

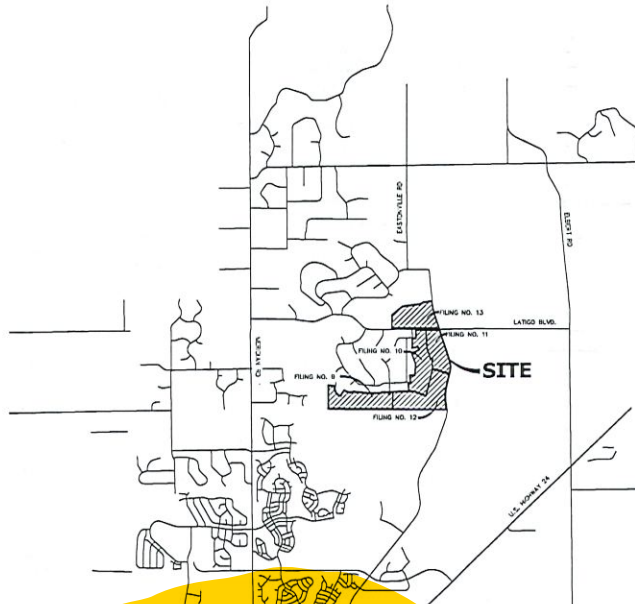
# LATIGO TRAILS - FILING NO. 9

## A PARCEL OF LAND LOCATED IN THE SOUTH QUARTER OF SECTION S17 TOWNSHIP 12 SOUTH, RANGE 64 WEST OF P.M., EL PASO COUNTY, STATE OF COLORADO

### PUBLIC UTILITY PLAN

#### STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

- ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OF NOT BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOIL AND GEOTECHNICAL REPORTS, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
  - EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
  - CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
  - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS AND BRIDGE CONSTRUCTION
  - CDOT MASS STANDARDS
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSIONS OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL, VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ON-SITE AND OFF-SITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT INSPECTIONS PRIOR TO STARTING CONSTRUCTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOORPLAN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FURTIVE DUST PERMITS.
- CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- SIGHT TRIANGLES ARE IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED IN SIGHT TRIANGLES.
- SIGNING AND STRIPPING SHALL COMPLY WITH EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS AND MUTED CRITERIA.
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS, INCLUDING WORK WITH THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNERS PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.
- ALL STORM DRAIN PIPE SHALL BE CLASS III RPP UNLESS OTHERWISE NOTED AND APPROVED BY PCD.



#### CONTACTS:

**OWNER/DEVELOPER:** BRAM, LLC  
 101 N. CASCADE, SUITE 200  
 COLORADO SPRINGS, CO 80903  
 P=719-426-7474

**ENGINEER/SURVEYOR:** JK ENGINEERING, LLC  
 1715 IRVING LAW  
 5475 TECH CENTER DRIVE, SUITE 235  
 COLORADO SPRINGS, CO 80919  
 P=719-767-6754

**FIRE PROTECTION DISTRICT:** FALCON FIRE FID  
 7030 N MERIDIAN RD  
 FALCON, CO 80831  
 P=719-494-6200

**DISTRICT / WATER PROVIDER:** MERIDIAN SERVICE METROPOLITAN DISTRICT  
 11886 STAPLETON DR  
 FORTYON, CO 80831  
 P=719-495-6567

**EL PASO COUNTY:** PLANNING AND COUNTY DEVELOPMENT  
 ATTN: BRAD WALTERS  
 2880 INTERNATIONAL CIRCLE, SUITE 110  
 COLORADO SPRINGS, COLORADO 80910  
 P = (719) 520-6810

**DEPARTMENT OF PUBLIC WORKS:**  
 3257 AKERS DR  
 COLORADO SPRINGS, CO 80910  
 P = (719) 520-6460

**ELECTRIC COMPANY:** MOUNTAIN VIEW ELECTRIC ASSOC., INC.  
 11140 EAST WOODMEN ROAD  
 FALCON, COLORADO 80831  
 (719) 495-2265

#### BASIS OF BEARING

THE SOUTH LINE OF SECTION 17, TOWNSHIP 12 SOUTH, RANGE 64 WEST OF THE 6TH MERIDIAN, BEING MONUMENTED AT THE SOUTHWEST CORNER BY A 3-1/4" ALUMINUM CAP STAMPED 'LS 24984 2000' FLUSH WITH THE GROUND AND AT THE SOUTHWEST CORNER BY A 2-1/2" ALUMINUM CAP STAMPED 'LS 25955 1990' 0.35' BELOW GROUND, BEARING N89°55'55.78"

#### BENCHMARK

BM-07: A NEAR LOCATED 1610' SOUTH OF INTERSECTION OF EASTONVILLE ROAD AND LOT BOLLIVARD, 19' WEST OF 2806E, 7932' N1626E, 5893', WEST OF RIGHT-OF-WAY LINE OF EASTONVILLE ROAD, IS = 7076.52

#### OWNER/DEVELOPER STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH ALL OF THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

*[Signature]* 09/09/22  
 ROBERT C. IRWIN, MANAGER

#### EL PASO COUNTY STATEMENT

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH EGM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE SUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

JOSHUA PALMER, P.E. DATE  
 COUNTY ENGINEER/CDM ADMINISTRATOR

#### ENGINEER'S STATEMENT

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECT SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, CHAINING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLAN AND MASTER TRANSPORTATION PLANS. SAID PLAN AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, OMISSIONS OR OVERSIGHTS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

*[Signature]* DATE  
 BRYAN T. LAW, P.E.  
 COLORADO P.E. 25043  
 FOR AND ON BEHALF OF JK ENGINEERING, LLC

#### ABBREVIATIONS

AC	ACRE	FL	FLOWLINE	RT	RIGHT
AD	ALGEBRAIC DIFFERENCE	FL	FILING	S	SOUTH
AH	AREAD	GD	GRADE BREAK	ST	STEEL
ARCH	ARCHITECT	GS	GRADE	STN	SANITARY SENCER
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	GI	GEODESIC INFORMATION	ST	STREET
ASST	ASSEMBLY	GM	GEOMETRIC	STN	STATION
AV	AVENUE	GS	GAS LINE	STN	STORM SEWER
BB	BASE	GV	GLOBAL POSITIONING SYSTEM	ST	SQUARE YARD
BD	BACK	GV	GATE VALVE	SY-IN	SQUARE YARD INCH
BN	BOUNDARY	HVP	HOT BITUMINOUS PAVEMENT	TH	THRUST BLOCK
BS	BOTTOM OF PIPE	HC	HANDCAUL	TRC	TOP BACK OF CURB
DOV	SLOW OFF VALVE	HDC	HIGH DEFLECTION COUPLING	TW	TOP BACK OF WALK
HW	HUTTENLOFF VALVE	HMA	HIGH BINDER HOT MIX ASPHALT	TEL	TELEPHONE
BLVD	BULEVARD	HGL	HYDRAULIC GRADE LINE	TN	TON
DN	BOTTOM OF WALL	HMA	HOT MIX ASPHALT	TOL	TOP OF ASPHALT
C&G	CURB & GUTTER	HRA	HOME OWNERS ASSOCIATION	TOP	TOP OF ROOF
CATV	CABLE TELEVISION	HSA	HIGH POINT	TOC	TOP OF CURB OR CONCRETE
CD	CATCH BASIN	HR	HOUR	TOF	TOP OF FOUNDATION
CON	CONCRETE	IR	IRIGATION EASEMENT	TOP	TOP OF WALL
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION	INT	INTERSECTION	TRP	TYPICAL
CUL-DE-SAC	CUL-DE-SAC	INV	INVERT	UD	UNDER DRAINAGE AND FLOOD CONTROL DISTRICT
CF	CUBIC FOOT	IR	IRIGATION	UE	UTILITY EASEMENT
CFP	COMPLETE PER SECOND	IR	IRIGATION	UE	UTILITY & DRAINAGE EASEMENT
CL	COMPLETE IN PLACE	IR	IRIGATION	USE	UNDERGROUND ELECTRIC
CL	CENTER LINE	IR	IRIGATION	VCP	VERTIFIED CLAY PIPE
CLOR	CONDITIONAL LETTER OF MAP REVISION	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
CLR	CLEAR	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
CMF	CORRUGATED METAL PIPE	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
CD	CLEAN OUT	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
COSE	CITY OF COLORADO SPRINGS	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
CONC	CONCRETE	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
CP	CORNER	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
CSP	CORRUGATED STEEL PIPE	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
CSU	COLORADO SPRINGS UTILITIES	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
CT	CURB	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
CTD	CORRUGATED THURST REINFORCING	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
CV	CURB YARD	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
CBF	DRAINAGE BASIN FLOORING	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
STU	STUD	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
DE	DRAINAGE EASEMENT	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
DI	DIAMETER	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
DIP	DITCH	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
DR	DRAIN	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
DRE	DRAIN REVIEW COMMITTEE	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
DU	DWELLING UNITS	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
E	EAST	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
EGR	ENERGY GRADE LINE	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
EL	ELEVATION	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
ELE	ELECTRIC	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
EDA	EDGE OF ASPHALT	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
EPC	EL PASO COUNTY	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
ECP	ELLIPTICAL CURVE	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
ESW	EASEMENT	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
EST	ESTIMATE	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
EX	EXISTING	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
FDP	FINAL DEVELOPMENT PLAN	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
FD	FINAL DRAINAGE REPORT	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
FES	FINISHED END SECTION	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
FF	FINISHED FLOOR ELEVATION	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
FG	FINISHED GRADE	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION
FH	FIRE HYDRANT	IR	IRIGATION	VCP	VERTICAL POINT OF INTERSECTION

Falcon Fire Protection District  
 Approved/Disapproved

SHEET INDEX  
 1 - COVER  
 2-3 - LEGEND AND TITLES  
 4 - OVERALL UTILITY PLAN  
 5-9 - WATER INSTALLATION PLAN  
 10 - TOTAL SHEETS

Signed *Curtis L. Kauffman*  
 Date 07/25/2022

7030 Old Meridian Road  
 Falcon, CO. 80831  
 719-495-4050



#### MERIDIAN SERVICE METROPOLITAN DISTRICT

FIELD PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH DISTRICT DESIGN CRITERIA. THE DISTRICT IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE DISTRICT THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

*[Signature]* 09/19/2022  
 DISTRICT ENGINEER

#### APPROVALS

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO MERIDIAN RANCH WATER DISTRICT SPECIFICATIONS. THE NUMBER OF FIRE HYDRANTS AND HYDRANT LOCATIONS AS SHOWN ON THIS WATER INSTALLATION PLAN ARE CORRECT AND ACCURATE TO SATISFY THE FIRE PROTECTION REQUIREMENTS AS SPECIFIED BY THE FALCON FIRE DEPARTMENT.

