

CONSTRUCTION NOTES:

- ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH EL PASO COUNTY ENGINEERING CRITERIA MANUAL AND EL PASO COUNTY DRAINAGE CRITERIA MANUAL.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, 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&2
- THE CONTRACTOR WILL HOLD A PRE-CONSTRUCTION MEETING WITH THE EL PASO COUNTY ENGINEERING DEPARTMENT REPRESENTATIVE AND THE ENGINEER PRIOR TO CONSTRUCTION OF PUBLIC IMPROVEMENTS.
- ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION 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.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT, REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND EPC. 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 PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT, INCLUDING WORK WITHIN 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.
- ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE ENGINEER OR APPLICABLE ENTITY.
- EL PASO COUNTY SHALL BE NOTIFIED 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
- ALL WORK SHALL BE DONE TO THE LINES, GRADES, SECTIONS, AND ELEVATIONS SHOWN ON THE PLANS UNLESS OTHERWISE NOTED OR APPROVED BY THE ENGINEER.
- ALL RANGE POINTS, TIES, BENCH MARKS, AND OTHER SURVEY CONTROL POINTS WHICH MAY BE ENCOUNTERED DURING CONSTRUCTION MUST BE PRESERVED.
- THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE AND/OR TOES OF SLOPE AS SHOWN ON THE PLANS AND CROSS SECTIONS. ANY DISTURBANCE BEYOND THESE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITIONS AT THE CONTRACTOR'S EXPENSE. CONSTRUCTION ACTIVITIES, IN ADDITION TO NORMAL CONSTRUCTION PROCEDURES, SHALL INCLUDE THE PARKING OF VEHICLES OR EQUIPMENT, DISPOSAL OF LITTER AND ANY OTHER ACTION WHICH WOULD ALTER EXISTING CONDITIONS AS APPROVED.
- CONSTRUCTION ACTIVITY SHALL BE SCHEDULED WITH MINIMUM IMPACT TO PEDESTRIAN AND VEHICULAR TRAFFIC. ALLOWABLE WORK HOURS SHALL BE AS SPECIFIED IN THE PROJECT SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL UTILITIES AND STRUCTURES AFFECTED BY THE WORK AND ANY DAMAGE SHALL BE REPAIRED AND RESTORED TO THE SATISFACTION OF THE ENGINEER OR APPLICABLE ENTITY.
- THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY TRAFFIC CONTROL DEVICES NECESSARY THROUGHOUT THE DURATION OF CONSTRUCTION IN CONFORMANCE WITH TRAFFIC CONTROL PLANS. NO LANE CLOSURES WILL BE PERMITTED UNLESS OTHERWISE SPECIFIED IN THE PROJECT SPECIAL PROVISION "TRAFFIC CONTROL".
- THE CONTRACTOR SHALL MAINTAIN PAVEMENT MARKINGS ON THE ROADWAYS DURING ALL PHASES OF CONSTRUCTION IN ACCORDANCE WITH MUTCD AND CDOT STANDARDS.
- WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. LOCATIONS SHALL BE AS ORDERED. WATER WILL NOT BE PAID FOR SEPARATELY.
- THE CONTRACTOR SHALL OBTAIN A STATE CONSTRUCTION DEWATERING DISCHARGE PERMIT FOR DISCHARGES TO ANY ROADWAY DITCHES, STORM SEWER, CHANNEL, IRRIGATION DITCH, ANY STREAM THAT IS TRIBUTARY TO THE AFOREMENTIONED FACILITIES, OR ANY WATERS OF THE UNITED STATES.
- DEWATERING OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 107 OF THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
- CONTRACTOR SHALL NOTIFY ALL BUSINESSES AND RESIDENTS, IN WRITING, PRIOR TO ANY INTERRUPTION IN UTILITY SERVICE. NOTICE MUST BEAR ALL APPROPRIATE CONTACT INFORMATION, AND AN EMERGENCY NUMBER FOR AFTER HOURS CALLS.
- AT THE COMPLETION OF CONSTRUCTION AND PRIOR TO PROJECT CLOSEOUT, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF PLANS MARKED "AS-BUILT". THE PLANS SHALL SHOW ANY AND ALL VARIATIONS FROM THE APPROVED PLAN SET.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SITE SPECIFIC STAGING PLAN FOR ACCESS TO THE WORK AREAS AND FIELD FACILITIES TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO BEGINNING CONSTRUCTION. ALL COSTS ASSOCIATED WITH THE CONSTRUCTION OF TEMPORARY INGRESS/EGRESS SHALL BE PAID FOR UNDER THE LUMP SUM TRAFFIC CONTROL, EARTHWORK, DRAINAGE, AND OTHER ITEMS RELATED TO THE ACCESS SHALL BE SUBSIDIARY TO THE WORK INCLUDING EROSION CONTROL MEASURES FOR RESTORATION OF THE SITE TO ORIGINAL CONDITION.
- THE CONTRACTOR SHALL PROTECT EXISTING WETLANDS WITH TEMPORARY FENCING BEFORE ANY GROUND DISTURBANCE BEGINS. WETLANDS AREAS TO BE PROTECTED ARE SHOWN ON THE PLANS.

GRADING NOTES:

- SAND CREEK IS AN ACTIVE MAJOR DRAINAGEWAY WITH PERENNIAL BASE FLOWS. CONTRACTOR SHALL ANTICIPATE STORMWATER INFLOWS TO THE SITE DURING CONSTRUCTION AND PROVIDE A MEANS OF CONVEYANCE/REMOVAL OF ANY CONTINUOUS INFLOWS.
- THERE IS A LIKELIHOOD FOR LARGE FLOW EVENTS IN SAND CREEK WHICH COULD JEOPARDIZE CONSTRUCTION. THE LIKELIHOOD OF THESE EVENTS CHANGES WITH THE SEASONS. THE CONTRACTOR SHOULD ACCOUNT FOR THE EVENTUALITY OF THESE LARGE FLOW EVENTS BASED ON THE TIMING OF CONSTRUCTION.
- DEWATERING.
 - DEWATERING/BYPASS PUMPING OF SAND CREEK SHALL OCCUR IN ADVANCE OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL OBTAIN A CONSTRUCTION DEWATERING (CDW) PERMIT FROM CDPHE ANYTIME GROUNDWATER, INCLUDING GROUNDWATER THAT IS COMMINGLED WITH STORMWATER OR SURFACE WATER, IS ENCOUNTERED DURING CONSTRUCTION ACTIVITIES AND THE GROUNDWATER OR COMMINGLED WATER NEEDS TO BE DISCHARGED TO SURFACE WATER.
 - WATER FROM DEWATERING OPERATIONS SHALL ONLY BE DISCHARGED TO STATE WATERS IF ALLOWED BY A PERMIT.
- MUCK EXCAVATION IS NOT ANTICIPATED FOR THIS PROJECT. IF ENCOUNTERED, CONTRACTOR SHALL REMOVE UNSUITABLE ORGANIC MATERIAL TO THE DEPTH AS DETERMINED BY THE ENGINEER AND REPLACE THE EXCAVATED VOLUME WITH SUITABLE APPROVED FILL MATERIAL PRIOR TO CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
- THE MAXIMUM SLOPE FOR EXCAVATION AND PLACEMENT OF FILL IS 4:1 HORIZONTAL:VERTICAL, UNLESS OTHERWISE SHOWN IN THE PLANS.
- THE EXISTING DROP STRUCTURE, ANY ASSOCIATED FEATURES, AND DEBRIS SHOULD BE REMOVED FROM THE PROPOSED CONSTRUCTION AREA. EXPOSED SURFACES SHOULD BE FREE OF MOUNDS AND DEPRESSIONS WHICH COULD PREVENT UNIFORM COMPACTION.
- EXPOSED AREAS WHICH WILL RECEIVE FILL, ONCE PROPERLY CLEARED WHERE NECESSARY, SHOULD BE SCOURED TO A MINIMUM DEPTH OF 8 INCHES, CONDITIONED TO NEAR OPTIMUM WATER CONTENT, AND COMPACTED.
- A GEOTECHNICAL ENGINEER SHALL BE PRESENT FOR OVER-EXCAVATION AND FILL OPERATIONS.
- THE EARTHWORK EFFORTS SHOULD BE MONITORED UNDER THE DIRECTION OF THE GEOTECHNICAL ENGINEER. MONITORING SHOULD INCLUDE DOCUMENTATION OF ADEQUATE REMOVAL OF VEGETATION AND TOP SOIL, PROOF-ROLLING AND MITIGATION OF AREAS DELINEATED BY THE PROOF-ROLL TO REQUIRE MITIGATION.
- EACH LIFT OF COMPACTED FILL SHOULD BE TESTED, EVALUATED, AND REWORKED AS NECESSARY UNTIL APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF ADDITIONAL LIFTS. EACH LIFT OF FILL SHOULD BE TESTED FOR DENSITY AND WATER CONTENT AT A FREQUENCY OF AT LEAST ONE TEST FOR EVERY 2,500 SQUARE FEET OF COMPACTED FILL PLACED BENEATH THE DROP STRUCTURE, OR WITHIN CONSTRUCTED SLOPES.
- IN AREAS OF FOUNDATION EXCAVATIONS, THE BEARING SUBGRADE SHOULD BE EVALUATED UNDER THE DIRECTION OF THE GEOTECHNICAL ENGINEER. IN THE EVENT UNANTICIPATED CONDITIONS ARE ENCOUNTERED, THE GEOTECHNICAL ENGINEER SHOULD PRESCRIBE MITIGATION OPTIONS.
- THE ON-SITE SOILS ARE GENERALLY CONSIDERED SUITABLE FOR REUSE AS STRUCTURAL AND/OR GENERAL FILL. IMPORTED SOILS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF AS DIRECTED. PARTIAL REMOVAL OF THE FILL SOILS SHOULD INCLUDE OVER-EXCAVATING A MINIMUM OF 4 FEET OF THE FILL SOILS, PROCESSING AS REQUIRED, MOISTURE CONDITIONING, AND RECOMPACTING AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
- THE FILL SHALL BE PLACED IN THIN, LOOSE LIFTS OF 8 INCHES OR LESS (WHEN HEAVY SELF-PROPELLED COMPACTION EQUIPMENT IS USED) OR 4-6 INCHES (WHEN HAND-GUIDED EQUIPMENT IS USED). WATER CONTENT SHALL BE WITHIN 3 PERCENT OF OPTIMUM. FILL IS TO BE COMPACTED TO A MINIMUM OF:
 - WITHIN 10 FEET OF STRUCTURES, OR IN CONSTRUCTED SLOPES:
 - 95 PERCENT OF MAXIMUM DRY DENSITY
 - GENERAL FILL OUTSIDE OF STRUCTURAL AREAS:
 - 90 PERCENT OF MAXIMUM DRY DENSITY
- A COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) WATER QUALITY DIVISION STORMWATER DISCHARGE PERMIT SHALL BE OBTAINED AND A COPY SHALL BE SUBMITTED TO EL PASO COUNTY.
- PROPOSED SPOT ELEVATIONS REFLECT MEAN FINISHED GROUND GRADES IRRESPECTIVE OF VARIATIONS DUE TO PROPOSED GROUT, BOULDER, AND RIPRAP.
- EXISTING GRADES REFLECT CHANNEL CONDITIONS AS OF AUGUST 1, 2017. CHANNEL SCOUR MAY AFFECT SHOWN ELEVATIONS.
- TOPSOIL SHALL BE STOCKPILED TO THE EXTENT PRACTICAL ON THE SITE FOR USE ON AREAS TO BE REVEGETATED. ANY AND ALL STOCKPILES SHALL BE LOCATED AND PROTECTED FROM EROSION ELEMENTS. THE MINIMUM THICKNESS OF TOPSOIL SHALL BE OBTAINED BY STOCKPILING EXISTING TOPSOIL. THE TOPSOIL SHALL BE APPLIED TO ALL SURFACES REQUIRING SEEDING OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL DISPOSE OF EXCESS TOPSOIL IN A DESIGNATED AREA ON SITE.

ABBREVIATIONS

AC	ACRE	DU	DWELLING UNITS	LQMR	LETTER OF MAP REVISION	TB	THRUST BLOCK
AD	ALGEBRAIC DIFFERENCE	DY	DAY	LP	LOW POINT	TBC	TOP BACK OF CURB
AH	AHEAD	E	EAST	LS	LUMP SUM	TBW	TOP BACK OF WALK
ARCH	ARCHITECT	EA	EACH	LT	LEFT	TBL	TELEPHONE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	EGL	ENERGY GRADE LINE	MAX	MAXIMUM	TN	TON
ASSY	ASSEMBLY	ELEV	ELEVATION	M/D	MOISTURE DENSITY	TOA	TOP OF ASPHALT
AVE	AVENUE	ELEC	ELECTRIC	MDP	MASTER DEVELOPMENT PLAN	TOB	TOP OF BOX
BB	BOX BASE	EOA	EDGE OF ASPHALT	MH	MANHOLE	TOC	TOP OF CURB OR CONCRETE
BK	BACK	EPC	EL PASO COUNTY	MIN	MINIMUM	TOF	TOP OF FOUNDATION
BNDY	BOUNDARY	ERCP	ELLIPTICAL RCP	MS	MOUNTABLE SIDEWALK	TOP	TOP OF PIPE
BOP	BOTTOM OF PIPE	ESMT	EASEMENT	N	NORTH	TW	TOP OF WALL
BOV	BLOW OFF VALVE	EST	ESTIMATE	NRCP	NON-REINFORCED CONCRETE	TY	TYPICAL
BFV	BUTTERFLY VALVE	EX	EXISTING	OP	OFFICIAL DEVELOPMENT PLAN	UDFC	URBAN DRAINAGE AND FLOOD CONTROL DISTRICT
BLVD	BOULEVARD	FDP	FINAL DEVELOPMENT PLAN	OPD	OFFICIAL DEVELOPMENT PLAN	UE	UTILITY EASEMENT
BW	BOTTOM OF WALL	FDR	FINAL DRAINAGE REPORT	OHE	OVERHEAD ELECTRIC	U&DE	UTILITY & DRAINAGE EASEMENT
C&G	CURB & GUTTER	FES	FLARED END SECTION	OHU	OVERHEAD UTILITY	UGE	UNDERGROUND ELECTRIC
CATV	CABLE TELEVISION	FG	FINISHED GRADE	PC	POINT OF CURVATURE	VCP	VERTIFIED CLAY PIPE
CB	CATCH BASIN	FH	FIRE HYDRANT	PCC	POINT OF COMPOUND CURVATURE	VPC	VERTICAL POINT OF CURVATURE
CBC	CONCRETE BOX CULVERT	FL	FLOWLINE	PCT	POINT OF TANGENCY	VPI	VERTICAL POINT OF INTERSECTION
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION	FIL	FILING	PCR	POINT OF CURB RETURN	VPT	VERTICAL POINT OF TANGENCY
CDS	CUL-DE-SAC	FO	FIBER OPTIC CABLE	PDP	PRELIMINARY DEVELOPMENT PLAN	VTC	VEHICLE TRACKING CONTROL
CF	CUBIC FOOT	GB	GRADE BREAK	PE	PROFESSIONAL ENGINEER	W	WEST
CFS	CUBIC FEET PER SECOND	GE	GAS EASEMENT	PI	POINT OF INTERSECTION	WL	WATER LINE
CL	CENTER LINE	GIS	GEOGRAPHIC INFORMATION SYSTEM	PKWY	PARKWAY	WM	WATER MAIN
CLOMR	CONDITIONAL LETTER OF MAP REVISION	GL	GAS LINE	PL	PROPERTY LINE	WRD	WATER RESOURCES DEPARTMENT
CLR	CLEAR	GPS	GLOBAL POSITIONING SYSTEM	PR	PROPOSED	WS	WATER SURFACE
CMF	CORRUGATED METAL PIPE	GPV	GATE VALVE	PRC	POINT OF REVERSE CURVATURE	WSE	WATER SURFACE ELEVATION
CO	CLEAN OUT	HBP	HOT BITUMINOUS PAVEMENT	PT	POINT OF TANGENCY	WTR	WATER
COCS	CITY OF COLORADO SPRINGS	HDC	HIGH DEFLECTION COUPLING	PVC	POLYVINYL CHLORIDE	YR	YEAR
CONC	CONCRETE	HDPE	HIGH DENSITY POLYETHYLENE	R	RADIUS		
CR	CIRCLE	HGL	HYDRAULIC GRADE LINE	RCBC	REINFORCED CONCRETE BOX CULVERT		
CSP	CORRUGATED STEEL PIPE	HMA	HOT MIX ASPHALT	RCP	REINFORCED CONCRETE PIPE		
CSU	COLORADO SPRINGS UTILITIES	HQA	HOME OWNERS ASSOCIATION	RD	ROAD		
CT	COURT	HP	HIGH POINT	ROW	RIGHT OF WAY		
CTRB	CONCRETE THRUST REDUCER BLOCK	HR	HOUR	RT	RIGHT		
CY	CUBIC YARD	I	INLET	RW	RIGHT		
DBPS	DRAINAGE BASIN PLANNING STUDY	IE	IRRIGATION EASEMENT	S	SOUTH		
DE	DRAINAGE EASEMENT	INT	INTERSECTION	SE	SOUTH EASEMENT		
DIA	DIAMETER	INV	INVERT	SAN	SANITARY SEWER		
DP	DUCTILE IRON PIPE	IRR	IRRIGATION	SF	SQUARE FOOT		
DR	DRIVE	KB	KICK (THRUST) BLOCK	ST	STREET		
DRC	DESIGN REVIEW COMMITTEE	LD	LANDSCAPE	STA	STATION		
		LE	LANDSCAPE EASEMENT	STM	STORM SEWER		
		LF	LINEAR FOOT	SY	SQUARE YARD		
		LN	LANE	SY-IN	SQUARE YARD INCH		

GRADING, EROSION AND STORMWATER QUALITY NOTES:

- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
- 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 VERSION 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.
- A SEPARATE STORMWATER MANAGEMENT PLAN (SWMP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON-SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
- ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STATE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.
- CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
- ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
- TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
- FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
- ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
- EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
- COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENEED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
- ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH OR FROM THE EARTH DISTURBANCE AREA SHALL BE STABILIZED/CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF-SITE.
- CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
- DURING DEWATERING OPERATIONS, UNCONTAMINATED GROUNDWATER MAY BE DISCHARGED ON-SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
- EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
- TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
- THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
- NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ON-SITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR, IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S). SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ON-SITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
- NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
- OWNER/DEVELOPER AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DCM VOLUME II, AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
- PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES
- A WATER SOURCE SHALL BE AVAILABLE ON-SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY ENTECH ENGINEERING INC, JULY 2020 AND SHALL BE CONSIDERED A PART OF THESE PLANS.
- AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP) OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:
 - COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
 - WATER QUALITY CONTROL DIVISION
 - WOOD - PERMITS
 - 4300 CHERRY CREEK DRIVE SOUTH
 - DENVER, CO 80246-1530
 - ATTN: PERMITS UNIT

RIPRAP NOTES:

- WHERE "SOIL RIPRAP" IS DESIGNATED ON THE CONTRACT DRAWINGS, RIPRAP VOIDS ARE TO BE FILLED WITH APPROVED FILL. THE RIPRAP SHALL BE PRE-MIXED WITH THE APPROVED FILL AT THE FOLLOWING PROPORTIONS BY VOLUME: 65 PERCENT RIPRAP AND 35 PERCENT SOIL. THE SOIL USED FOR MIXING SHALL BE NATIVE TOPSOIL AND SHALL HAVE A MINIMUM FINES CONTENT OF 15 PERCENT. THE SOIL RIPRAP SHALL BE INSTALLED IN A MANNER THAT RESULTS IN A DENSE, INTERLOCKED LAYER OF RIPRAP WITH RIPRAP VOIDS FILLED COMPLETELY WITH SOIL. SEGREGATION OF MATERIALS SHALL BE AVOIDED AND IN NO CASE SHALL THE COMBINED MATERIAL CONSIST PRIMARILY OF SOIL. THE DENSITY AND INTERLOCKING NATURE OF RIPRAP IN THE MIXED MATERIAL SHALL ESSENTIALLY BE THE SAME AS IF THE RIPRAP WAS PLACED WITHOUT SOIL.
- PLACE ALL RIPRAP AND SOIL-RIPRAP TO RESULT IN SECURELY INTERLOCKED ROCK AT THE DESIGN THICKNESS AND GRADE. COMPACT AND ALL LEVEL TO ELIMINATE VOIDS AND ROCKS PROJECTING DESIGN ABOVE RIPRAP TOP GRADE.
- ALL SOIL RIPRAP THAT IS BURIED WITH TOPSOIL SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO ANY TOPSOIL PLACEMENT.
- CRIMP OR TACKIFY MULCH OR USE APPROVED HYDROMULCH AS CALLED FOR IN THE PLANS AND SPECIFICATIONS.
- ELEVATION TOLERANCES FOR RIPRAP SHALL BE 0.10 FEET. THICKNESS OF SOIL RIPRAP SHALL BE NO LESS THAN THICKNESS SHOWN AND NO MORE THAN 2-INCHES GREATER THAN THE THICKNESS SHOWN.

RIPRAP DESIGNATION	INTERMEDIATE ROCK DIMENSION (IN.)	PERCENT PASSING (%)	D ₅₀ (IN.)
TYPE VL	12	70-100	6
	9	50-70	
	6	35-50	
	2	2-10	
TYPE M	21	70-100	12
	18	50-70	
	12	35-50	
	4	2-10	
TYPE H	30	70-100	18
	24	50-70	
	18	35-50	
	6	2-10	



Know what's below. Call before you dig.

ENGINEER'S STATEMENT

STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT.

MIKE A. BRAMLETT, P.E. DATE
 COLORADO P.E. 32314
 FOR AND ON BEHALF OF JR ENGINEERING, LLC.

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

PREPARED FOR
SR LAND, LLC
 20 BOULDER CRESCENT
 2ND FLOOR
 COLORADO SPRINGS, CO 80903
 JAMES F. MORLEY
 (719) 419-3024

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

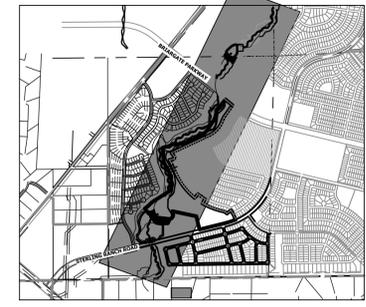
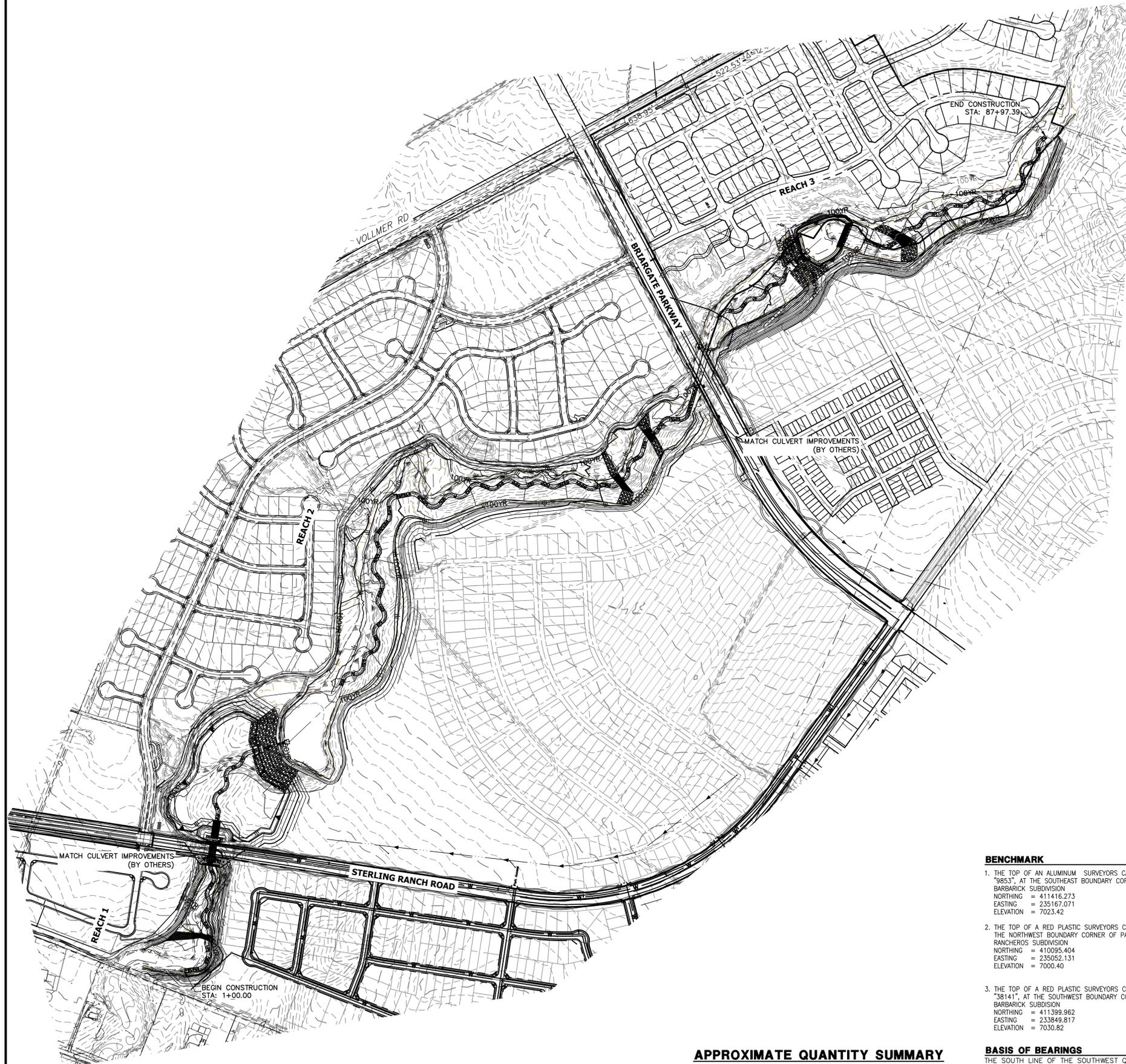
DATE									
BY									
No. REVISION									
H-SCALE	N/A								
V-SCALE	N/A								
DATE	04/11/22								
DESIGNED BY	SCH								
DRAWN BY	SCH								
CHECKED BY									

SAND CREEK RESTORATION

GENERAL NOTES

SHEET 2 OF 81

JOB NO. 25188.04



KEY MAP
SCALE: 1" = 2000'

GRADING NOTES:

- SAND CREEK IS AN ACTIVE MAJOR DRAINAGEWAY WITH PERENNIAL BASE FLOWS. CONTRACTOR SHALL ANTICIPATE STORMWATER INFLOWS TO THE SITE DURING CONSTRUCTION AND PROVIDE A MEANS OF CONVEYANCE/REMOVAL OF ANY CONTINUOUS INFLOWS.
- THERE IS A LIKELIHOOD FOR LARGE FLOW EVENTS IN SAND CREEK WHICH COULD JEOPARDIZE CONSTRUCTION. THE LIKELIHOOD OF THESE EVENTS CHANGES WITH THE SEASONS. THE CONTRACTOR SHOULD ACCOUNT FOR THE EVENTUALITY OF THESE LARGE FLOW EVENTS BASED ON THE TIMING OF CONSTRUCTION.
- DEWATERING:
 - DEWATERING/BYPASS PUMPING OF SAND CREEK SHALL OCCUR IN ADVANCE OF CONSTRUCTION ACTIVITIES.
 - THE CONTRACTOR SHALL OBTAIN A CONSTRUCTION DEWATERING (CDW) PERMIT FROM CDPHE PRIOR TO GROUNDWATER, INCLUDING GROUNDWATER THAT IS COMMINGLED WITH STORMWATER OR SURFACE WATER, BEING ENCOUNTERED DURING CONSTRUCTION ACTIVITIES AND THE GROUNDWATER OR COMMINGLED WATER NEEDS TO BE DISCHARGED TO SURFACE WATER.
 - WATER FROM DEWATERING OPERATIONS SHALL ONLY BE DISCHARGED INTO STATE WATERS IF ALLOWED BY A PERMIT.
- MUCK EXCAVATION IS NOT ANTICIPATED FOR THIS PROJECT. IF ENCOUNTERED, CONTRACTOR SHALL REMOVE UNSUITABLE ORGANIC MATERIAL TO THE DEPTH AS DETERMINED BY THE ENGINEER AND REPLACE THE EXCAVATED VOLUME WITH SUITABLE APPROVED FILL MATERIAL PRIOR TO CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
- THE MAXIMUM SLOPE FOR EXCAVATION AND PLACEMENT OF FILL IS 4:1 HORIZONTAL:VERTICAL, UNLESS OTHERWISE SHOWN IN THE PLANS.
- THE EXISTING DROP STRUCTURE AT BRIARGATE PARKWAY, ANY ASSOCIATED FEATURES, AND DEBRIS SHOULD BE REMOVED FROM THE PROPOSED CONSTRUCTION AREA. EXPOSED SURFACES SHOULD BE FREE OF MOUNDS AND DEPRESSIONS WHICH COULD PREVENT UNIFORM COMPACTION.
- EXPOSED AREAS WHICH WILL RECEIVE FILL, ONCE PROPERLY CLEARED WHERE NECESSARY, SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 8 INCHES, CONDITIONED TO NEAR OPTIMUM WATER CONTENT, AND COMPACTED.
- A GEOTECHNICAL ENGINEER SHALL BE PRESENT FOR OVER-EXCAVATION AND FILL OPERATIONS.
- THE EARTHWORK EFFORTS SHOULD BE MONITORED UNDER THE DIRECTION OF THE GEOTECHNICAL ENGINEER. MONITORING SHOULD INCLUDE DOCUMENTATION OF ADEQUATE REMOVAL OF VEGETATION AND TOP SOIL, PROOF-ROLLING AND MITIGATION OF AREAS DELINEATED BY THE PROOF-ROLL TO REQUIRE MITIGATION.
- EACH LIFT OF COMPACTED FILL SHOULD BE TESTED, EVALUATED, AND REWORKED AS NECESSARY UNTIL APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF ADDITIONAL LIFTS. EACH LIFT OF FILL SHOULD BE TESTED FOR DENSITY AND WATER CONTENT AT A FREQUENCY OF AT LEAST ONE TEST FOR EVERY 2,500 SQUARE FEET OF COMPACTED FILL PLACED BENEATH THE DROP STRUCTURE, OR WITHIN CONSTRUCTED SLOPES.
- IN AREAS OF FOUNDATION EXCAVATIONS, THE BEARING SUBGRADE SHOULD BE EVALUATED UNDER THE DIRECTION OF THE GEOTECHNICAL ENGINEER. IN THE EVENT UNANTICIPATED CONDITIONS ARE ENCOUNTERED, THE GEOTECHNICAL ENGINEER SHOULD PRESCRIBE MITIGATION OPTIONS.
- THE ON-SITE SOILS ARE GENERALLY CONSIDERED SUITABLE FOR REUSE AS STRUCTURAL AND/OR GENERAL FILL. IMPORTED SOILS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF AS DIRECTED. PARTIAL REMOVAL OF THE FILL SOILS SHOULD INCLUDE OVER-EXCAVATING A MINIMUM OF 4 FEET OF THE FILL SOILS, PROCESSING AS REQUIRED, MOISTURE CONDITIONING, AND RECOMPACTING AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
- THE FILL SHALL BE PLACED IN THIN, LOOSE LIFTS OF 8 INCHES OR LESS (WHEN HEAVY SELF-PROPELLED COMPACTION EQUIPMENT IS USED) OR 4-6 INCHES (WHEN HAND-GUIDED EQUIPMENT IS USED). WATER CONTENT SHALL BE WITHIN 3 PERCENT OF OPTIMUM. FILL IS TO BE COMPACTED TO A MINIMUM OF:
 - 95 PERCENT OF MAXIMUM DRY DENSITY.
 - 90 PERCENT OF MAXIMUM DRY DENSITY.
- A COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) WATER QUALITY DIVISION STORMWATER DISCHARGE PERMIT SHALL BE OBTAINED AND A COPY SHALL BE SUBMITTED TO EL PASO COUNTY.
- PROPOSED SPOT ELEVATIONS REFLECT MEAN FINISHED GROUND GRADES IRRESPECTIVE OF VARIATIONS DUE TO PROPOSED GROUT, BOULDER, AND RIPRAP.
- EXISTING GRADES REFLECT CHANNEL CONDITIONS AS OF AUGUST 1, 2017. CHANNEL SCOUR MAY AFFECT SHOWN ELEVATIONS.
- TOPSOIL SHALL BE STOCKPILED TO THE EXTENT PRACTICAL ON THE SITE FOR USE ON AREAS TO BE REVEGETATED. ANY AND ALL STOCKPILES SHALL BE LOCATED AND PROTECTED FROM EROSION ELEMENTS. THE MINIMUM THICKNESS OF TOPSOIL SHALL BE 4" AND SHALL BE OBTAINED BY STOCKPILING EXISTING TOPSOIL. THE TOPSOIL SHALL BE APPLIED TO ALL SURFACES REQUIRING SEEDING OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL DISPOSE OF EXCESS TOPSOIL IN A DESIGNATED AREA ON SITE.

