

HANNAH RIDGE AT FEATHERGRASS FILING NO. 5

CHEROKEE METROPOLITAN DISTRICT, COUNTY OF EL PASO, STATE OF COLORADO

UTILITY CONSTRUCTION PLANS

OCTOBER 2018

GENERAL CONSTRUCTION NOTES:

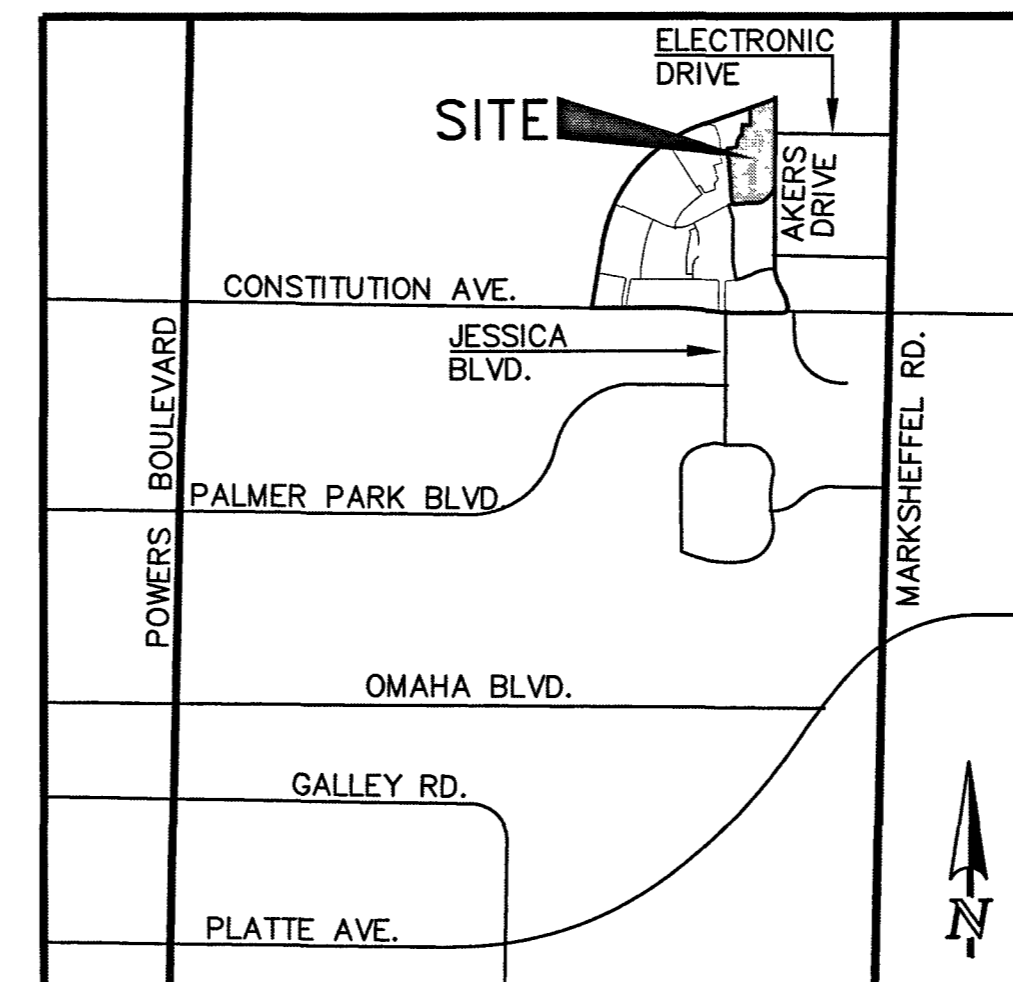
- THE LOCATION OF EXISTING UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND MAY NOT INCLUDE ALL UTILITIES. THE EXCAVATION CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.
- BEFORE COMMENCING ANY EXCAVATION, CALL 811 FOR EXISTING UTILITY LOCATIONS.
- THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
- ALL BACKFILL, SUB-BASE AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED TO THE SOILS ENGINEER'S RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION.
- ALL STATIONING IS CENTERLINE UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE CENTERLINE UNLESS OTHERWISE INDICATED.
- THE CONTRACTOR SHALL REVEGETATE ALL DISTURBED AREAS AS SOON AS POSSIBLE AND EROSION CONTROL SHALL BE INSTALLED AND MAINTAINED IN A FUNCTIONAL MANNER AT ALL TIMES. DEVELOPER RESPONSIBLE FOR MAINTAINING DISTURBED AREAS UNTIL REVEGETATION IS COMPLETE.
- ALL DISTURBED PAVEMENT DECKS SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO THE EPC EOM APPENDIX K - 1.2C.
- ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
- BUILDING CONTRACTORS WILL BE RESPONSIBLE FOR CONSTRUCTING POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.
- ASPHALT THICKNESS AND BASE COURSE THICKNESS (COMPACTED) FOR ROADS SHALL BE PER DESIGN REPORT BY OWNER'S GEOTECHNICAL ENGINEER. OWNER'S GEOTECHNICAL ENGINEER TO BE ON SITE AT TIME OF ROAD CONSTRUCTION TO EVALUATE SOIL CONDITIONS AND DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY TO ASSURE STABILITY OF THE NEW ROADS. PAVEMENT DESIGN SHALL BE APPROVED BY DEVELOPMENT SERVICES DEPARTMENT PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL REVEGETATE ALL DISTURBED AREAS WITHIN 21 DAYS OF SUBSTANTIAL GRADING COMPLETION. EROSION CONTROL SHALL BE INSTALLED AND MAINTAINED IN A FUNCTIONAL MANNER AT ALL TIMES. DEVELOPER IS RESPONSIBLE FOR MAINTAINING DISTURBED AREAS UNTIL REVEGETATION IS COMPLETE.
- TYPE M RIP-RAP WITH 4" OF TYPE II GRANULAR BEDDING AND MIRAFI 180N OR EQUAL MAY BE SUBSTITUTED WHERE TYPE L RIP-RAP WITH MIRAFI FW 700 OR EQUAL IS SPECIFIED

WATER SYSTEM CONSTRUCTION NOTES:

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH CHEROKEE METROPOLITAN DISTRICT STANDARDS AND THE CITY OF COLORADO SPRINGS CONSTRUCTION STANDARDS UNLESS NOTED OTHERWISE. IN THE EVENT OF CONFLICTING STANDARDS CHEROKEE METROPOLITAN DISTRICT STANDARDS SHALL GOVERN.
- ALL WATER SYSTEM MAINS PIPE MATERIAL SHALL BE POLYVINYL CHLORIDE (PVC) CLASS 200 (DR-14) PER AWWA C-900 AND ASTM D241 SPECIFICATIONS, EXCEPT WHERE NOTED. SPECIFICALLY, SECTIONS OF WATER PIPE THAT CROSS UNDER MAJOR DRAINAGE WAYS (SAND CREEK) OR MAJOR THOROUGHFARES SHALL BE DUCTILE IRON PIPE.
- ALL FITTINGS SHALL BE CONSTRUCTED OF GRAY-IRON MATERIAL AND FURNISHED WITH MECHANICAL JOINT ENDS. ALL FITTINGS SHALL HAVE A MINIMUM PRESSURE RATING OF 250 PSI AND SHALL BE WRAPPED WITH A 9-MIL THICKNESS POLYETHYLENE MATERIAL PER AWWA STANDARD C105.
- ALL WATER PIPES SHALL BE INSTALLED AT A MINIMUM DEPTH OF FIVE (5) FEET BELOW FINISHED GRADE.
- ALL BENDS, TEE, FIRE HYDRANTS, BLOW-OFFS, AND PLUGS AT DEAD END MAINS SHALL BE INSTALLED WITH CONCRETE THRUST BLOCKS.
- FIRE HYDRANT ASSEMBLIES SHALL INCLUDE ALL PIPES, FITTINGS, VALVES, APPURTENANCES, MATERIALS AND LABOR THAT ARE NECESSARY TO INSTALL A COMPLETE AND USABLE FIRE HYDRANT. FIRE HYDRANT ASSEMBLIES SHALL BE ONE OF THE FOLLOWING TYPES:
 - MUELLER CENTURION, MODEL A-473
 - KENNEY VALVE
 - AMERICAN AVM
 - OR ENGINEER/DISTRICT APPROVED EQUAL
 - FURNISH CHEROKEE METROPOLITAN DISTRICT STANDARD FH W/ RH OPEN CONVENTION
- VALVE BOXES SHALL BE TYLER SLIP; TYPE "C" CAST IRON VALVE BOX ASSEMBLY SERIES 6860 WITH NO. 160 OVAL BASE OR APPROVED EQUAL.
- CONTRACTOR SHALL PRESSURE TEST THE SYSTEM PRIOR TO CONNECTING TO EXISTING MAINS.
- ALL WATER SYSTEM COMPONENTS SHALL BE FLUSHED AND CHLORINATED PER AWWA C-601, "DISINFECTING WATER MAINS" PRIOR TO ACCEPTANCE. THE CONTRACTOR SHALL PROVIDE A 25 MG/L SOLUTION BY ADHERING CHLORINE TABLETS TO THE PIPE SECTION WITH PERMATEX CLEAR TRV INSIDE THE SYSTEM. CHLORINATION SHALL OCCUR PRIOR TO HYDROSTATIC TESTING. THE CONTRACTOR SHALL OBTAIN A BACTERIOLOGICAL SAMPLE AFTER THE SYSTEM HAS BEEN FLUSHED. A CLEAN BACTERIOLOGICAL SAMPLE MUST BE OBTAINED PRIOR TO THE SYSTEM BEING PLACED INTO SERVICE.
- HYDROSTATIC TESTING:
 - ALL WATER SYSTEM MAINS SHALL BE FIELD PRESSURE TESTED TO A MINIMUM OF 150 PSI OR 1 1/2 TIMES THE STATIC OPERATING PRESSURE, WHICH EVER IS GREATER. MAXIMUM ALLOWABLE LEAKAGE FOR EACH SECTION OF PIPE BETWEEN LINE VALVES SHALL NOT EXCEED THE FOLLOWING: *10 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY.
- ALL VALVES SHALL CONFORM TO OPEN LEFT CONVENTION PER CHEROKEE METROPOLITAN DISTRICT STANDARDS. SERVICE LINE STOP VALVES/BOXES SHALL BE LOCATED A MINIMUM OF 7 FEET BEYOND THE PROPERTY LINE OR PER THE SERVICE DETAIL ON THE UTILITY SERVICE PLAN. ALL OTHER VALVES SHALL BE LOCATED PER THESE PLANS.
- WHEN IT IS NECESSARY TO RAISE OR LOWER WATER MAINS AT OTHER UTILITY CROSSINGS THE CONTRACTOR SHALL INSURE A MINIMUM CLEARANCE OF 18" WHERE POSSIBLE BETWEEN THE OUTSIDE DIAMETER OF PIPES.
- WHILE CONSTRUCTING THE WATER SYSTEM THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT LEAST ONE "APPROVED FOR CONSTRUCTION" SET OF UPDATED PLANS AT ALL TIMES. APPROVED FIELD MODIFICATIONS TO PLAN SETS SHALL BE CLEARLY IDENTIFIED IN RED INK ON THE PLANS BY THE CONTRACTOR PER FIELD CONSTRUCTION. THESE AS-BUILT CHANGES SHALL BE DATED AND SUBMITTED TO THE ENGINEER OF RECORD. THE ENGINEER OF RECORD SHALL PREPARE A COMPLETE SET OF "AS CONSTRUCTED" DRAWINGS AND DELIVER THE SETS TO THE CHEROKEE METROPOLITAN DISTRICT PRIOR TO FINAL ACCEPTANCE OF THE WATER SYSTEM.
- COMPACTION TESTING RESULTS OF ALL TRENCHES AND BEDDING MATERIAL SHALL BE SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO ACCEPTANCE OF THE WATER SYSTEM.
- PRIOR TO TAPPING ANY EXISTING WATER MAIN THE CONTRACTOR SHALL SUBMIT AND RECEIVE APPROVAL FOR SAID TAP IN ACCORDANCE WITH THE CHEROKEE METROPOLITAN DISTRICT STANDARDS.
- PVC PIPE MUST BE PRESSURIZED PRIOR TO TAPPING.
- THE WATER SYSTEM CONTRACTOR SHALL INSTALL ALL IRRIGATION TAPS AND METERS PER THESE PLANS.
- FIRE FLOW DEMAND IS 1500 GPM FOR A 3 HOUR DURATION AT A 20-PSI MINIMUM RESIDUAL MAIN LINE PRESSURE.
- ALL NONMETALLIC PIPES SHALL HAVE A TRACER WIRE ATTACHED TO ITS TOP DURING CONSTRUCTION. THE TRACER WIRE SHALL BE #12 AWG INSULATED COPPER WIRE WITH #12 TYPE YDS75 COPPER CONNECTORS AND SHALL BE PERMANENTLY AFFIXED TO THE TOP OF THE PIPE USING TAPE AT 4' INTERVALS. THE TRACER WIRE SHALL ALSO BE PERMANENTLY CONNECTED TO ALL FIRE HYDRANT TEE, METALLIC PIPE BENDS, MAIN VALVE AND OTHER METALLIC FITTINGS AND APPURTENANCES. ALL POINTS OF CONNECTION SHALL BE PROTECTED FROM CORROSION BY AN EPOXY OR SILICON COATING. GROUND TRACER WIRES TO SURFACE AT ALL VALVE BOXES.
- THE CONTRACTOR ASSUMES RESPONSIBILITY FOR THE PROTECTION OF ALL UTILITIES DURING THE WORK. PRIOR TO ANY EXCAVATION, CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT (800) 922-1987 AT LEAST TWO WORKING DAYS PRIOR TO DIGGING.
- ALL VALVES SHALL BE INSTALLED IN ACCORDANCE WITH CHEROKEE METROPOLITAN DISTRICT EXCEPT FOR NOTE 11 ABOVE. SPACING SHALL BE EQUIDISTANT FROM TEES, ELBOWS, BENDS AND OTHER APPURTENANCES AT 3 FOOT WHERE POSSIBLE.
- TAPS WILL NOT BE RELEASED UNTIL THE FOLLOWING CONDITIONS ARE MET:
 - WATER AND SEWER LINES ARE INSTALLED AND PRESSURE TESTED TO THE DISTRICT STANDARDS.
 - ALL 244 MARKERS ARE INTACT AND PAINTED FOR SERVICES. WATER AND SEWER SERVICES TO INCLUDE 4" TALL STAMPS IN THE TOP OF THE CURB HEAD TO MARK THE ACCURATE WATER SERVICE LOCATION (MARKED WITH "W") AND SANITARY SEWER SERVICE LOCATION (MARKED WITH "S") FOR EACH INDIVIDUAL LOT.
 - AS CONSTRUCTED DRAWINGS HAVE BEEN SUBMITTED TO THE DISTRICT. DRAWINGS TO INCLUDE ANY CHANGES FROM CONSTRUCTION DRAWINGS. THE LENGTH, DEPTH, GRADE AND LOCATION OF ALL SEWER SERVICES. THE LENGTH DEPTH AND LOCATION OF WATER SERVICES.
 - ALL ELECTRIC AND GAS UTILITIES ARE INSTALLED.
- CONTRACTOR IS TO NOTIFY CHEROKEE METROPOLITAN DISTRICTS' INSPECTOR 24 HOURS PRIOR TO ALL STORM SEWER CRITICAL CROSSING OVER WATER AND SEWER LINES, TO VERIFY CLEARANCE.
- FIRE HYDRANTS MUST BE PAINTED, BLUE CAPS AND BONNETS AND WHITE BARREL SECTIONS. CONTACT JONATHAN SMITH AT CHEROKEE METROPOLITAN DISTRICT FOR COLOR CODES (719) 597-5080.