SIGNED: *[Signature]* DATE  
 FALCON FIRE DEPARTMENT  
 PLAN REVIEW NUMBER: \_\_\_\_\_

WATER INSTALLATION CORROSION CONTROL REQUIREMENTS: SEE PLAN FOR PLACEMENT

WATER PLAN APPROVAL: *[Signature]* DATE  
 9/19/2022

SIGNED: *[Signature]* DATE  
 MERIDIAN SERVICE METRO DISTRICT  
 WORK ORDER NUMBER: \_\_\_\_\_ PROJECT NUMBER: NA

*[Signature]* DATE  
 09/19/2022  
 DISTRICT ENGINEER

PCD FILE NO. 19-21-036

UNLESS SUCH TIME AS THESE DRAWINGS ARE APPLICABLE REVISIONS ARE MADE TO THESE DRAWINGS, THE USER SHALL BE RESPONSIBLE FOR OBTAINING THE LATEST APPROVED VERSION OF THESE DRAWINGS.

PREPARED FOR:  
 BRAM, LLC  
 101 N. CASCADE, SUITE 200  
 COLORADO SPRINGS, CO 80903  
 ATTN: BOB IRWIN  
 P=(719)-426-7474

JR ENGINEERING  
 A Meridian Company  
 303-702-8929 • 605-426-8888 • www.jr-engineering.com

BT	DATE	
NS	REVISION	
H-SCALE	N/A	
V-SCALE	N/A	
DATE	BY	
DESIGNED BY	CHKD	
DRAWN BY	CHKD	
DECIDED BY		

LATIGO TRAILS - FILING NO. 9  
 COVER SHEET  
 SHEET 1 OF 9  
 JOB NO. 25175.02





# METROPOLITAN DISTRICT GENERAL UTILITY NOTES FOR MERIDIAN SERVICE METROPOLITAN DISTRICT

## GENERAL NOTES

1. MERIDIAN SERVICE METROPOLITAN DISTRICT (MSMD) CONTACT TELEPHONE NUMBERS:

11886 STAPLETON DR  
FALCON, CO 80831  
PHONE 719-495-6567

1. ALL SANITARY SEWER, POTABLE WATER, RECLAIMED WATER, RAW WATER AND STORM DRAIN SYSTEMS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE CURRENT MERIDIAN SERVICE METROPOLITAN DISTRICT (MSMD) SPECIFICATIONS. MSMD SPECIFICATIONS HEREINAFTER SHALL BE CONSISTENT WITH THE COLORADO SPRINGS UTILITIES SPECIFICATIONS (CSUS) FOR WASTEWATER LINE EXTENSION & SERVICE STANDARDS, 2010 EDITION AND THE WATER LINE EXTENSION & SERVICE STANDARDS, 2014 EDITION, UNLESS OTHERWISE NOTED AND APPROVED.
2. ALL PLANS ON THE JOB SITE SHALL BE SIGNED AND APPROVED BY MSMD AND MSMD'S ENGINEER. ANY REVISION TO THE PLANS SHALL BE APPROVED BY MSMD AND MSMD'S ENGINEER AND SO NOTED ON THE PLANS.
3. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY MSMD. MSMD RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO MSMD STANDARDS AND SPECIFICATIONS.
4. ALL PIPE MATERIAL, BACKFILL, AND INSTALLATION SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS OF THE EL PASO COUNTY DEVELOPMENT SERVICES, COLORADO SPRINGS UTILITIES, MSMD, DISTRICT ENGINEER AND THE SOILS ENGINEER.
5. ALL UTILITY TRENCH BACKFILL SHALL BE PLACED PER THE APPROVED SOILS REPORT RECOMMENDATIONS AND UNDER THE DIRECTION OF THE SOILS ENGINEER. TRENCH BACKFILL SHALL BE MOISTURE CONDITIONED TO WITHIN 2 PERCENT OF OPTIMUM AND COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM MODIFIED PROCTOR DRY DENSITY (ASTM D 1557) OR HIGHER STANDARD AS REQUIRED BY THE EL PASO COUNTY DEVELOPMENT SERVICES OR THE SOILS ENGINEER RECOMMENDATION. THIS SHALL INCLUDE ALL MAIN LINE, VALVES, FIRE HYDRANT RUNS, WATER & SEWER SERVICE LINES, CLEAN OUTS, INLET BOXES, MANHOLES, ETC. A QUALIFIED SOILS ENGINEER SHALL OBSERVE AND TEST THE BACKFILL AND COMPACTION OF ALL TRENCHES AND ALL REPORTS SHALL BE SUBMITTED TO MSMD FOR REVIEW AND APPROVAL.
6. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING FACILITIES (ABOVEGROUND AND UNDERGROUND) WITHIN THE PROJECT SITE SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT THE REVISIONS OF THE CONSTRUCTION DRAWINGS IF IT IS FOUND THAT THE ACTUAL LOCATIONS ARE IN CONFLICT WITH THE PROPOSED WORK.
7. ALL WATER AND SANITARY SEWER SERVICE LATERAL LOCATIONS SHALL BE CLEARLY MARKED BY STAMPING AN "S" FOR SEWER AND A "W" FOR WATER ON THE CURB FACE AT EACH SERVICE LATERAL LOCATION. ALL SLEEVE LOCATIONS SHALL BE CLEARLY MARKED BY STAMPING AN "X" ON THE CURB FACE. ALL PRIVATE IRRIGATION SLEEVES SHALL BE MARKED BY STAMPING AN "I" ON THE TOP OF THE SIDEWALK.
8. BENDS, DEFLECTIONS & CUT PIPE LENGTHS SHALL BE USED TO HOLD HORIZONTAL ALIGNMENT OF SEWER AND WATER LINES TO NO MORE THAN 0.5' FROM THE DESIGNED ALIGNMENT.
9. AT ALL LOCATIONS WHERE CAP AND STUB IS NOTED ON DRAWINGS, PROVIDE A PLUG AT THE END OF THE PIPE JOINT NEAREST THE SPECIFIED STATION. PROVIDE A REVERSE ANCHOR AT ALL WATER LINE PLUGS AND BLOW OFFS.
10. ALL EXISTING UTILITY MAINS SHALL BE SUPPORTED AND PROTECTED IN PLACE AND FUNCTION CONTINUOUSLY DURING ALL CONSTRUCTION OPERATIONS. SHOULD A MSMD UTILITY FAIL OR BE DAMAGED AS A RESULT OF THE CONSTRUCTION OPERATION, IT SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR PER ALL MSMD SPECIFICATIONS. IN THE EVENT THE CONTRACTOR CANNOT IMMEDIATELY MAKE THE REPAIRS TO THE FAILED OR DAMAGED MSMD UTILITY TO THE SATISFACTION OF MSMD, MSMD MAY REPAIR OR CAUSE THE REPAIR AND BACK CHARGE ALL SUCH COSTS TO THE CONTRACTOR.
11. THE CONTRACTOR SHALL REPLACE OR REPAIR ANY AND ALL DAMAGE CAUSED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITIES TO ALL ABOVE OR BELOW GROUND IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO FENCES, LANDSCAPING, CURB, GUTTER, SIDEWALK, ASPHALT, ELECTRIC SYSTEMS, GAS SYSTEMS, TELEPHONE/TELEVISION SYSTEMS, ETC.
12. A PRECONSTRUCTION CONFERENCE MEETING SHALL BE HELD AT THE PROJECT SITE A MINIMUM OF 7 DAYS BEFORE CONSTRUCTION BEGINS AND SHALL BE ATTENDED BY ALL REPRESENTATIVES RESPONSIBLE FOR CONSTRUCTION, INSPECTION, SUPERVISION, TESTING AND ALL OTHER ASPECTS OF THE WORK. THE CONTRACTOR SHALL NOTIFY MSMD AND ALL AFFECTED UTILITY COMPANIES ADJACENT TO THE PROPOSED UTILITY CONSTRUCTION A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF CONSTRUCTION FOR SCHEDULING. THE CONTRACTOR SHALL SCHEDULE BI-WEEKLY CONSTRUCTION MEETINGS AT THE PROJECT SITE OR MORE FREQUENTLY AS DEEMED NECESSARY BY MSMD.
13. PRELIMINARY ACCEPTANCE SHALL BE DEFINED AS THE POINT IN TIME THAT MSMD ACCEPTS THE FACILITY FOR USE AND ALL SURFACE IMPROVEMENTS AND RESTORATIONS ARE COMPLETED.
14. FINAL ACCEPTANCE BY MSMD OF ANY UTILITY LINE OR SYSTEM SHALL NOT OCCUR UNTIL COMPLETION OF FINAL ASPHALT LAYERS AND/OR FINAL COMPLETION AND/OR RESTORATION OF ALL SURFACE IMPROVEMENTS. THE WARRANTY PERIOD FOR ALL FACILITIES SHALL BE 12 MONTHS COMMENCING WITH FINAL ACCEPTANCE. MSMD MAY REQUIRE RETESTING OF THE UTILITY SYSTEM PRIOR TO FINAL ACCEPTANCE.
15. INSPECTION FEES: CALL MSMD FOR FEE SCHEDULE, OR VIEW AT WWW.MERIDIANRANCHMETRO.ORG.
16. ALL COMMERCIAL/BUSINESS DEVELOPMENTS SHALL HAVE A MINIMUM EIGHT INCH DIAMETER WATER MAIN LOOPED THROUGH THE PROPOSED PROPERTY WITH GATE VALVES LOCATED WHERE THE MAIN ENTERS AND EXITS THE PROPERTY AND A MINIMUM EIGHT INCH SANITARY SEWER MAIN WITH A MANHOLE IN THE STREET WHERE THE MAIN ENTERS THE PROPERTY. THE EXTENT OF THE MAINS SHALL BE MARKED WITH THE APPROPRIATELY COLORED CARSONITE MARKERS AND TRACER WIRE.
17. AFTER REVIEW AND APPROVAL OF PLANS FOR THE EXTENSION OF LINES, FACILITIES, AND/OR SERVICES, CONSTRUCTION MUST BE COMPLETED WITHIN 18 MONTHS FOR RESIDENTIAL SUBDIVISIONS AND 12 MONTHS FOR ANY COMMERCIAL INSTALLATIONS. IF WORK IS NOT COMPLETED WITHIN THIS TIME FRAME AND NO EXTENSION HAS BEEN GIVEN, THEN ALL PLANS MUST BE RE-SUBMITTED TO MSMD FOR REVIEW (WITH NEW FEES PAID) AND APPROVAL.
18. PUMPING OR BYPASS OPERATIONS SHALL BE REVIEWED AND APPROVED BY MSMD AND THE ENGINEER OF RECORD PRIOR TO EXECUTION.
19. ANY FACILITIES OUTSIDE OF PAVED ROADS MUST BE MARKED APPROPRIATELY WITH CARSONITE MARKERS AT EACH VALVE, MANHOLE, TEST STATION, AND ANY OTHER FACILITIES MSMD DEEMS NECESSARY.