BENCHMARK

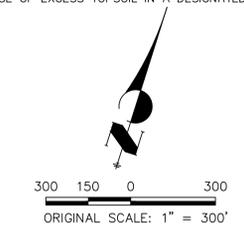
- THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411416.273
EASTING = 235167.071
ELEVATION = 7023.42
- THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHWEST BOUNDARY CORNER OF PANNEE RANCHEROS SUBDIVISION
NORTHING = 410095.404
EASTING = 235052.131
ELEVATION = 7000.40
- THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411399.962
EASTING = 233849.817
ELEVATION = 7030.82

APPROXIMATE QUANTITY SUMMARY

823,511 CY CUT
32,917 CY FILL
790,594 CY NET

BASIS OF BEARINGS

THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AS MONUMENTED AT THE SOUTHWEST CORNER OF SAID BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624" AND AT THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624", SAID LINE BEARS N89°14'14"E, A DISTANCE OF 2,722.69 FEET.



ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL

PRELIMINARY NOT FOR CONSTRUCTION

MIKE A. BRAMLEY
COLORADO P.E. NO. 35117
FOR AND ON BEHALF OF J.R. ENGINEERING, LLC

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED AS "PRELIMINARY" AND NOT FOR CONSTRUCTION. AUTHORIZATION.

PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

J.R. ENGINEERING
A Westman Company
Central 303-740-9383 • Colorado Springs 719-583-2583
Fort Collins 970-491-9888 • www.jrengineering.com

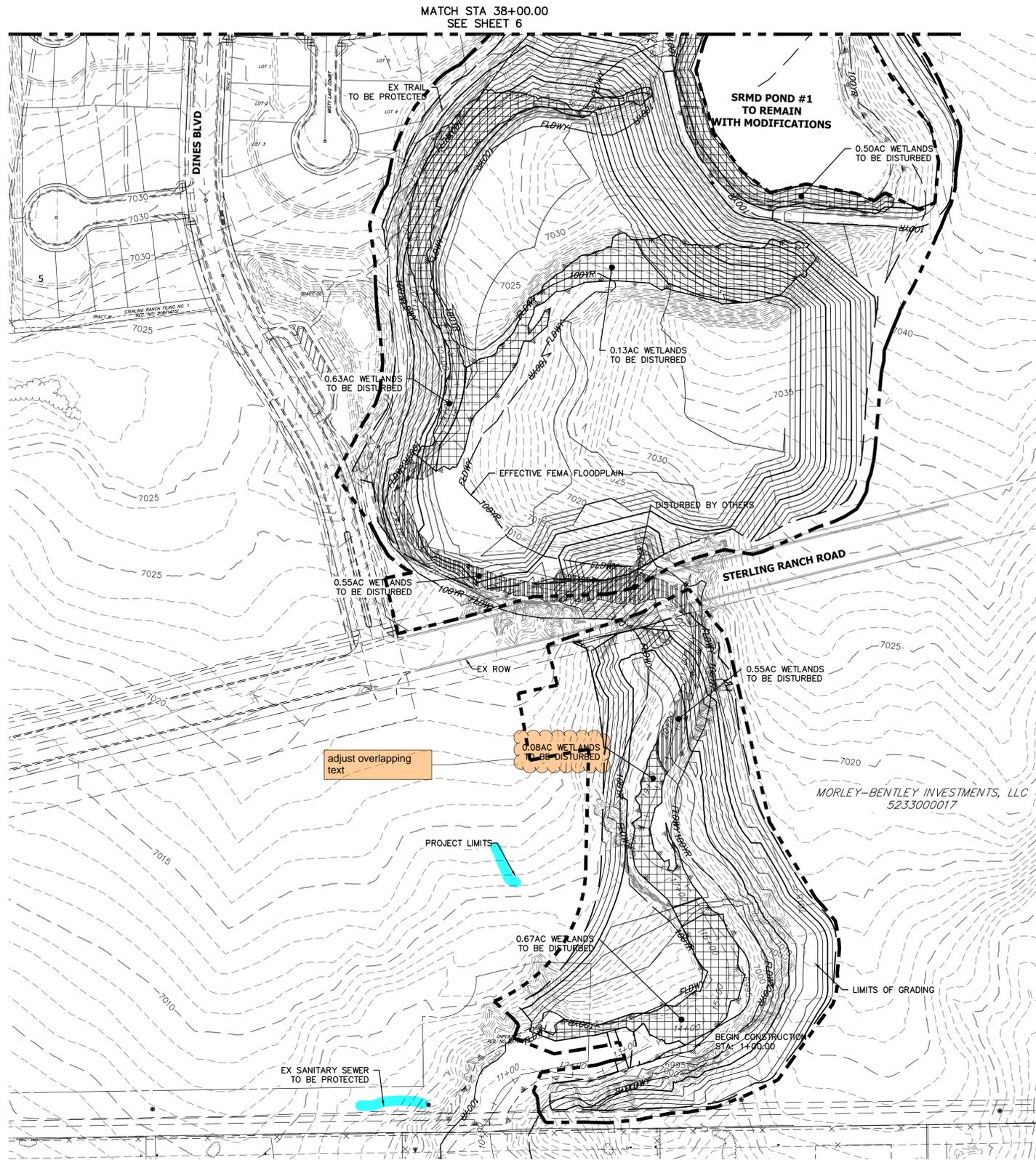
BY	DATE	REVISION

H-SCALE: 1"=300'
V-SCALE: N/A
DATE: 04/11/22
DESIGNED BY: DJV
DRAWN BY: SCH
CHECKED BY:

SAND CREEK RESTORATION
EARTHWORK & PHASING
PLAN

SHEET 4 OF 81
JOB NO. 25188.04

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DEMOLITION PLANS
EX STA 11+00.00 TO 38+00.00
SCALE: 1"=100'

Sand Creek Demolitions		
Totals	Sq Ft	Acres
Reach 1 Permanent Loss	32,636.00	0.74
Reach 2 Permanent Loss	159,695.00	4.28
Reach 3 Permanent Loss	184,711.00	5.44
Total Permanent Loss	377,042.00	10.46

BENCHMARK

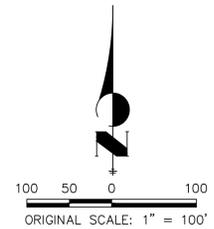
1. THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
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ELEVATION = 7023.42
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NORTHING = 411399.962
EASTING = 233849.817
ELEVATION = 7030.82



Know what's below.
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BASIS OF BEARINGS

THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AS MONUMENTED AT THE SOUTHWEST CORNER OF SAID BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624" AND AT THE SOUTHWEST CORNER OF SAID SOUTHWEST QUARTER BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624", SAID LINE BEARS N89°14'14"E, A DISTANCE OF 2,722.69 FEET.



LEGEND

- WETLAND: DISTURBED AREAS [Cross-hatched symbol]
- DISTURBED BY OTHERS [Diagonal line symbol]



KEY MAP
SCALE: 1"=2000'

PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

J.R. ENGINEERING
A Westman Company
Central 300-740-9888 • Colorado Springs 719-583-2583
Fort Collins 970-491-9888 • www.jrengineering.com

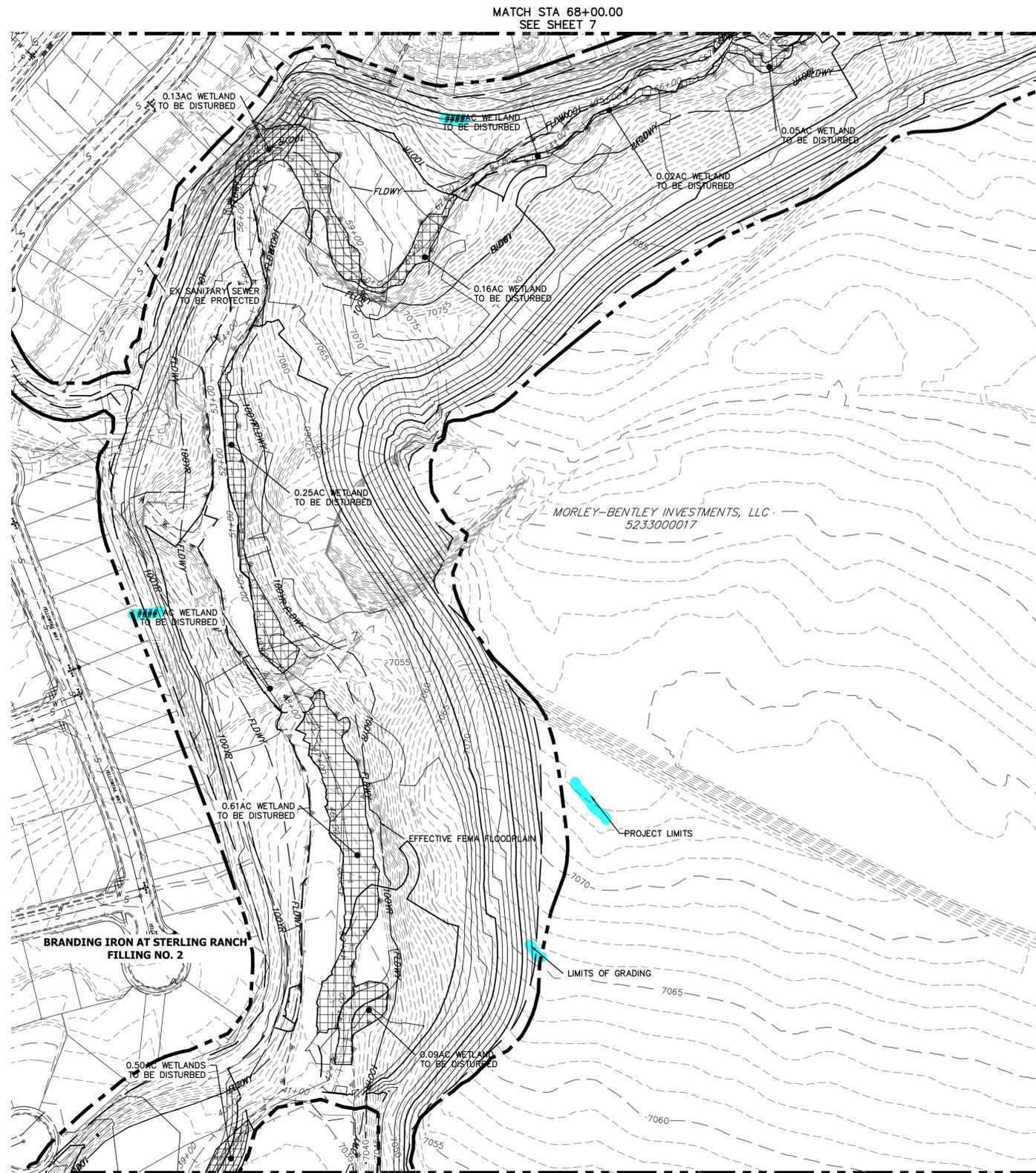
BY	DATE	No.	REVISION

SAND CREEK RESTORATION
DEMOLITION PLAN
SHEET 5 OF 81
JOB NO. 25188.04

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION
**PRELIMINARY
NOT FOR
CONSTRUCTION**
MIKE A. BRAMLEY
COLORADO P.E. 33211
FOR AND ON BEHALF OF J.R. ENGINEERING, LLC

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DEMOLITION PLANS
 EX STA: 38+00.00 TO 68+00.00
 SCALE: 1"=100'

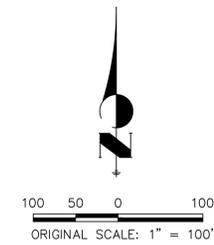
Sand Creek Demolitions		
Totals	Sq Ft	Acres
Reach 1 Permanent Loss	32,636.00	0.74
Reach 2 Permanent Loss	159,695.00	4.28
Reach 3 Permanent Loss	184,711.00	5.44
Total Permanent Loss	377,042.00	10.46

BENCHMARK

1. THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
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 ELEVATION = 7000.40
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 NORTHING = 411399.962
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 ELEVATION = 7030.82

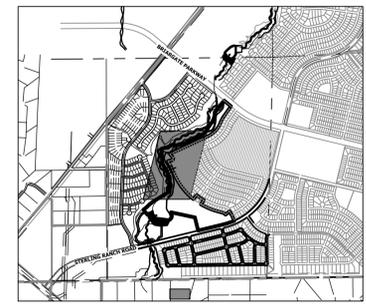
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LEGEND

- WETLAND: DISTURBED AREAS
- DISTURBED BY OTHERS



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

PREPARED FOR
SR LAND, LLC
 20 BOULDER CRESCENT
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No.	REVISION	BY	DATE	1"=100'		DESIGNED BY		CHECKED BY	
				H-SCALE	V-SCALE	DATE	DATE	DESIGNED BY	DESIGNED BY
				N/A	N/A	04/11/22	DJV	SCH	

SAND CREEK RESTORATION
 DEMOLITION PLAN
 SHEET 6 OF 81
 JOB NO. 25188.04



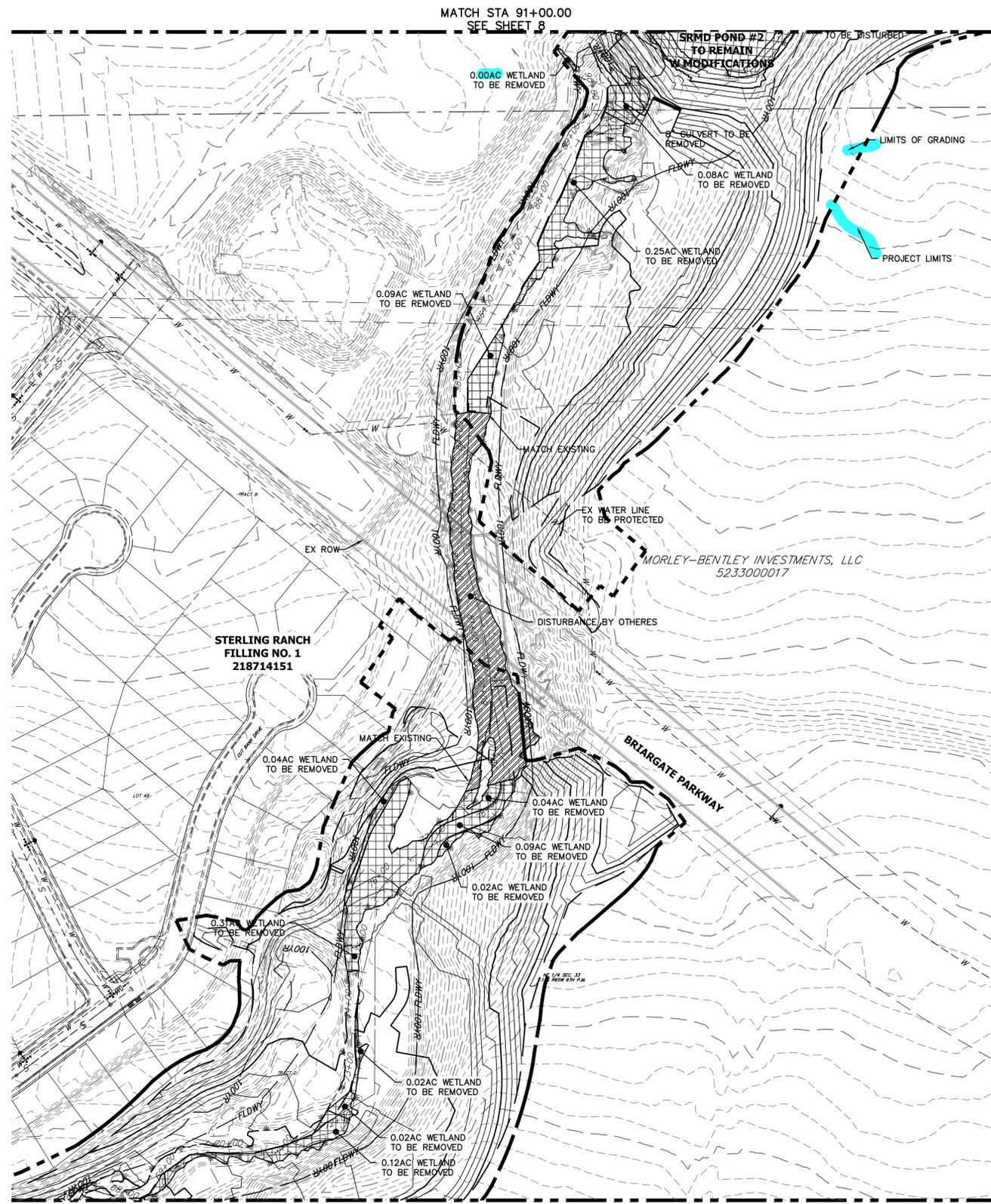
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ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION

 MIKE A. BRAMLEY
 COLORADO P.E. 30112
 FOR AND ON BEHALF OF J.R. ENGINEERING, LLC

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DEMOLITION PLANS
 EX STA: 68+00.00 TO 91+00.00
 SCALE: 1"=100'

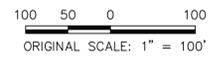
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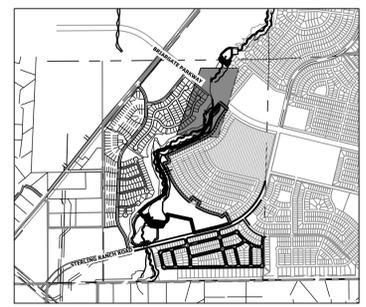
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- WETLAND: DISTURBED AREAS
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PREPARED FOR
SR LAND, LLC
 20 BOULDER CRESCENT
 2ND FLOOR
 COLORADO SPRINGS, CO 80903
 JAMES F. MORLEY
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BY	DATE	No.	REVISION	1"=100'	DATE	DESIGNED BY	CHECKED BY
				V-SCALE	N/A	DIV	SCH
					04/11/22	DJV	SCH

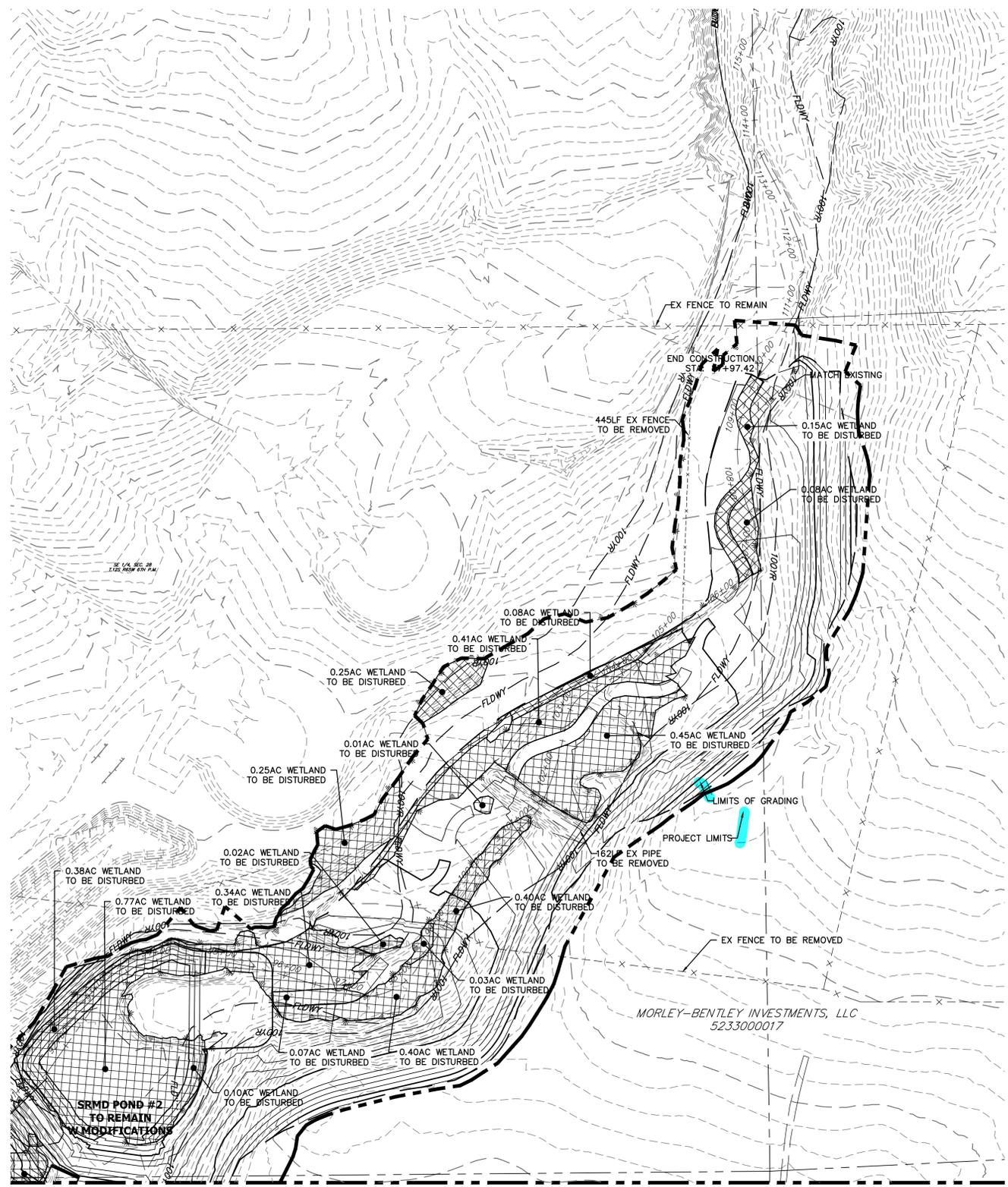
SAND CREEK RESTORATION
DEMOLITION PLAN
 SHEET 7 OF 81
 JOB NO. 25188.04



ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL BY
PRELIMINARY NOT FOR CONSTRUCTION
 MIKE A. BRAMLEY
 COLORADO P.E. 30117
 FOR AND ON BEHALF OF J.R. ENGINEERING, LLC

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MATCH STA 91+00.00
SEE SHEET 7

DEMOLITION PLANS
EX STA 91+00.00 TO 110+00.00
SCALE: 1"=100'

Sand Creek Demolitions		
Totals	Sq Ft	Acres
Reach 1 Permanent Loss	32,636.00	0.74
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BENCHMARK

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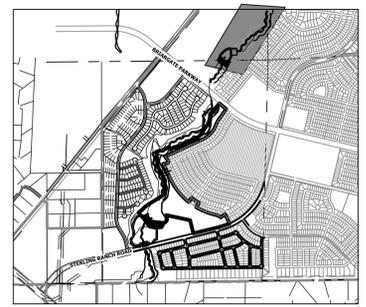
BASIS OF BEARINGS

THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AS MONUMENTED AT THE SOUTHWEST CORNER OF SAID BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624" AND AT THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624", SAID LINE BEARS N89°14'14"E, A DISTANCE OF 2,722.69 FEET.



ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL
PRELIMINARY
NOT FOR CONSTRUCTION
MIKE A. BRAMBLE
COLORADO P.E. 31247
FOR AND ON BEHALF OF J.R. ENGINEERING, LLC

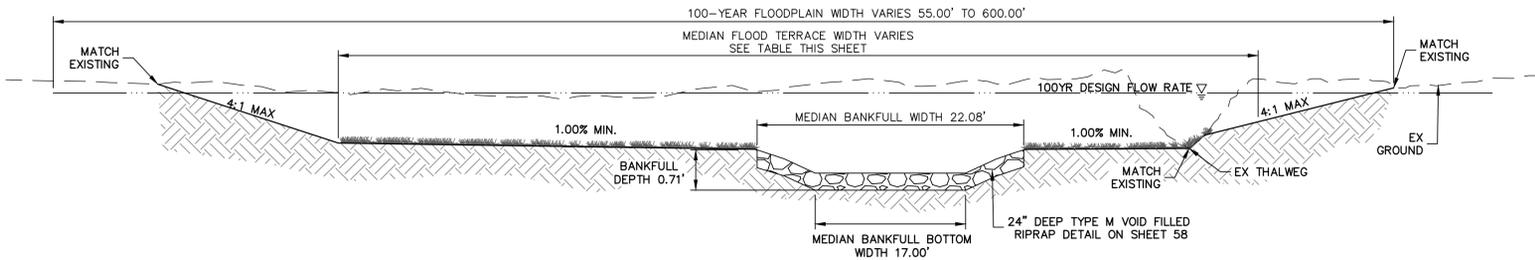


LEGEND

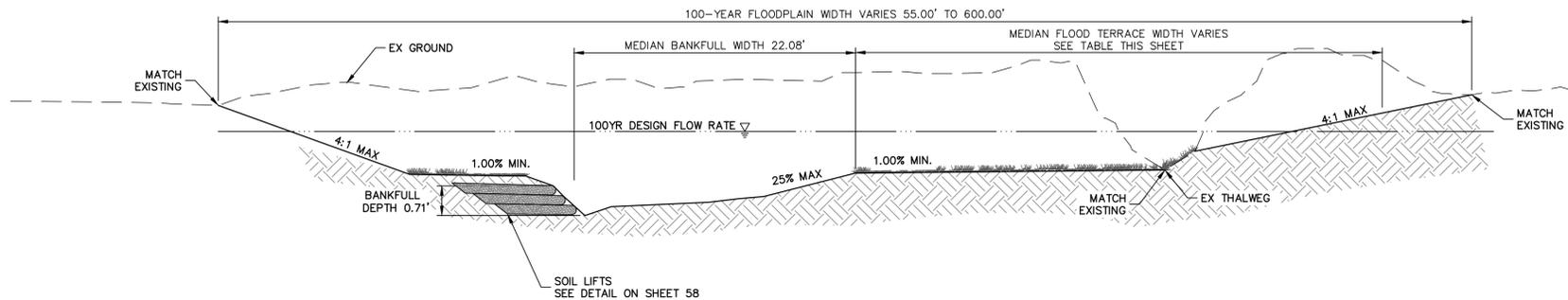
- WETLAND: DISTURBED AREAS [Hatched pattern]
- DISTURBED BY OTHERS [Diagonal line pattern]

PREPARED FOR SR LAND, LLC 20 BOULDER CRESCENT 2ND FLOOR COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 419-3024	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.
SAND CREEK RESTORATION DEMOLITION PLAN	SHEET 8 OF 81 JOB NO. 25188.04
H-SCALE 1"=100' V-SCALE N/A DATE 04/11/22 DESIGNED BY DJV DRAWN BY SCH CHECKED BY	No. REVISION BY DATE

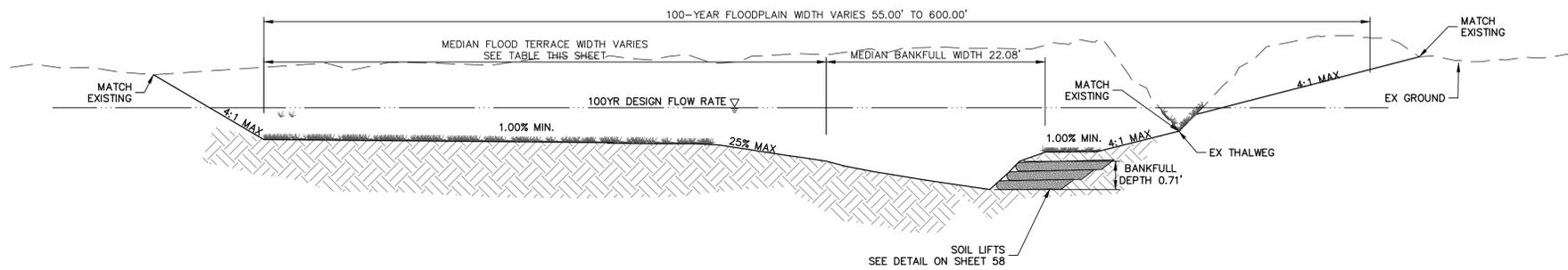
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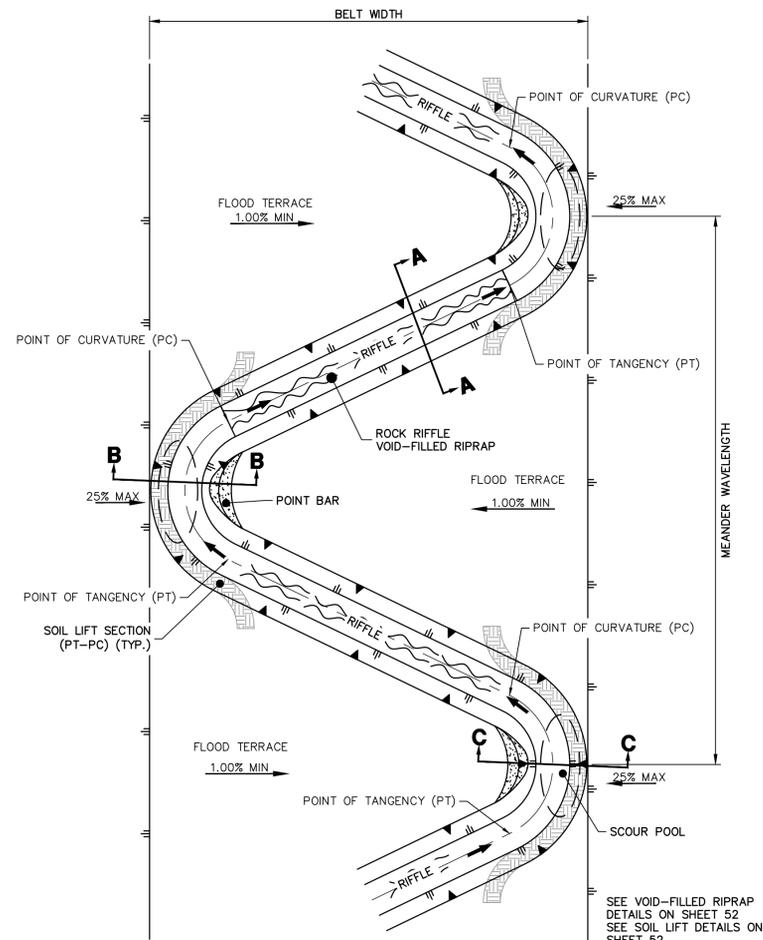
RIFLE TYPICAL SECTION A-A
SCALE: N.T.S.