SANITARY SEWER CONSTRUCTION NOTES:

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH CHEROKEE METROPOLITAN DISTRICT STANDARDS AND THE CITY OF COLORADO SPRINGS CONSTRUCTION STANDARDS UNLESS NOTED OTHERWISE. IN THE EVENT OF CONFLICTING STANDARDS CHEROKEE METROPOLITAN DISTRICT STANDARDS SHALL GOVERN.
- SANITARY SEWER PIPE SHALL CONFORM TO ASTM D3034 SDR35 PVC OR SDR26 PVC AS INDICATED ON THE DRAWINGS.
- ALL SANITARY SEWER PIPELINES WITH A COVER DEPTH GREATER THAN 14' SHALL BE INSTALLED USING ASTM D3034 SDR26 PVC PIPE EMBEDDED IN 3/4" RECYCLED CONCRETE AGGREGATE FROM 6" BELOW THE PIPE TO 12" ABOVE THE PIPE.
- TRACER WIRE IS TO BE INSTALLED WITH ALL SANITARY SEWER MAIN LINES AND SERVICES FROM THE MAINLINE TO THE BUILDING STRUCTURE. ALL NONMETALLIC PIPES SHALL HAVE A TRACER WIRE ATTACHED TO ITS TOP DURING CONSTRUCTION. THE TRACER WIRE SHALL BE #12 AWG INSULATED COPPER WIRE WITH #12 TYPE YDS75 COPPER CONNECTORS AND SHALL BE PERMANENTLY AFFIXED TO THE TOP OF THE PIPE USING TAPE AT 4' INTERVALS.
- CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING INVERTS PRIOR TO INSTALLATION OF NEW SANITARY SEWER SYSTEM.
- THE CONTRACTOR ASSUMES RESPONSIBILITY FOR THE PROTECTION OF ALL UTILITIES DURING THE WORK. PRIOR TO ANY EXCAVATION, CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 AT LEAST TWO WORKING DAYS PRIOR TO DIGGING.
- INFILTRATION AND EXFILTRATION TESTS CONDUCTED BY AND AT THE EXPENSE OF THE CONTRACTOR SHALL BE PERFORMED ON A REPRESENTATIVE PORTION OF THE PROJECT IN ACCORDANCE WITH SECTION 7.04 OF THE CITY OF COLORADO SPRINGS CONSTRUCTION STANDARDS.
- ALL SANITARY SEWER MANHOLES, LIDS, BASES AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH (IAW) CHEROKEE METROPOLITAN DISTRICT DETAILS STANDARD MANHOLE DETAIL WW-3. EXCEPT AS NOTED ON THESE PLANS. WHERE REQUIRED ON THESE PLANS, WATER TIGHT MANHOLES, LIDS AND CONNECTIONS SHALL BE PROVIDED IAW CHEROKEE METROPOLITAN DISTRICT STANDARDS.
- ALL SANITARY SEWER MANHOLES SHALL BE 5.0' INSIDE DIAMETER (ID) MANHOLES.
- WHERE NECESSARY, THE CONTRACTOR SHALL PROVIDE 3 DEGREE BENDS ON ALL CURVILINEAR SANITARY SEWER PIPE.
- SANITARY SEWER SERVICE LINES SHALL BE LOCATED PER THE DETAIL ON THE UTILITY SERVICE PLAN, OR AT THE DIRECTION OF THE CONSTRUCTION MANAGER.
- OVERLOT GRADING AND STREET SUBGRADE MUST BE WITHIN ±0.01 (1) FOOT PRIOR TO ANY UTILITY INSTALLATION.
- WHILE CONSTRUCTING THE SANITARY SEWER SYSTEM THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT LEAST ONE "APPROVED FOR CONSTRUCTION" SET OF UPDATED PLANS AT ALL TIMES. APPROVED FIELD MODIFICATIONS TO PLAN SETS SHALL BE CLEARLY IDENTIFIED IN RED INK ON THE PLANS BY THE CONTRACTOR PER FIELD CONSTRUCTION. THESE AS-BUILT CHANGES SHALL BE DATED AND SUBMITTED TO THE ENGINEER OF RECORD. THE ENGINEER OF RECORD SHALL PREPARE A COMPLETE SET OF "AS CONSTRUCTED" DRAWINGS AND DELIVER THE SETS TO THE CHEROKEE METROPOLITAN DISTRICT PRIOR TO FINAL ACCEPTANCE OF THE SANITARY SEWER SYSTEM.
- CONTRACTOR TO CONSTRUCT ALL MANHOLES AND STRUCTURES TO FINISHED GRADE.
 - FOR PIPELINES 1.04% OR LESS GRADE THE FOLLOWING ADDITIONAL INSTALLATION PRACTICES SHALL BE USED.
 - A. THE BOTTOM OF THE PIPE TRENCH SHALL BE PLATE TAMPED PRIOR TO THE INSTALLATION OF ANY PIPE OR BEDDING MATERIAL. SELECT BEDDING MATERIAL SHALL BE INSTALLED PER CHAPTER 2 OF THE "COLORADO SPRINGS UTILITIES, WASTEWATER STANDARDS".
 - B. TRENCH BACKFILL MATERIAL SHALL BE INSTALLED PER CHAPTER 2 OF THE "COLORADO SPRINGS UTILITIES, WASTEWATER STANDARDS".
 - C. PIPELINES FOR LESS THAN 1.04% SHALL BE "AS CONSTRUCTED" BY A LICENSED SURVEYOR OR A APPOINTED REPRESENTATIVE UNDER HIS DIRECT SUPERVISION. THE "AS CONSTRUCTED" MANHOLE INVERTS SHALL BE RECORDED ON THE RECORD DRAWING(S) SUBMITTED TO THE CHEROKEE METROPOLITAN DISTRICT.



VICINITY MAP
NOT TO SCALE

BENCHMARKS:

A #5 REBAR LOCATED APPROXIMATELY 170 FEET NORTHEAST OF THE NORTHEASTERLY CORNER OF TRACTS JJ AS PLATTED IN HANNAH RIDGE AT FEATHERGRASS FILING NO. 1, LABELED AS PANEL POINT #11 ELEVATION = 8523.79 (NAVD 1929) (FIMS)

A 1 INCH ORANGE PLASTIC CAP STAMPED "13225" LOCATED AT THE SOUTHWESTERLY CORNER OF TRACT AA AS PLATTED IN HANNAH RIDGE AT FEATHERGRASS FILING NO. 1 ELEVATION = 6485.00 (NAVD 1929) (FIMS)

BASIS OF BEARINGS:

BEARING REFERRED TO HEREIN ARE BASED ON THE SOUTH LINE OF TRACT FF, HANNAH RIDGE AT FEATHERGRASS FILING NO. 1. ASSUMED TO BEAR N85°50'12"W MONUMENTED AT EACH END W/ NO. 5 REBAR W/ ALUMIN CAP MARKED "POLARIS, FLS 27605".