## WATER NOTES

27. ALL WATER MAIN PIPES SHALL BE AWWA C900 PVC, PRESSURE CLASS 200 OR MSMD APPROVED EQUAL, INSTALLED PER MANUFACTURERS' SPECIFICATIONS. ALL WATER MAIN FITTINGS SHALL HAVE MECHANICAL RESTRAINTS AND THRUST BLOCKS. ALL WATER MAIN PIPES SHALL HAVE A MINIMUM COVER DEPTH OF 5'-6" INSTALLED WITH A COATED 12 GAUGE U.F. TRACER WIRE.
  28. ALL LOTS SHALL RECEIVE A MINIMUM 3/4" DIAMETER HDPE OR COPPER WATER SERVICE INSTALLED PER APPROVED PLANS CSUS AND MSMD SPECIFICATIONS. HDPE WATER SERVICE SHALL BE HDPE SDR-7 PE4710 RATED FOR 200 PSI WITH THE MARKING SDR-7, AWWA C901, NSF61 PE4710. WATER SERVICES SHALL BE INCREASED IN SIZE TO 1" DIAMETER WHERE THE RESIDENTIAL SERVICE WATER PRESSURE IS LESS THAN 40 PSI AT 10 GPM DEMAND AND ALL 1/3 ACRE OR GREATER LOTS SHALL RECEIVE A MINIMUM 1" DIAMETER WATER SERVICE AS INDICATED ON THE PLANS. THE CURB STOP VALVE AND BOX AT THE END OF EACH WATER SERVICE SHALL BE "LOCATED" WITH A 2" X 4" PIECE OF WOOD EXTENDED 4' ABOVE FINISH GRADE, PAINTED BLUE, DIRECTLY BEHIND THE CURB STOP VALVE AND BOX. ALL TRACER WIRE CONNECTIONS SHALL BE MADE WITH DBY (DIRECT BURY YELLOW) WATER TIGHT STYLE ELECTRICAL CONNECTORS OR EQUAL.
  29. IF HDPE WATER SERVICES ARE TO BE USED THEY SHALL INCLUDE A ROMAC 202 NS OR EQUAL TAPPING SADDLE AND A CURB STOP VALVE INSIDE A CURB STOP BOX AT THE END OF THE WATER SERVICE. ALL CORPORATION STOPS SHALL BE AY MCDONALD MODEL NUMBER 74701B-33 FOR SDR HDPE SAME SIZE AS THE WATER SERVICE. ALL CURB STOP VALVES SHALL BE 3/4" AY MCDONALD MODEL NUMBER 76100 (FLARE X FLARE) OR EQUIVALENT WITH A MAIN SIDE ONE PACK JOINT (PEP) ADAPTOR AY MCDONALD MODEL NUMBER 74755-33 UNLESS OTHERWISE NOTED ON THE PLANS. ALL 1" DIAMETER WATER SERVICES SHALL RECEIVE A 1" INLET BY 3/4" OUTLET CURB STOP VALVE.
  30. IF COPPER WATER SERVICES ARE TO BE USED THEY SHALL INCLUDE A ROMAC 202 BS OR EQUAL TAPPING SADDLE AND A CURB STOP VALVE INSIDE A CURB STOP BOX AT THE END OF THE WATER SERVICE. ALL CURB STOP VALVES SHALL BE 3/4" UNLESS OTHERWISE NOTED ON THE PLANS. ALL 1" DIAMETER WATER SERVICES SHALL RECEIVE A 1" INLET BY 3/4" OUTLET CURB STOP VALVE MANUFACTURED BY AY MCDONALD MODEL NUMBER 6104 (FLARE X FLARE) OR EQUIVALENT.
  31. ALL POTABLE WATER VALVES SHALL OPEN CLOCKWISE WITH THE VALVE OPERATING NUT INSTALLED LOW NEAR THE MAIN LINE AND PAINTED RED. ALL POTABLE AND RAW WATER VALVES NOT WITHIN PAVED STREETS SHALL BE MARKED WITH CARSONITE MARKERS. ALL RAW WATER VALVES SHALL OPEN COUNTERCLOCKWISE WITH THE VALVE OPERATING NUT INSTALLED HIGH WITHIN 1' FROM THE SURFACE AND PAINTED BLACK.
  32. ALL POTABLE WATER, RAW WATER AND NON-POTABLE WATER VALVES 1 1/4" OR GREATER SHALL BE BUTTERFLY VALVES WITH A SIDE OPERATING NUT. THE OPERATIONAL DEPTH OF THE POTABLE WATER VALVES SHALL NOT EXCEED 6' IN OVERALL DEPTH NOR SHALL IT BE CLOSER TO THE SURFACE THEN 4'.
  33. FIRE HYDRANT LOCATIONS SHALL BE REVIEWED AND APPROVED BY THE APPLICABLE FIRE DEPARTMENT AUTHORITY.
  34. FIRE HYDRANTS SHALL BE AVK MODEL 2780 NOSTALGIC (PART # 27ND-023XX-0010B-AN) OPEN RIGHT WITH A 1 1/2" PENTAGON OPERATING NUT AND SERVICE CAPS, STANDARD 4 1/2" PUMPER NOZZLE WITH A THREAD PATTERN OF 5-8" - 6 TPI (THREAD PER INCH) ALONG WITH TWO SANDARD 2 1/2" NST (NATIONAL STANDARD THREAD) SIZE NOZZLES. HYDRANTS SHALL BE PAINTED WITH RUSTOLEUM SAFETY YELLOW.
  35. ALL DUCTILE IRON PIPES, FITTINGS, VALVES AND FIRE HYDRANTS SHALL BE WRAPPED WITH POLYETHYLENE TUBING, DOUBLE BONDED AT EACH JOINT AND ELECTRICALLY ISOLATED. BONDING AND ANODE CONNECTIONS SHALL BE THOROUGHLY COATED WITH BITUMINOUS COATINGS.
  36. ALL DUCTILE IRON PIPE AND FITTINGS LESS THAN 12 INCHES IN DIAMETER SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB. MAGNESIUM ANODES EVERY 400 FEET AND 9 LB. MAGNESIUM ANODES AT EACH FITTING. ALL DUCTILE IRON PIPE AND FITTINGS 12 INCHES AND GREATER SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB. MAGNESIUM ANODES EVERY 300 FEET AND 9 LB. MAGNESIUM ANODES AT EACH FITTING. CATHODIC PROTECTION AND ANODES SHALL BE INSTALLED PER MSMD SPECIFICATIONS.
  37. ALL EXISTING WATER UTILITY MATERIAL REMOVED AS PART OF THE WORK ON THESE DRAWINGS SHALL BE RETURNED TO MSMD AS REQUESTED.
  38. TESTING OF FACILITIES:
    - A. THE CONTRACTOR SHALL NOTIFY MSMD A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF ANY TESTING TO ALLOW MSMD STAFF TO BE PRESENT AT ALL TIMES DURING TESTING. ALL TESTING SHALL BE PER MSMD SPECIFICATIONS OR CSUS, WHICHEVER IS GREATER.
    - B. ALL SECTIONS OF WATER LINES MUST FIRST PASS A CHLORINE TEST WITH A MINIMUM OF 50 PARTS PER MILLION OF RESIDUAL AFTER 24 HOURS. THE WHOLE SECTION OF LINE BEING TESTED MUST BE RE-CHLORINATED AND RE-TESTED IF IT DOES NOT PASS. ONCE THE SECTION OF LINE BEING TESTED PASSES THE CHLORINE TEST THE LINE MUST BE FLUSHED AND BAC-T TESTED PER CSUS. ONCE THE BAC-T TEST PASSES, THE SECTION OF LINE MAY BE PRESSURE TESTED. WATER FLUSHED FROM THE WATER SYSTEM MUST BE PROPERLY DE-CHLORINATED DURING THE FLUSHING PROCESS.
    - C. ALL SECTIONS OF WATER LINES MUST PASS A TWO HOUR 200 PSI HYDROSTATIC PRESSURE TEST. THE PRESSURE SHALL NOT DECREASE BY MORE THAN 5 PSI DURING THE DURATION OF THE TEST. NO WATER SHALL BE ADDED DURING THE PRESSURE TEST. IF THE PRESSURE TEST FAILS, THE SECTIONS OF LINE THAT FAILED MUST AGAIN PASS THE CHLORINE TEST, BE FLUSHED, AND PASS THE BAC-T TEST PRIOR TO CONDUCTING A NEW PRESSURE TEST.
    - D. ONCE WATER SERVICES ARE INSTALLED A SECOND WATER PRESSURE TEST MUST BE DONE TO A WORKING PSI OF 150 PSI FOLLOWING THE ABOVE TESTING STANDARDS.
    - E. SECTIONS OF WATER LINES SHALL BE LEFT PRESSURIZED ONCE THE WATER LINES HAVE PASSED ALL TESTING DURING THE REMAINING CONSTRUCTION ACTIVITIES.
  39. COMMENCEMENT OF USE OF WATER LINES AND/OR SYSTEMS. NO WATER FACILITY SHALL BE PLACED IN SERVICE UNTIL:
    - A. MSMD HAS APPROVED ALL TESTS AND COMPACTION TESTING REPORTS, AND AS-BUILT DRAWINGS ARE SUBMITTED TO AND APPROVED BY MSMD.
    - B. ALL WATER LINES ARE COMPLETED AND THE FIRST LIFT OF ASPHALT IS COMPLETED OVER THE LINE. IN THE CASE WHERE NO ASPHALT IS TO BE PLACED OVER THE LINE, SURFACE IMPROVEMENTS SHALL BE COMPLETED PRIOR TO USE OF THE FACILITY.
    - C. ALL EASEMENTS (PLATTED OR DEEDED) ARE DEDICATED, EXECUTED TO MSMD, AND RECORDED.
  40. ANY WATER SHUT DOWNS THAT NEED TO OCCUR ON THE CRITICAL LINES AS DEFINED BY THE MSMD SOP (STANDARD OPERATION PROCEDURE) MANUAL SHALL BE COORDINATED WITH MSMD STAFF FOR NIGHT TIME SHUT DOWNS.
  41. THE CONTRACTOR SHALL MAKE ALL NECESSARY CONNECTIONS TO EXISTING WATER MAINS WITHOUT A SHUTDOWN OF THE WATER SYSTEM. IN THE EVENT THAT A SHUTDOWN OF A WATER SYSTEM IS NECESSARY, THE CONTRACTOR SHALL ACQUIRE A PERMIT FROM MSMD.
  42. ALL NON-POTABLE WATER MAINS SHALL BE AWWA NON-POTABLE STANDARD (PURPLE PIPE) C900 PVC, PRESSURE CLASS 200 OR MSMD APPROVED EQUAL, INSTALLED PER MANUFACTURERS' SPECIFICATIONS. ALL WATER MAIN FITTINGS SHALL HAVE MECHANICAL RESTRAINTS AND THRUST BLOCKS. ALL WATER MAIN PIPES SHALL HAVE A MINIMUM COVER DEPTH OF 5'-6" INSTALLED WITH A COATED 12 GAUGE U.F. TRACER WIRE.
  43. ALL NON-POTABLE WATER VALVES SHALL OPEN COUNTER CLOCKWISE WITH A VALVE EXTENSION, EXTENDING TO WITHIN 1' OF THE SURFACE AND PAINTED PURPLE WITH AN OPEN DIRECTION ARROW.
  44. IRRIGATION SERVICES SHALL HAVE A STOP AND WASTE CURB STOP VALVE INSTALLED ALONG WITH A TRACER WIRE EXTENDING BACK TO THE MAIN LINE.
- THE ABOVE GUIDELINES ARE SUBJECT TO CHANGE AT ANY TIME.**