LEFT POOL TYPICAL SECTION B-B
SCALE: N.T.S.



RIGHT POOL TYPICAL SECTION C-C
SCALE: N.T.S.



SAND CREEK STREAM LAYOUT TYPICAL - PLAN
SCALE: N.T.S.

Sand Creek Design Matrix		
	Required	Proposed
Maximum Depth outside of Bankfull Channel	5 ft	4.88 ft
Maximum Longitudinal Slope	0.17%	5%
Maximum Velocity 100-YR	9 ft/s	4.69 ft/s
Maximum Velocity 5-YR	7 ft/s	3.66 ft/s
Froude No 100-YR - main channel	0.8	0.87
Froude No 5-YR - main channel	0.7	1.03
Maximum Shear Stress, 100-YR main channel	1.2 lb/sf	4.65 lb/sf
Minimum Bankfull Capacity	180 cfs	29 cfs
Maximum Side slopes - grass lined	4:1	4:1
Maximum Side slopes - grouted boulder	2.5:1	4:1
Minimum Bottom Width	8 ft	11.3 ft
Centerline radius - Bankfull	2.5x BF Width	2.5-3.5x BF Width
Centerline radius - Flood Terrace	2.5x BF Width	2-4x BF Width
Non-Jurisdictional Maximum Ponding Height	10'	10'
15' Maintenance Trail	Yes	Yes
Maintenance access provided	Yes	Yes
Maintenance access spacing	500'	500-1000'
Maintenance access points	45	23
Maximum GSB Drop Height	4'	6'
Maximum GSP Drop Height with add'l testing and seepage	12'	6'
Mannings N value - water surface evaluation		0.05/0.07/0.12
Mannings N value - shear evaluation		0.032/0.035/0.06

REACH STA	DESIGN FLOW RATE	MEDIAN FLOOD TERRACE WIDTH
1+00.00 TO 10+05.89	1554 cfs	52.00' TO 270.00'
11+18.00 TO 59+27.25	1904 cfs	160.00' TO 410.00'
61+54.83 TO 88+62.94	1795 cfs	180.00' TO 255.00'

SAND CREEK TYPICAL SECTIONS
 REACH 1: STA: 1+00.00 TO 10+05.89
 REACH 2: STA: 11+18.00 TO 59+27.25
 REACH 3: STA: 61+54.83 TO 88+62.94

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
SR LAND, LLC
 20 BOULDER CRESCENT
 2ND FLOOR
 COLORADO SPRINGS, CO 80903
 JAMES F. MORLEY
 (719) 419-3024

J.R. ENGINEERING
 A Westman Company
 Centennial 300-740-9383 • Colorado Springs 719-583-2583
 Fort Collins 970-491-9888 • www.jrengineering.com

BY	DATE	REVISION

H-SCALE	N/A	V-SCALE	N/A	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
				04/11/22			

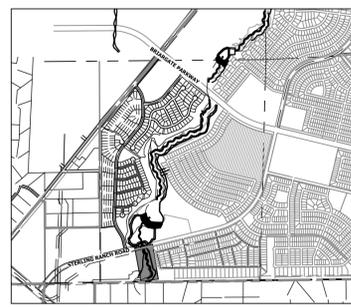
SAND CREEK RESTORATION
 TYPICAL SECTIONS
 SHEET 9 OF 81
 JOB NO. 25188.04



ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION
PRELIMINARY NOT FOR CONSTRUCTION
 MIKE A. BRAMLEY
 COLORADO P.E. 30000
 FOR AND ON BEHALF OF JR ENGINEERING, LLC



HORIZONTAL CONTROL PLAN - SAND CREEK CHANNEL
SCALE: 1"=60'

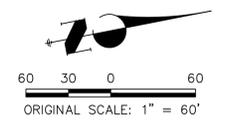


KEY MAP
SCALE: 1"=2000'

LINE AND CURVE TABLES - SAND CREEK FLOOD TERRACE CHANNEL

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N60°19'18"E	86.53'
L2	N01°00'25"W	40.99'
L3	N37°38'53"W	35.02'
L4	N01°13'19"W	28.31'
L5	N54°43'41"W	40.95'
L6	N14°36'41"E	30.92'
L7	N10°44'54"E	44.83'
L8	N47°12'52"W	27.51'
L9	N15°45'47"W	52.07'

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	61°19'43"	50.00'	53.52'
C2	36°38'28"	50.00'	31.98'
C3	36°25'34"	50.00'	31.79'
C4	53°30'22"	50.00'	46.69'
C5	69°20'22"	50.00'	60.51'
C6	68°23'51"	50.00'	59.69'
C7	64°32'04"	50.00'	56.32'
C8	57°57'46"	50.00'	50.58'
C9	31°27'06"	50.00'	27.45'



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
SR LAND, LLC
20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

J.R. ENGINEERING
A Westman Company
Central 303-740-9383 • Colorado Springs 719-583-2583
Fort Collins 970-491-9888 • www.jrengineering.com

H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	1"=60'		No.	REVISION	BY	DATE
						N/A	04/11/22				
			DJV								
			SCH								

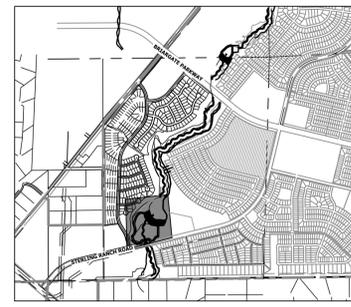
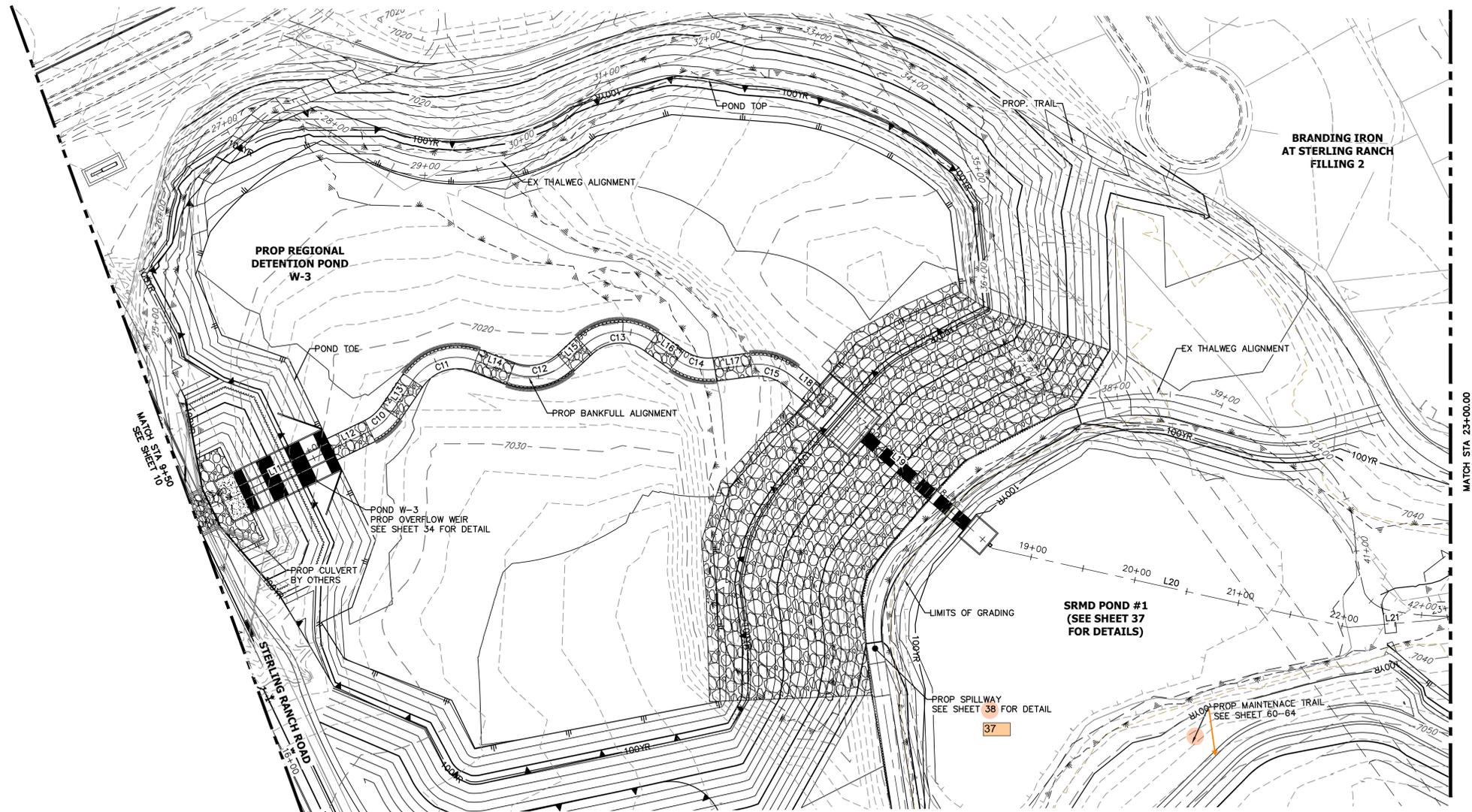
SAND CREEK RESTORATION
HORIZONTAL CONTROL PLAN

SHEET 10 OF 81
JOB NO. 25188.04



ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION
PRELIMINARY NOT FOR CONSTRUCTION
MIKE A. BRAMLEY
COLORADO P.E. 30000
FOR AND ON BEHALF OF JR ENGINEERING, LLC

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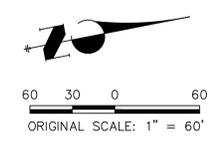
KEY MAP
SCALE: 1"=2000'

HORIZONTAL CONTROL PLAN - SAND CREEK CHANNEL
SCALE: 1"=60'

LINE AND CURVE TABLES - SAND CREEK FLOOD TERRACE CHANNEL

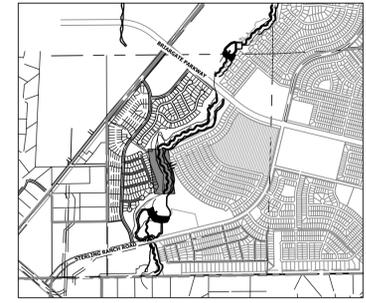
LINE	BEARING	DISTANCE
L11	N13°40'36"W	112.14'
L12	N13°44'44"W	41.29'
L13	N44°17'13"W	35.34'
L14	N30°54'11"E	38.94'
L15	N30°18'24"W	24.14'
L16	N47°41'02"E	29.75'
L17	N04°47'34"E	35.38'
L18	N51°32'30"E	23.98'
L19	N52°27'37"E	205.18'
L20	N24°26'44"E	343.60'
L21	N07°07'50"E	83.24'

CURVE	DELTA	RADIUS	LENGTH
C10	30°32'29"	50.00'	26.65'
C11	75°11'23"	50.00'	65.62'
C12	61°12'35"	50.00'	53.42'
C13	77°59'26"	50.00'	68.06'
C14	42°53'28"	50.00'	37.43'
C15	46°44'56"	50.00'	40.80'

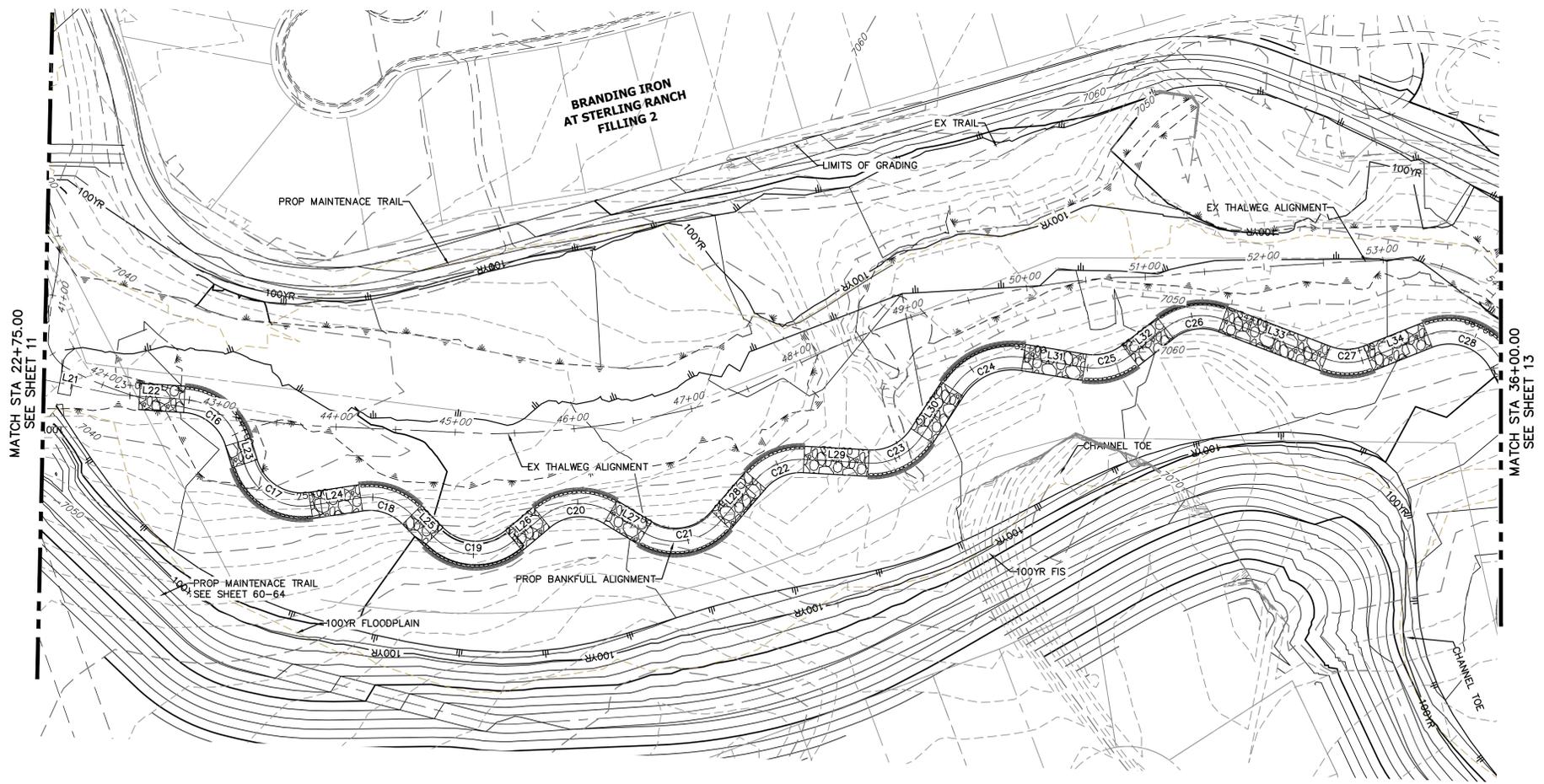


ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION
PRELIMINARY NOT FOR CONSTRUCTION
 MIKE A. BRAMLEY
 COLORADO P.E. 30100
 FOR AND ON BEHALF OF J.R. ENGINEERING, LLC

SAND CREEK RESTORATION HORIZONTAL CONTROL PLAN	SHEET 11 OF 81
	JOB NO. 25188.04
H-SCALE 1"=60' V-SCALE N/A DATE 04/11/22 DESIGNED BY DJV DRAWN BY SCH CHECKED BY	No. REVISION BY DATE
J.R. ENGINEERING A Westman Company Centennial 303-740-9383 • Colorado Springs 719-583-2583 Fort Collins 970-491-9888 • www.jrengineering.com	PREPARED FOR SR LAND, LLC 20 BOULDER CRESCENT 2ND FLOOR COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 419-3024
UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE DESIGNATED BY WRITTEN AUTHORIZATION.	KEY MAP SCALE: 1"=2000'



KEY MAP
SCALE: 1"=2000'

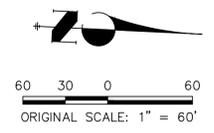


HORIZONTAL CONTROL PLAN - SAND CREEK CHANNEL
SCALE: 1"=60'

LINE AND CURVE TABLES - SAND CREEK FLOOD TERRACE CHANNEL

LINE	BEARING	DISTANCE
L21	N07°07'50"E	83.24'
L22	N00°36'48"W	56.80'
L23	N68°12'32"E	19.96'
L24	N13°07'27"W	42.62'
L25	N40°46'05"E	25.69'
L26	N44°15'32"W	30.32'
L27	N26°36'38"E	33.54'
L28	N53°36'32"W	44.94'
L29	N01°16'36"W	54.35'
L30	N61°14'53"W	46.99'
L31	N04°37'48"E	51.48'
L32	N42°13'33"W	37.52'
L33	N16°23'06"E	91.89'
L34	N26°03'24"W	53.13'

CURVE	DELTA	RADIUS	LENGTH
C16	68°49'19"	50.00'	60.06'
C17	81°19'59"	50.00'	70.98'
C18	53°53'33"	50.00'	47.03'
C19	85°01'38"	50.00'	74.20'
C20	70°52'11"	50.00'	61.85'
C21	80°13'10"	50.00'	70.00'
C22	52°19'56"	50.00'	45.67'
C23	59°58'18"	50.00'	52.34'
C24	65°52'41"	60.00'	68.99'
C25	46°51'21"	50.00'	40.89'
C26	58°36'39"	50.00'	51.15'
C27	42°26'30"	50.00'	37.04'
C28	82°55'10"	50.00'	72.36'



ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL
PRELIMINARY NOT FOR CONSTRUCTION
 MIKE A. BRAMLEY
 COLORADO P.E. No. 10000
 FOR AND ON BEHALF OF J.R. ENGINEERING, LLC

SAND CREEK RESTORATION
 HORIZONTAL CONTROL PLAN
 SHEET 12 OF 81
 JOB NO. 25188.04

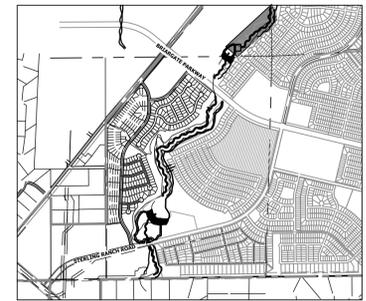
H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
1"=60'	N/A	04/11/22	DJV	SCH	

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

PREPARED FOR
SR LAND, LLC
 20 BOULDER CRESCENT
 2ND FLOOR
 COLORADO SPRINGS, CO 80903
 JAMES F. MORLEY
 (719) 419-3024

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

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KEY MAP
SCALE: 1"=2000'



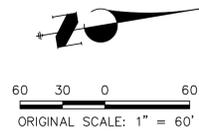
HORIZONTAL CONTROL PLAN - SAND CREEK CHANNEL

SCALE: 1"=50'

LINE AND CURVE TABLES - SAND CREEK FLOOD TERRACE CHANNEL

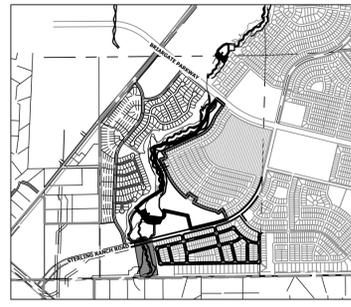
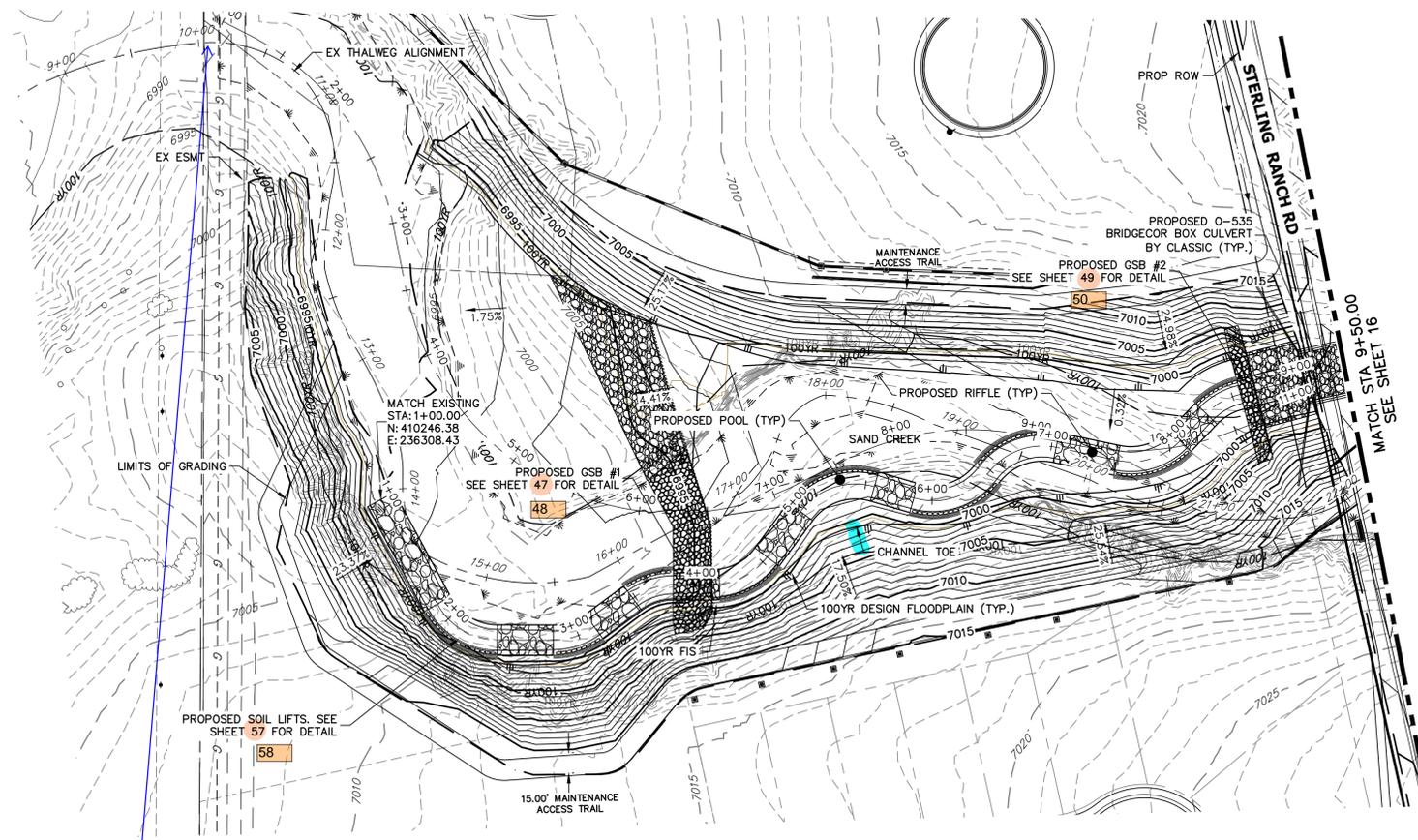
LINE TABLE		
LINE	BEARING	DISTANCE
L77	N71°47'03"E	19.62'
L78	N75°44'54"E	61.12'
L79	N88°15'33"E	204.10'
L80	N40°45'21"E	58.51'
L81	N08°19'07"E	35.59'
L82	N53°13'49"E	41.67'
L83	N11°37'35"E	41.05'
L84	N70°57'09"E	27.32'
L85	N21°18'02"E	32.48'
L86	N71°09'20"E	51.71'
L87	N34°59'15"E	43.66'
L88	S85°21'46"E	41.40'
L89	N22°27'45"E	56.57'
L90	N52°35'09"E	45.45'
L91	N31°41'54"W	43.63'
L92	N45°44'54"E	36.65'
L93	N24°37'06"W	34.08'
L94	N29°45'43"E	33.26'

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C65	45°50'10"	90.00'	72.00'
C66	47°30'12"	50.00'	41.45'
C67	32°26'13"	50.00'	28.31'
C68	44°54'42"	50.00'	39.19'
C69	41°36'14"	50.00'	36.31'
C70	59°19'34"	50.00'	51.77'
C71	49°39'08"	50.00'	43.33'
C72	49°51'19"	50.00'	43.51'
C73	36°10'05"	50.00'	31.56'
C74	59°38'59"	50.00'	52.05'
C75	72°10'29"	50.00'	62.98'
C76	30°07'24"	50.00'	26.29'
C77	84°17'03"	50.00'	73.55'
C78	77°26'48"	50.00'	67.59'
C79	70°22'00"	50.00'	61.41'
C80	54°22'49"	50.00'	47.46'



ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION
PRELIMINARY NOT FOR CONSTRUCTION
 MIKE A. BRAMLEY
 COLORADO P.E. 31111
 FOR AND ON BEHALF OF JR ENGINEERING, LLC

PREPARED FOR SR LAND, LLC 20 BOULDER CRESCENT 2ND FLOOR COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 419-3024	UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE DESIGNATED BY WRITTEN AUTHORIZATION.
SAND CREEK RESTORATION HORIZONTAL CONTROL PLAN	SHEET 15 OF 81 JOB NO. 25188.04



LEGEND

- FINISHED GRADE @ CHANNEL
- THALWEG
- EXISTING GRADE @ CHANNEL
- EXISTING THALWEG
- 100-YR HGL
- 100-YR FIS
- 100-YR DESIGN WSEL

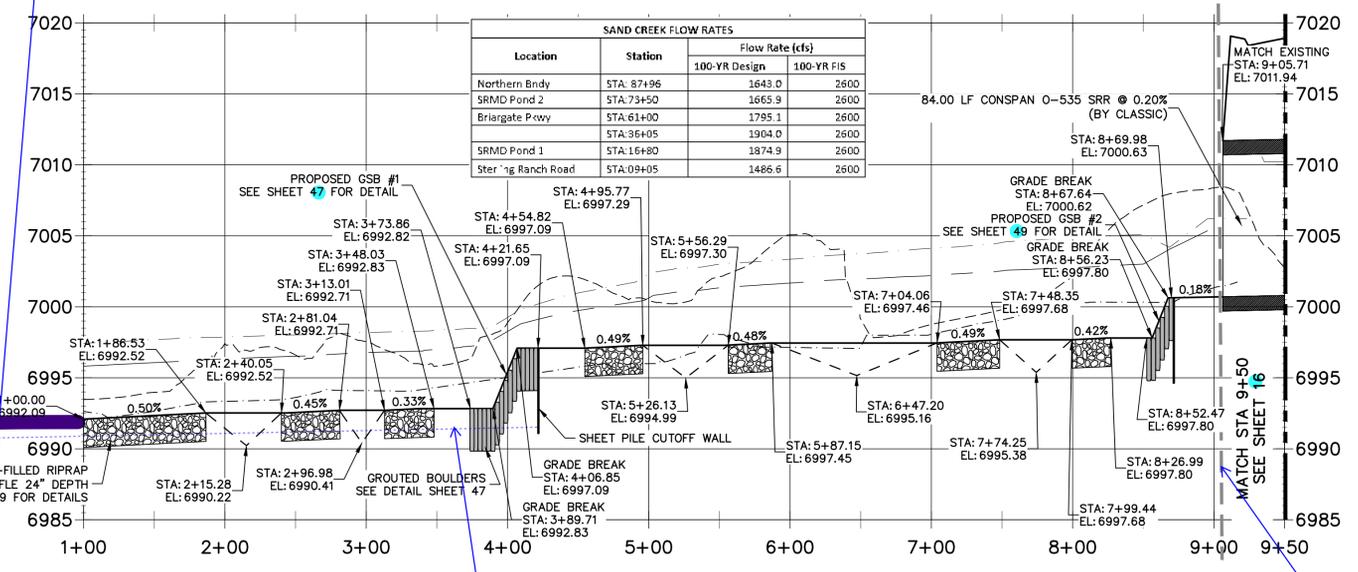
UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE. DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
SR LAND, LLC
 20 BOULDER CRESCENT
 2ND FLOOR
 COLORADO SPRINGS, CO 80903
 JAMES F. MORLEY
 (719) 419-3024

J.R. ENGINEERING
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Show property line and utilities

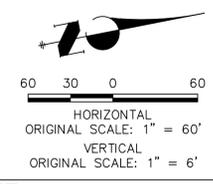
**SAND CREEK - BANKFULL PROFILE 1
 STA 1+00.00 TO 9+50.00**



- BENCHMARK**
- THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION
 NORTHING = 411416.273
 EASTING = 235167.071
 ELEVATION = 7023.42
 - THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHWEST BOUNDARY CORNER OF PANNEE RANCHEROS SUBDIVISION
 NORTHING = 410095.404
 EASTING = 235052.131
 ELEVATION = 7000.40
 - THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
 NORTHING = 411389.962
 EASTING = 233849.817
 ELEVATION = 7030.82

BASIS OF BEARINGS
 THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AS MONUMENTED AT THE SOUTHWEST CORNER OF SAID BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624" AND AT THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624", SAID LINE BEARS N89°14'14"E, A DISTANCE OF 2,722.69 FEET.