ANTICIPATED HOMES WITH LESS 4,800 GROSS SQUARE FEET WILL BE BUILT IN THIS SUBDIVISION.

| CONSTRUCTION TYPE | VB |
|------------------------|------------|
| GROSS SQUARE FOOTAGE | 4,800 S.F. |
| REQUIRED FIRE FLOW | 1,750 GPM |
| REQUIRED # OF HYDRANTS | 1 |
| AVERAGE SPACING | 500 FEET |
| MAX HOSE DISTANCE | 250 FEET |

CHEROKEE METROPOLITAN DISTRICT WASTEWATER PLAN APPROVAL

THE CHEROKEE METROPOLITAN DISTRICT RECOGNIZES THE DESIGN PROFESSIONAL OF RECORD AS THE LICENSED ENGINEER HAVING RESPONSIBILITY FOR THE SUBMITTED DESIGN AND THE DISTRICT HAS LIMITED SCOPE OF REVIEW ACCORDING, AS SUCH, THE APPROVAL GRANTED HEREIN IS FOR THE CONSTRUCTION OF THE FACILITIES AS REPRESENTED ON THESE DOCUMENTS. APPROVAL EXPIRES ONE (1) YEAR FROM THE DATE BELOW AND RESUBMITTAL OF THESE PLANS FOR REVIEW AND APPROVAL IS REQUIRED IF CONSTRUCTION DOES NOT BEGIN DURING THIS PERIOD.

APPROVED BY: *[Signature]* DATE: 07/08/2019

CHEROKEE METROPOLITAN DISTRICT WATER PLAN APPROVAL

THE CHEROKEE METROPOLITAN DISTRICT RECOGNIZES THE DESIGN PROFESSIONAL OF RECORD AS THE LICENSED ENGINEER HAVING RESPONSIBILITY FOR THE SUBMITTED DESIGN AND THE DISTRICT HAS LIMITED SCOPE OF REVIEW ACCORDING, AS SUCH, THE APPROVAL GRANTED HEREIN IS FOR THE CONSTRUCTION OF THE FACILITIES AS REPRESENTED ON THESE DOCUMENTS. APPROVAL EXPIRES ONE (1) YEAR FROM THE DATE BELOW AND RESUBMITTAL OF THESE PLANS FOR REVIEW AND APPROVAL IS REQUIRED IF CONSTRUCTION DOES NOT BEGIN DURING THIS PERIOD.

APPROVED BY: *[Signature]* DATE: 07/08/2019

FALCON FIRE DEPARTMENT:

ACCORDING TO THE MODELED CALCULATIONS REVIEWED BY THE GOVERNING WATER DISTRICT AND/OR COLORADO REGISTERED CIVIL ENGINEER/DESIGNER: THE THEORETICAL AVAILABLE FIRE FLOW AT NODE "A" IS 1,750 GALLONS PER MINUTE UNDER MAXIMUM DAILY DEMAND CONDITIONS AT 20PSI RESIDUAL. THE ACTUAL FIRE FLOW MAY VARY DUE TO VARIOUS PARAMETERS.

UPON DETAILED REVIEW OF THE AVAILABLE WATER SUPPLY, FIRE HYDRANT LOCATIONS AND HOSE LINE DISTANCES, THESE PLANS ARE HEREBY CONSIDERED APPROVED (6 PROPOSED HYDRANTS)

[Signature] DATE: 1/25/19
FALCON FIRE DEPARTMENT SIGNATURE

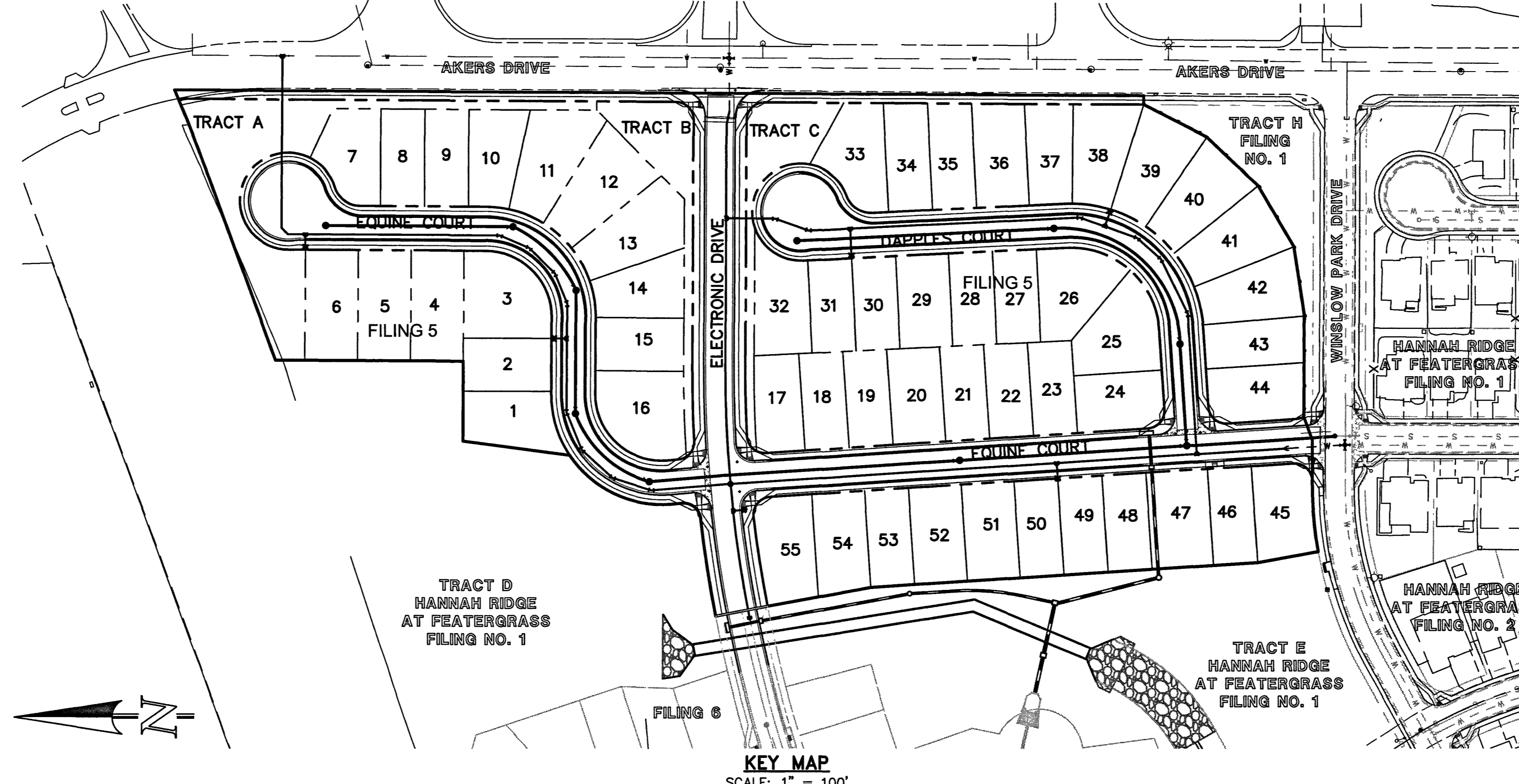
OWNER / DEVELOPER STATEMENT:

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THIS UTILITY CONSTRUCTION PLANS.

[Signature] DATE: _____
OWNER/DEVELOPER

SHEET INDEX:

| TITLE SHEET | SHEET 1 OF 5 |
|--|--------------|
| PUBLIC 8" PVC SANITARY SEWER PLAN & PROFILE | SHEET 2 OF 5 |
| PUBLIC 8" PVC SANITARY SEWER PLAN & PROFILE | SHEET 3 OF 5 |
| PUBLIC 8" & 12" PVC WATER SYSTEM PLAN INCLUDING UTILITY SERVICES | SHEET 4 OF 5 |
| PUBLIC 8" & 12" PVC WATER SYSTEM PROFILES | SHEET 5 OF 5 |



KEY MAP
SCALE: 1" = 100'

| | | | |
|--|--------------|------|---|
| 48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS 811 UTILITY NOTIFICATION CENTER OF COLORADO IT'S THE LAW | NO. REVISION | DATE | REVIEW: |
| THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. | | | PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS & SURVEYORS, LLC <i>[Signature]</i> KYLE R. CAMPBELL, COLORADO P.E. #29794 |

| | | | | | |
|---|---|------------|---------------|---------|----------|
| <p>CLASSIC CONSULTING ENGINEERS & SURVEYORS</p> | HANNAH RIDGE AT FEATHERGRASS FILING NO. 5 UTILITY CONSTRUCTION DRAWINGS TITLE SHEET | | | | |
| | DESIGNED BY | KRC | SCALE | DATE | 10/12/18 |
| | DRAWN BY | KC | (H) 1"=VARIES | SHEET | 1 OF 5 |
| | CHECKED BY | (V) 1"= NA | JOB NO. | 1116.05 | |

N:\11605\DRAWINGS\CONSTRUCTION\FILING 5\UTILITIES_01-11605-UTIL_CVR.dwg, 6/26/2019 4:22:23 PM, 1:1

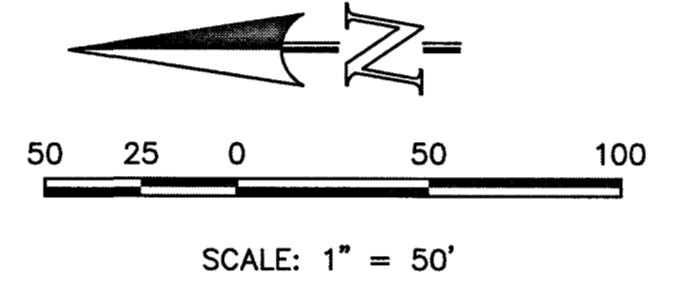
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|--------|--------|------------------|
| L1 | 247.70 | S0° 21' 32.94"W |
| L2 | 139.40 | N89° 38' 27.06"E |
| L3 | 82.03 | S4° 40' 44.62"E |
| L4 | 691.72 | S3° 40' 25.25"E |

| Curve # | Length | Radius | Delta |
|---------|--------|--------|-------|
| C1 | 103.58 | 150.00 | 39.56 |
| C2 | 118.15 | 125.00 | 54.16 |
| C3 | 4.39 | 250.00 | 1.01 |