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THEY ARE DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR  
**BRUM, LLC**  
101 N. CASCADE, SUITE 200  
COLORADO SPRINGS, CO 80903  
ATTN: BOB IRWIN  
P~(719)-475-7474

**J.R. ENGINEERING**  
A Westman Company



Central 303-740-9888 • Colorado Springs 719-588-2583  
Fort Collins 970-491-9888 • www.jrengineering.com

BY	DATE	No.	REVISION	H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
				N/A	N/A	09/07/22	N/A	QNL	

LATIGO TRAILS - FILING NO. 9

LEGEND AND NOTES



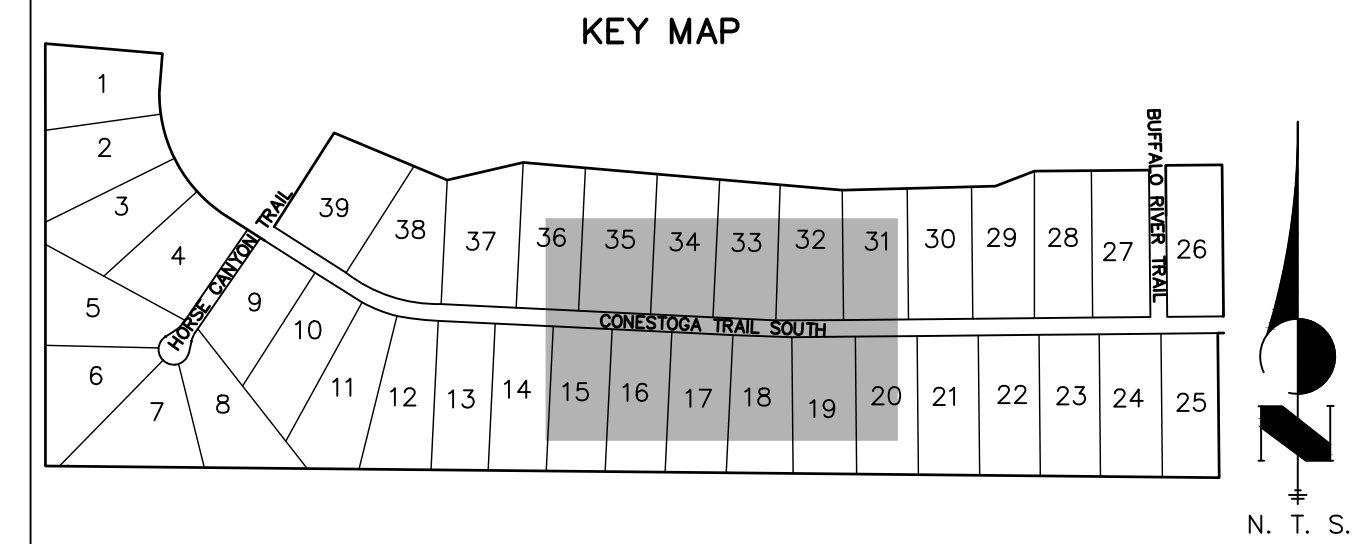
**Know what's below.  
Call before you dig.**

X:\2517502\Drawings\Sheet\Drawings\Sheet\Drawings\CD\2517502\_C0101.dwg, Amp, LGS2, 9/6/2022, 11:04:43 PM, CS