NOTE
 NO GRADING OR CONSTRUCTION ACTIVITIES ON PRIVATE PROPERTY



A check structure and/or other channel stabilization appears to be needed per modeling

Provide lines showing the "stable" channel grade between grade controls.

fix matchline



Know what's below.
 Call before you dig.

ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL

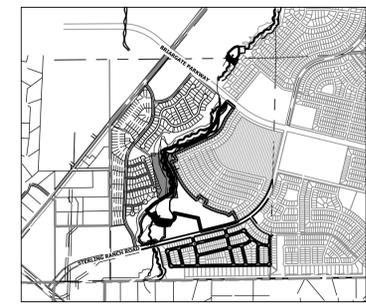
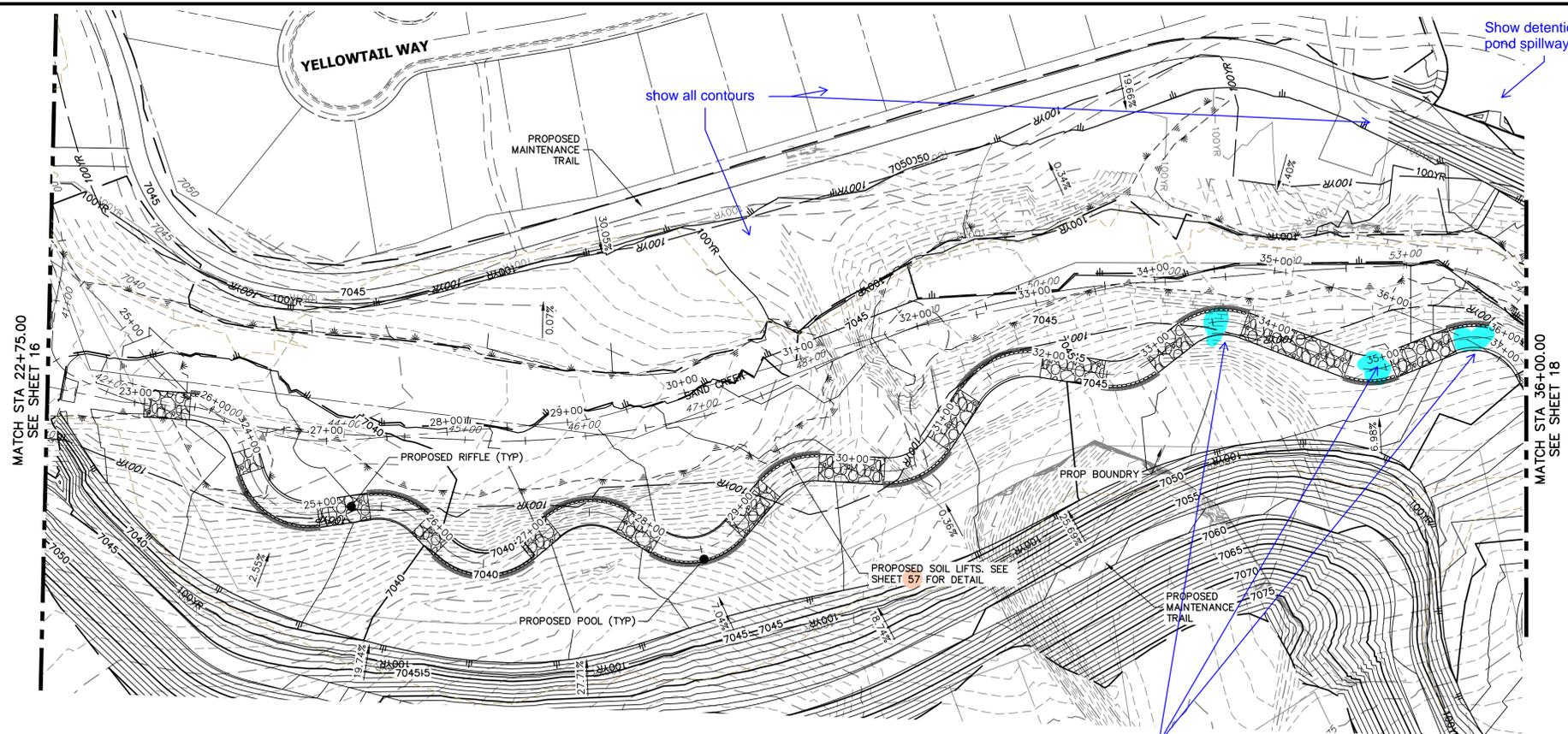
PRELIMINARY NOT FOR CONSTRUCTION

MIKE A. BRAMLEY
 COLORADO P.E. No. 30112
 FOR AND ON BEHALF OF JR ENGINEERING

No.	REVISION	BY	DATE	DESIGNED BY	D/JV	SCH	CHECKED BY
1"	60'						
1"	6'		04/11/22				

SAND CREEK RESTORATION
CHANNEL PLAN & PROFILE

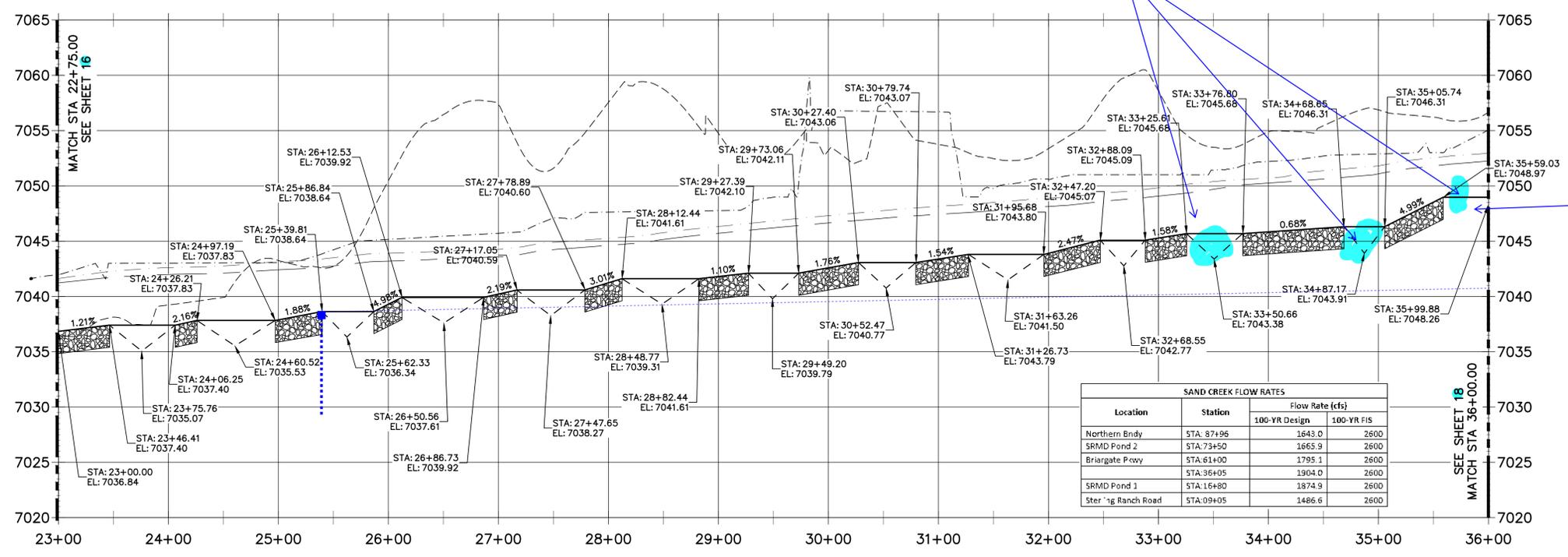
SHEET 15 OF 81
 JOB NO. 25188.04



LEGEND

- FINISHED GRADE @ CHANNEL ☉
- - - THALWEG
- - - EXISTING GRADE @ CHANNEL ☉
- - - EXISTING THALWEG
- - - 100-YR HGL
- - - 100-YR FIS
- - - 100-YR DESIGN WSEL

**SAND CREEK - BANKFULL PROFILE 3
STA 23+00.00 TO 36+00.00**



SAND CREEK FLOW RATES

Location	Station	Flow Rate (cfs)	
		100-YR Design	100-YR FIS
Northern Bendy	STA: 87+96	1643.0	2600
SRMD Pond 2	STA: 73+50	1665.9	2600
Briargate Prcvy	STA: 61+00	1795.1	2600
	STA: 36+05	1904.0	2600
SRMD Pond 1	STA: 16+80	1874.9	2600
Ster'ig Ranch Road	STA: 09+05	1486.6	2600

811
Know what's below.
Call before you dig.

HORIZONTAL ORIGINAL SCALE: 1" = 60'
VERTICAL ORIGINAL SCALE: 1" = 6'

Additional channel stabilization appears to be needed per modeling showing supercritical flows (similar redlines on other sheets)

Should there be a dip here?

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

PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

J.R. ENGINEERING
A Westman Company
Central 303-740-9383 • Colorado Springs 719-583-2583
Fort Collins 970-491-9888 • www.jrengineering.com

BY	DATE	REVISION

H-SCALE 1"=60'
V-SCALE 1"=6'
DATE 04/11/22
DESIGNED BY DJV
DRAWN BY SCH
CHECKED BY

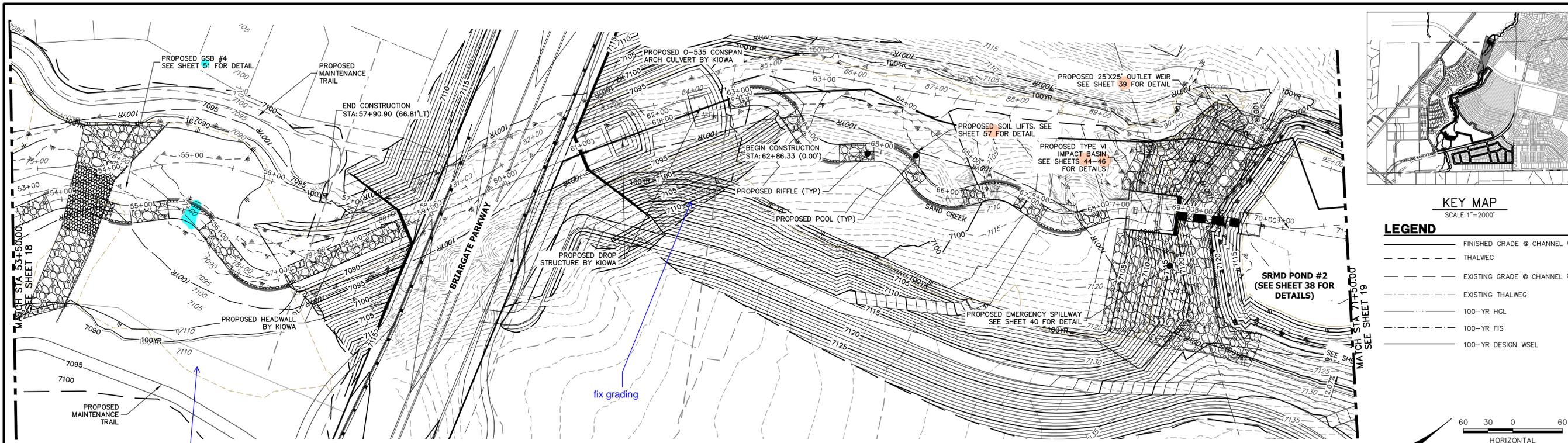
SAND CREEK RESTORATION
CHANNEL PLAN & PROFILE

SHEET 17 OF 81
JOB NO. 25188.04

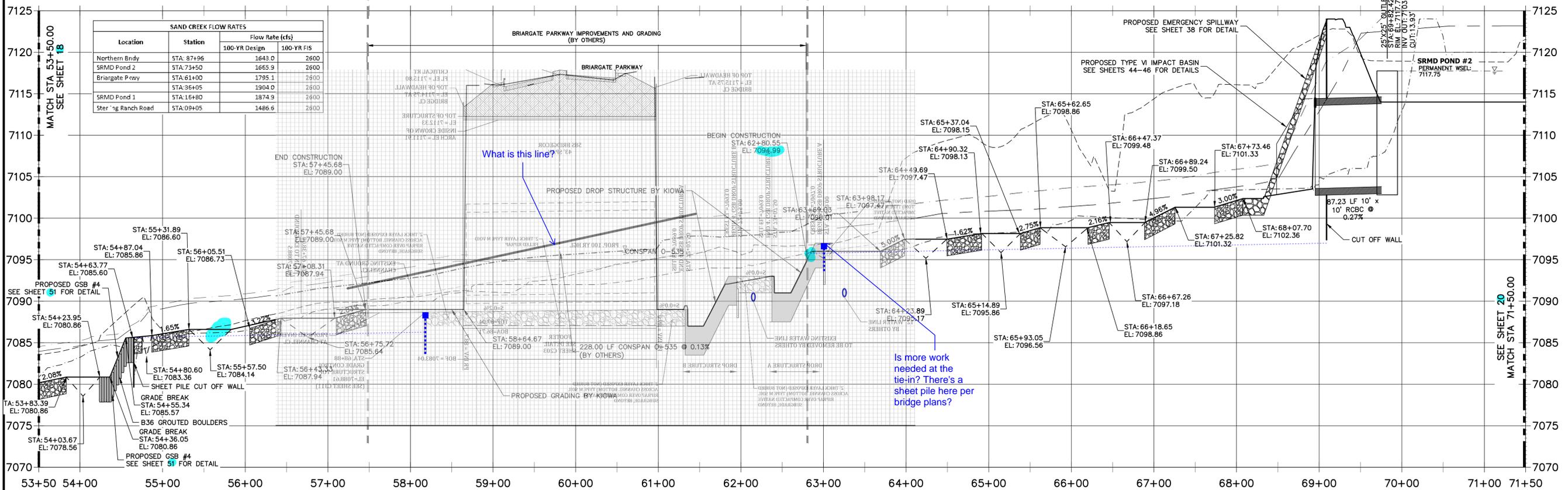
ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL

PRELIMINARY NOT FOR CONSTRUCTION

MIKE A. BRAMLEY
COLORADO P.E. No. 30117
FOR AND ON BEHALF OF JR ENGINEERING, LLC



**SAND CREEK - BANKFULL PROFILE 5
STA 53+50.00 TO 71+50.00**



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2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

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BY	DATE	NO.	REVISION

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V-SCALE 1"=6'
DATE 04/11/22
DESIGNED BY DJV
DRAWN BY SCH
CHECKED BY

SAND CREEK RESTORATION
CHANNEL PLAN & PROFILE

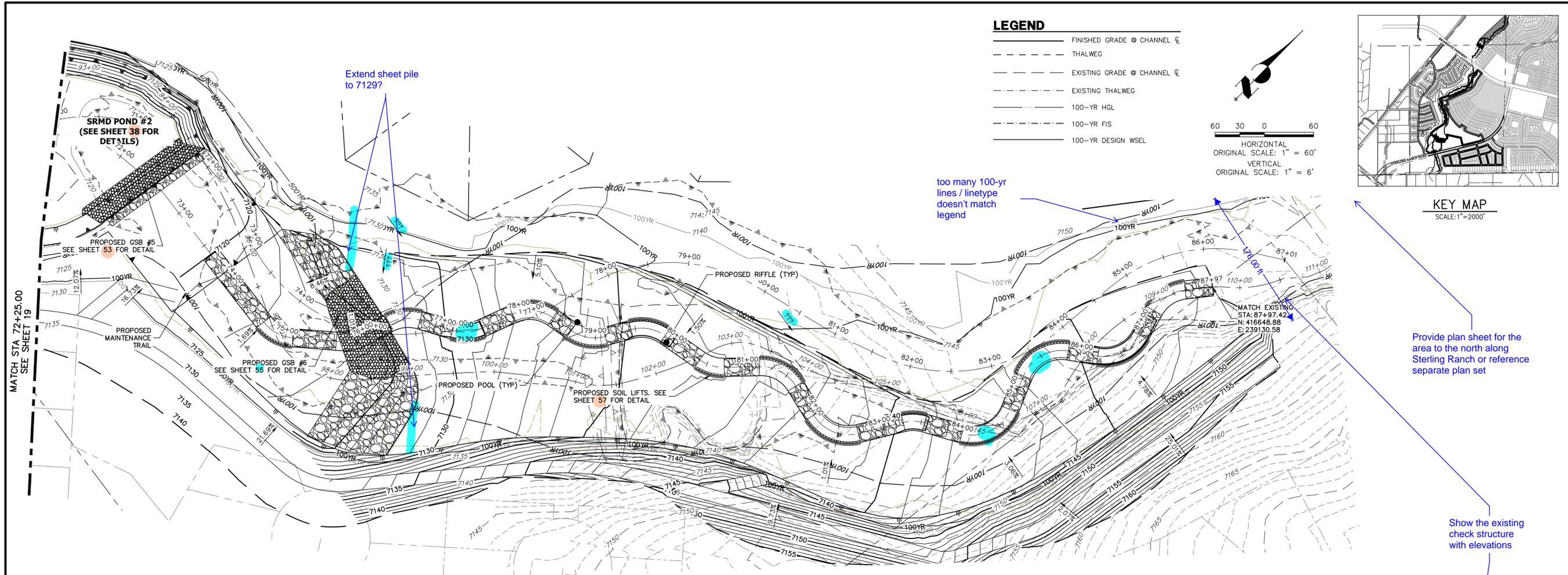
SHEET 19 OF 81
JOB NO. 25188.04



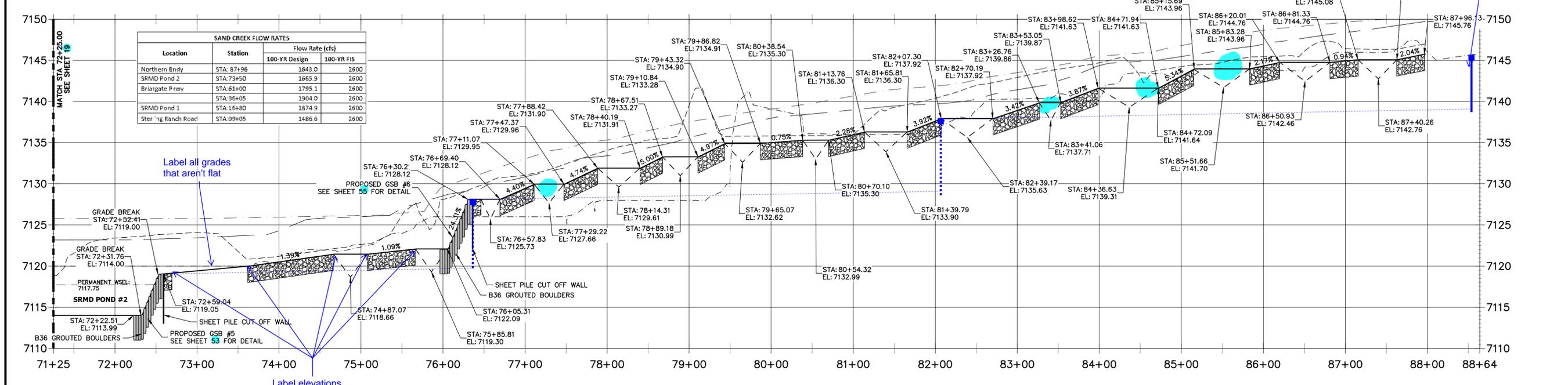
ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL

PRELIMINARY NOT FOR CONSTRUCTION

MIKE A. BRAMBLE
COLORADO P.E. 30112
FOR AND ON BEHALF OF JR ENGINEERING



**SAND CREEK - BANKFULL PROFILE 6
STA 71+25.00 TO 88+64.00**



SAND CREEK FLOW RATES			
Location	Station	Flow Rate (cfs)	
		100-YR Design	100-YR FIS
Northern Bendy	STA: 87+96	1643.0	2600
SRMD Pond 2	STA: 73+50	1665.9	2600
Briargate Pkwy	STA: 61+00	1795.1	2600
SRMD Pond 1	STA: 36+05	1904.0	2600
SRMD Pond 1	STA: 16+80	1874.9	2600
Sterling Ranch Road	STA: 09+05	1486.6	2600

Label all grades that aren't flat

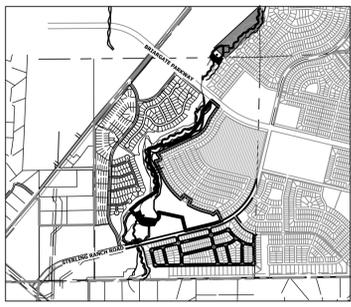
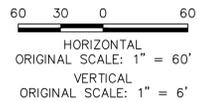
Label elevations

too many 100-yr lines / linetype doesn't match legend

Provide plan sheet for the area to the north along Sterling Ranch or reference separate plan set

Show the existing check structure with elevations

- LEGEND**
- FINISHED GRADE @ CHANNEL
 - - - THALWEG
 - - - EXISTING GRADE @ CHANNEL
 - - - EXISTING THALWEG
 - - - 100-YR HGL
 - - - 100-YR FIS
 - - - 100-YR DESIGN WSEL



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PREPARED FOR
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20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

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No.	REVISION	DATE

H-SCALE	1"=60'
V-SCALE	1"=6'
DATE	04/11/22
DESIGNED BY	DJV
DRAWN BY	SCH
CHECKED BY	

SAND CREEK RESTORATION

CHANNEL PLAN & PROFILE

SHEET 20 OF 81

JOB NO. 25188.04



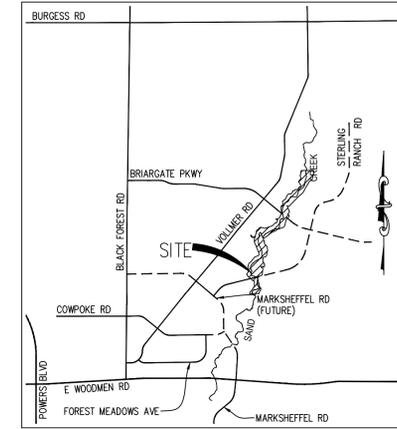
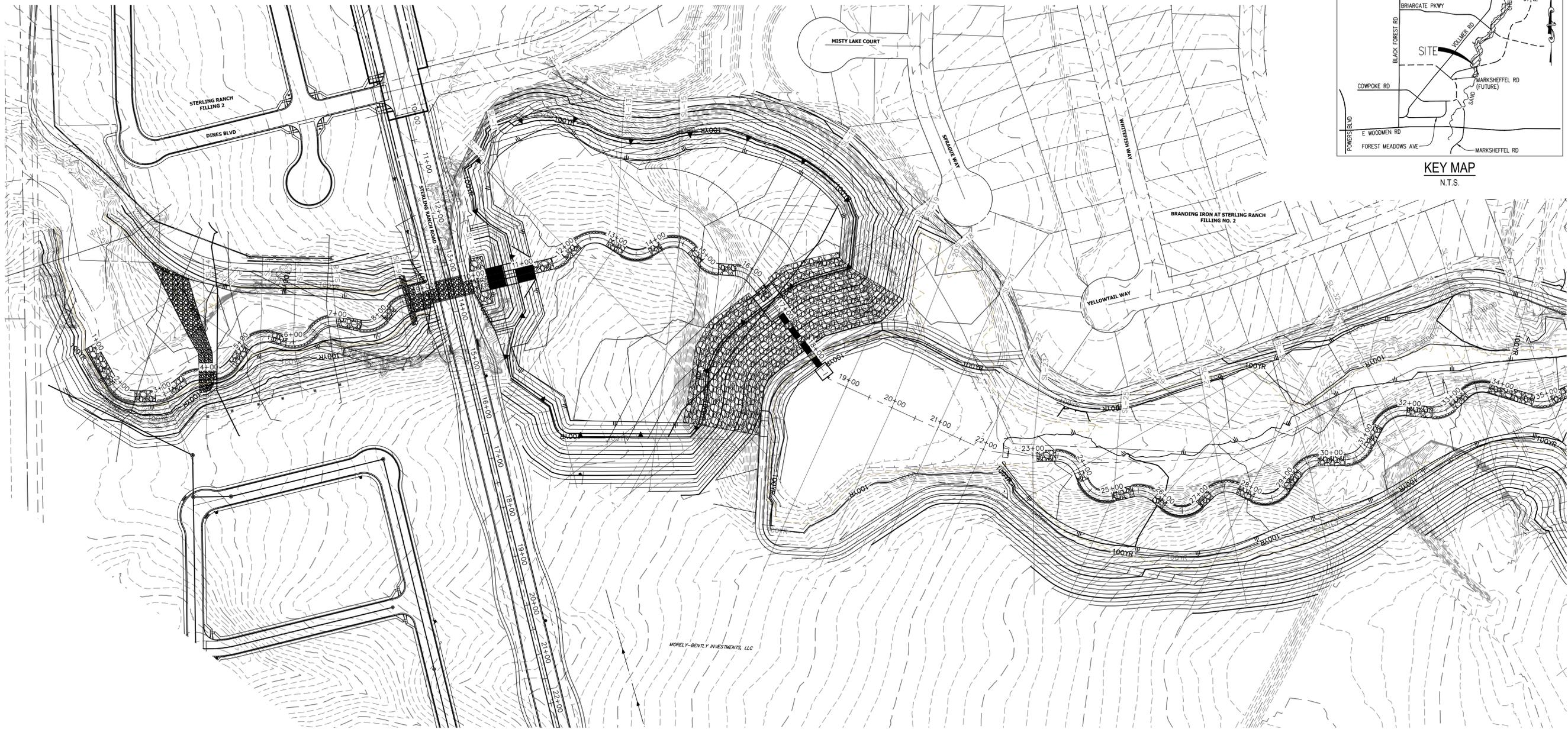
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ENGINEER'S STATEMENT

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CONSTRUCTION**

MIKE A. BRAMBLE
COLORADO P.E. No. 10000
FOR AND ON BEHALF OF J.R. ENGINEERING, INC.

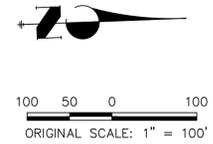


BANKFULL CROSS SECTION – SAND CREEK
STA: 1+00 TO 35+00
 SCALE: 1"=100'

- BENCHMARK**
1. THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853" AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
 NORTHING = 411416.273
 EASTING = 235167.071
 ELEVATION = 7023.42
 2. THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHWEST BOUNDARY CORNER OF PAWNEE RANCHEROS SUBDIVISION
 NORTHING = 410095.404
 EASTING = 235052.131
 ELEVATION = 7000.40
 3. THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141" AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
 NORTHING = 411399.962
 EASTING = 233849.817
 ELEVATION = 7030.82

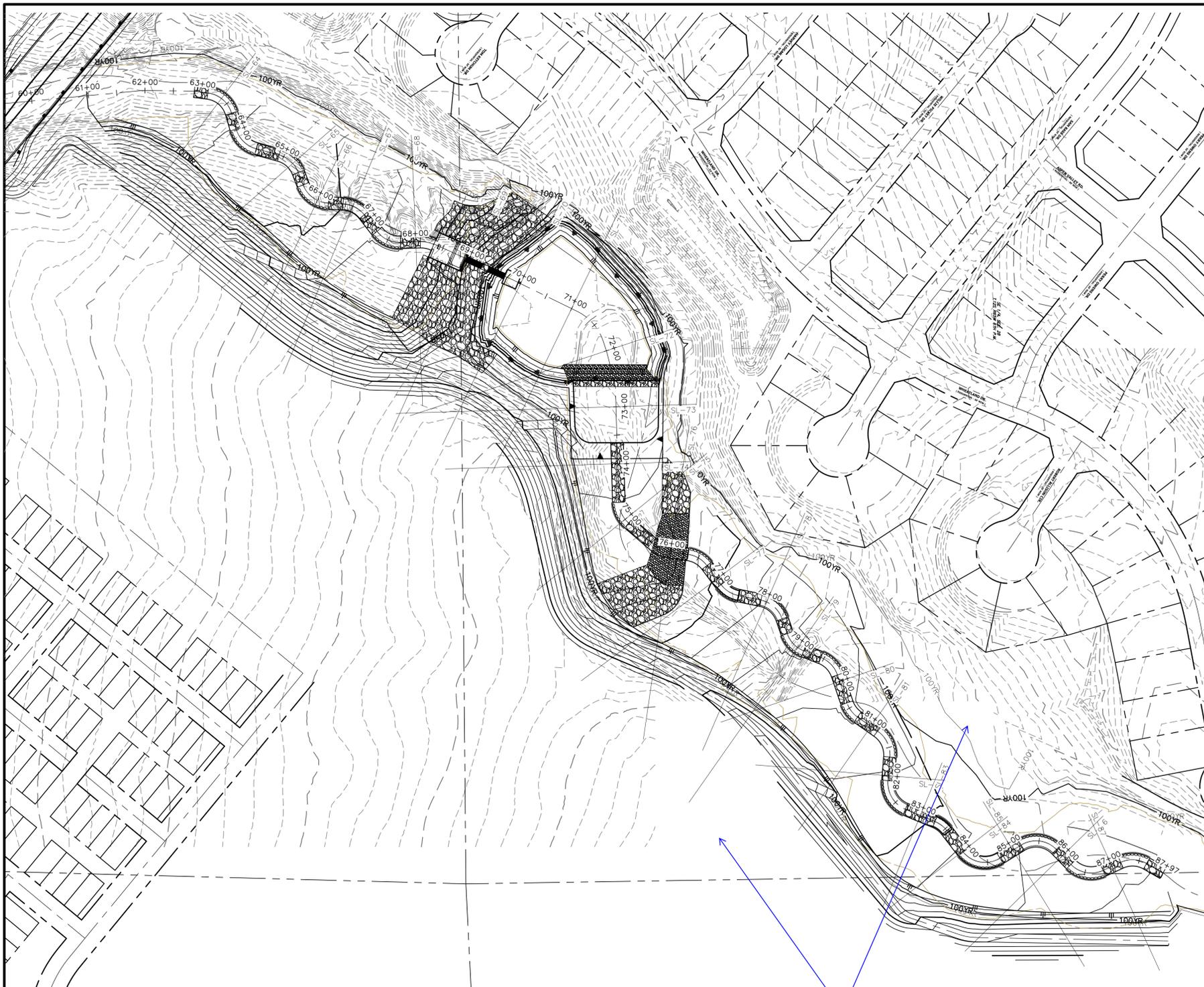
NOTE
 SEE SHEETS 24-30 FOR CROSS SECTIONS

BASIS OF BEARINGS
 THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AS MONUMENTED AT THE SOUTHWEST CORNER OF SAID BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624" AND AT THE SOUTHWEST CORNER OF SAID SOUTHWEST QUARTER BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624", SAID LINE BEARS N89°14'14"E, A DISTANCE OF 2,722.69 FEET.



ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL
PRELIMINARY NOT FOR CONSTRUCTION
 MIKE A. BRAMBLE
 COLORADO P.E. # 30000
 FOR AND ON BEHALF OF JR ENGINEERING, LLC

PREPARED FOR SR LAND, LLC 20 BOULDER CRESCENT 2ND FLOOR COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 419-3024	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.	
	BY DATE	No. REVISION
SAND CREEK RESTORATION CROSS SECTIONS	H-SCALE 1"=100' V-SCALE N/A	DATE 04/11/22 DESIGNED BY DJV DRAWN BY SCH CHECKED BY
	SHEET 21 OF 81	JOB NO. 25188.04
	J.R. ENGINEERING A Westman Company Central 303-740-9383 • Colorado Springs 719-583-2583 Fort Collins 970-491-9888 • www.jrengineering.com	
	J.R. ENGINEERING A Westman Company	



BANKFULL CROSS SECTION – SAND CREEK
 STA: 60+00 TO 88+60
 SCALE: 1"=100'

Show all contours

Prevous comment and redlines requested additional cross-sections. A lot of additional cross-sections or 2D modeling is needed to verify flow attributes.

BENCHMARK

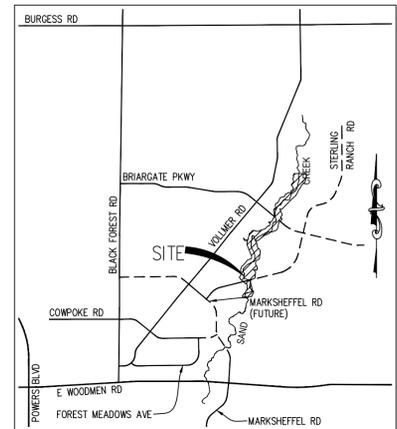
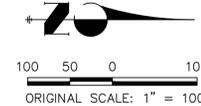
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 EASTING = 233849.817
 ELEVATION = 7030.82

NOTE

SEE SHEETS 24-30 FOR CROSS SECTIONS

BASIS OF BEARINGS

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KEY MAP
 N.T.S.

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PREPARED FOR
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 20 BOULDER CRESCENT
 2ND FLOOR
 COLORADO SPRINGS, CO 80903
 JAMES F. MORLEY
 (719) 419-3024

J.R. ENGINEERING
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H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	No.	REVISION	BY	DATE

SAND CREEK RESTORATION
 CROSS SECTIONS

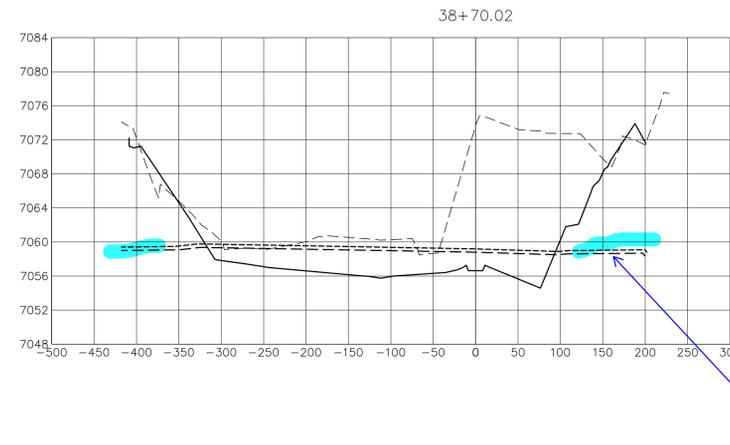
SHEET 23 OF 81
 JOB NO. 25188.04



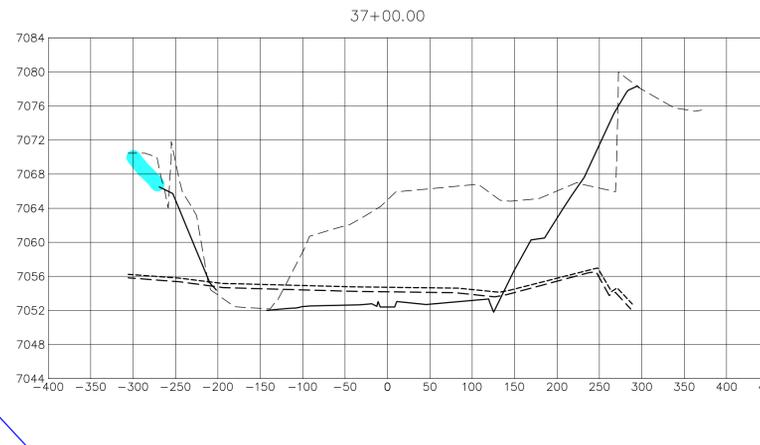
ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION

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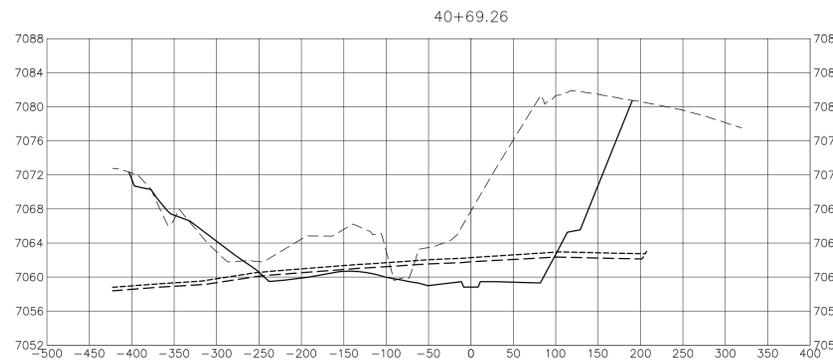
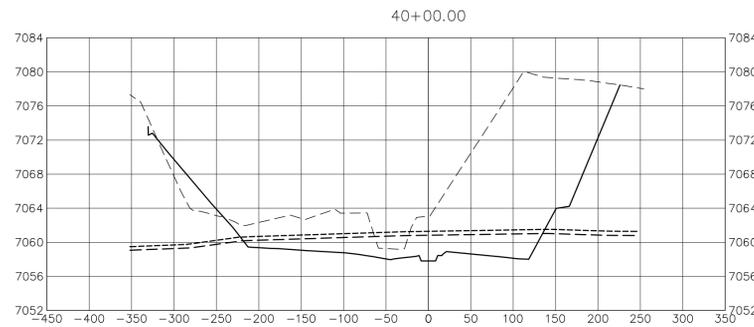
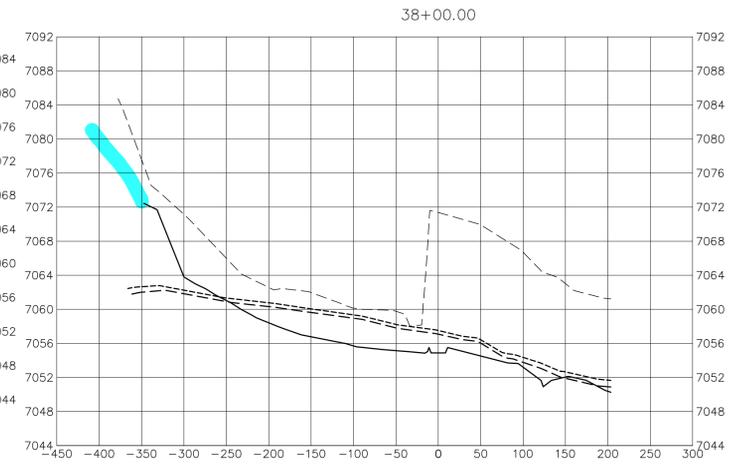
MIKE A. BRAMLEY
 COLORADO P.E.
 FOR AND ON BEHALF OF JR ENGINEERING, LLC



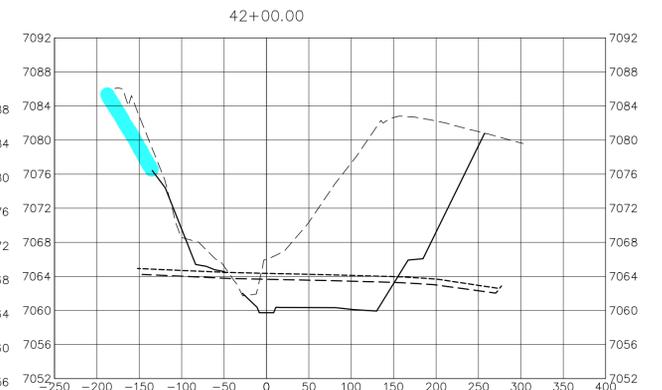
correct on all sections



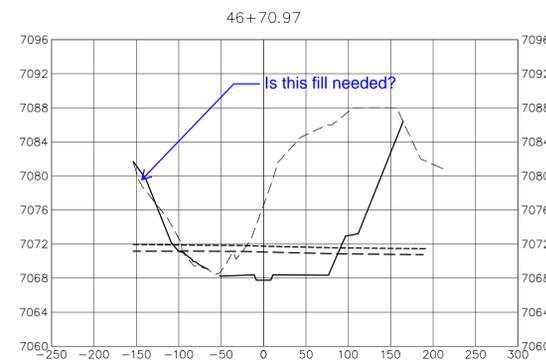
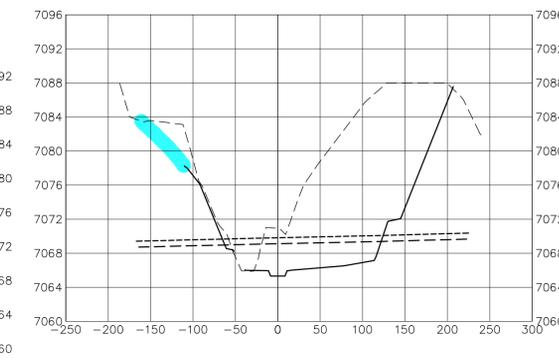
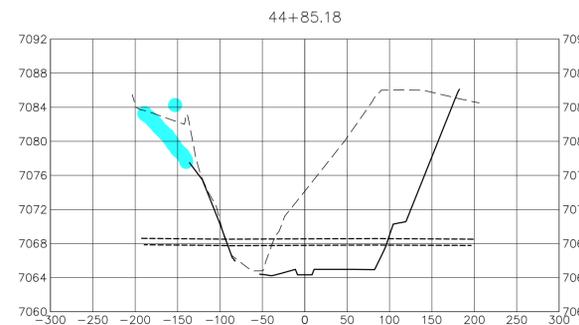
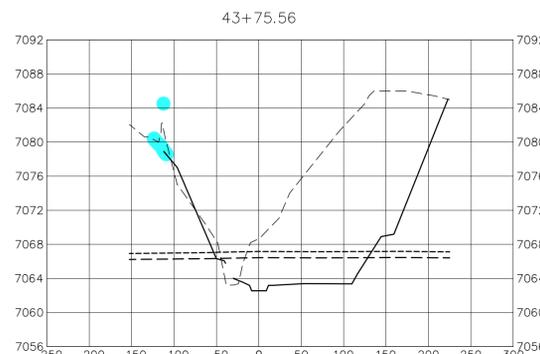
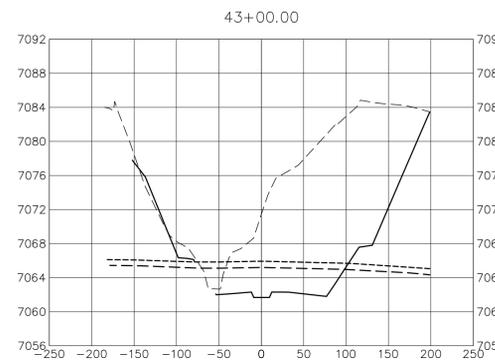
Show all grading tie-ins



Show both maintenance roads/trail and lot lines



adjust text



LEGEND

- PROP GROUND SURFACE
- - - EX GROUND SURFACE
- - - 100YR FIS WSEL
- - - 100YR DESIGN WSEL

BENCHMARK

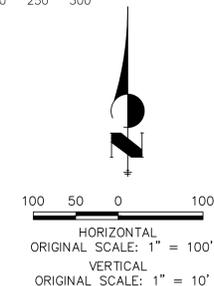
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ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL

PRELIMINARY NOT FOR CONSTRUCTION

MIKE A. BRAMBLE
 COLORADO P.E. 33842
 FOR AND ON BEHALF OF J.R. ENGINEERING, L.L.C.

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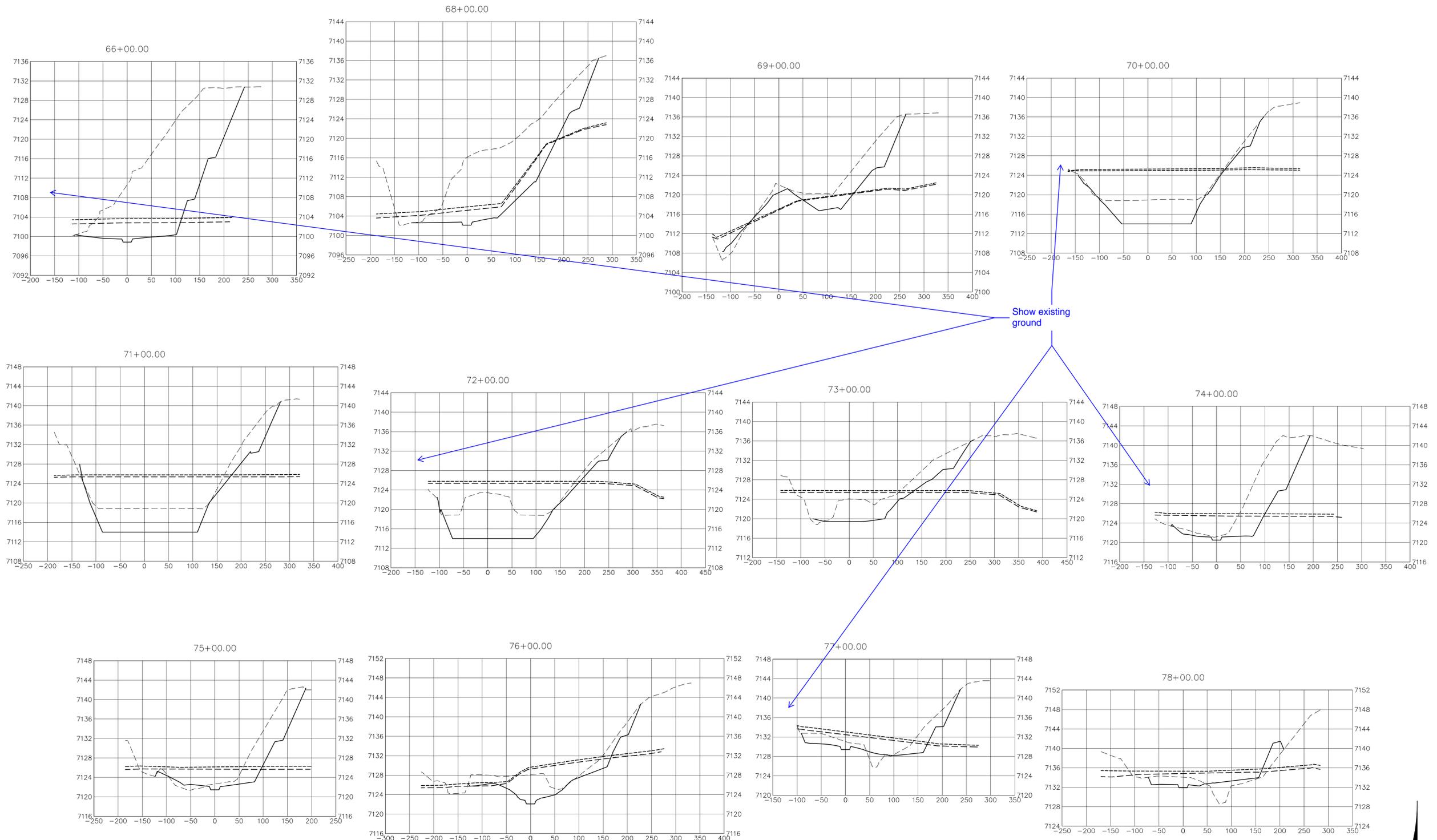
PREPARED FOR
SR LAND, LLC
 20 BOULDER CRESCENT
 2ND FLOOR
 COLORADO SPRINGS, CO 80903
 JAMES F. MORLEY
 (719) 419-3024

J.R. ENGINEERING
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BY	DATE	No.	REVISION

SAND CREEK RESTORATION
 CROSS SECTIONS

SHEET 28 OF 81
 JOB NO. 25188.04



BENCHMARK

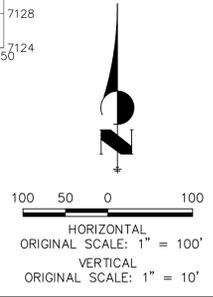
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LEGEND

- PROP GROUND SURFACE
- EX GROUND SURFACE
- 100YR FIS WSEL
- 100YR DESIGN WSEL

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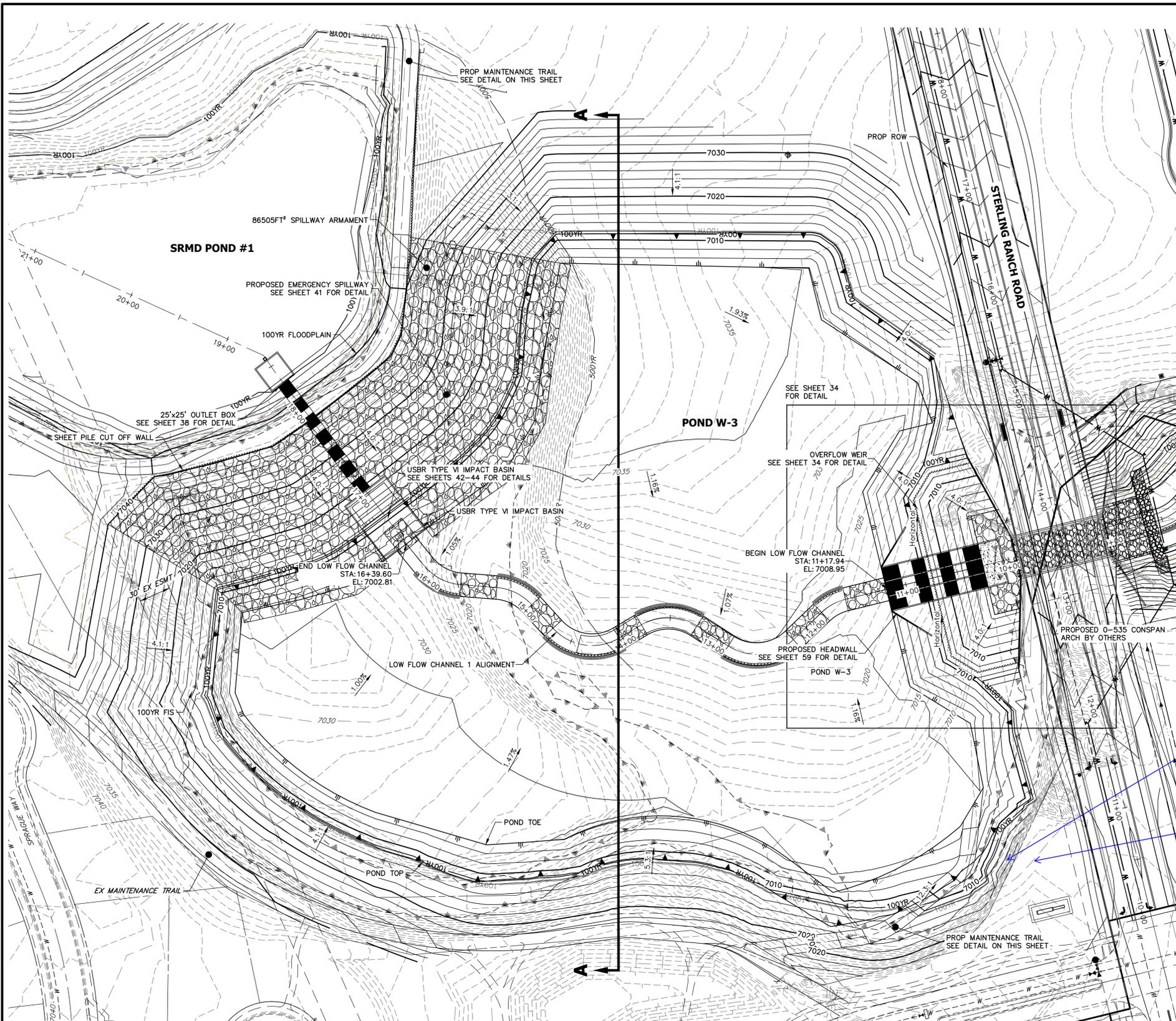
ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION

**PRELIMINARY
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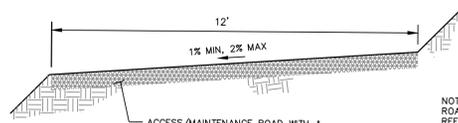
MIKE A. BRAMLEY
 COLORADO P.E. # 33333
 FOR AND ON BEHALF OF JR ENGINEERING

<p>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.</p>	<p>PREPARED FOR SR LAND, LLC 20 BOULDER CRESCENT 2ND FLOOR COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 419-3024</p>	<p>J.R. ENGINEERING A Westman Company Centennial 300-740-9888 • Colorado Springs 719-588-2583 Fort Collins 970-491-9888 • www.jrengineering.com</p>	
BY	DATE		
No.	REVISION		
H-SCALE 1"=100'	V-SCALE 1"=10'	DATE 4/8/22	D/J/V SCH
DESIGNED BY	DRAWN BY	CHECKED BY	
SAND CREEK RESTORATION		CROSS SECTIONS	
SHEET 30 OF 81		JOB NO. 25188.04	

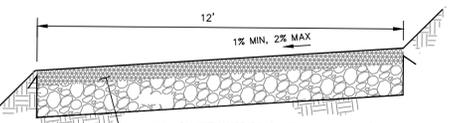
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POND W-3 PLAN
SCALE: 1"=50'



MAINTENANCE & ACCESS ROAD ABOVE EURV TYPICAL SECTION
SCALE: N.T.S.



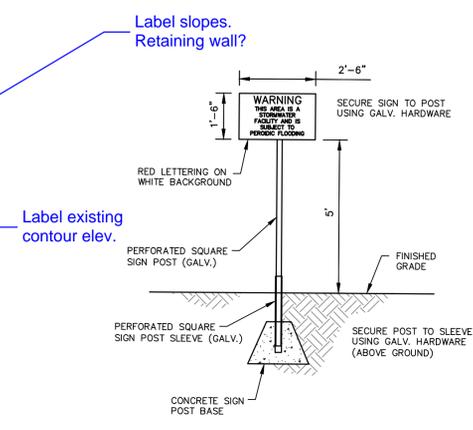
MAINTENANCE & ACCESS ROAD BELOW EURV TYPICAL SECTION
SCALE: N.T.S.



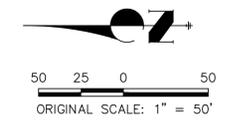
KEY MAP
SCALE: 1"=2000'

GRADING NOTES:

1. ALL PROPOSED CONTOURS ARE TO FINISHED GRADE.
2. EARTHEN CUT AND FILL SLOPES SHALL BE 3:1 MAXIMUM. SLOPES IN EXCESS OF 4:1 AND AREAS OTHERWISE INDICATED BY WITHIN THESE PLANS, SHALL BE COVERED WITH SOIL RETENTION BLANKET OVER 4" MIN. THICKNESS OF TOPSOIL AND SEEDED.
3. IF THE PROJECT IS CONSTRUCTED DURING THE SUMMER WHEN SEEDING IS NOT ALLOWED, APPLY 1-1/2 TONS OF CERTIFIED WEED FREE MULCH PER ACRE MECHANICALLY CRIMPED INTO THE SOIL IN COMBINATION WITH AN ORGANIC MULCH TACKIFIER.
4. PRIOR TO ANY CONSTRUCTION ACTIVITIES THE PROPOSED SILT FENCE SHOWN ON THE EROSION CONTROL SHEET SHALL BE CONSTRUCTED. THE FENCE SHALL BE REMOVED UPON THE LATER OF STABILIZATION OF THE SITE OR COMPLETION OF CONSTRUCTION.
5. TO REDUCE THE POTENTIAL FOR CLOGGING OF DEBRIS GRATES, NO STRAW MULCH SHALL BE USED WITHIN THE EURV OR WQCV OF A DETENTION BASIN. INSTEAD, EROSION CONTROL BLANKETS SHALL BE INSTALLED FOR A WIDTH OF AT LEAST 6 FEET ON EITHER SIDE OF CONCRETE LOW-FLOW CHANNELS. THE BLANKETS SHALL COMPLY WITH THE MATERIALS AND INSTALLATION REQUIREMENTS FOR EROSION CONTROL BLANKETS (STRAW COCONUT OR 100 PERCENT COCONUT). SITE-SPECIFIC CONDITIONS MAY REQUIRE ADDITIONAL BLANKET OR OTHER EROSION CONTROL MEASURES.



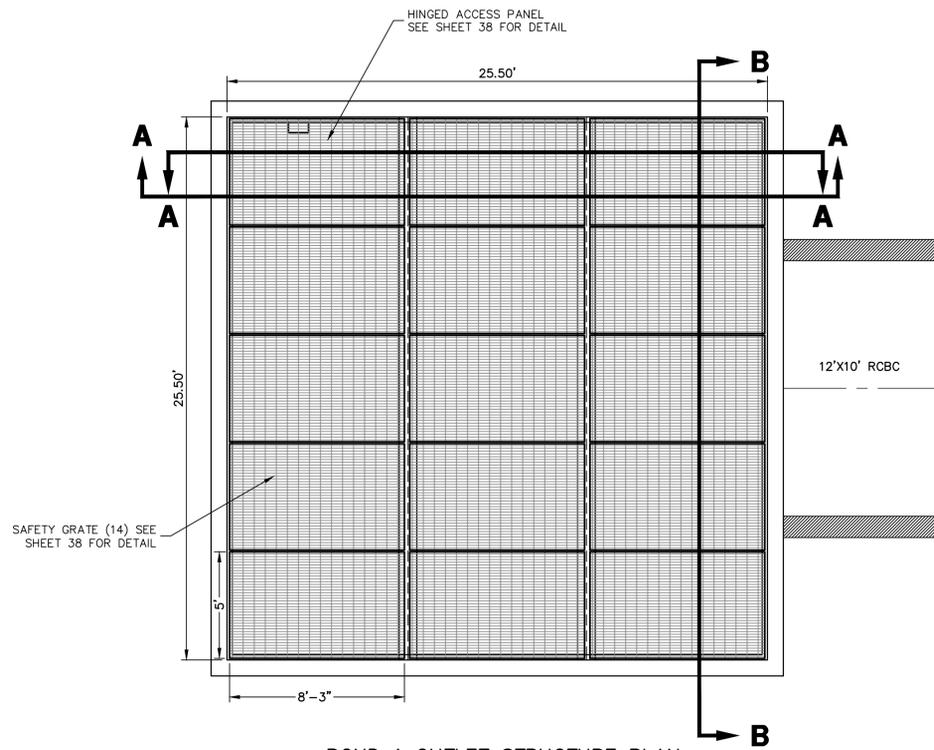
POND WARNING SIGN
SCALE: N.T.S.



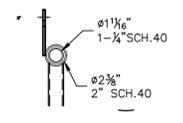
ENGINEER'S STATEMENT

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MIKE A. BRAMBLE
COLORADO P.E. 30000
FOR AND ON BEHALF OF J.R. ENGINEERING, LLC

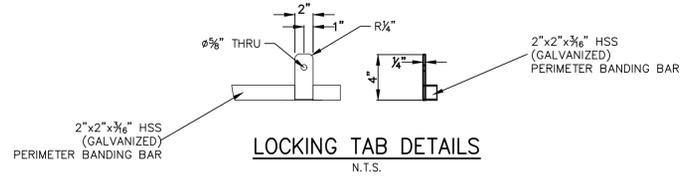
PREPARED FOR	SR LAND, LLC 20 BOULDER CRESCENT 2ND FLOOR COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 419-3024										
	UNLESS SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, DESIGNATED BY WRITTEN AUTHORIZATION.										
BY DATE											
No. REVISION											
H-SCALE	1"=50'	V-SCALE	N/A	DATE	4/11/22	DESIGNED BY	DV	DRAWN BY	SCH	CHECKED BY	
SAND CREEK RESTORATION		POND PLANS		SHEET 33 OF 81		JOB NO. 25188.04					



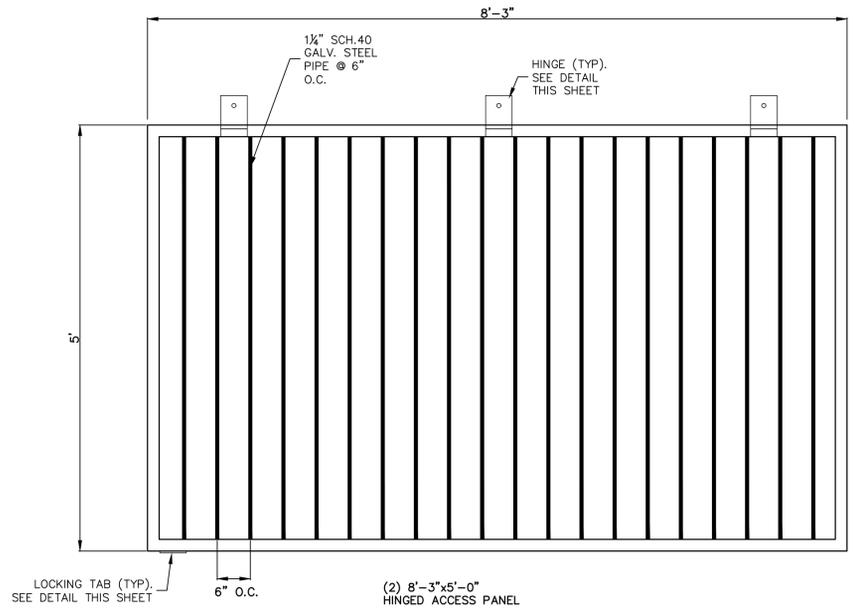
POND 1 OUTLET STRUCTURE PLAN
SCALE: 1/4"=1'



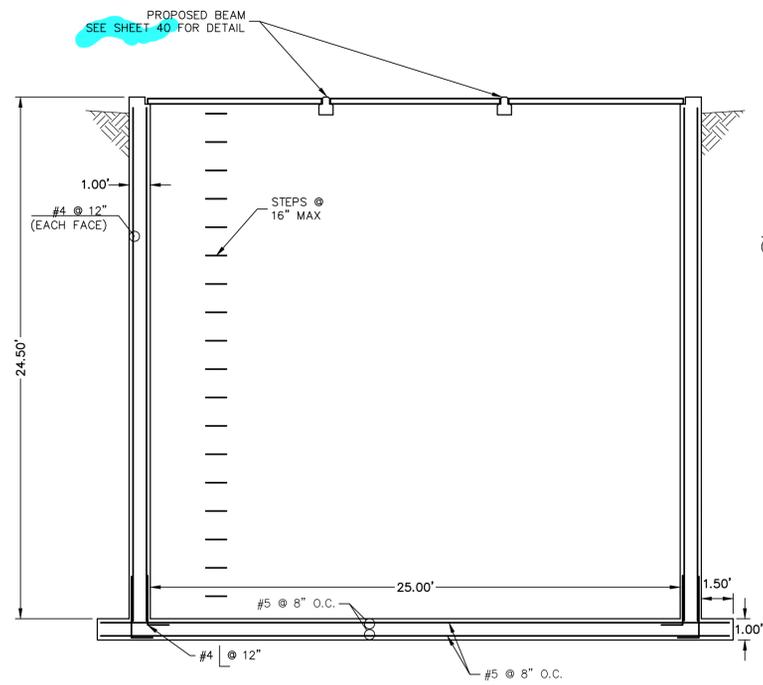
HINGE DETAILS
N.T.S.