STREET ABBREVIATION INDEX:
 EQC EQUINE COURT
 ETD ELECTRONIC DRIVE
 DPC DAPPLES COURT
 WPD WINSLOW PARK DRIVE

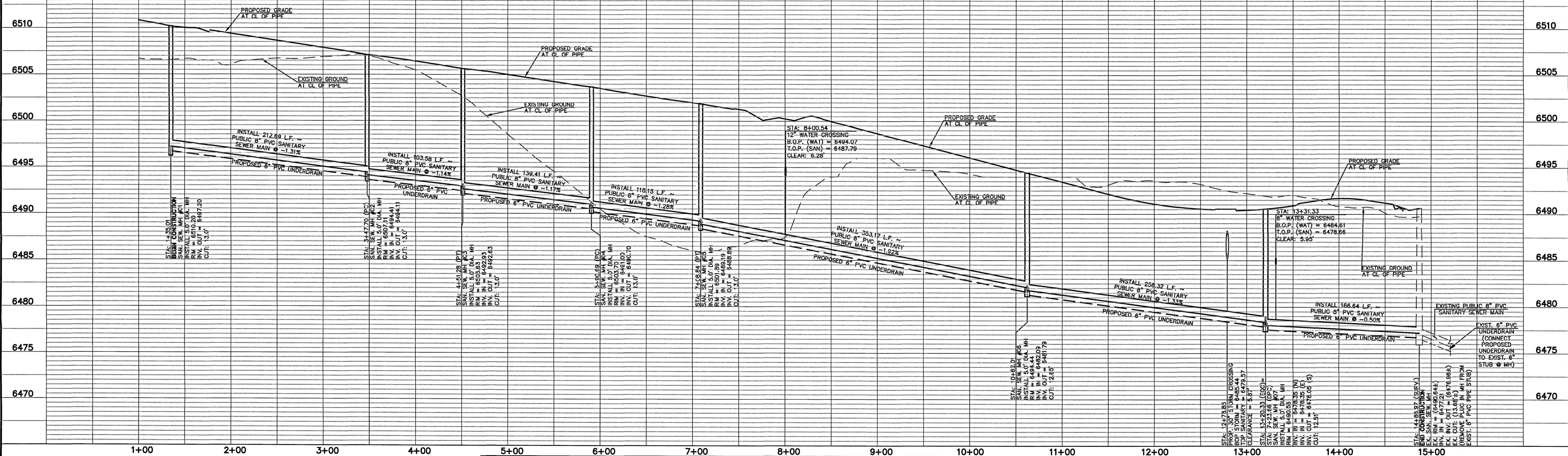
NOTE:
 NO TREES WILL BE ALLOWED WITHIN 15' OF ANY PUBLIC WATER/WASTEWATER MAINLINES.

NOTE:
 EXISTING UTILITIES AND STORM SEWER SHOWN IN AN APPROXIMATE WAY ONLY. ALL EXISTING UTILITIES AND STORM SEWER TO BE POTHOLED AND VERIFIED BOTH HORIZONTALLY & VERTICALLY PRIOR TO CONSTRUCTION & CONFLICTS REPORTED TO ENGINEER.



- SANITARY SEWER CONSTRUCTION NOTE:**
- SANITARY SEWER PIPE AND FITTINGS: PVC 4"-8" ASTM D3034, TYPE PSM, SDR 35; PUSH-ON JOINTS AND MOLDED RUBBER GASKETS. MAXIMUM HORIZONTAL DEFLECTION, AFTER INSTALLATION AND BACK FILING SHALL NOT EXCEED 3% OF THE PIPE DIAMETER. (MINIMUM CURVE RADIUS FOR 8" PVC SANITARY SEWER MAIN MUST BE WITHIN MANUFACTURERS RECOMMENDATIONS). ALL HORIZONTAL DEFLECTIONS SHALL BE ACCOMPLISHED BY BENDING THE PIPE RATHER THAN DEFLECTING THE PIPE JOINTS.
 - SANITARY SEWER UNDERDRAIN PIPE AND SERVICES: 3" & 6" SDR 35 ASTM D3034 SOLID PVC SOLVENT WELD PIPE TO BE WHITE IN COLOR.

PUBLIC 8" PVC SANITARY SEWER MAIN - EQUINE COURT



LEGEND

| | | | |
|--|------------------------------|--|------------------------------|
| | PROPOSED FIRE HYDRANT | | EXISTING FIRE HYDRANT |
| | PROPOSED WATER MAIN | | EXISTING WATER MAIN |
| | PROPOSED SANITARY SEWER MAIN | | EXISTING SANITARY SEWER MAIN |
| | PROPOSED STORM SEWER | | EXISTING STORM SEWER |
| | PROPOSED STORM INLET | | EXISTING STORM INLET |
| | ROW/BOUNDARY LINE | | EXISTING GAS MAIN |
| | | | EXISTING ELECTRIC |

48 HOURS BEFORE YOU DIG,
 CALL UTILITY LOCATORS
811
 UTILITY NOTIFICATION CENTER OF COLORADO
 IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. REVISION | DATE |
|--------------|------|
| | |
| | |
| | |

REVIEW:
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF
 CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

[Signature]
 KYEE R. CAMPBELL, COLORADO P.E. #29794

CLASSIC
 CONSULTING ENGINEERS & SURVEYORS

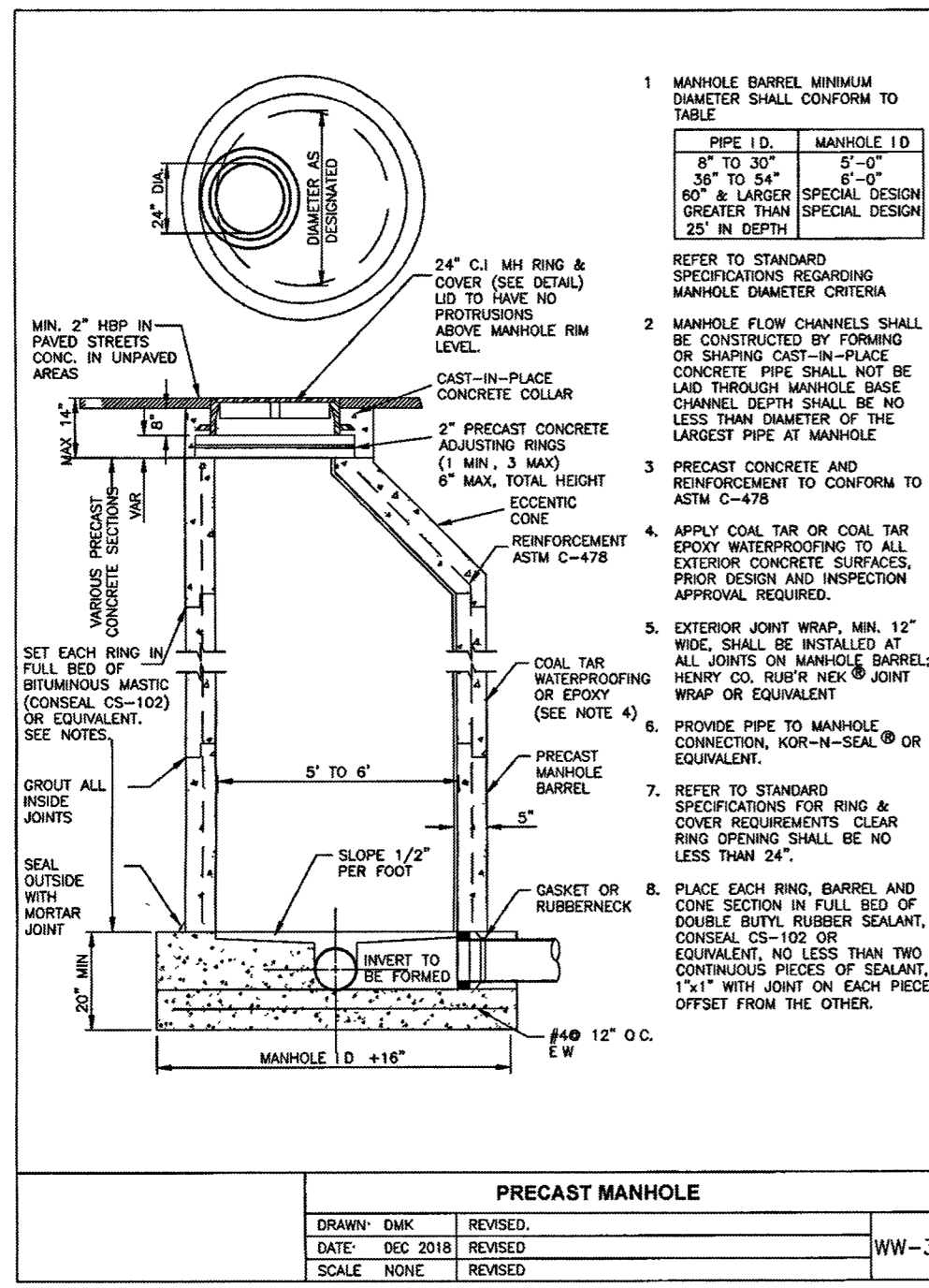
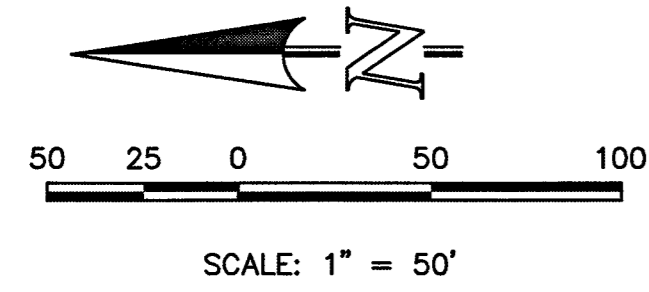
619 N. Cascade Avenue, Suite 200
 Colorado Springs, Colorado 80903
 (719) 785-0790
 (719) 785-0799 (fax)