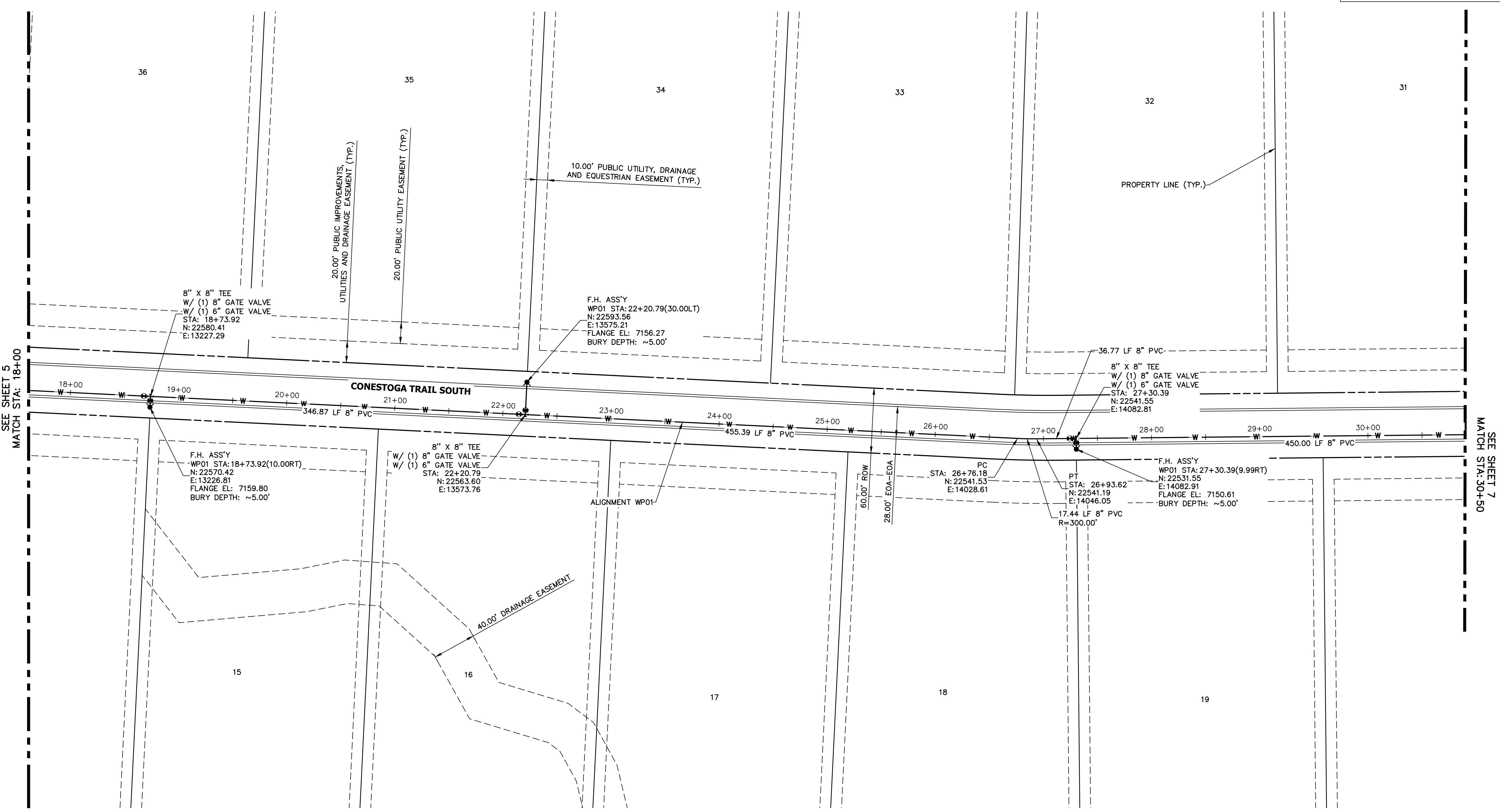




UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.

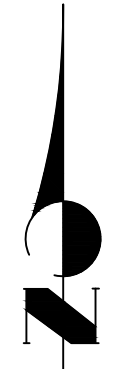
PREPARED FOR  
**BRJM, LLC**  
 101 N. CASCADE, SUITE 200  
 COLORADO SPRINGS, CO 80903  
 ATTN: BOB IRWIN  
 P~(719)-475-7474

**J.R. ENGINEERING**  
 A Westman Company  
 Centennial 303-740-9888 • Colorado Springs 719-583-2583  
 Fort Collins 970-491-9888 • www.jrengineering.com




SEE SHEET 5  
 MATCH STA: 18+00

SEE SHEET 7  
 MATCH STA: 30+50



- WATER PIPE NOTES**
1. ALL WATER LINES ARE OWNED AND MAINTAINED BY MERIDIAN SERVICE METROPOLITAN DISTRICT (MSMD) UNLESS OTHERWISE NOTED.
  2. ALL CURVILINEAR PIPE MUST BE ACCOMPLISHED BY HIGH DEFLECTION COUPLERS.
  3. ALL HORIZONTAL BENDS, TEES, AND CROSSES REQUIRE CONCRETE THRUST REACTION BLOCKS (CTRB). SEE CSU DETAILS A4-2 AND A4-3.
  4. ALL HORIZONTAL AND VERTICAL DEFLECTIONS TO BE ACCOMPLISHED WITH HIGH DEFLECTION (HD) COUPLINGS.
  5. ALL VERTICAL BENDS REQUIRE MECHANICAL JOINT RESTRAINTS (MJR). SEE CSU DETAIL A4-4.
  6. SEE FIRE HYDRANT DETAIL DEPICTING THE PLACEMENT ON SHEET 9.

THE LOCATIONS OF EXISTING ABOVE GROUND AND 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 ABOVE GROUND AND UNDERGROUND UTILITIES.

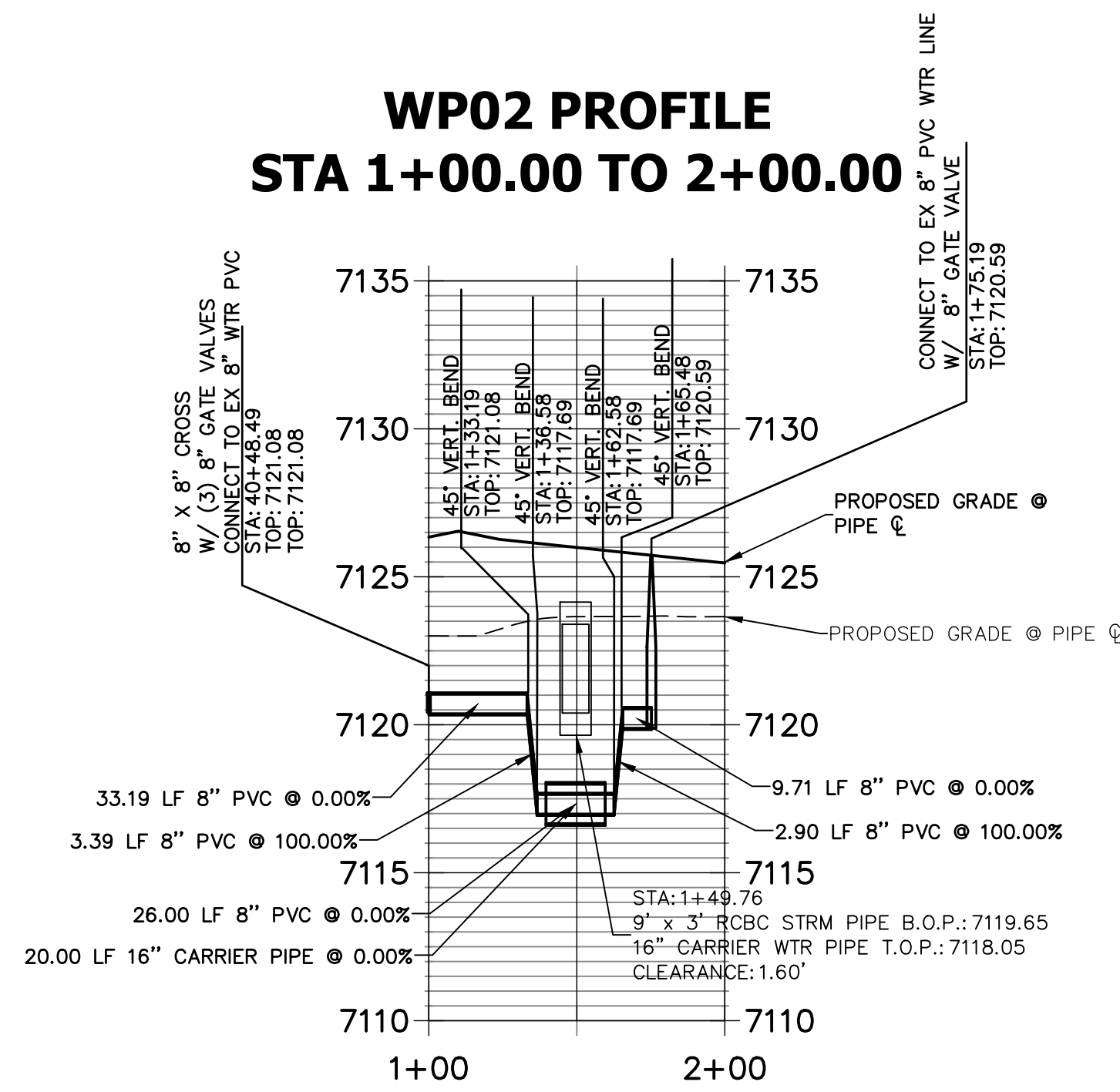
**ENGINEER'S STATEMENT**  
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING  
  
 BRYAN T. LAW, P.E.  
 COLORADO P.E. 25043  
 FOR AND ON BEHALF OF JR ENGINEERING, LLC  
 09/09/22

LATIO TRAILS - FILING NO.	9	
	WATER DISTRIBUTION PLAN	
SHEET	6	OF 9
JOB NO.	25175.02	
H-SCALE	1"=50'	
	V-SCALE	N/A
DATE	09/07/22	
DESIGNED BY	QNL	
DRAWN BY	QNL	
CHECKED BY		
No.	REVISION	
BY	DATE	

X:\2517502\Drawings\Sheet\Drawings\CD\2517502\_WP01.dwg, Wp\_01 (2), 9/9/2022, 1:22:29 PM, CS