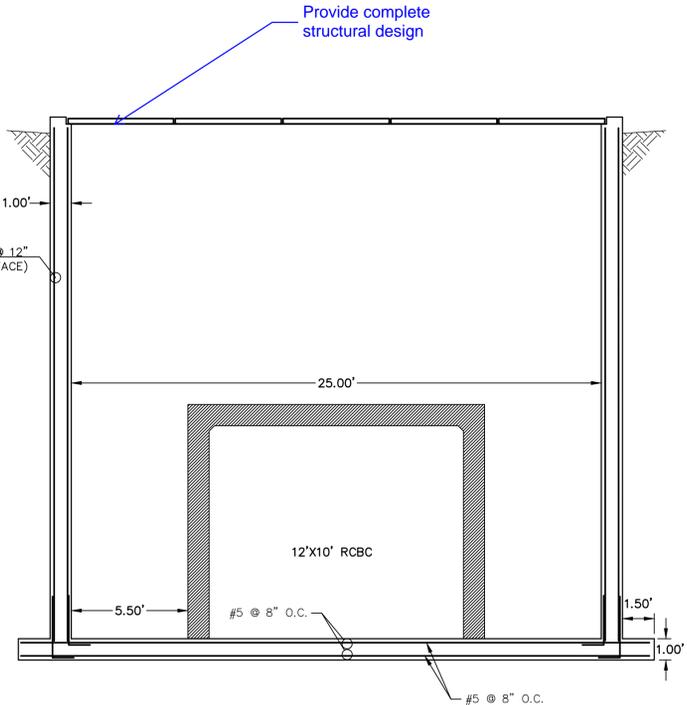
LOCKING TAB DETAILS
N.T.S.



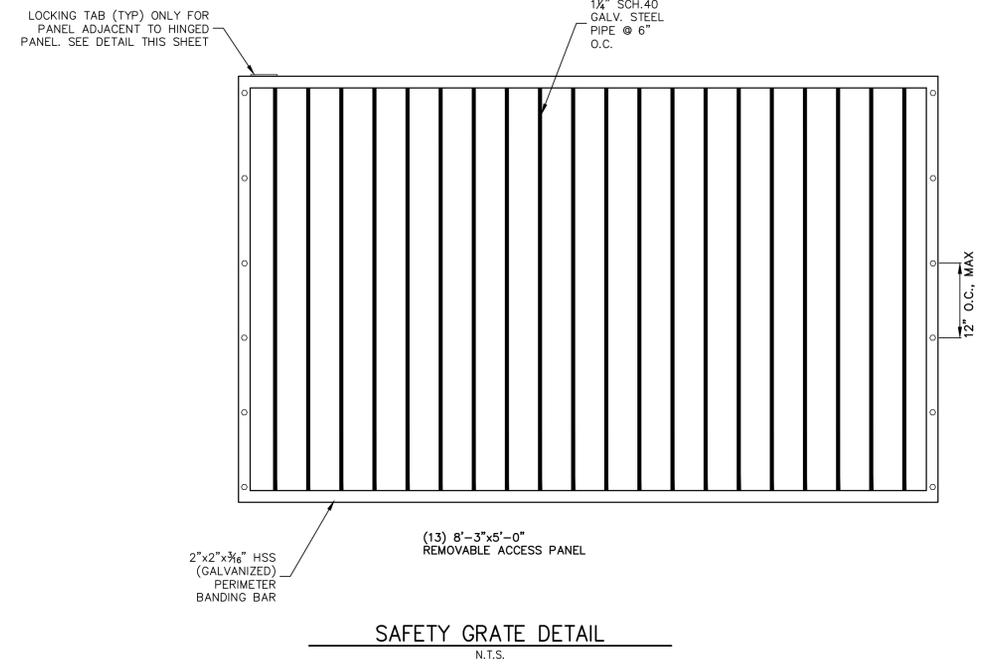
SAFETY GRATE DETAIL
N.T.S.



SECTION A-A
SCALE: 1/4"=1'



SECTION B-B
SCALE: 1/4"=1'



SAFETY GRATE DETAIL
N.T.S.

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL

**PRELIMINARY
NOT FOR
CONSTRUCTION**

MIKE A. BRAMLEY
COLORADO P.E. NO. 30111
FOR AND ON BEHALF OF JR ENGINEERING, INC.

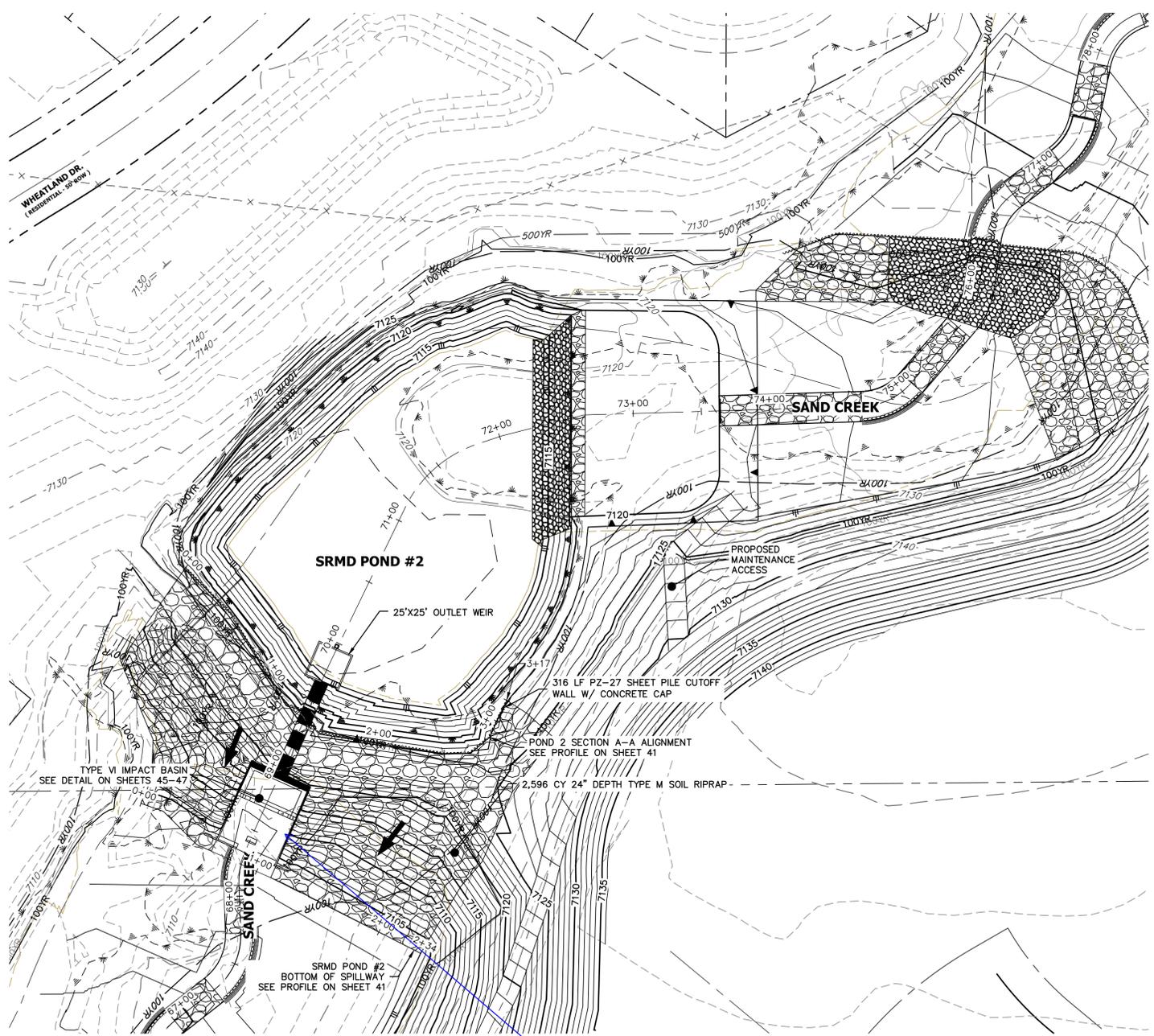
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PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

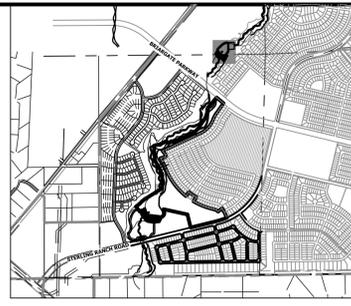
J.R. ENGINEERING
A Westman Company
Central 303-740-9888 • Colorado Springs 719-588-2583
Fort Collins 970-491-9888 • www.jrengineering.com

BY	DATE	No.	REVISION

H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
1/4"=1'	1/4"=1'	04/11/22	DJV	DJV	DJV



- GRADING NOTES:**
- ALL PROPOSED CONTOURS ARE TO FINISHED GRADE.
 - EARTHEN CUT AND FILL SLOPES SHALL BE 3:1 MAXIMUM. SLOPES IN EXCESS OF 4:1 AND AREAS OTHERWISE INDICATED BY WITHIN THESE PLANS, SHALL BE COVERED WITH SOIL RETENTION BLANKET OVER 4" MIN. THICKNESS OF TOPSOIL AND SEEDED.
 - IF THE PROJECT IS CONSTRUCTED DURING THE SUMMER WHEN SEEDING IS NOT ALLOWED, APPLY 1-1/2 TONS OF CERTIFIED WEED FREE MULCH PER ACRE MECHANICALLY CRIMPED INTO THE SOIL IN COMBINATION WITH AN ORGANIC MULCH TACKIFIER.
 - PRIOR TO ANY CONSTRUCTION ACTIVITIES THE PROPOSED SILT FENCE SHOWN ON THE EROSION CONTROL SHEET SHALL BE CONSTRUCTED. THE FENCE SHALL BE REMOVED UPON THE LATER OF STABILIZATION OF THE SITE OR COMPLETION OF CONSTRUCTION.
 - TO REDUCE THE POTENTIAL FOR CLOGGING OF DEBRIS GRATES, NO STRAW MULCH SHALL BE USED WITHIN THE EURV OR WCV OF A DETENTION BASIN. INSTEAD, EROSION CONTROL BLANKETS SHALL BE INSTALLED FOR A WIDTH OF AT LEAST 6 FEET ON EITHER SIDE OF CONCRETE LOW-FLOW CHANNELS. THE BLANKETS SHALL COMPLY WITH THE MATERIALS AND INSTALLATION REQUIREMENTS FOR EROSION CONTROL BLANKETS (STRAW COCONUT OR 100 PERCENT COCONUT). SITE-SPECIFIC CONDITIONS MAY REQUIRE ADDITIONAL BLANKET OR OTHER EROSION CONTROL MEASURES.

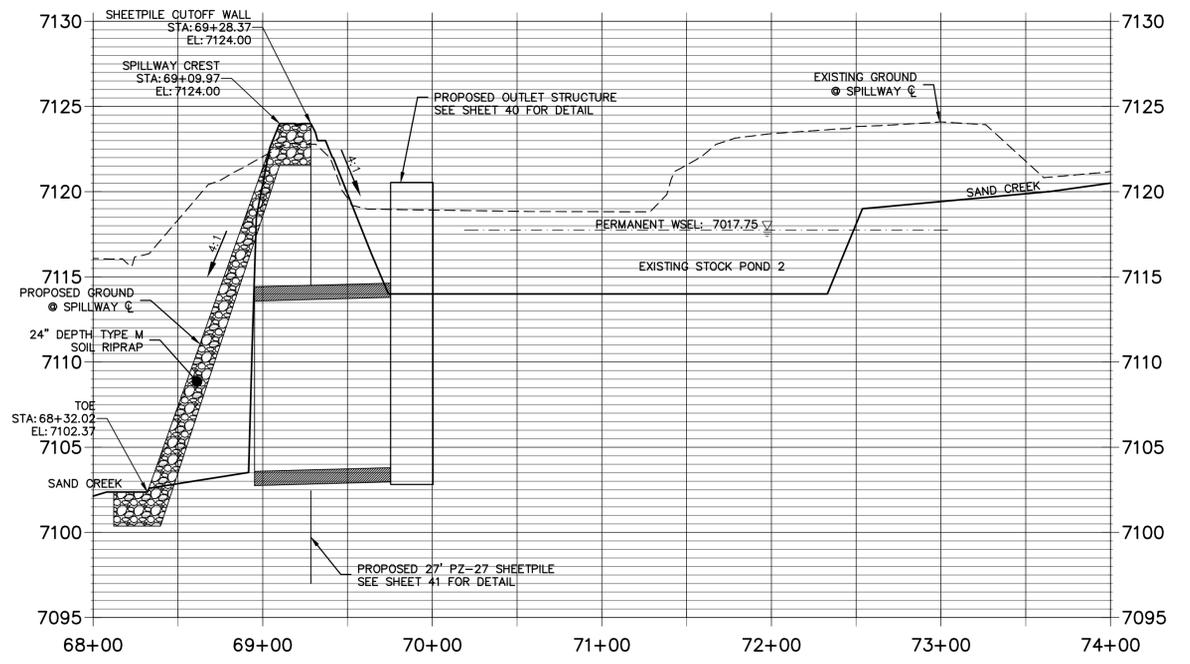


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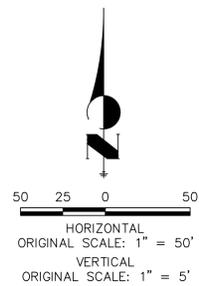
PREPARED FOR
SR LAND, LLC
 20 BOULDER CRESCENT
 2ND FLOOR
 COLORADO SPRINGS, CO 80903
 JAMES F. MORLEY
 (719) 419-3024

J.R. ENGINEERING
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 Centennial 303-740-9383 • Colorado Springs 719-583-2593
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**STOCK POND 2 EMERGENCY SPILLWAY PROFILE
 STA 68+00.00 TO 74+00.00**



Provide complete headwall and wingwall design



ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL

**PRELIMINARY
 NOT FOR
 CONSTRUCTION**

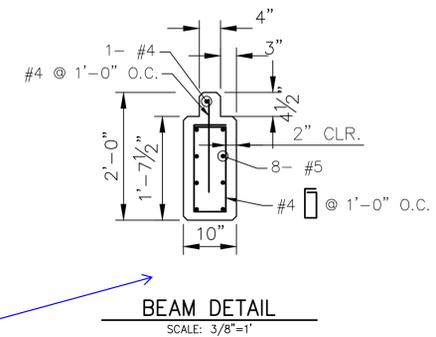
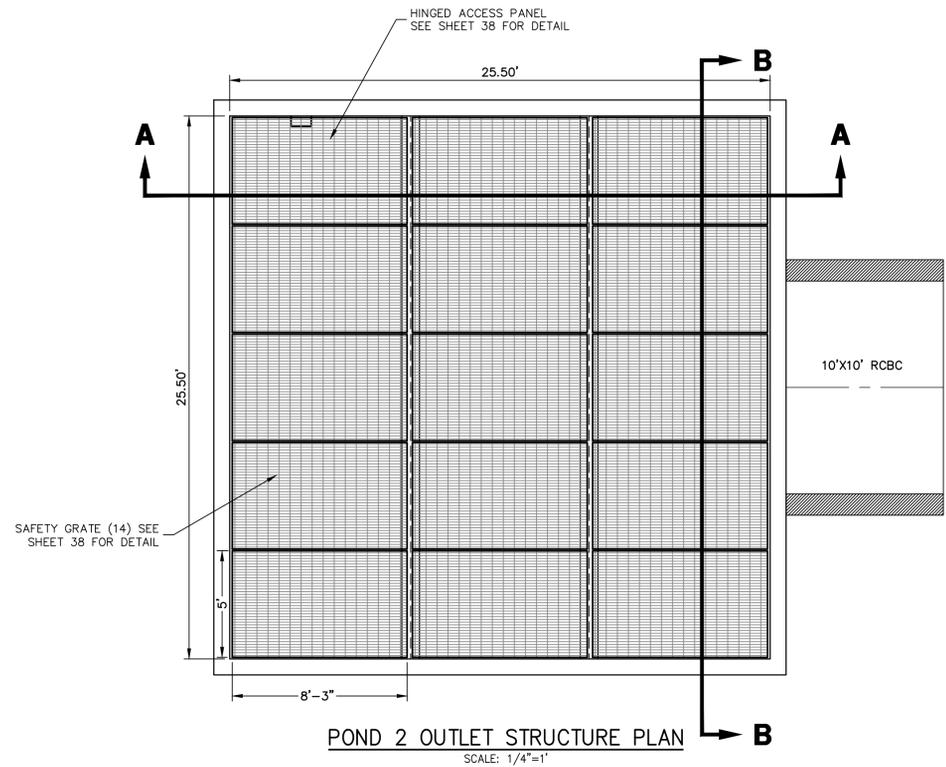
MIKE A. BRAMLEY
 COLORADO P.E. 30000
 FOR AND ON BEHALF OF JR ENGINEERING, LLC

No.	REVISION	BY	DATE	H-SCALE		V-SCALE		DATE	DESIGNED BY	DRAWN BY	CHECKED BY
				1"=50'	1"=5'	1"=50'	1"=5'				
								04/11/22	DJV	DJV	

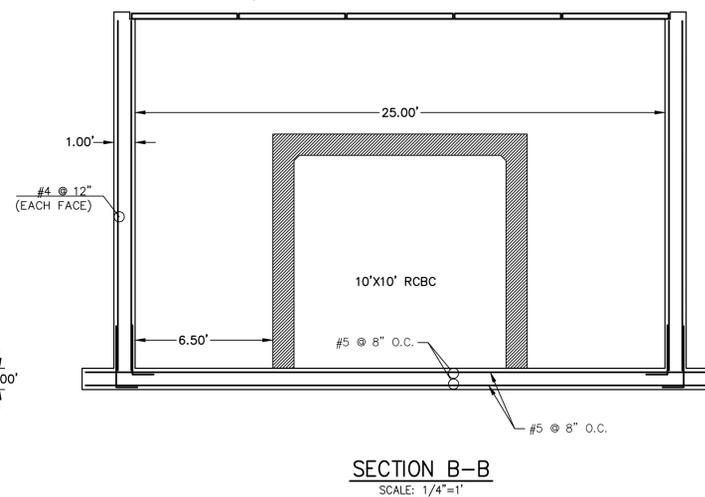
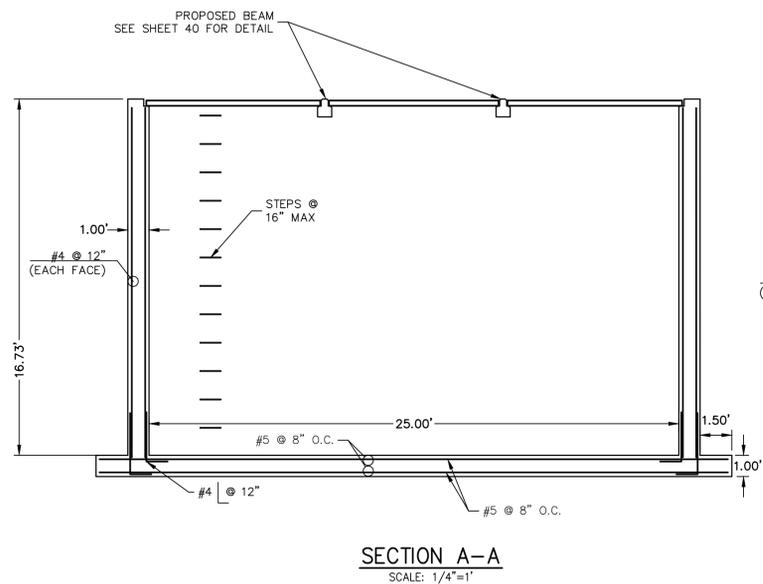
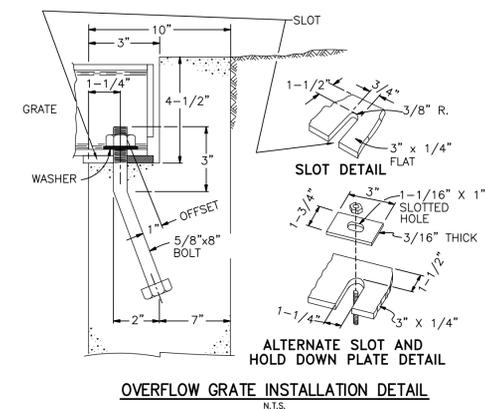
SAND CREEK RESTORATION
 POND PLANS

SHEET 39 OF 26
 JOB NO. 25188.04

X:\25188.04\Drawings\Sheet\Drawings\Sheet\Drawings\Stock Pond 2 P&P - 4/11/2022 1:00:15 PM, PmkM



Provide complete structural design

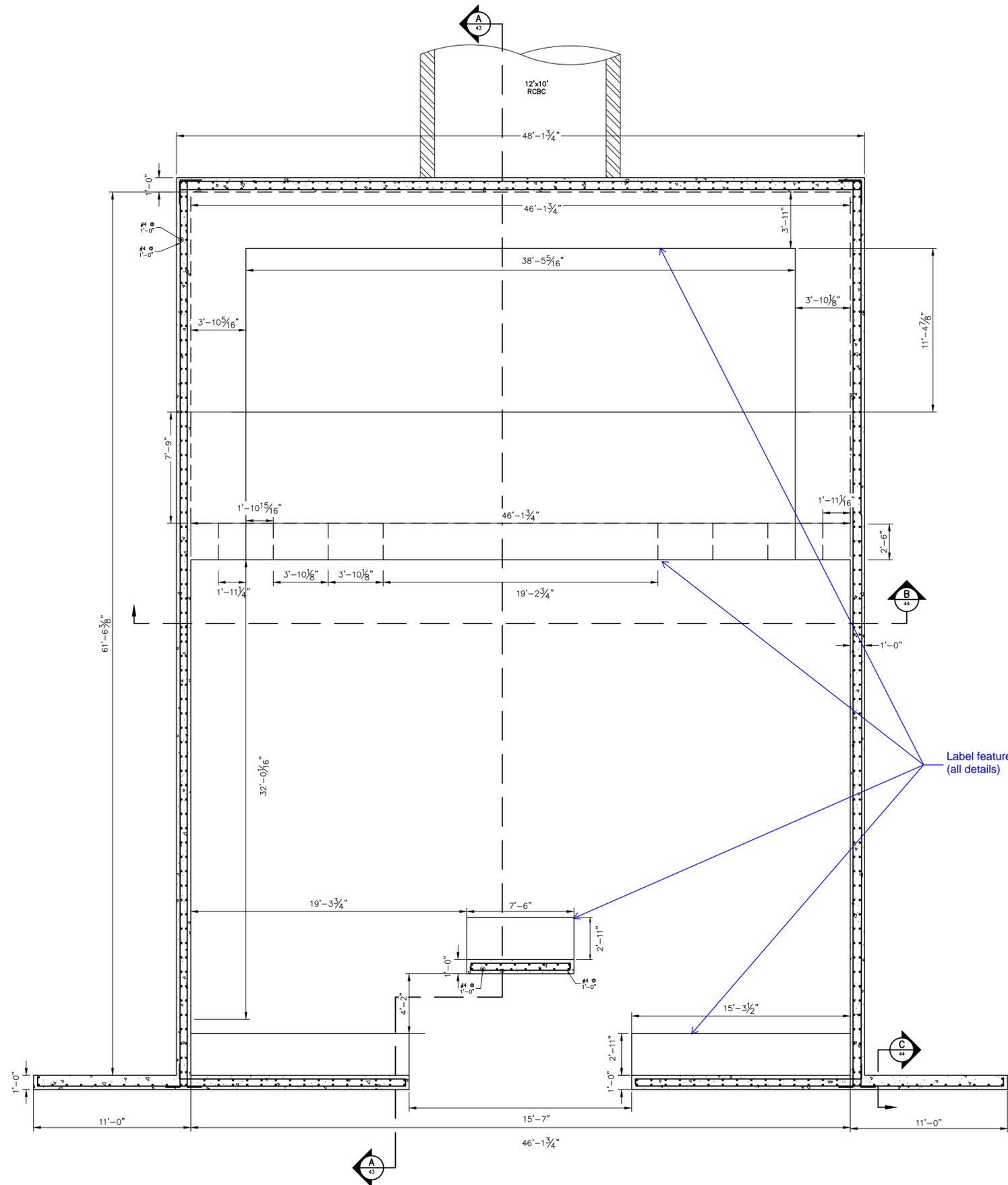


ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL

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CONSTRUCTION**

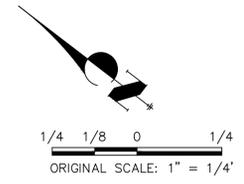
MIKE A. BRAMLEY
COLORADO P.E. No. 30000
FOR AND ON BEHALF OF JR. ENGINEERING, INC.

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PREPARED FOR	SR LAND, LLC 20 BOULDER CRESCENT 2ND FLOOR COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 419-3024
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 1/4"=1'	V-SCALE 1/4"=1'
DATE 04/11/22	DESIGNED BY DUV
DRAWN BY	CHECKED BY
SAND CREEK RESTORATION	
POND PLANS	
SHEET 40	OF 81
JOB NO.	25188.04



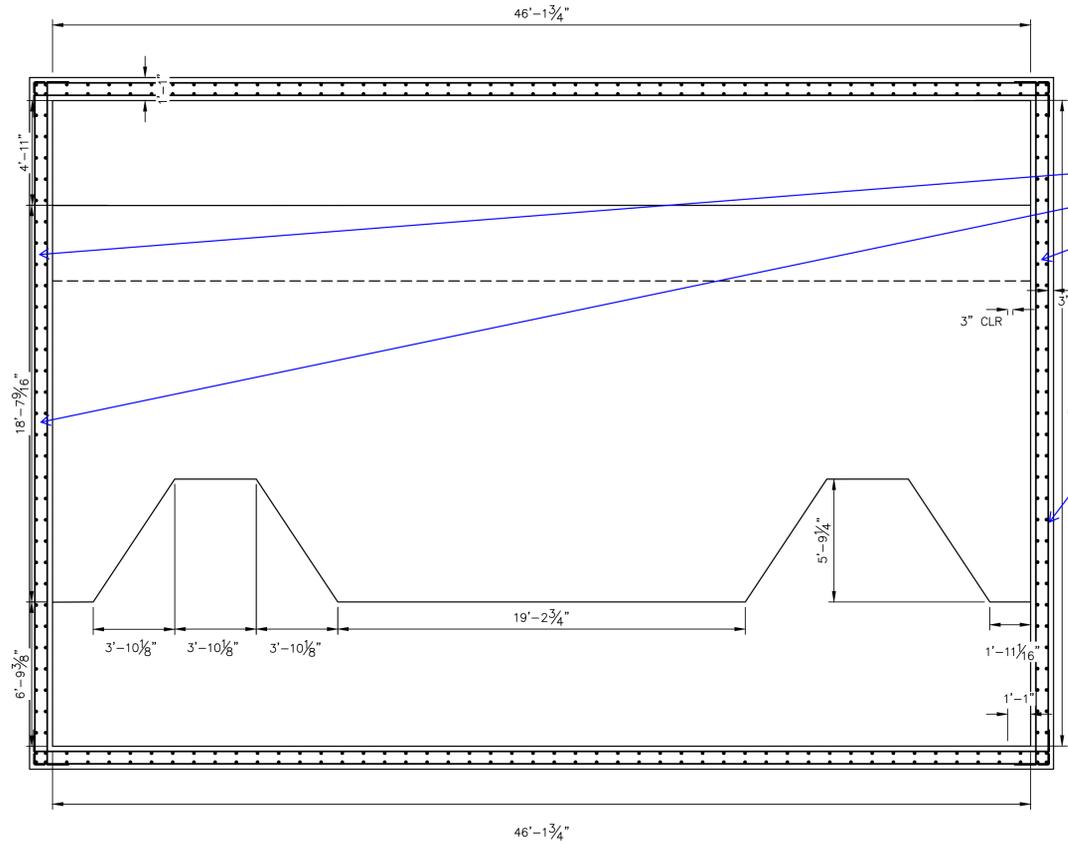
POND 1 - IMPACT STILLING BASIN - PLAN VIEW
SCALE: 1/4"=1'

Label features
(all details)



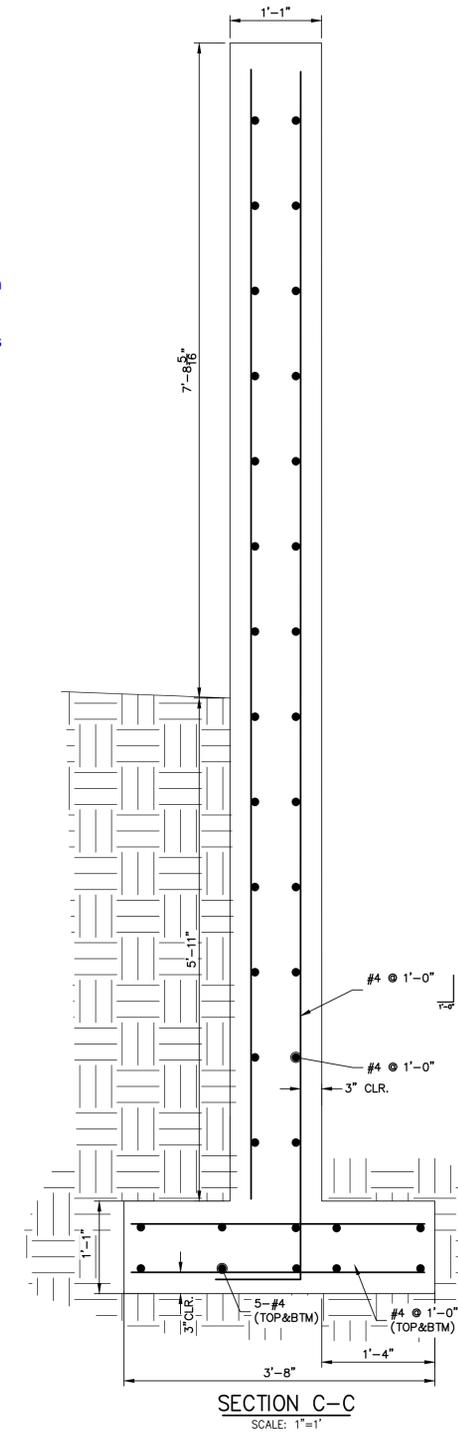
ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL
PRELIMINARY NOT FOR CONSTRUCTION
MIKE A. BRAMLEY
COLORADO P.E. 30111
FOR AND ON BEHALF OF J.R. ENGINEERING, LLC