**HANNAH RIDGE AT FEATHERGRASS
 FILING NO. 5
 PUBLIC 8" PVC SANITARY SEWER PLAN
 AND PROFILE**

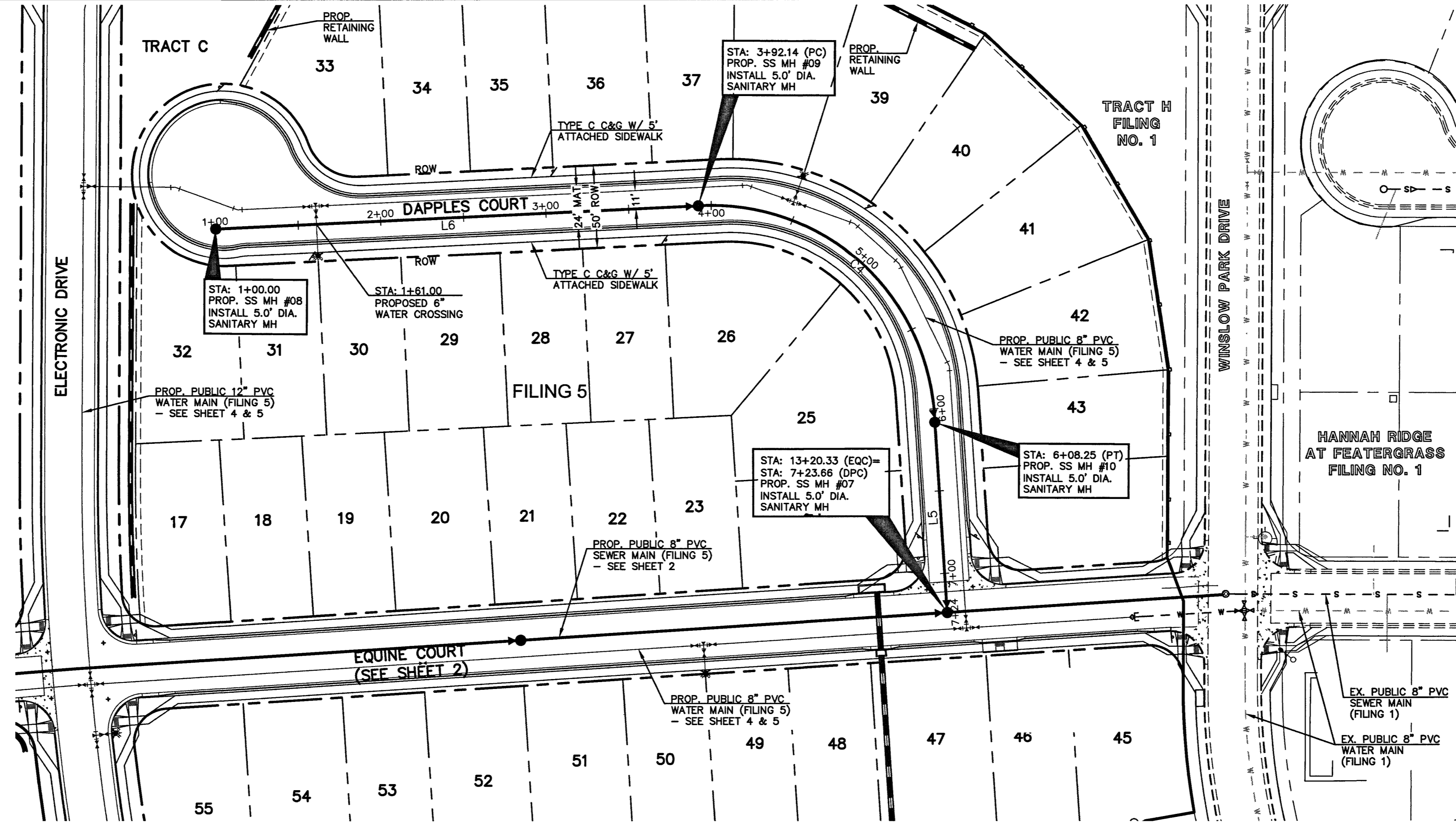
DESIGNED BY: KRC
 DRAWN BY: KC
 CHECKED BY: (V)

SCALE: (H) 1" = 50'
 (V) 1" = 5'

DATE: 10/12/18
 SHEET 2 OF 5
 JOB NO. 1116.05



- MANHOLE BARREL MINIMUM DIAMETER SHALL CONFORM TO TABLE
- MANHOLE FLOW CHANNELS SHALL BE COVERED BY FRAMING OR SHIELDING. CAST-IN-PLACE CONCRETE PIPE SHALL NOT BE USED. CHANNEL DEPTH SHALL BE NO LESS THAN DIAMETER OF THE LARGEST PIPE AT MANHOLE
- PRECAST CONCRETE AND REINFORCEMENT TO CONFORM TO ASTM C-478
- APPLY COAL TAR OR COAL TAR EPOXY WATERPROOFING TO ALL EXTERIOR CONCRETE SURFACES. PROOF DESIGN AND INSPECTION APPROVAL REQUIRED.
- EXTERIOR JOINT WRAP MIN. 12" WIDE. SHALL BE INSTALLED AT ALL JOINTS ON MANHOLE BARREL. HEAVY CO. RUBBER JOINT WRAP OR EQUIVALENT (SEE NOTE 4)
- PROVIDE PIPE TO MANHOLE CONNECTION. KOR-N-SEAL OR EQUIVALENT
- REFER TO STANDARD SPECIFICATIONS FOR RING AND JOINT REQUIREMENTS. CLEAR RING SPACING SHALL BE NO LESS THAN 2"
- PLACE EACH RING BARREL AND CONE SECTION IN FULL BED OF DOUBLE BUTYR RUBBER SEALANT. CONSAL CS-102 OR EQUIVALENT. NO LESS THAN TWO CONTINUOUS PIECES OF SEALANT. 1" x 1" WITH JOINT ON EACH PIECE OFFSET FROM THE OTHER.



- SANITARY SEWER CONSTRUCTION NOTE:**
- SANITARY SEWER PIPE AND FITTINGS: PVC 4"-8" ASTM D3034, TYPE PSM, SDR 35. PUSH-ON JOINTS AND MOLDED RUBBER GASKETS. MAXIMUM HORIZONTAL DEFLECTION, AFTER INSTALLATION AND BACK FILLING SHALL NOT EXCEED 3% OF THE PIPE DIAMETER. (MINIMUM CURVE RADIUS FOR 8" PVC SANITARY SEWER MAIN MUST BE WITHIN MANUFACTURERS RECOMMENDATIONS). ALL HORIZONTAL DEFLECTIONS SHALL BE ACCOMPLISHED BY BENDING THE PIPE RATHER THAN DEFLECTING THE PIPE JOINTS.
 - SANITARY SEWER UNDERDRAIN PIPE AND SERVICES: 3" & 6" SDR 35 ASTM D3034 SOLID PVC SOLVENT WELD PIPE TO BE WHITE IN COLOR.

Parcel Line Table

| Line # | Length | Direction |
|--------|--------|------------------|
| L5 | 115.41 | N86° 19' 34.75"E |
| L6 | 292.14 | N2° 44' 58.68"W |

Curve Table

| Curve # | Length | Radius | Delta |
|---------|--------|--------|-------|
| C4 | 216.10 | 135.00 | 91.72 |

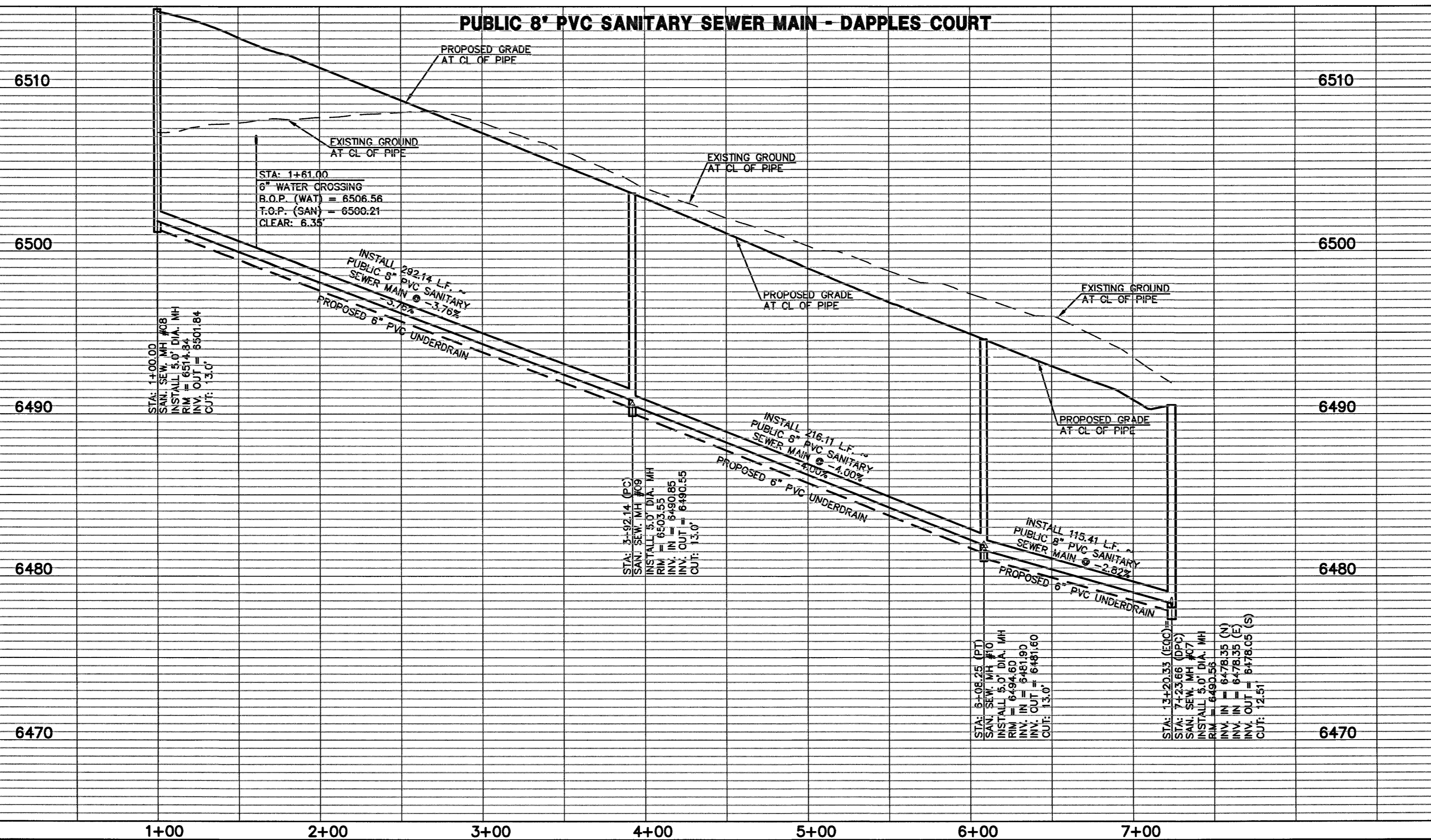
STREET ABBREVIATION INDEX:

| | |
|-----|--------------------|
| ECC | EQUINE COURT |
| EDD | ELECTRONIC DRIVE |
| DPC | DAPPLES COURT |
| WPD | WINSLOW PARK DRIVE |

NOTE:
NO TREES WILL BE ALLOWED WITHIN 15' OF ANY PUBLIC WATER/WASTEWATER MAINLINES.

NOTE:
EXISTING UTILITIES AND STORM SEWER SHOWN IN AN APPROXIMATE WAY ONLY. ALL EXISTING UTILITIES AND STORM SEWER TO BE POTHOLED AND VERIFIED BOTH HORIZONTALLY & VERTICALLY PRIOR TO CONSTRUCTION & CONFLICTS REPORTED TO ENGINEER.