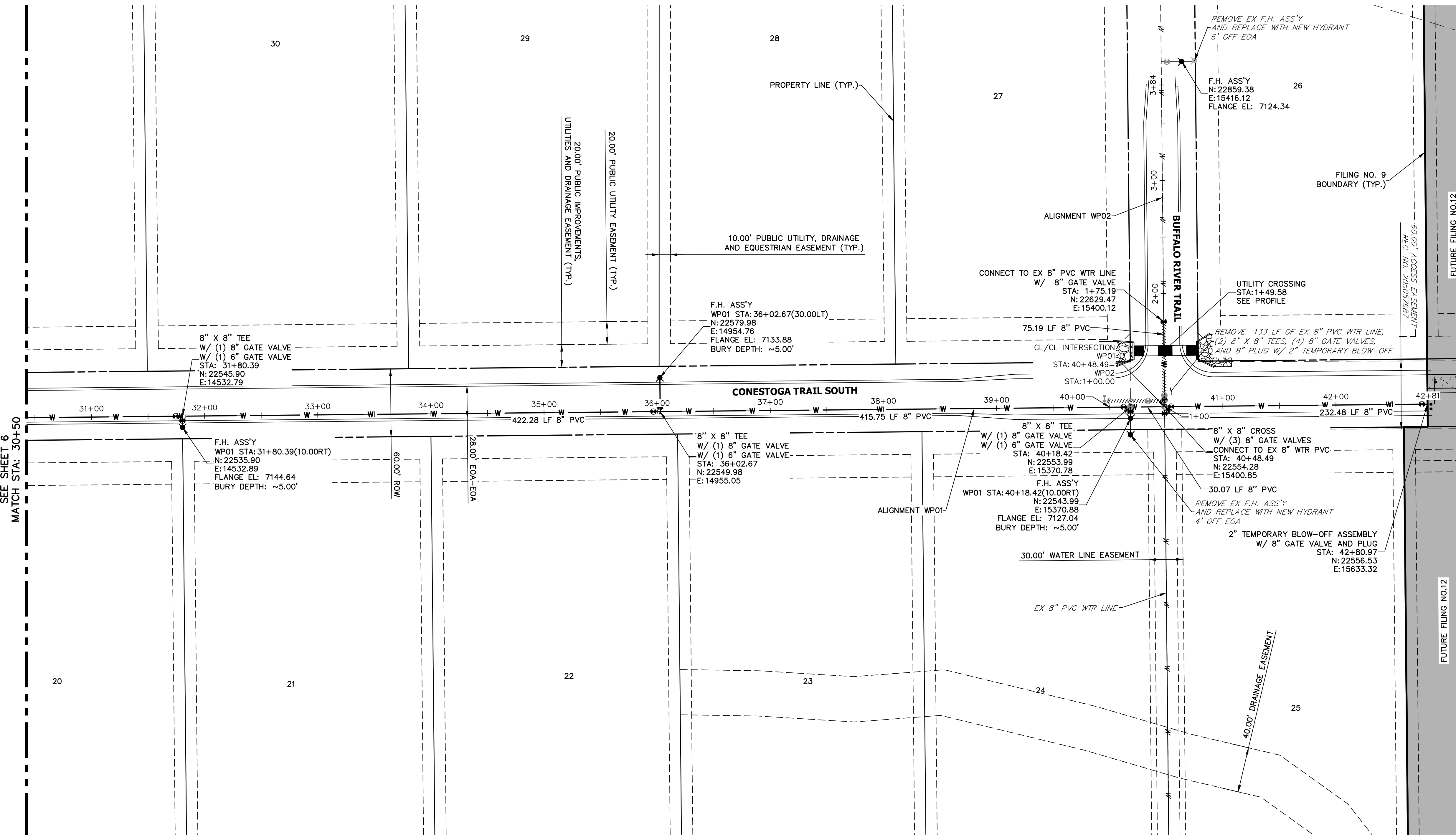
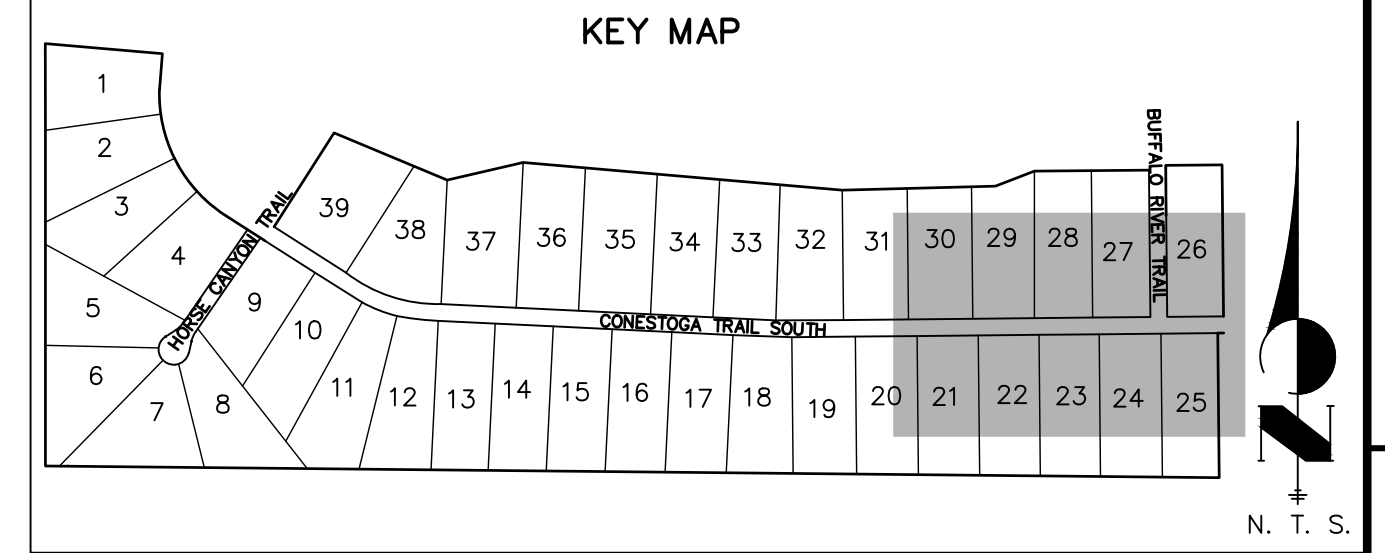


**WP02 PROFILE  
STA 1+00.00 TO 2+00.00**

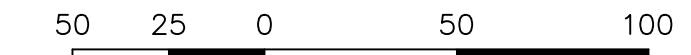
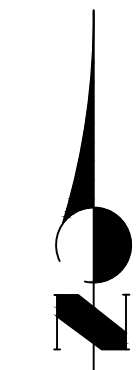


**WATER PIPE NOTES**

1. ALL WATER LINES ARE OWNED AND MAINTAINED BY MERIDIAN SERVICE METROPOLITAN DISTRICT (MSMD) UNLESS OTHERWISE NOTED.
2. ALL CURVILINEAR PIPE MUST BE ACCOMPLISHED BY HIGH DEFLECTION COUPLERS.
3. ALL HORIZONTAL BENDS, TEES, AND CROSSES REQUIRE CONCRETE THRUST REACTION BLOCKS (CTRB). SEE CSU DETAILS A4-2 AND A4-3.
4. ALL HORIZONTAL AND VERTICAL DEFLECTIONS TO BE ACCOMPLISHED WITH HIGH DEFLECTION (HD) COUPLINGS.
5. ALL VERTICAL BENDS REQUIRE MECHANICAL JOINT RESTRAINTS (MJR). SEE CSU DETAIL A4-4.
6. SEE FIRE HYDRANT DETAIL DEPICTING THE PLACEMENT ON SHEET 9.



Know what's below.  
Call before you dig.



HORIZONTAL  
ORIGINAL SCALE: 1" = 50'  
VERTICAL  
ORIGINAL SCALE: 1" = 5'

THE LOCATIONS OF EXISTING ABOVE GROUND AND 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 ABOVE GROUND AND UNDERGROUND UTILITIES.

**ENGINEER'S STATEMENT**

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING  
  
 25043  
 09/09/22  
 BRYAN T. LAW, P.E.  
 COLORADO P.E. 25043  
 FOR AND ON BEHALF OF JR ENGINEERING, LLC

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR  
**BRJM, LLC**  
 101 N. CASCADE, SUITE 200  
 COLORADO SPRINGS, CO 80903  
 ATTN: BOB IRWIN  
 P~(719)-475-7474

**J.R. ENGINEERING**  
 A Westman Company  
  
 Centennial 303-740-9888 • Colorado Springs 719-583-2583  
 Fort Collins 970-491-9888 • www.jrengineering.com