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PREPARED FOR SR LAND, LLC 20 BOULDER CRESCENT 2ND FLOOR COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 419-3024	J.R. ENGINEERING A Westman Company  Centennial 303-740-9888 • Colorado Springs 719-588-2583 Fort Collins 970-491-9888 • www.jrengineering.com
SAND CREEK RESTORATION POND PLANS	SHEET 42 OF 81 JOB NO. 25188.04
H-SCALE 1/4"=1" V-SCALE N/A DATE 04/11/22 DESIGNED BY DJV DRAWN BY SCH CHECKED BY	No. REVISION BY DATE

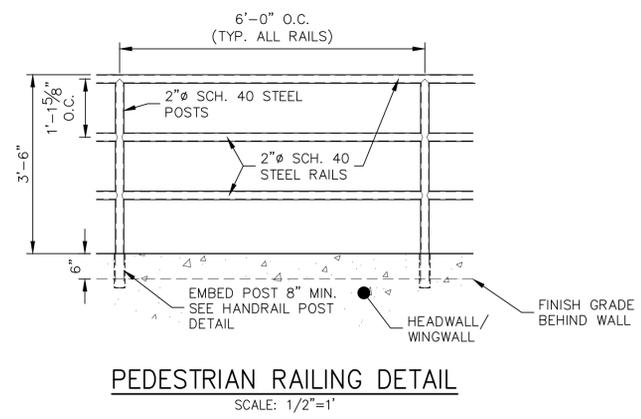


Provide details on how the baffle attaches and bending diagrams

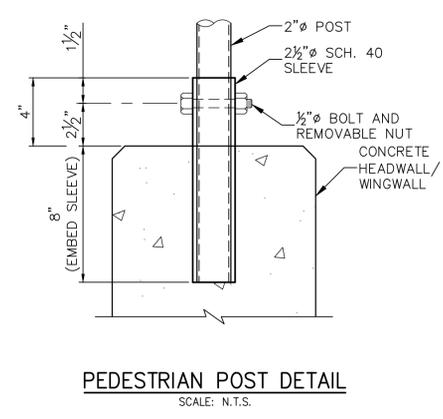
POND 1 - IMPACT STILLING BASIN - SECTION B-B
SCALE: 1/4"=1'



SECTION C-C
SCALE: 1"=1'



PEDESTRIAN RAILING DETAIL
SCALE: 1/2"=1'

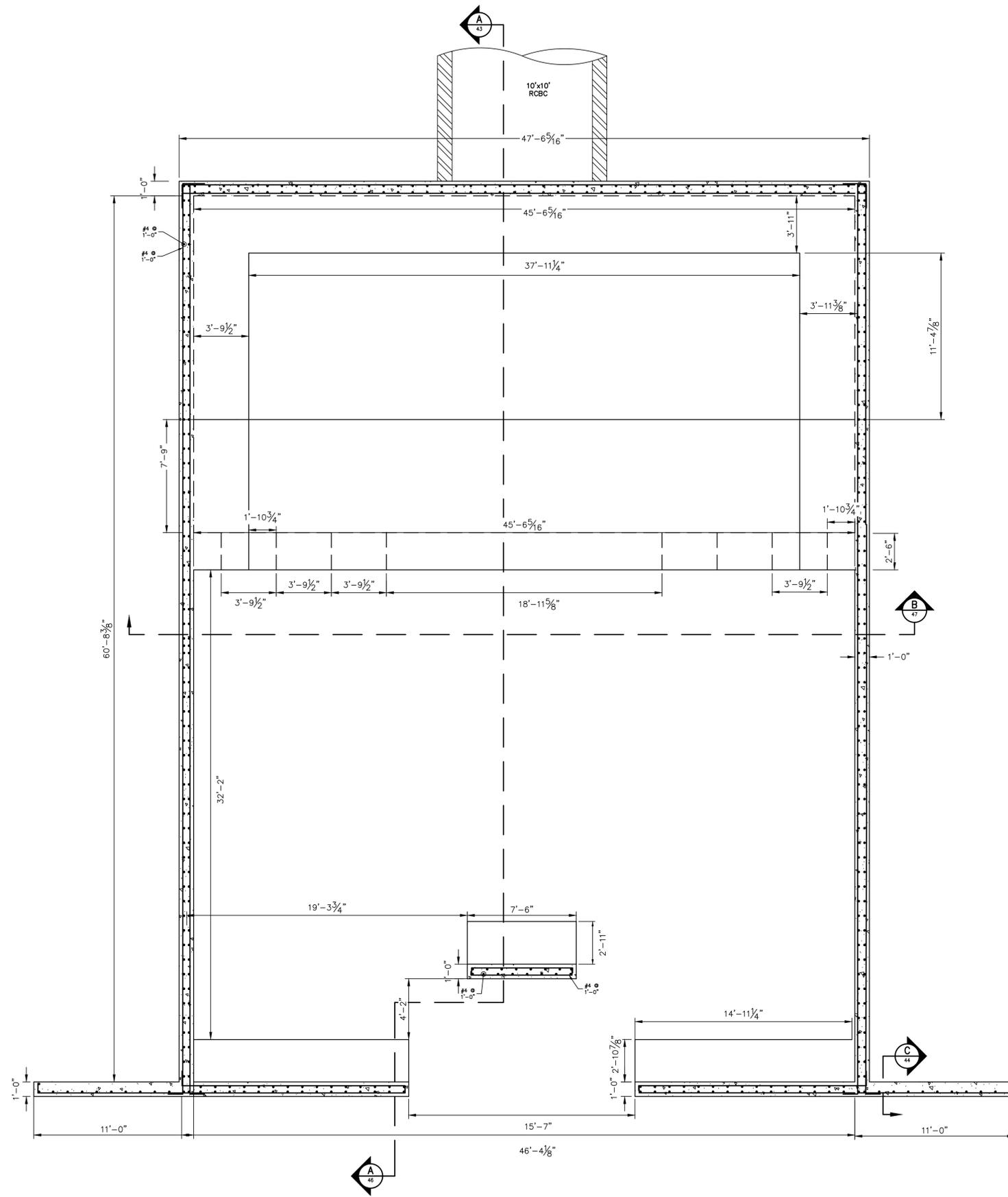


PEDESTRIAN POST DETAIL
SCALE: N.T.S.

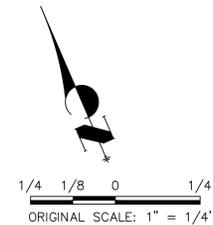


ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION AND REVIEW
PRELIMINARY NOT FOR CONSTRUCTION
MIKE A. BRAMLEY
COLORADO P.E. 30100
FOR AND ON BEHALF OF J.R. ENGINEERING, LLC

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BY	DATE						
No.	REVISION						
H-SCALE	V-SCALE	VARIES	VARIES	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
				04/11/22	DJV	SCH	
SAND CREEK RESTORATION							
POND PLANS							
SHEET 44 OF 81							
JOB NO. 25188.04							



POND 2 - IMPACT STILLING
BASIN - PLAN VIEW
SCALE: 1/4"=1'



811
Know what's below.
Call before you dig.

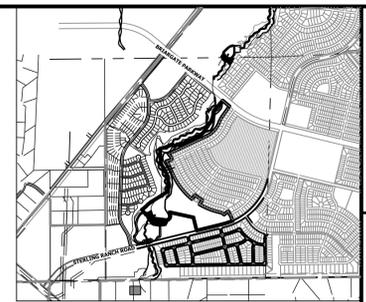
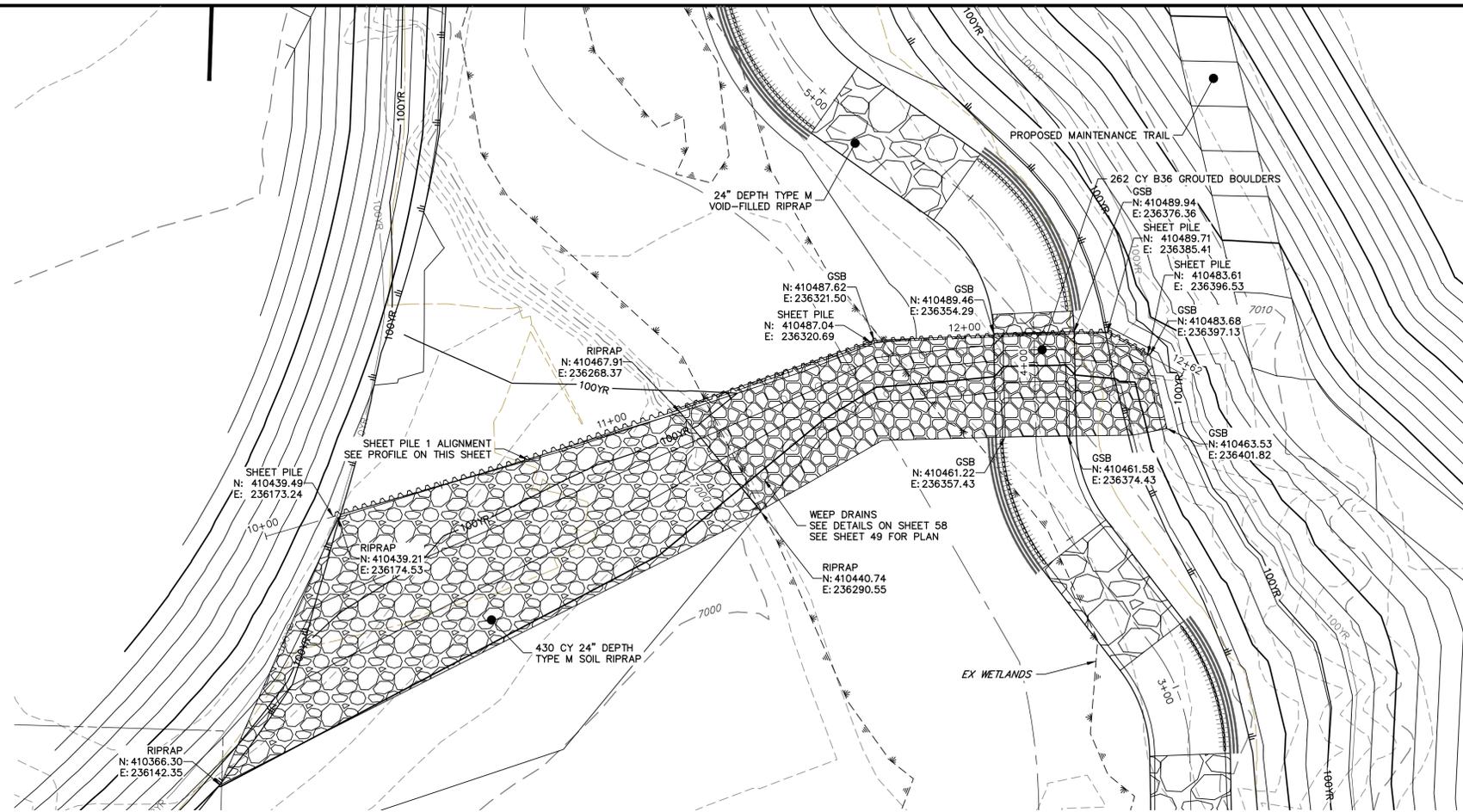
ENGINEER'S STATEMENT
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**PRELIMINARY
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CONSTRUCTION**
MIKE A. BRAMLEY
COLORADO P.E. 30112
FOR AND ON BEHALF OF J.R. ENGINEERING, LLC

SAND CREEK RESTORATION	POND PLANS	BY	DATE	No.	REVISION
SHEET 45 OF 81	JOB NO. 25188.04	H-SCALE	1/4"=1"	V-SCALE	N/A
		DATE	04/11/22	DESIGNED BY	DJV
		DRAWN BY	NEO	CHECKED BY	

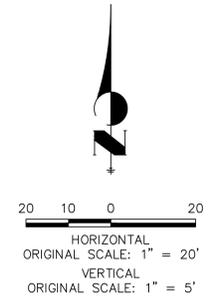
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PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

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APPROPRIATE REVIEWING
AGENCIES, OR ENGINEERING
PROFESSIONALS, OR OTHERWISE
DESIGNATED BY WRITTEN
AUTHORIZATION.

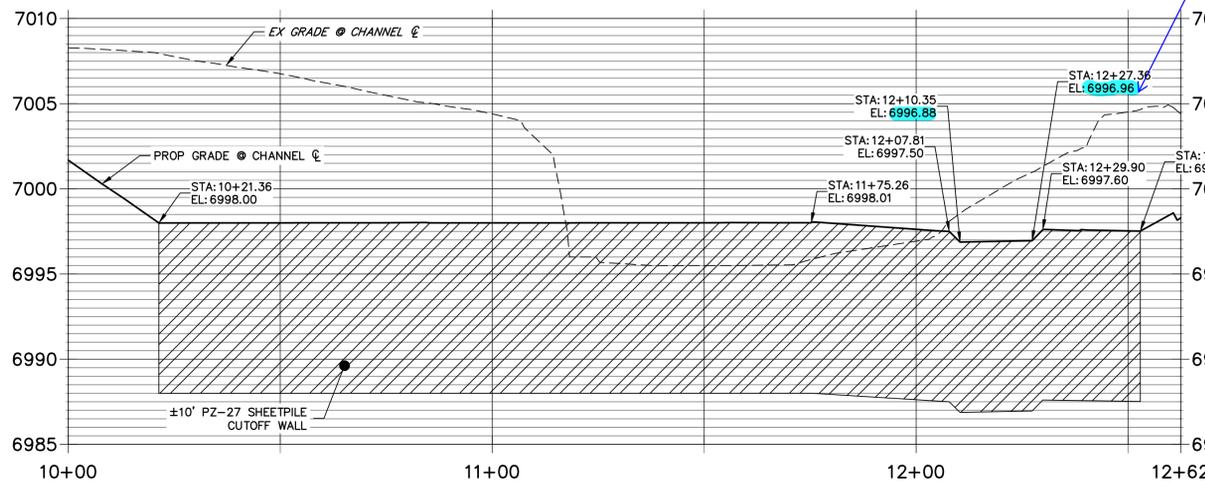


KEY MAP
SCALE: 1"=2000'

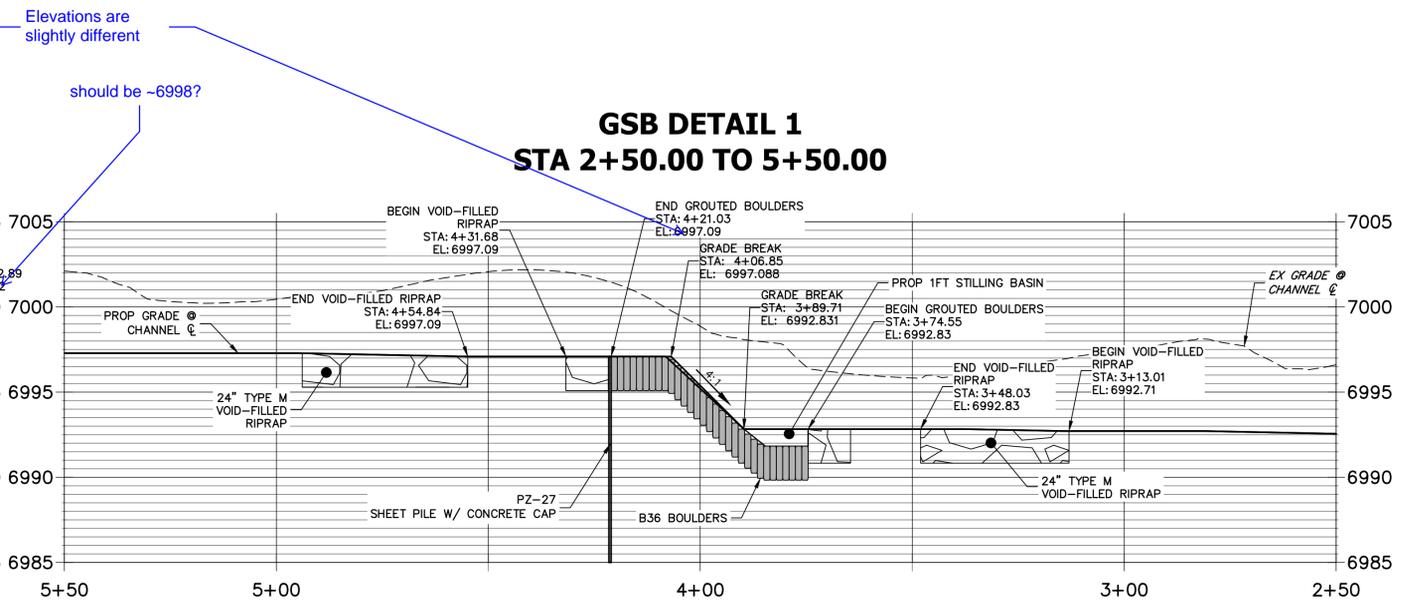


GRouted STEPPED BOULDER DROP #1 DETAIL
PLAN VIEW
SCALE: 1"=20'

SHEET PILE 1 PROFILE
STA 10+00.00 TO 12+62.44



GSB DETAIL 1
STA 2+50.00 TO 5+50.00



Elevations are slightly different
should be ~6998?

Add note that elevations are at top of concrete cap?

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PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
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A Westman Company
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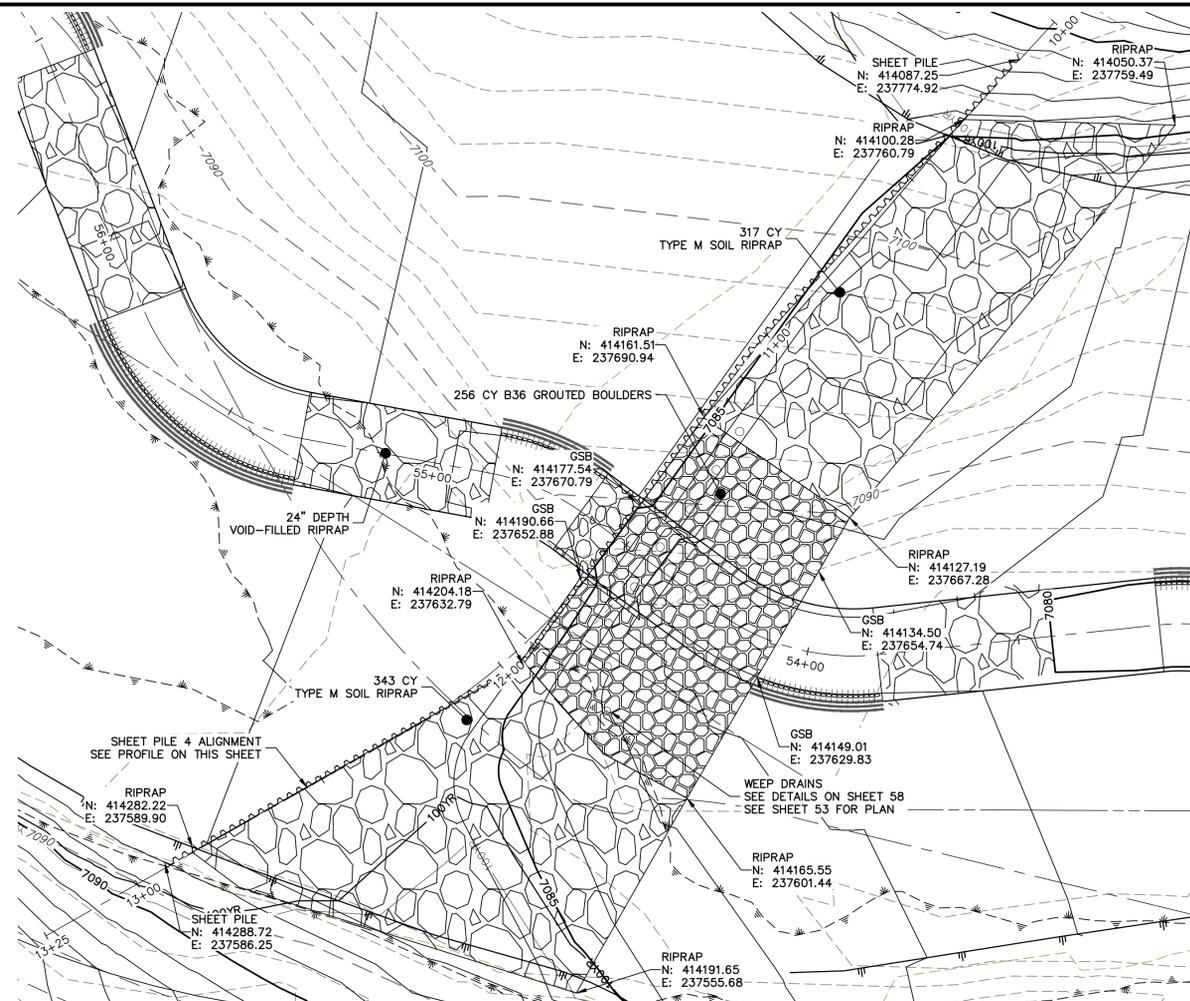
No.	REVISION	BY	DATE

SAND CREEK RESTORATION	H-SCALE	1"=20'	DESIGNED BY	DV
	V-SCALE	1"=5'	DRAWN BY	SCH
GSB DETAILS	DATE	04/11/22	CHECKED BY	
	SHEET 48 OF 81			
JOB NO. 25188.04				



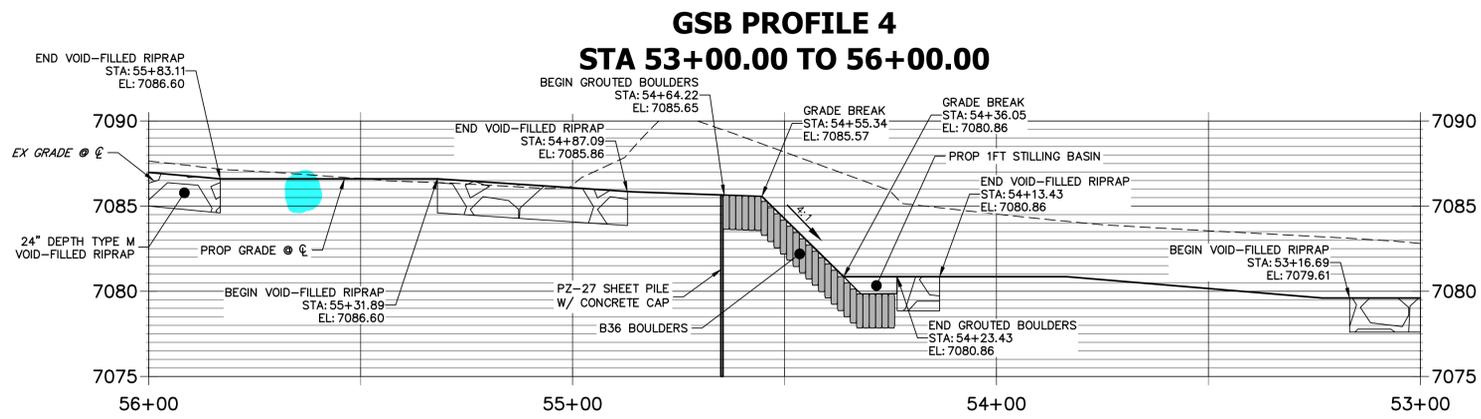
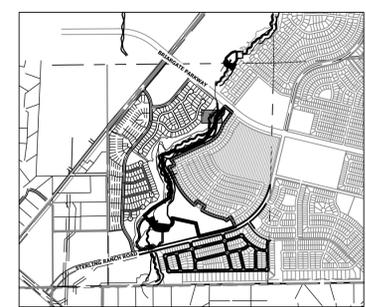
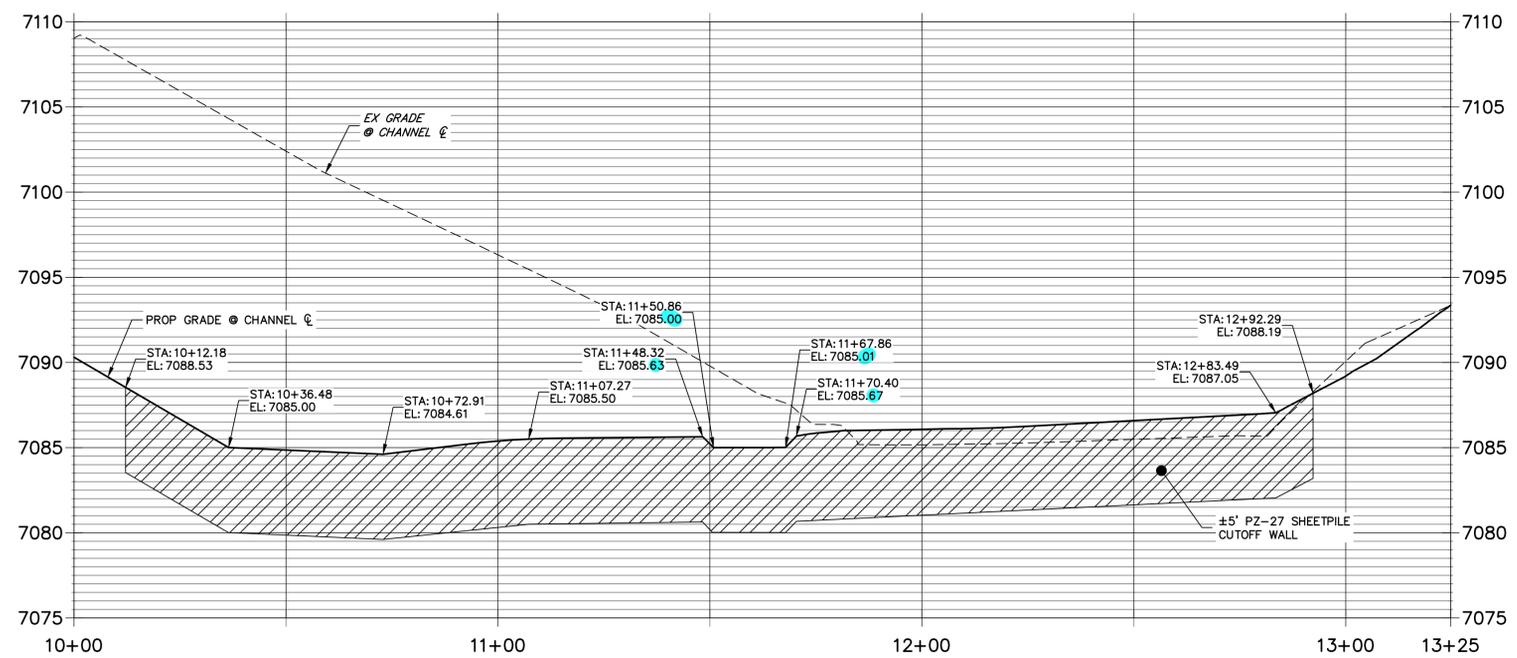
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ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION
PRELIMINARY NOT FOR CONSTRUCTION
MIKE A. BRAMLEY
COLORADO P.E. 30000
FOR AND ON BEHALF OF JR ENGINEERING



**GRouted STEPPED BOULDER DROP #4 DETAIL
PLAN VIEW**
SCALE: 1"=20'

**SHEET PILE 4 PROFILE
STA 10+00.00 TO 13+24.77**



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PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

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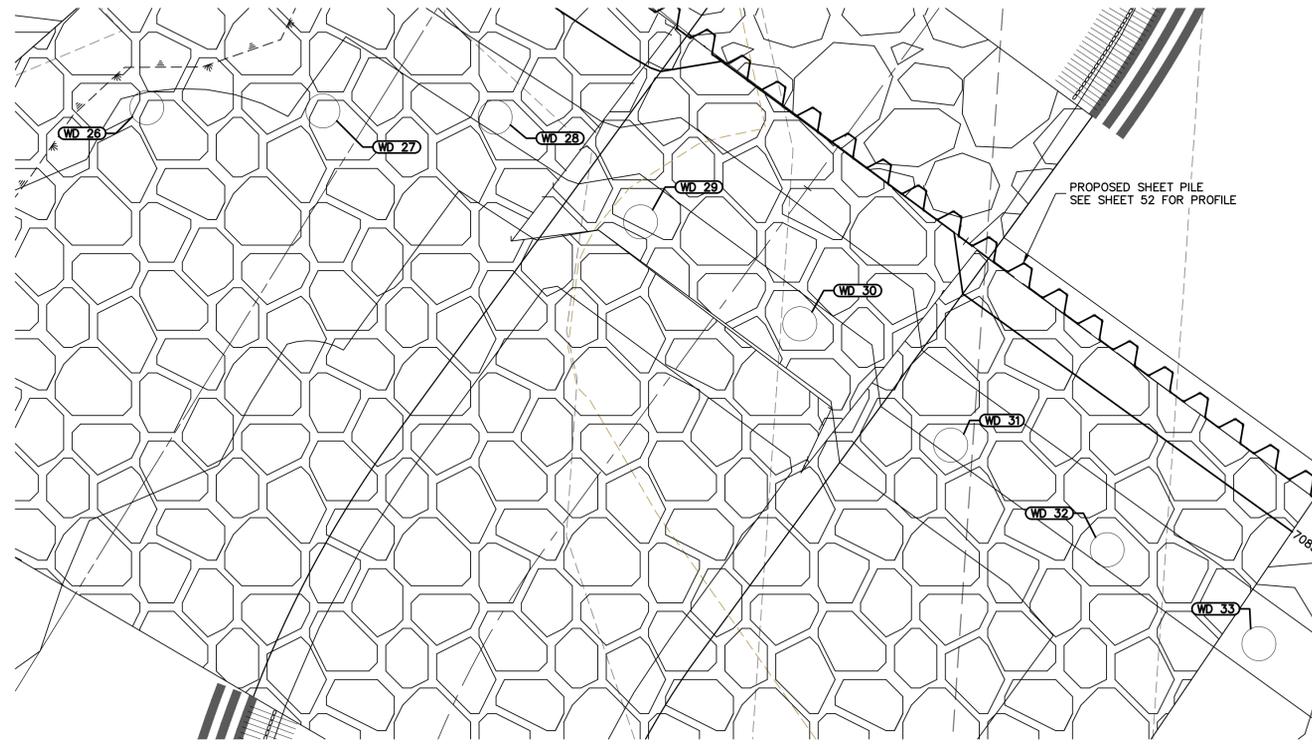
NO.	REVISION	BY	DATE