PUBLIC 8" PVC SANITARY SEWER MAIN - DAPPLES COURT



LEGEND

| | | | |
|--|------------------------------|--|------------------------------|
| | PROPOSED FIRE HYDRANT | | EXISTING FIRE HYDRANT |
| | PROPOSED WATER MAIN | | EXISTING WATER MAIN |
| | PROPOSED SANITARY SEWER MAIN | | EXISTING SANITARY SEWER MAIN |
| | PROPOSED STORM SEWER | | EXISTING STORM SEWER |
| | PROPOSED STORM INLET | | EXISTING STORM INLET |
| | ROW/BOUNDARY LINE | | EXISTING GAS MAIN |
| | | | EXISTING ELECTRIC |

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
811
UTILITY NOTIFICATION CENTER OF COLORADO
IT'S THE LAW

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| NO. REVISION | DATE | REVIEW: |
|--------------|------|--|
| | | PREPARED UNDER MY SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS & SURVEYORS, LLC |
| | | |
| | | KYLE R. CAMPBELL, COLORADO P.E. #29794 |

CLASSIC CONSULTING ENGINEERS & SURVEYORS

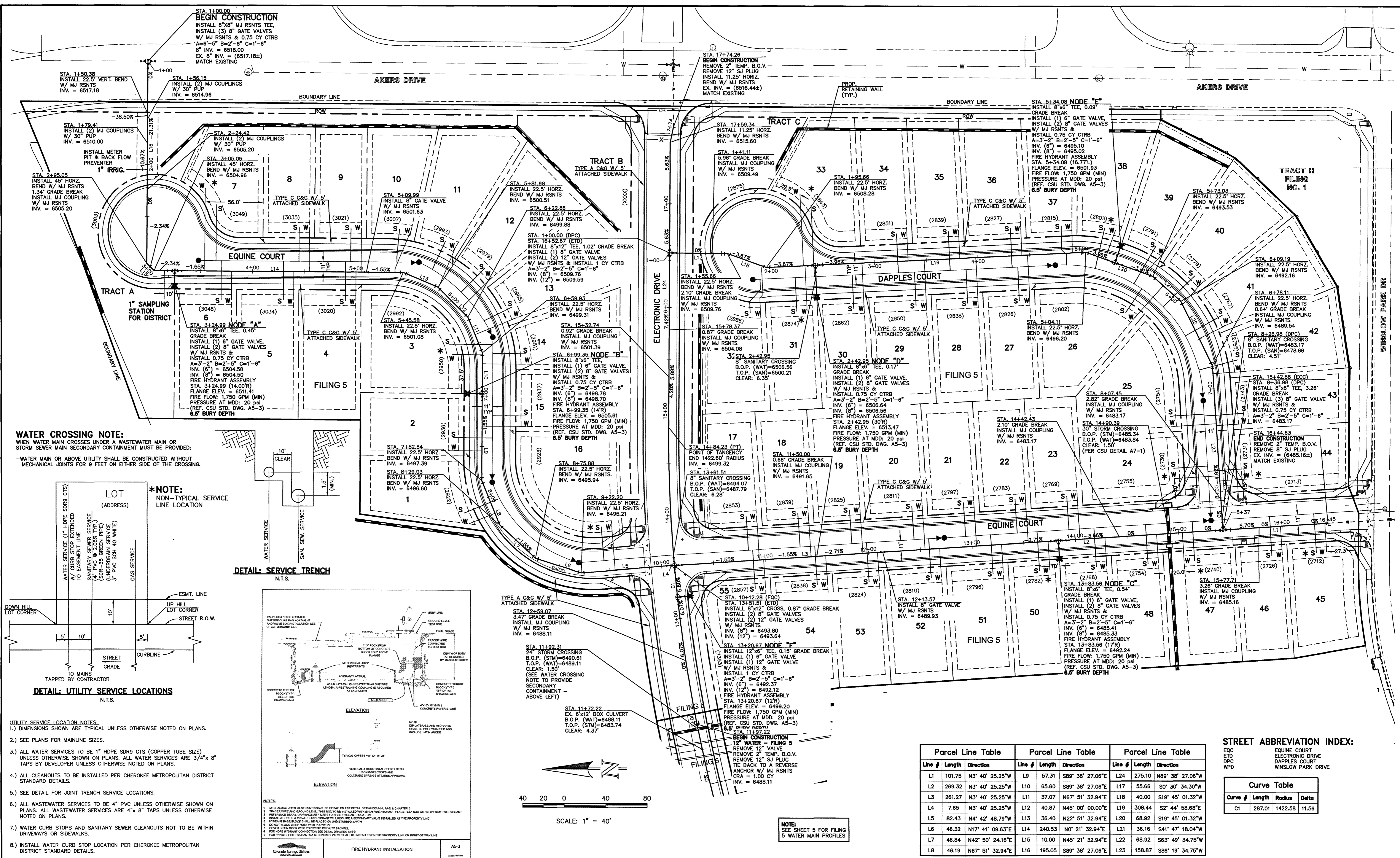
HANNAH RIDGE AT FEATHERGRASS
FILING NO. 5
PUBLIC 8" PVC SANITARY SEWER PLAN
AND PROFILE

| | | | | |
|-------------|-------------|--------------|---------|----------|
| DESIGNED BY | KRC | SCALE | DATE | 10/12/18 |
| DRAWN BY | KC | (H) 1" = 50' | SHEET | 3 OF 5 |
| CHECKED BY | (V) 1" = 5' | JOB NO. | 1116.05 | |

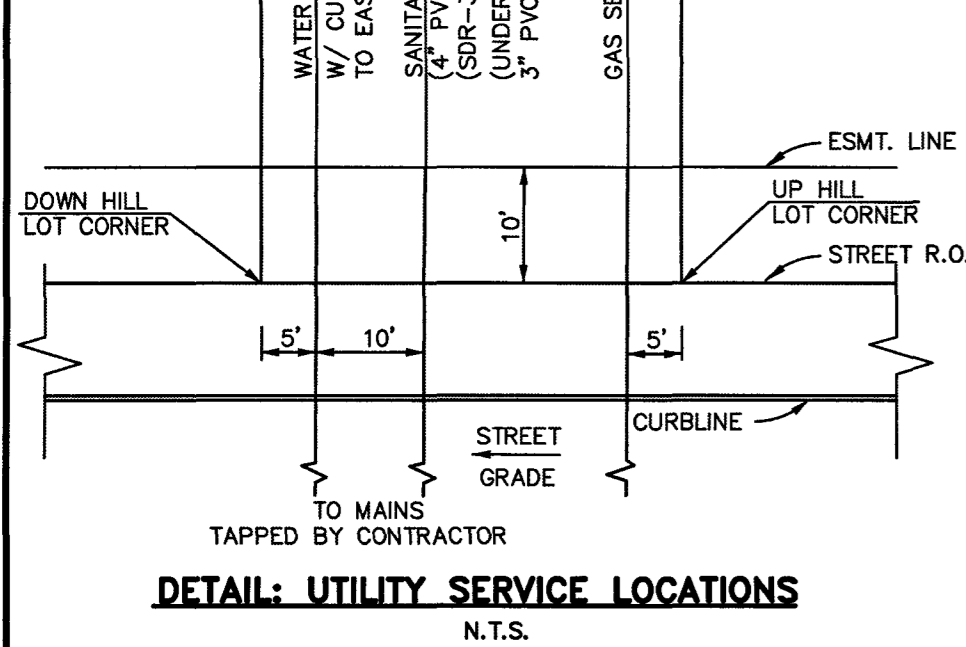
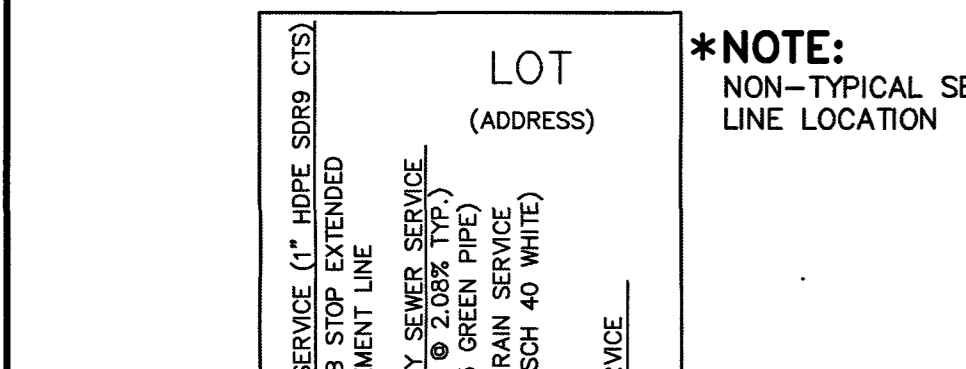
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719) 785-0790
(719) 785-0799 (Fax)



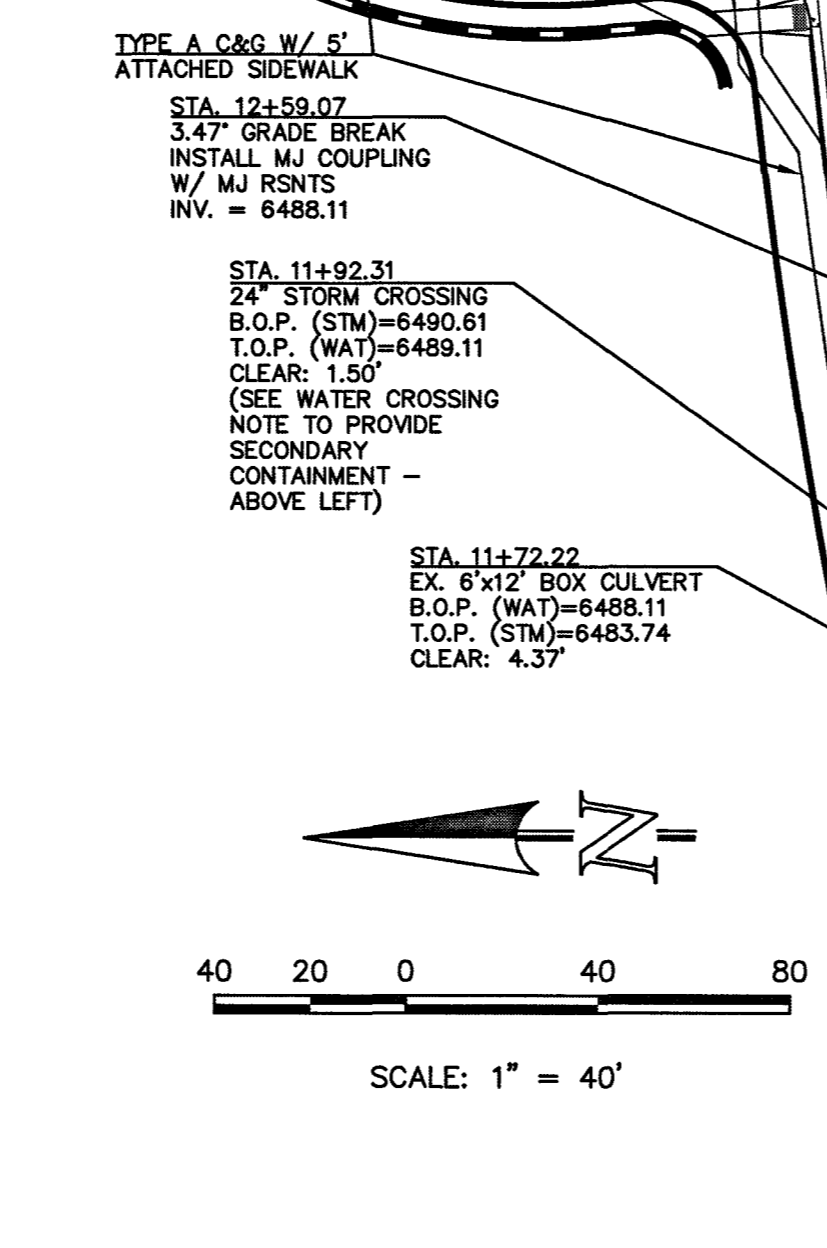
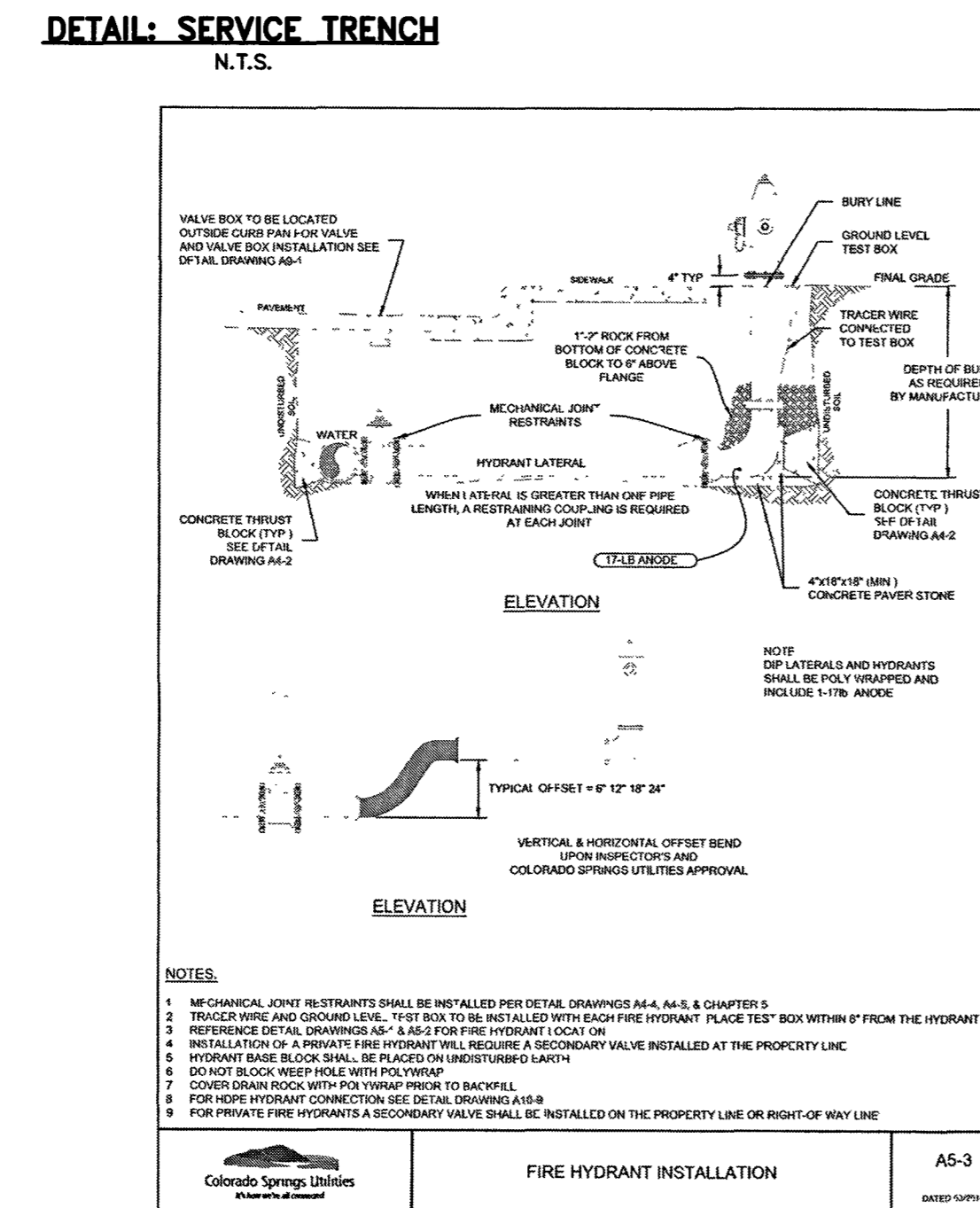
N:\111605\DRAWINGS\CONSTRUCTION\FILING 5\UTILITIES\03-111605-SAN-02.dwg, 6/26/2019, 4:21:08 PM, 1:1