BY	DATE	REVISION

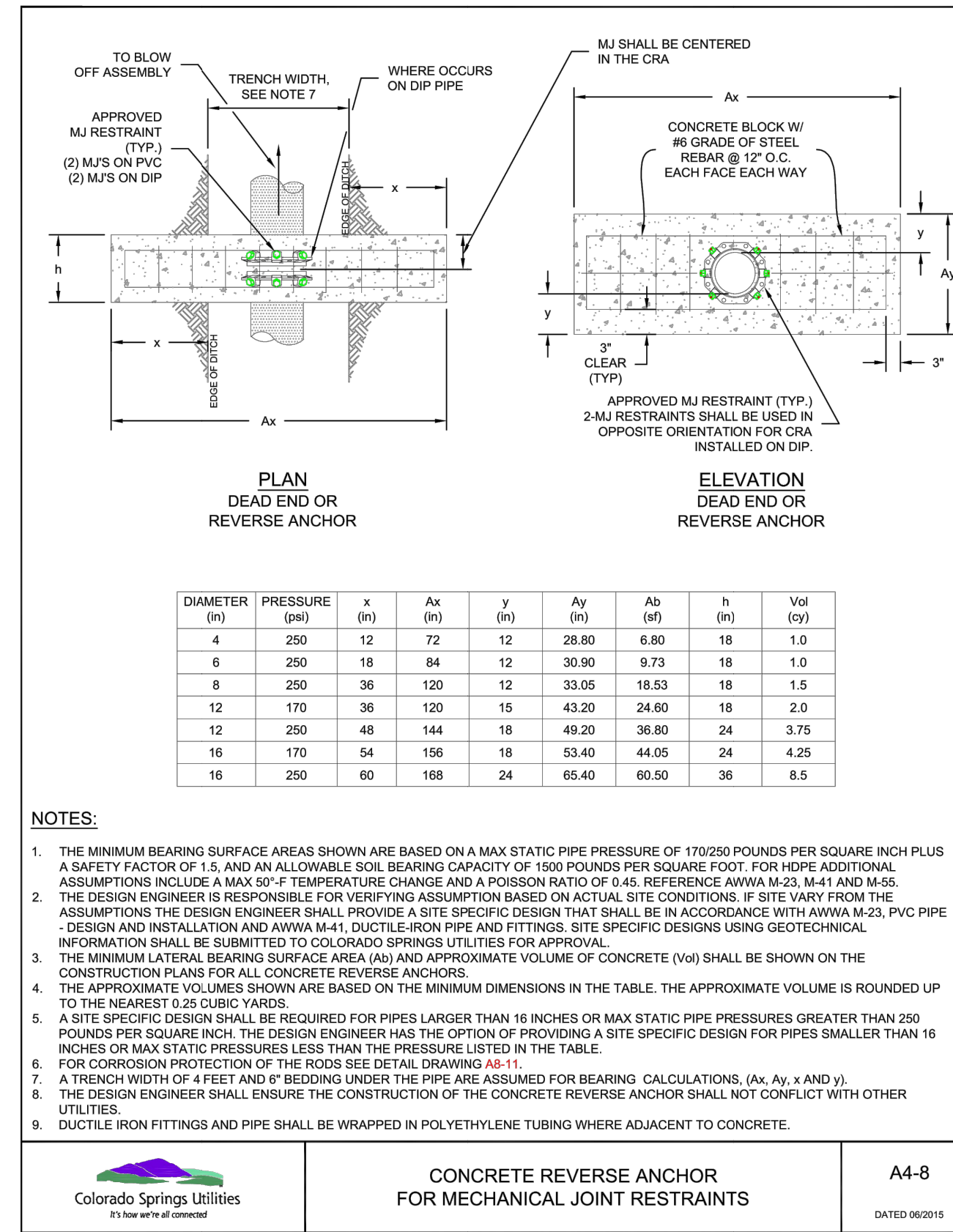
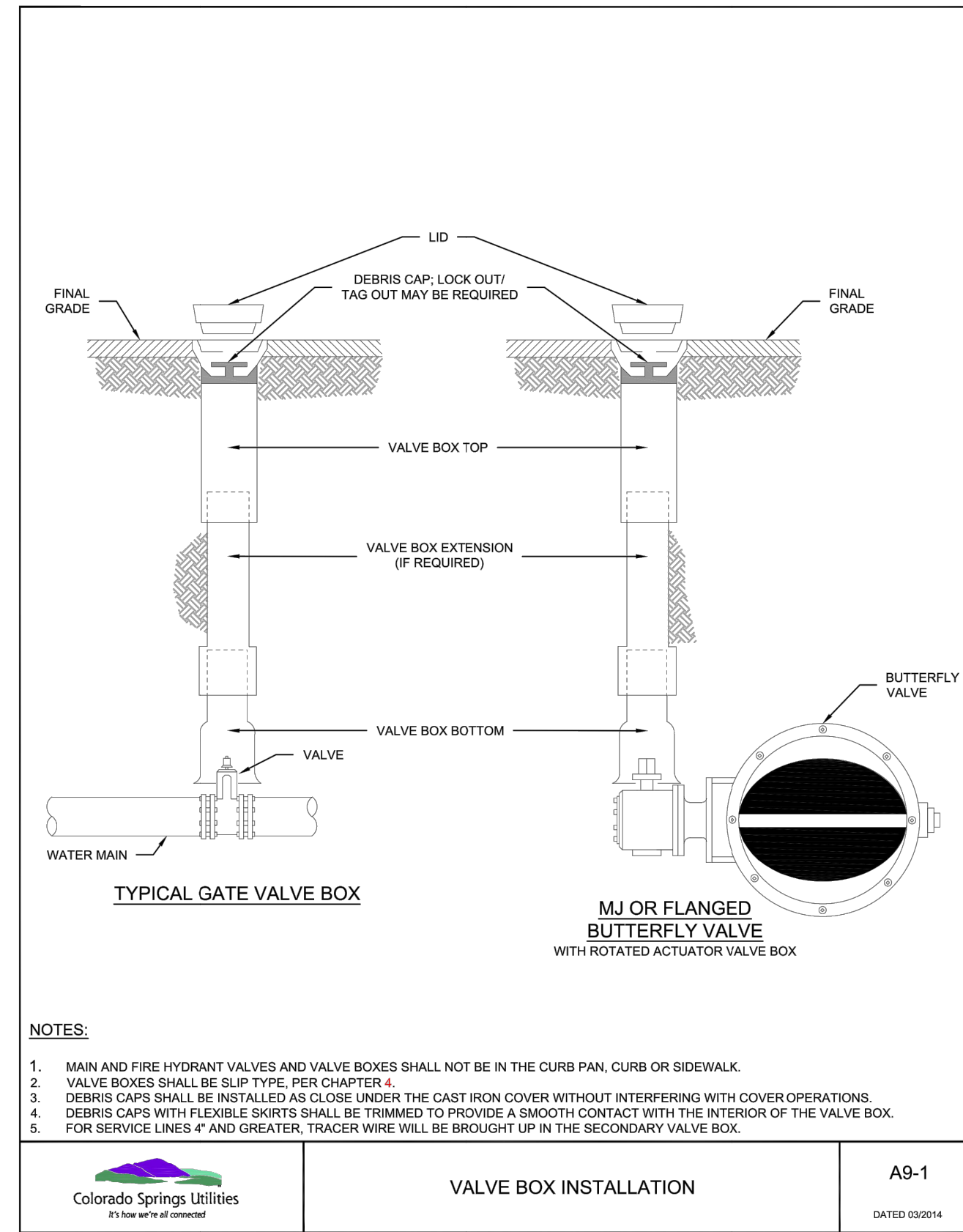
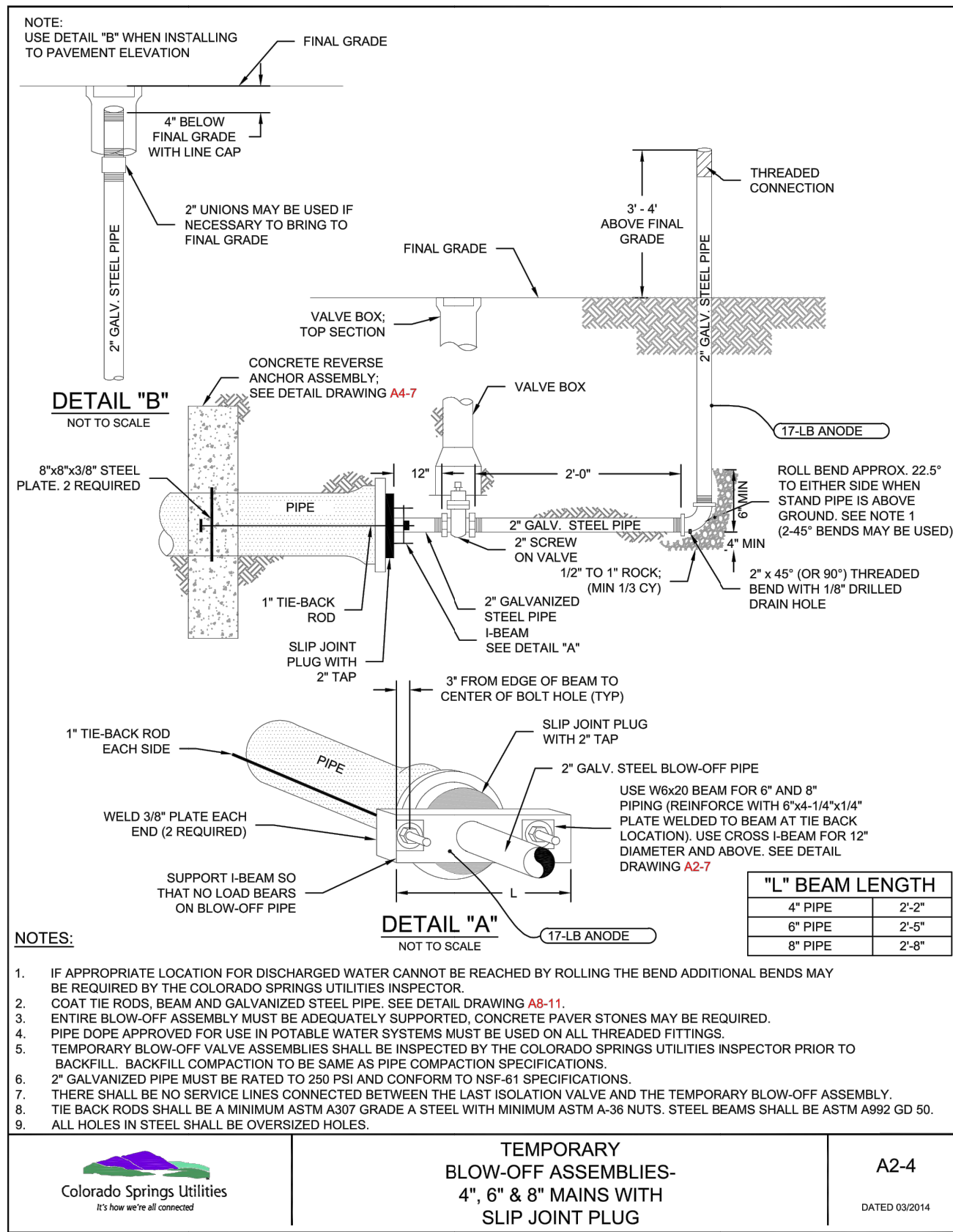
H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
1"=50'	1"=5'	09/07/22			

