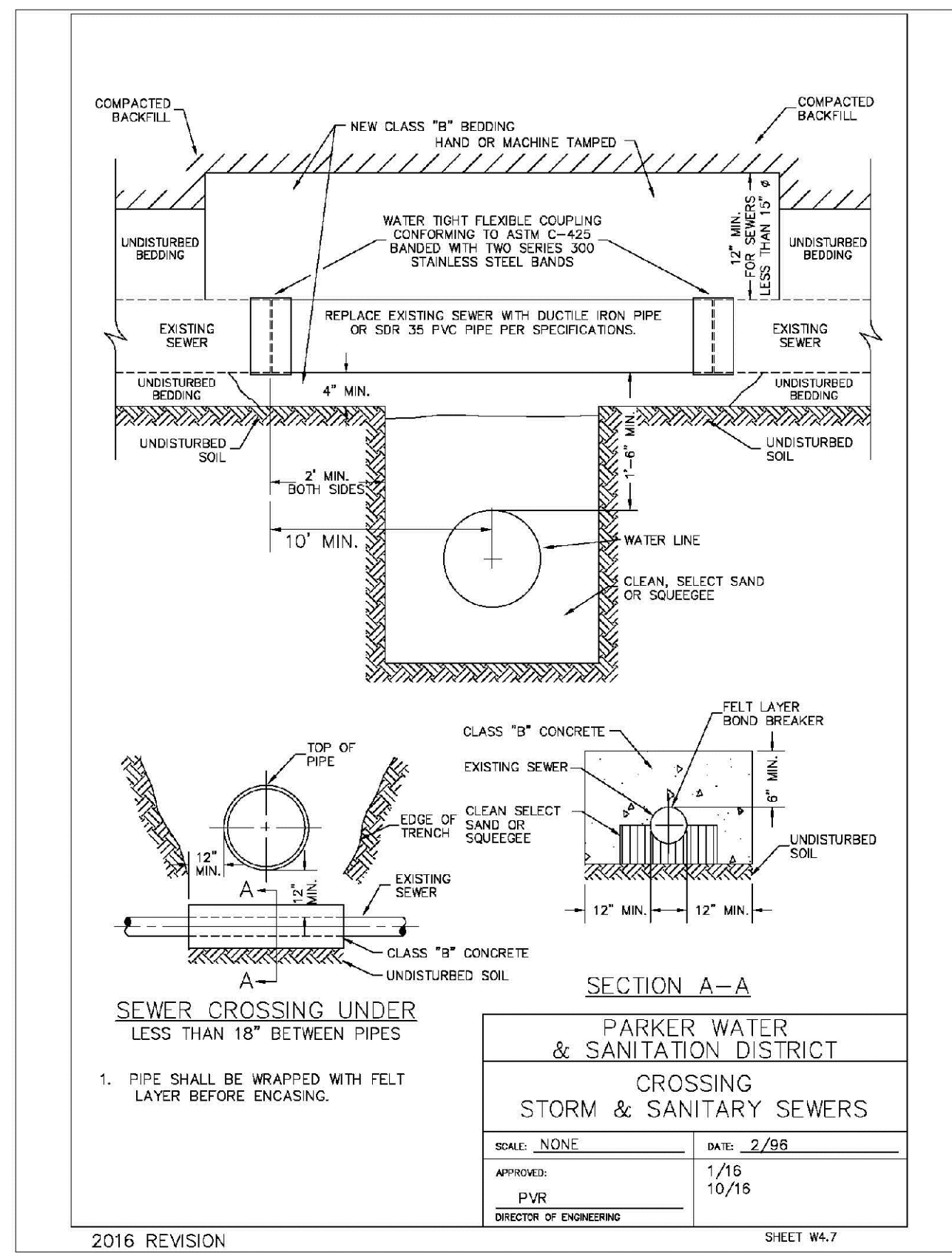
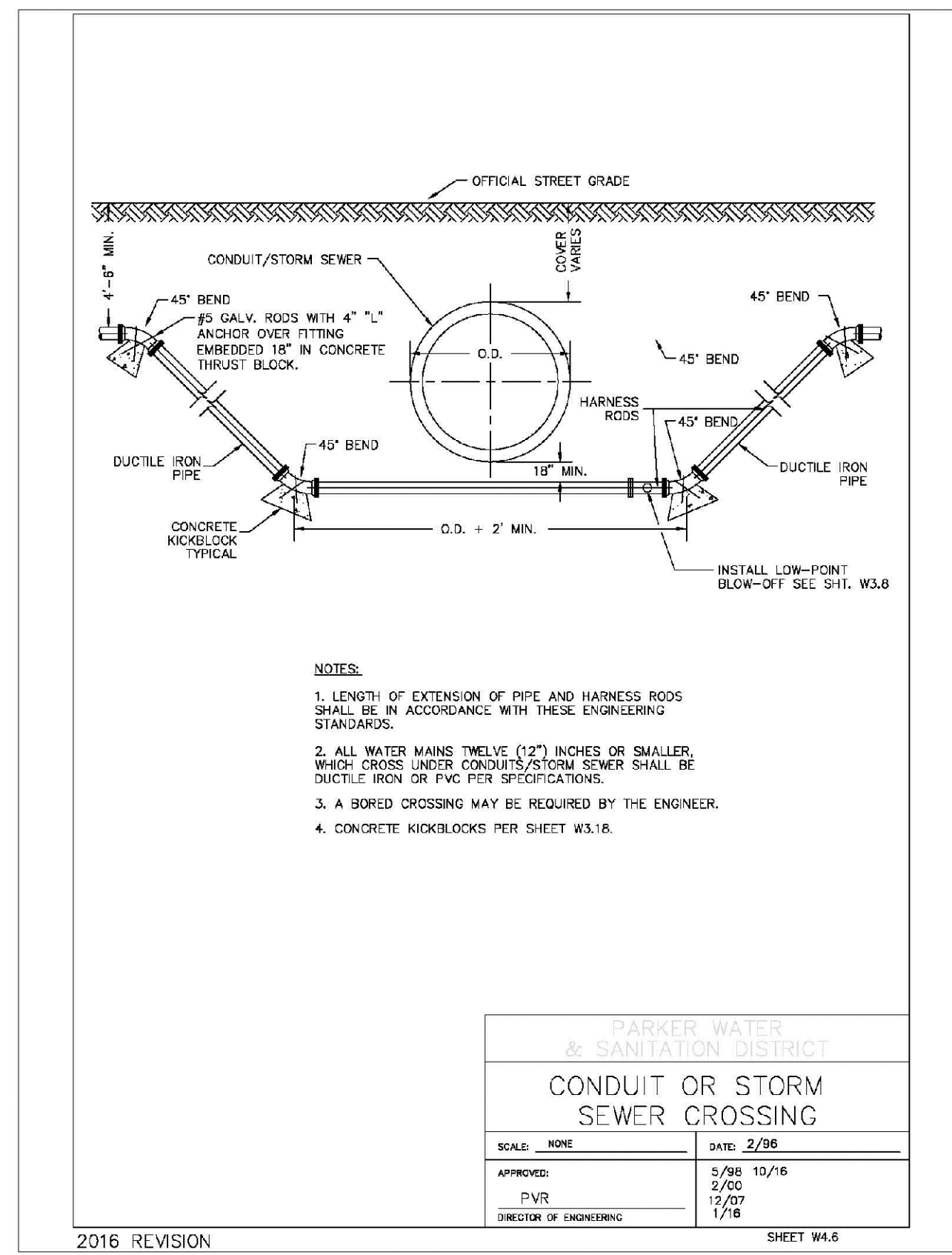
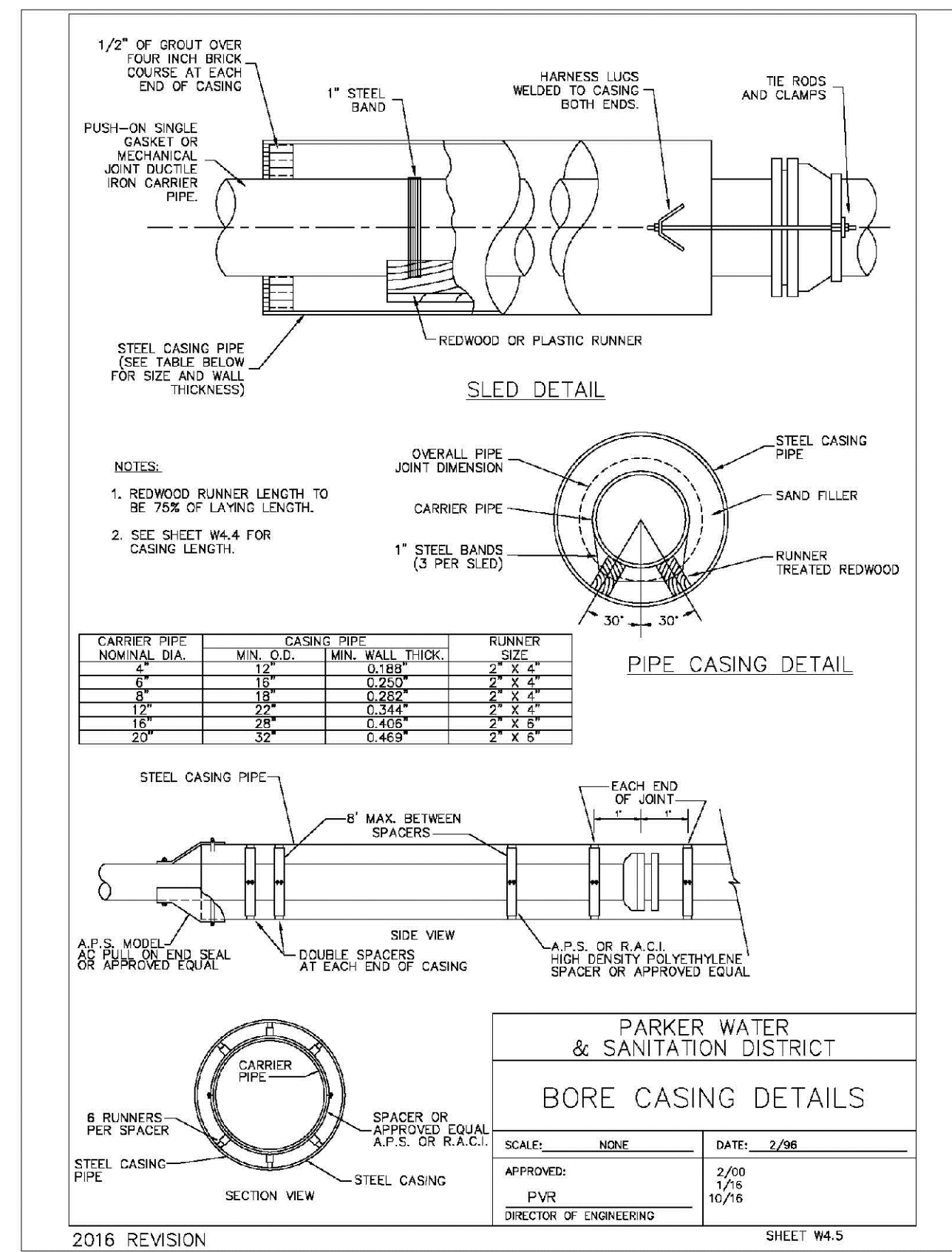
TRAILS AT CROWFOOT  
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WATER DETAILS

SCALE: AS SHOWN  
FILE NO: 8130283701

DRAWN BY: RRR  
CHECKED BY: BPW  
DATE: JUNE 2018

SHEET NUMBER: 19

Revisions: No. Date Init. Appr. Date



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