WATER CROSSING NOTE:
 WHEN WATER MAIN CROSSES UNDER A WASTEWATER MAIN OR STORM SEWER MAIN SECONDARY CONTAINMENT MUST BE PROVIDED:
 -WATER MAIN OR ABOVE UTILITY SHALL BE CONSTRUCTED WITHOUT MECHANICAL JOINTS FOR 9 FEET ON EITHER SIDE OF THE CROSSING.



- UTILITY SERVICE LOCATION NOTES:**
- DIMENSIONS SHOWN ARE TYPICAL UNLESS OTHERWISE NOTED ON PLANS.
 - SEE PLANS FOR MAINLINE SIZES.
 - ALL WATER SERVICES TO BE 1" HDPE SDR9 CTS (COPPER TUBE SIZE) UNLESS OTHERWISE SHOWN ON PLANS. ALL WATER SERVICES ARE 3/4" x 8" TAPS BY DEVELOPER UNLESS OTHERWISE NOTED ON PLANS.
 - ALL CLEANOUTS TO BE INSTALLED PER CHEROKEE METROPOLITAN DISTRICT STANDARD DETAILS.
 - SEE DETAIL FOR JOINT TRENCH SERVICE LOCATIONS.
 - ALL WASTEWATER SERVICES TO BE 4" PVC UNLESS OTHERWISE SHOWN ON PLANS. ALL WASTEWATER SERVICES ARE 4" x 8" TAPS UNLESS OTHERWISE NOTED ON PLANS.
 - WATER CURB STOPS AND SANITARY SEWER CLEANOUTS NOT TO BE WITHIN DRIVEWAYS OR SIDEWALKS.
 - INSTALL WATER CURB STOP LOCATION PER CHEROKEE METROPOLITAN DISTRICT STANDARD DETAILS.



LEGEND

| | | | |
|--|------------------------------|--|------------------------------|
| | PROPOSED FIRE HYDRANT | | EXISTING FIRE HYDRANT |
| | PROPOSED WATER MAIN | | EXISTING WATER MAIN |
| | PROPOSED SANITARY SEWER MAIN | | EXISTING SANITARY SEWER MAIN |
| | PROPOSED STORM SEWER | | EXISTING STORM SEWER |
| | PROPOSED STORM INLET | | EXISTING STORM INLET |
| | PROPOSED ROW/BOUNDARY LINE | | EXISTING GAS MAIN |
| | | | EXISTING ELECTRIC |

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NO. REVISION

| NO. | REVISION | DATE |
|-----|----------|------|
| | | |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

Kyle R. Campbell
 KYLE R. CAMPBELL, COLORADO LICENSE #29794

Uzair
 DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS

619 N. Cascade Avenue, Suite 200
 Colorado Springs, Colorado 80903
 (719)785-0790
 (719)785-0799(Fax)

HANNAH RIDGE AT FEATHERGRASS FILING NO. 5

INCLUDING UTILITY SERVICES

| | | | | |
|-------------|-------------|--------------|---------|----------|
| DESIGNED BY | KRC | SCALE | DATE | 10/12/18 |
| DRAWN BY | KC | (H) 1" = 40' | SHEET | 4 OF 5 |
| CHECKED BY | (V) 1" = NA | JOB NO. | 1116.05 | |

Parcel Line Table

| Line # | Length | Direction | Line # | Length | Direction | Line # | Length | Direction |
|--------|--------|------------------|--------|--------|------------------|--------|--------|------------------|
| L1 | 101.75 | N3° 40' 25.25"W | L9 | 57.31 | S89° 38' 27.06"E | L24 | 275.10 | N89° 38' 27.06"W |
| L2 | 269.32 | N3° 40' 25.25"W | L10 | 659.32 | S89° 38' 27.06"E | L17 | 55.66 | S0° 30' 34.30"W |
| L3 | 261.27 | N3° 40' 25.25"W | L11 | 37.07 | N67° 51' 32.94"E | L18 | 40.00 | S19° 45' 01.32"W |
| L4 | 7.85 | N3° 40' 25.25"W | L12 | 40.87 | N45° 00' 00.00"E | L19 | 308.44 | S2° 44' 58.68"E |
| L5 | 82.43 | N4° 42' 48.79"W | L13 | 36.40 | N22° 51' 32.94"E | L20 | 68.92 | S19° 45' 01.32"W |
| L6 | 46.32 | N17° 41' 09.63"E | L14 | 240.53 | N0° 21' 32.94"E | L21 | 38.16 | S41° 47' 18.04"W |
| L7 | 46.84 | N42° 50' 24.16"E | L15 | 10.00 | N45° 21' 32.94"E | L22 | 68.92 | S63° 49' 34.75"W |
| L8 | 46.19 | N67° 51' 32.94"E | L16 | 195.05 | S89° 38' 27.06"E | L23 | 158.87 | S86° 19' 34.75"W |

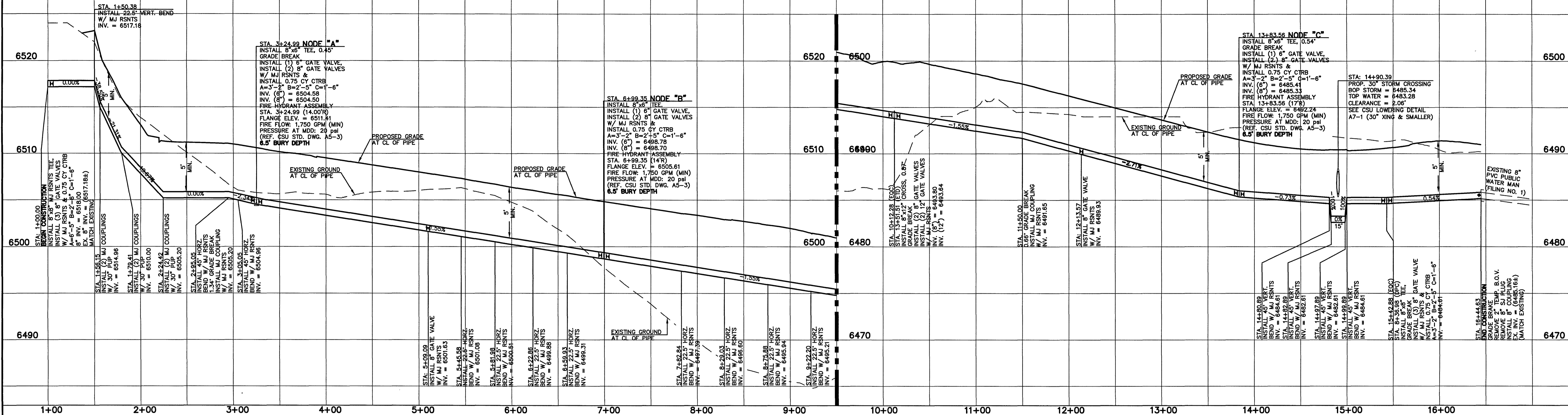
STREET ABBREVIATION INDEX:

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| ETD | ELECTRONIC DRIVE |
| DPK | DAPPLES COURT |
| WPD | WINDSLOW PARK DRIVE |