LATIGO TRAILS - FILING NO. 9  
 WATER DISTRIBUTION PLAN  
 SHEET 7 OF 9  
 JOB NO. 25175.02



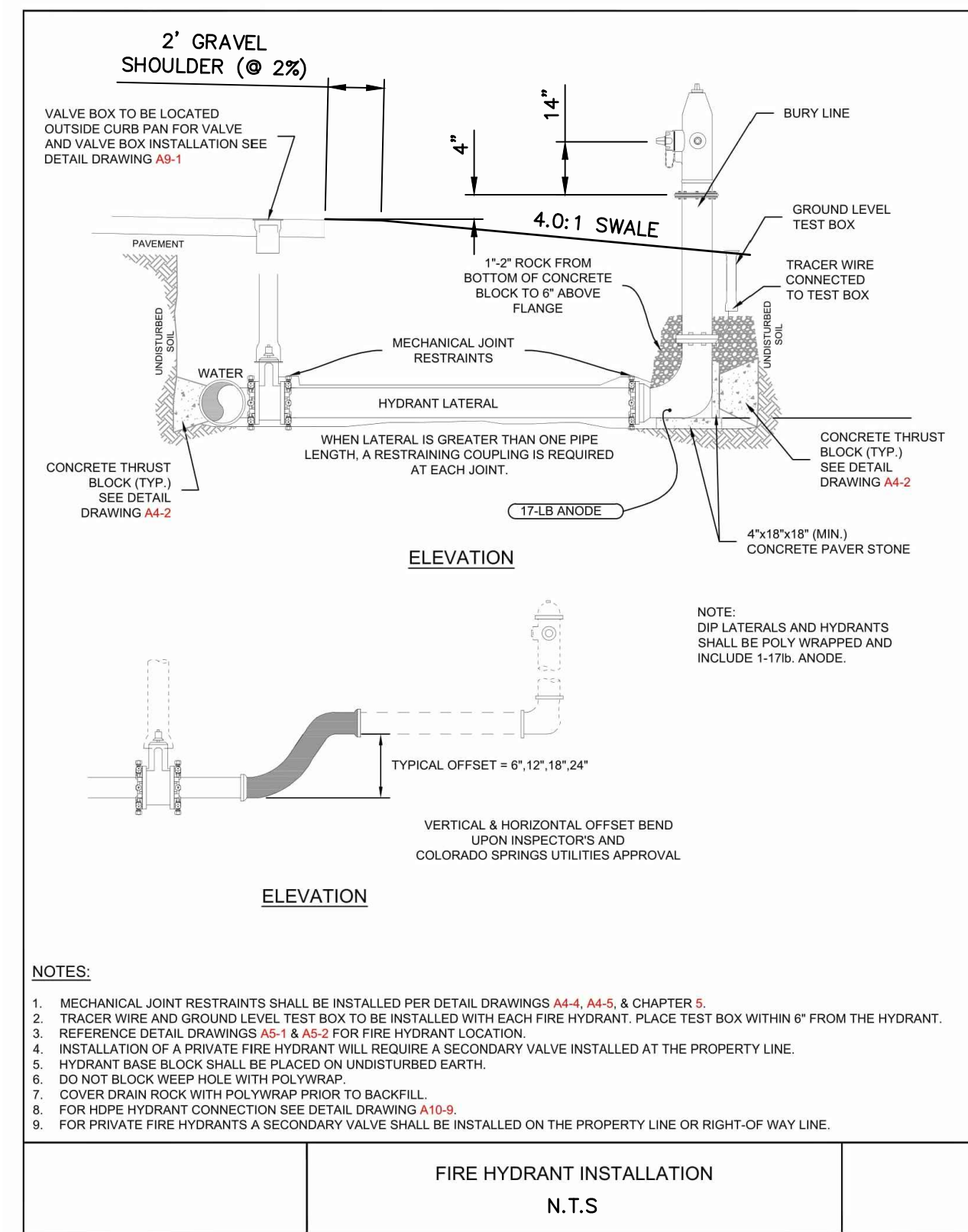






DIAMETER (in)	PRESSURE (psi)	x (in)	Ax (in)	y (in)	Ay (in)	Ab (in)	h (in)	Vol (cy)
4	250	12	72	12	28.80	6.80	18	1.0
6	250	18	84	12	30.90	9.73	18	1.0
8	250	36	120	12	33.05	18.53	18	1.5
12	170	36	120	15	42.20	24.60	18	2.0
12	250	48	144	18	49.20	36.80	24	3.75
16	170	54	156	18	53.40	44.05	24	4.25
16	250	60	168	24	65.40	60.50	36	8.5

- NOTES:**
1. THE MINIMUM BEARING SURFACE AREAS SHOWN ARE BASED ON A MAX STATIC PIPE PRESSURE OF 170/250 POUNDS PER SQUARE INCH PLUS A SAFETY FACTOR OF 1.5 AND AN ALLOWABLE SOIL BEARING CAPACITY OF 1500 POUNDS PER SQUARE FOOT. FOR HDPE ADDITIONAL ASSUMPTIONS INCLUDE A MAX 50° F TEMPERATURE CHANGE AND A POISSON RATIO OF 0.45. REFERENCE AWWA M-23, M-41 AND M-55.
  2. THE DESIGN ENGINEER IS RESPONSIBLE FOR VERIFYING ASSUMPTION BASED ON ACTUAL SITE CONDITIONS. IF SITE VARY FROM THE ASSUMPTIONS THE DESIGN ENGINEER SHALL PROVIDE A SITE SPECIFIC DESIGN THAT SHALL BE IN ACCORDANCE WITH AWWA M-23, PVC PIPE DESIGN AND INSTALLATION AND AWWA M-41, DUCTILE-IRON PIPE AND FITTINGS. SITE SPECIFIC DESIGNS USING GEOTECHNICAL INFORMATION SHALL BE SUBMITTED TO COLORADO SPRINGS UTILITIES FOR APPROVAL.
  3. THE MINIMUM LATERAL BEARING SURFACE AREA (Ax) AND APPROXIMATE VOLUME OF CONCRETE (Vol) SHALL BE SHOWN ON THE CONSTRUCTION PLANS FOR ALL CONCRETE REVERSE ANCHORS.
  4. THE APPROXIMATE VOLUMES SHOWN ARE BASED ON THE MINIMUM DIMENSIONS IN THE TABLE. THE APPROXIMATE VOLUME IS ROUNDED UP TO THE NEAREST 0.25 CUBIC YARDS.
  5. A SITE SPECIFIC DESIGN SHALL BE REQUIRED FOR PIPES LARGER THAN 16 INCHES OR MAX STATIC PIPE PRESSURES GREATER THAN 250 POUNDS PER SQUARE INCH. THE DESIGN ENGINEER HAS THE OPTION OF PROVIDING A SITE SPECIFIC DESIGN FOR PIPES SMALLER THAN 16 INCHES OR MAX STATIC PRESSURES LESS THAN THE PRESSURE LISTED IN THE TABLE.
  6. FOR CORROSION PROTECTION OF THE RODS SEE DETAIL DRAWING A8-11.
  7. A TRENCH WIDTH OF 4 FEET AND 6" BEDDING UNDER THE PIPE ARE ASSUMED FOR BEARING. CALCULATIONS (Ax, Ay, x AND y).
  8. THE DESIGN ENGINEER SHALL ENSURE THE CONSTRUCTION OF THE CONCRETE REVERSE ANCHOR SHALL NOT CONFLICT WITH OTHER UTILITIES.
  9. DUCTILE IRON FITTINGS AND PIPE SHALL BE WRAPPED IN POLYETHYLENE TUBING WHERE ADJACENT TO CONCRETE.



UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR  
**BRUM, LLC**  
101 N. CASCADE, SUITE 200  
COLORADO SPRINGS, CO 80903  
ATTN: BOB IRWIN  
P~(719)-475-7474

**J.R. ENGINEERING**  
A Westman Company  
Central 303-740-9383 • Colorado Springs 719-583-2593  
Fort Collins 970-491-9888 • www.jrengineering.com

BY	DATE	No.	REVISION	H-SCALE	N/A	V-SCALE	N/A	DESIGNED BY	N/A	DRAWN BY	QNL	CHECKED BY

LATIGO TRAILS - FILING NO. 9  
DETAILS

SHEET 9 OF 9  
JOB NO. 25175.02



**ENGINEER'S STATEMENT**  
STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT

*[Signature]*  
BRYAN T. LAW, P.E.  
COLORADO P.E. 25043  
FOR AND ON BEHALF OF JR ENGINEERING, LLC

25043  
09/09/22