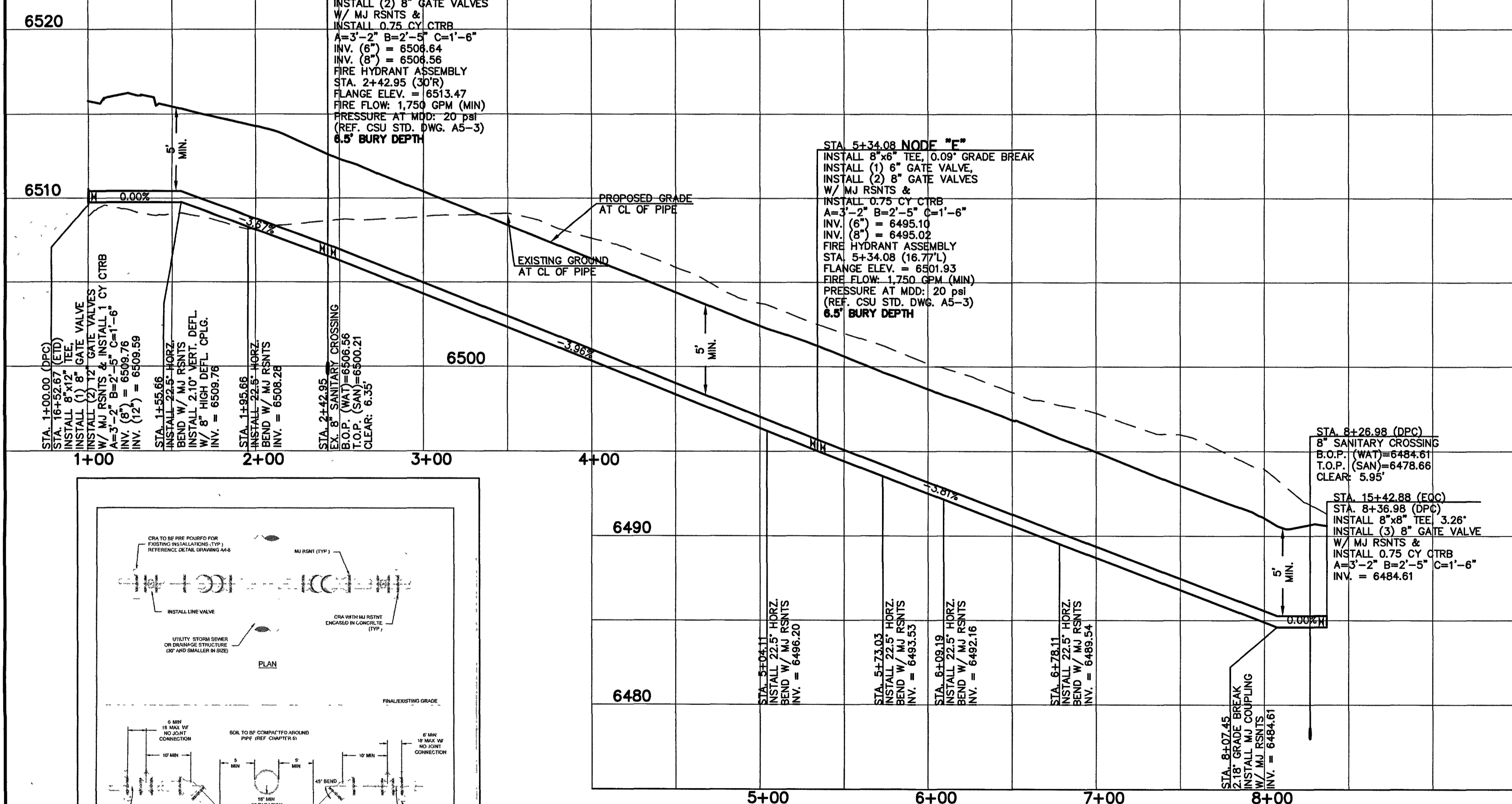
Curve Table

| Curve # | Length | Radius | Delta |
|---------|--------|---------|-------|
| C1 | 287.01 | 1422.58 | 11.56 |

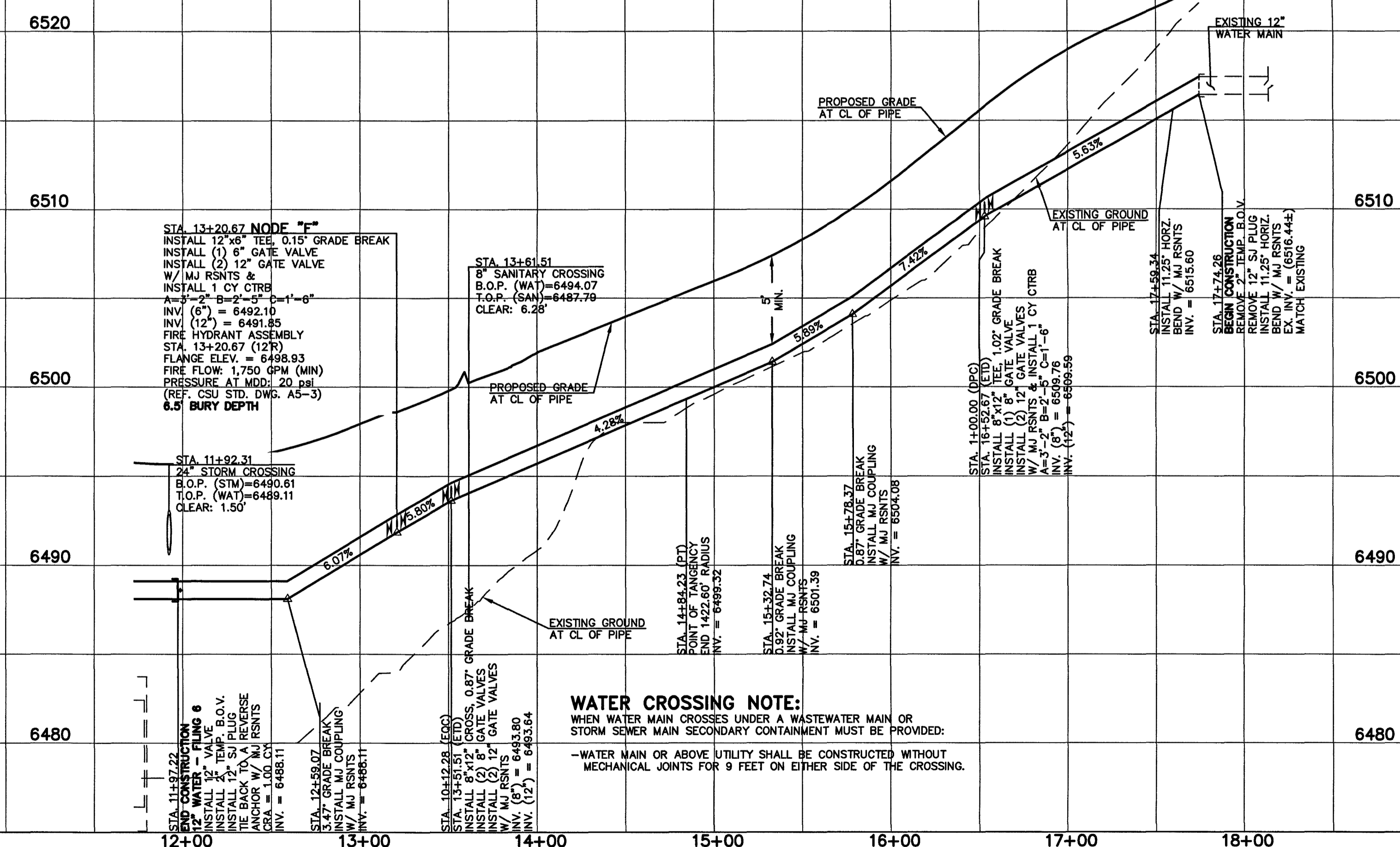
8" WATER - EQUINE CT - FILING 5



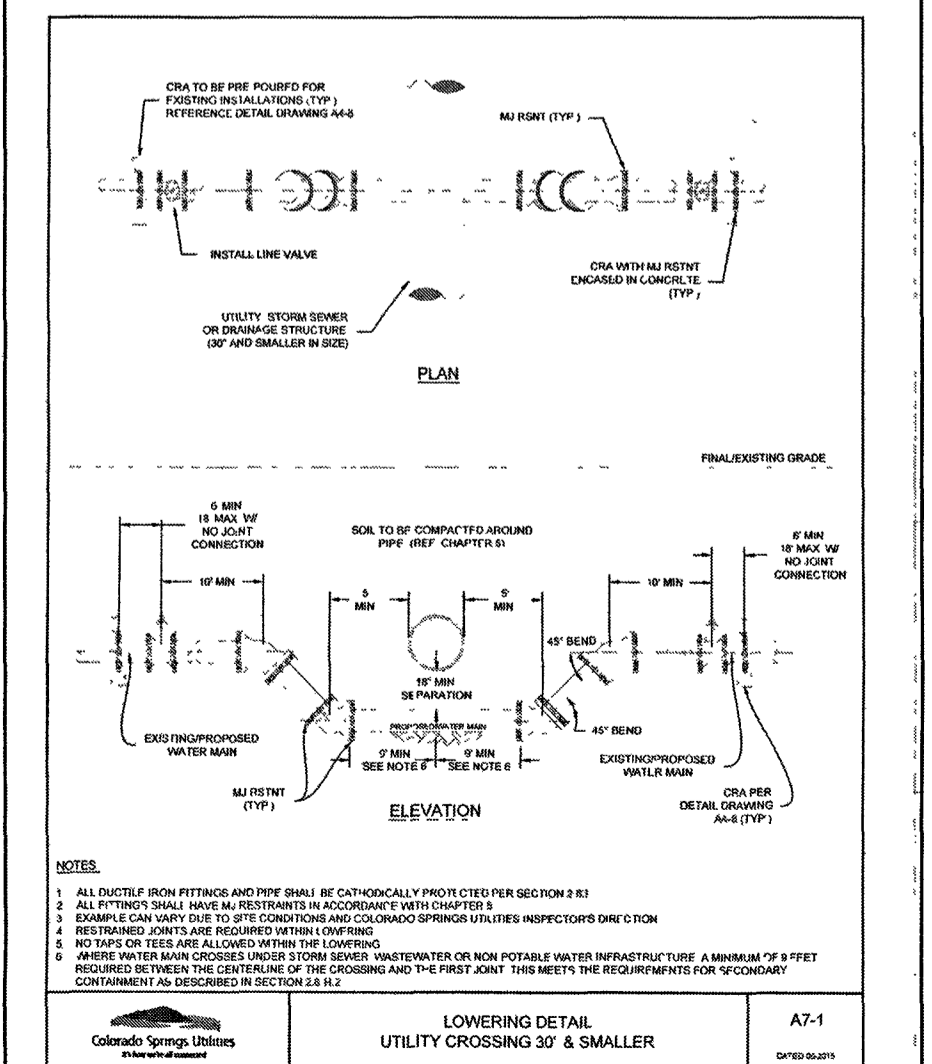
8" WATER - DAPPLES CT - FILING 5



12" WATER - ELECTRONIC DR - FILING 5



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Kyle R. Campbell
KYLE R. CAMPBELL, COLORADO LICENSE # 29794
DATE

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CONSULTING ENGINEERS & SURVEYORS

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HANNAH RIDGE AT FEATHERGRASS
FILING NO. 5
PUBLIC 8" & 12" PVC WATER SYSTEM PROFILES

| | | | | |
|-------------|-------------|--------------|---------|----------|
| DESIGNED BY | KRC | SCALE | DATE | 10/12/18 |
| DRAWN BY | KC | (H) 1" = 50' | SHEET | 5 OF 5 |
| CHECKED BY | (V) 1" = 5' | JOB NO. | 1116.05 | |