H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
1"=20'	1"=5'	4/8/22	DJV	SCH	

SAND CREEK RESTORATION
GSB DETAILS
SHEET 52 OF 81
JOB NO. 25188.04

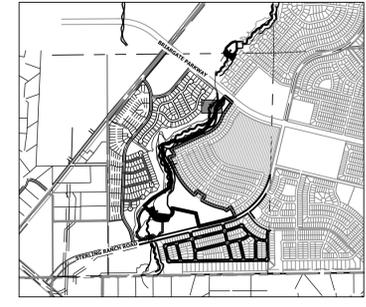


ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION
PRELIMINARY NOT FOR CONSTRUCTION
MIKE A. BRAMLEY
COLORADO P.E. 33881
FOR AND ON BEHALF OF JR ENGINEERING, LLC



GSB04 WEEP DRAINS PLAN VIEW
SCALE: 1"=5'

POINT TABULATION			
ID NO.	DESCRIPTION	NORTHING/EASTING	ELEV
WD 26	WEEP DRAIN	N: 414184.57 E: 237621.90	7082.95
WD 27	WEEP DRAIN	N: 414184.38 E: 237632.29	7082.86
WD 28	WEEP DRAIN	N: 414184.01 E: 237642.45	7083.20
WD 29	WEEP DRAIN	N: 414177.86 E: 237651.03	7082.45
WD 30	WEEP DRAIN	N: 414171.88 E: 237660.41	7082.63
WD 31	WEEP DRAIN	N: 414164.76 E: 237669.32	7083.14
WD 32	WEEP DRAIN	N: 414158.61 E: 237678.54	7083.23
WD 33	WEEP DRAIN	N: 414153.10 E: 237687.49	7083.42



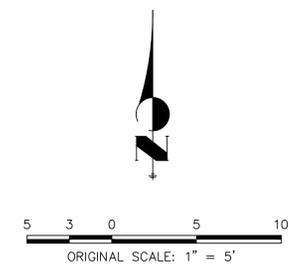
KEY MAP
SCALE: 1"=2000'

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PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

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H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	No.	REVISION	BY	DATE



SAND CREEK RESTORATION
GSB DETAILS

SHEET 53 OF 81
JOB NO. 25188.04

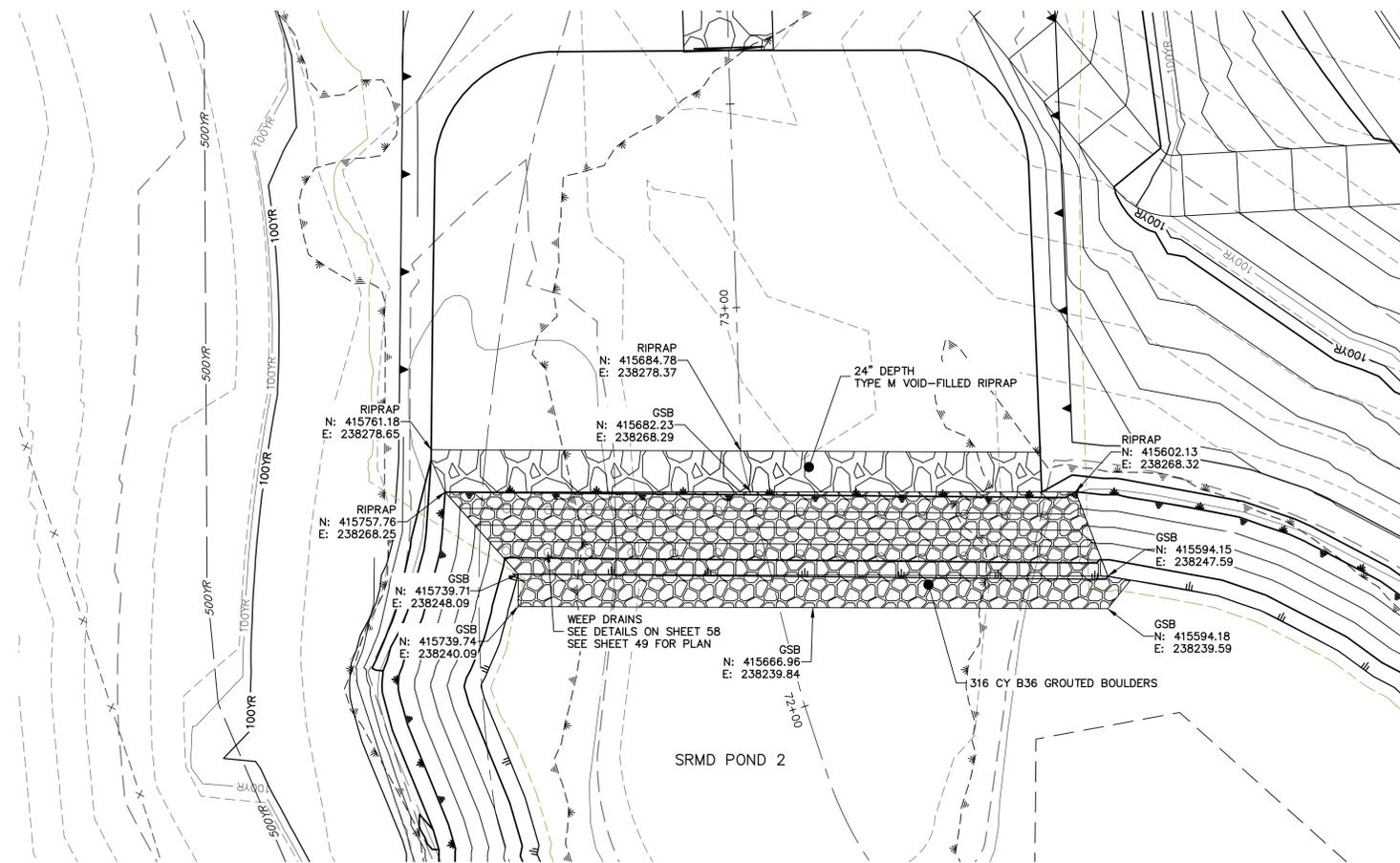


ENGINEER'S STATEMENT
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PRELIMINARY NOT FOR CONSTRUCTION

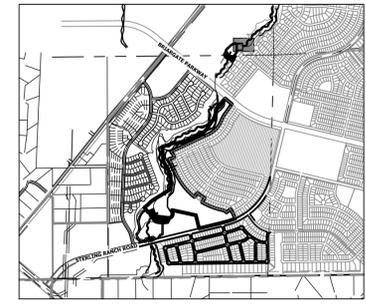
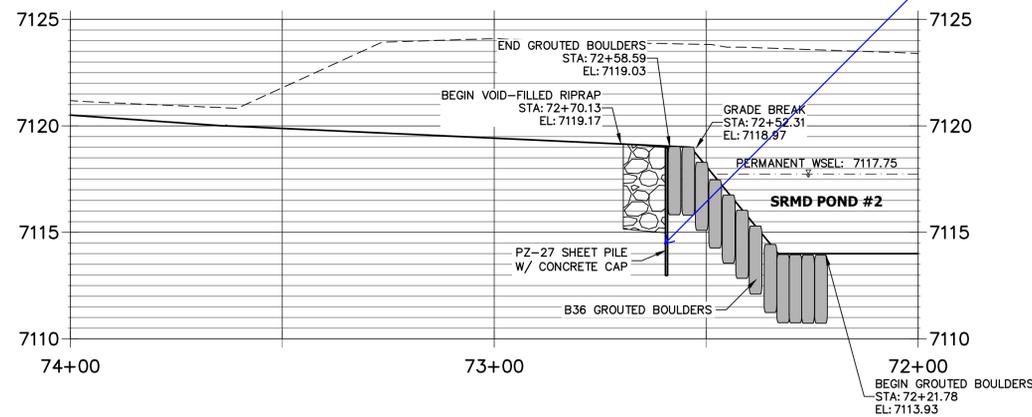
MIKE A. BRAMLEY
COLORADO P.E. 30000
FOR AND ON BEHALF OF J.R. ENGINEERING, LLC

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GROUDED STEPPED BOULDER DROP #4 DETAIL
PLAN VIEW
SCALE: 1"=20'

**GSB PROFILE 5
STA 72+00.00 TO 74+00.00**



KEY MAP
SCALE: 1"=2000'

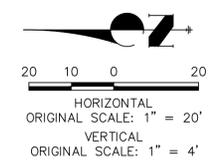
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2ND FLOOR
COLORADO SPRINGS, CO 80903
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No.	REVISION	BY	DATE

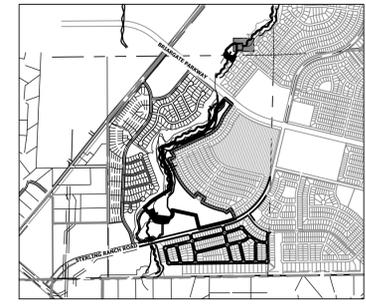
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1"=20'	1"=4'	4/8/22	DJV	SCH	



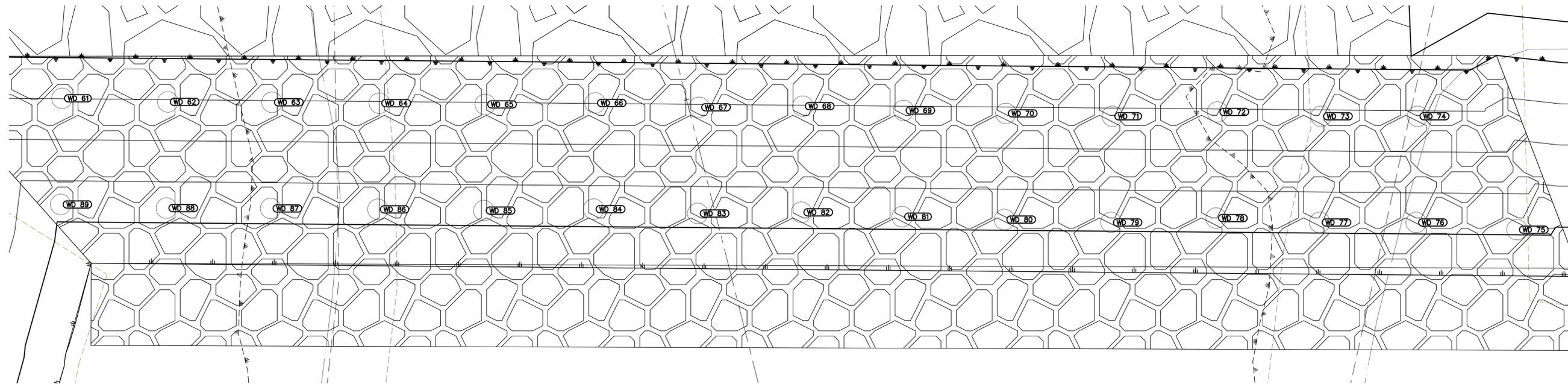
ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL

**PRELIMINARY
NOT FOR
CONSTRUCTION**

MIKE A. BRAMLEY
COLORADO P.E. 30000
FOR AND ON BEHALF OF JR ENGINEERING, LLC



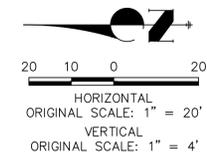
KEY MAP
SCALE: 1"=2000'



GSB05 WEEP DRAINS PLAN VIEW
SCALE: 1"=5'

POINT TABULATION			
ID NO.	DESCRIPTION	NORTHING/EASTING	ELEV
WD 61	WEEP DRAIN	N: 415742.56 E: 238264.15	7118.01
WD 62	WEEP DRAIN	N: 415732.20 E: 238263.80	7117.94
WD 63	WEEP DRAIN	N: 415722.01 E: 238263.76	7117.96
WD 64	WEEP DRAIN	N: 415711.50 E: 238263.67	7117.96
WD 65	WEEP DRAIN	N: 415701.13 E: 238263.56	7117.95
WD 66	WEEP DRAIN	N: 415690.38 E: 238263.69	7118.01
WD 67	WEEP DRAIN	N: 415680.18 E: 238263.27	7117.93
WD 68	WEEP DRAIN	N: 415670.03 E: 238263.39	7117.98
WD 69	WEEP DRAIN	N: 415660.17 E: 238262.96	7117.89
WD 70	WEEP DRAIN	N: 415650.16 E: 238262.68	7117.85
WD 71	WEEP DRAIN	N: 415639.73 E: 238262.40	7117.80
WD 72	WEEP DRAIN	N: 415629.44 E: 238262.82	7117.93
WD 73	WEEP DRAIN	N: 415619.29 E: 238262.40	7117.84
WD 74	WEEP DRAIN	N: 415609.85 E: 238262.40	7117.86
WD 75	WEEP DRAIN	N: 415600.12 E: 238251.35	7115.12
WD 76	WEEP DRAIN	N: 415609.99 E: 238252.06	7115.28

POINT TABULATION			
ID NO.	DESCRIPTION	NORTHING/EASTING	ELEV
WD 77	WEEP DRAIN	N: 415619.43 E: 238252.06	7115.26
WD 78	WEEP DRAIN	N: 415629.58 E: 238252.48	7115.34
WD 79	WEEP DRAIN	N: 415639.87 E: 238252.06	7115.21
WD 80	WEEP DRAIN	N: 415650.30 E: 238252.34	7115.26
WD 81	WEEP DRAIN	N: 415660.31 E: 238252.62	7115.31
WD 82	WEEP DRAIN	N: 415670.17 E: 238253.05	7115.39
WD 83	WEEP DRAIN	N: 415680.32 E: 238252.93	7115.34
WD 84	WEEP DRAIN	N: 415690.52 E: 238253.35	7115.43
WD 85	WEEP DRAIN	N: 415701.27 E: 238253.21	7115.37
WD 86	WEEP DRAIN	N: 415711.64 E: 238253.33	7115.37
WD 87	WEEP DRAIN	N: 415722.15 E: 238253.42	7115.37
WD 88	WEEP DRAIN	N: 415732.34 E: 238253.45	7115.36
WD 89	WEEP DRAIN	N: 415742.70 E: 238253.81	7115.42



Know what's below.
Call before you dig.

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL

**PRELIMINARY
NOT FOR
CONSTRUCTION**

MIKE A. BRAMLEY
COLORADO P.E. 30000
FOR AND ON BEHALF OF J.R. ENGINEERING, LLC

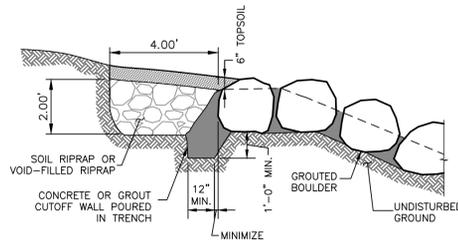
PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
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J.R. ENGINEERING
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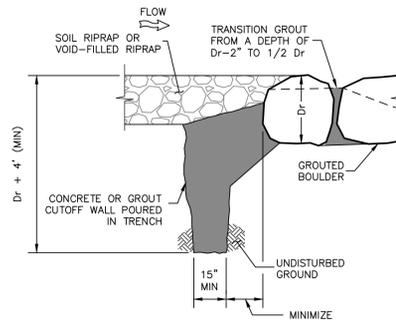
BY	DATE	REVISION

SAND CREEK RESTORATION
GSB DETAILS
SHEET 55 OF 81
JOB NO. 25188.04

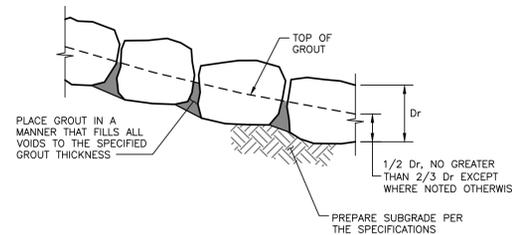
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STRUCTURE EDGE WALL DETAIL (GSP)
NTS



GROUT WALL CONNECTION
TRENCHED VERTICAL WALL
UPSTREAM OF DROP



BOULDER PLACEMENT NOTES:

1. PLACE BOULDERS WITH THE REQUIRED BOULDER HEIGHT VERTICAL. PLACE BOULDERS AS TIGHTLY TOGETHER AS POSSIBLE (WITHOUT TOUCHING) WHILE PROVIDING ENOUGH ROOM BETWEEN THEM TO THOROUGHLY VIBRATE THE GROUT AND TO ENSURE NO GAPS IN THE GROUT. THE SMALL DIMENSION OF A 2x4 CAN BE USED AS A GUIDE TO CHECK MINIMUM SPACING.
2. BEFORE GROUTING, CLEAN ALL DIRT AND MATERIAL FROM ROCK THAT COULD PREVENT THE GROUT FROM BINDING TO THE ROCK. KEEP BOULDERS FROM TOUCHING. AVOID SLIDING BOULDERS AGAINST SUBGRADE TO PROPERLY POSITION.

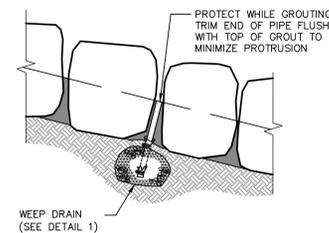
MATERIAL SPECIFICATIONS:

1. ALL GROUT SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH EQUAL TO 3200 PSI.
2. ONE CUBIC YARD OF GROUT SHALL HAVE A MINIMUM OF SIX (6) SACKS OF TYPE II PORTLAND CEMENT.
3. A MAXIMUM OF 25% TYPE F FLY ASH MAY BE SUBSTITUTED FOR THE PORTLAND CEMENT.
4. THE AGGREGATE SHALL BE COMPRISED OF 70% NATURAL SAND (FINES) AND 30% 3/8-INCH ROCK (COARSE).
5. THE GROUT SLUMP SHALL BE BETWEEN 4-INCHES TO 6-INCHES.
6. AIR ENTRAINMENT SHALL BE BETWEEN 5.5% AND 7.5%.
7. TO CONTROL SHRINKAGE AND CRACKING, 1.5 POUNDS OF FIBERMESH, OR EQUIVALENT, SHALL BE USED PER CUBIC YARD OF GROUT.
8. COLOR ADDITIVE IN REQUIRED AMOUNTS SHALL BE USED WHEN SO SPECIFIED BY CONTRACT.

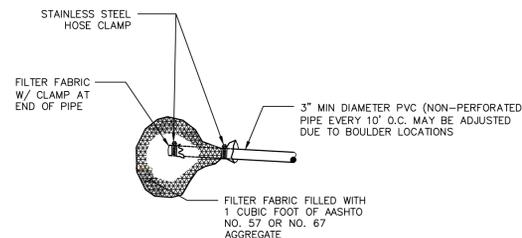
GROUT PLACEMENT SPECIFICATIONS:

1. SPECIAL PROCEDURES SHALL BE REQUIRED FOR GROUT PLACEMENT WHEN THE AIR TEMPERATURES ARE LESS THAN 40°F OR GREATER THAN 90°F. CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM THE DESIGN ENGINEER OF THE PROCEDURES TO BE USED FOR PROTECTING THE GROUT.
2. GROUT SHALL BE DELIVERED BY MEANS OF A LOW PRESSURE (LESS THAN 10 PSI) GROUT PUMP USING A 2-INCH DIAMETER (MAXIMUM) NOZZLE.
3. FULL DEPTH PENETRATION OF THE GROUT INTO THE BOULDER VOIDS SHALL BE ACHIEVED BY INJECTING GROUT STARTING WITH THE NOZZLE NEAR THE BOTTOM AND RAISING IT AS THE GROUT FILLS, WHILE VIBRATING GROUT INTO PLACE USING A PENCIL VIBRATOR.
4. ALL GROUT BETWEEN BOULDERS SHALL BE TREATED WITH A BROOM FINISH.
5. AFTER GROUT PLACEMENT, EXPOSED BOULDER FACES SHALL BE CLEANED AND FREE OF GROUT.
6. ALL FINISHED GROUT SURFACES SHALL BE SPRAYED WITH A CLEAR LIQUID MEMBRANE CURING COMPOUND AS SPECIFIED IN ASTM C309.

GROUTED BOULDER PLACEMENT DETAIL
NTS



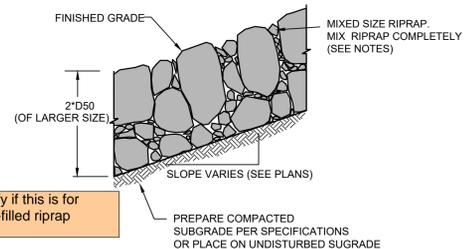
GROUTED BOULDERS



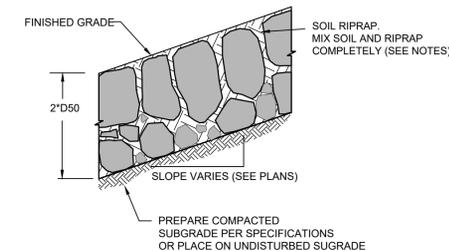
DETAIL 1
WEEP DRAIN

NOTE: INSTALL WEEP DRAINS FOR DROPS AND WALLS 5' AND GREATER AT 10' O.C. AT ELEVATIONS AND LOCATIONS SHOWN ON THE DRAWINGS

WEEP DRAINS



TYPICAL SECTION - MIXED SIZE RIPRAP



TYPICAL SECTION - SOIL RIPRAP

GROUTED BOULDER NOTES:

1. BOULDERS USED FOR GROUTING SHOULD MEET ALL THE PROPERTIES OF ROCK FOR ORDINARY RIPRAP, AND ROCK OF UNIFORM SIZE SHOULD BE USED.
2. ROCK SHALL BE HARD, DURABLE, AND FREE FROM CRACKS, OVERBURDEN, SHALE, AND ORGANIC MATTER.
3. GROUTED BOULDERS SHALL BE PLACED DIRECTLY ON STABILIZED, COMPACTED SUBGRADE WITHOUT GRANULAR BEDDING.
4. THE TOP ONE-THIRD OF THE BOULDERS SHALL BE LEFT UNGROUTED AND EXPOSED.
5. ROCK HAVING A MINIMUM SPECIFIC GRAVITY OF 2.65 IS PREFERRED; HOWEVER, IN NO CASE SHALL ROCK HAVE A SPECIFIC GRAVITY LESS THAN 2.50.
6. WEEP HOLES SHALL BE PROVIDED AT THE CHANNEL SLOPES AND CHANNEL DROPS AS SHOWN TO REDUCE UPLIFT FORCES ON THE GROUTED CHANNEL LINING.
7. PLACEMENT AND GROUTING OF BOULDERS SHALL GENERALLY CONFORM TO THE SPECIFICATIONS AND DETAILS FOR GROUTED BOULDER DROPS. SEE DETAILS AND NOTES FOR GROUTED BOULDER DROPS ON THIS SHEET.
8. BOULDERS SHALL BE SET IN A STEPPED MANNER. BOULDERS SHALL NOT BE ORIENTED INTO A SMOOTH SLOPING FACE.
9. BOULDERS SHALL BE GROUTED TO 3/8 THE ROCK HEIGHT.
10. BOULDERS OF DIFFERENT SOURCES AND/OR COLORS SHALL BE MIXED WITH THE OTHER ROCK AND EVENLY DISPERSED THROUGHOUT THE PROJECT TO AVOID HAVING AREAS OF NON-UNIFORMITY.
11. THE BOULDER SIZES SHOWN ON THE PLANS ARE MINIMUM DIMENSIONS. LARGER ROCK MAY BE SUBSTITUTED AS LONG AS THE TOP OF BOULDER ELEVATIONS SHOWN ON THE PLANS ARE MET AND THE MINIMUM OVER-EXCAVATION REQUIREMENTS ARE MET AT EACH BOULDER LOCATION.

RIPRAP NOTES:

1. WHERE "SOIL RIPRAP" IS DESIGNATED ON THE CONTRACT DRAWINGS, RIPRAP VOIDS ARE TO BE FILLED WITH APPROVED FILL. THE RIPRAP SHALL BE PRE-MIXED WITH THE APPROVED FILL AT THE FOLLOWING PROPORTIONS BY VOLUME: 65 PERCENT RIPRAP AND 35 PERCENT SOIL. THE SOIL USED FOR MIXING SHALL BE NATIVE TOPSOIL AND SHALL HAVE A MINIMUM FINES CONTENT OF 15 PERCENT. THE SOIL RIPRAP SHALL BE INSTALLED IN A MANNER THAT RESULTS IN A DENSE, INTERLOCKED LAYER OF RIPRAP WITH RIPRAP VOIDS FILLED COMPLETELY WITH SOIL. SEGREGATION OF MATERIALS SHALL BE AVOIDED AND IN NO CASE SHALL THE COMBINED MATERIAL CONSIST PRIMARILY OF SOIL; THE DENSITY AND INTERLOCKING NATURE OF RIPRAP IN THE MIXED MATERIAL SHALL ESSENTIALLY BE THE SAME AS IF THE RIPRAP WAS PLACED WITHOUT SOIL.
2. PLACE ALL RIPRAP AND SOIL-RIPRAP TO RESULT IN SECURELY INTERLOCKED ROCK AT THE DESIGN THICKNESS AND GRADE. COMPACT AND ALL LEVEL TO ELIMINATE VOIDS AND ROCKS PROJECTING DESIGN ABOVE RIPRAP TOP GRADE.
3. ALL SOIL RIPRAP THAT IS BURIED WITH TOPSOIL SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO ANY TOPSOIL PLACEMENT.
4. CRIMP OR TACKIFY MULCH OR USE APPROVED HYDROMULCH AS CALLED FOR IN THE PLANS AND SPECIFICATIONS.
5. ELEVATION TOLERANCES FOR RIPRAP SHALL BE 0.10 FEET. THICKNESS OF SOIL RIPRAP SHALL BE NO LESS THAN THICKNESS SHOWN AND NO MORE THAN 2-INCHES GREATER THAN THE THICKNESS SHOWN.

RIPRAP DESIGNATION	INTERMEDIATE ROCK DIMENSION (IN.)	PERCENT PASSING (%)	D ₅₀ (IN.)
TYPE VL	12	70-100	6
	9	50-70	
	6	35-50	
	2	2-10	
TYPE M	21	70-100	12
	18	50-70	
	12	35-50	
	4	2-10	
TYPE H	30	70-100	18
	24	50-70	
	18	35-50	
	6	2-10	

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL

PRELIMINARY
NOT FOR
CONSTRUCTION

MIKE A. BRAMBLE
COLORADO P.E. No. 30000
FOR AND ON BEHALF OF JR. ENGINEERING, INC.

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.

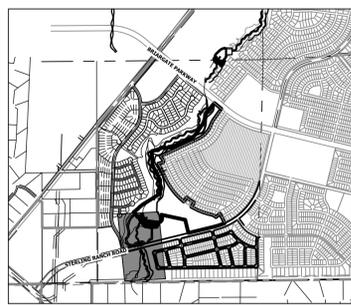
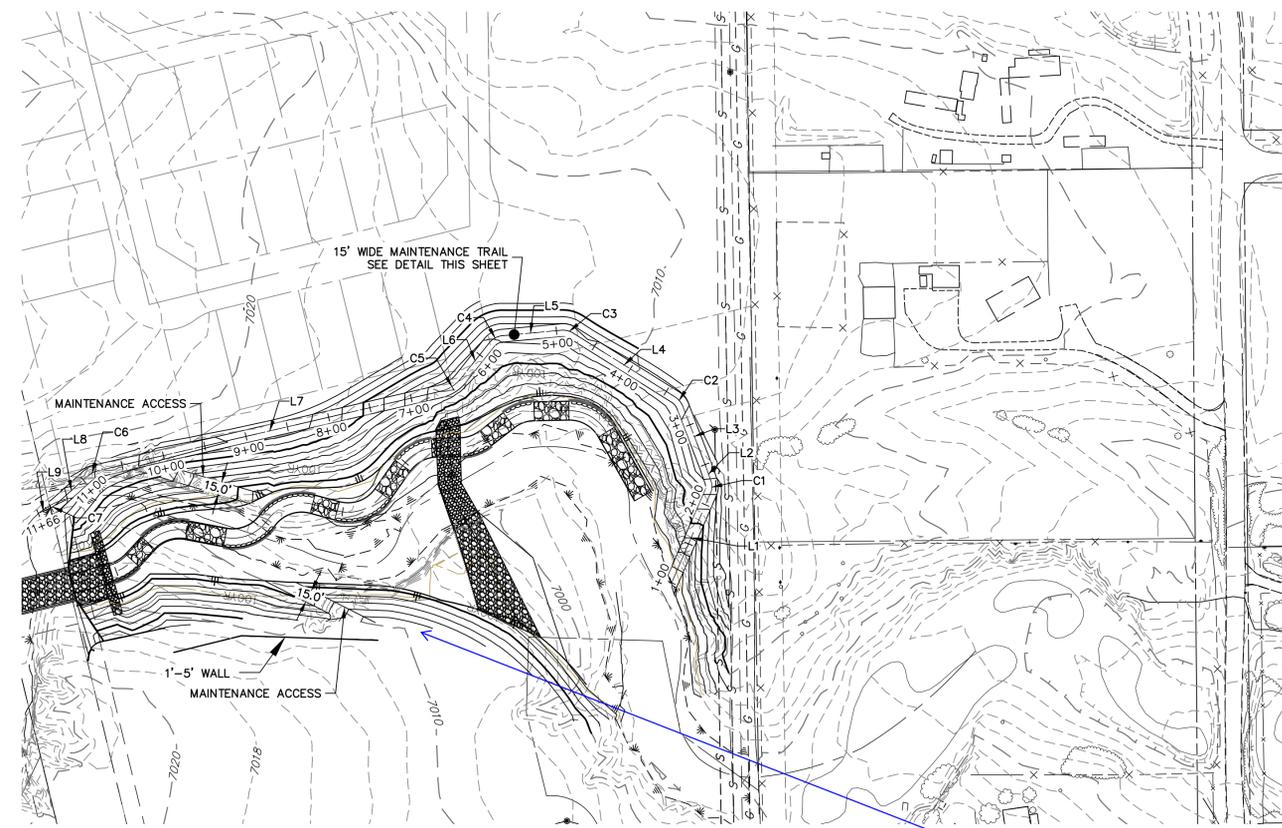
PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

J.R. ENGINEERING
A Westman Company
Central 303-740-9888 • Colorado Springs 719-588-2583
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No.	REVISION	DATE	BY	
			DATE	BY

H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
		04/11/22			

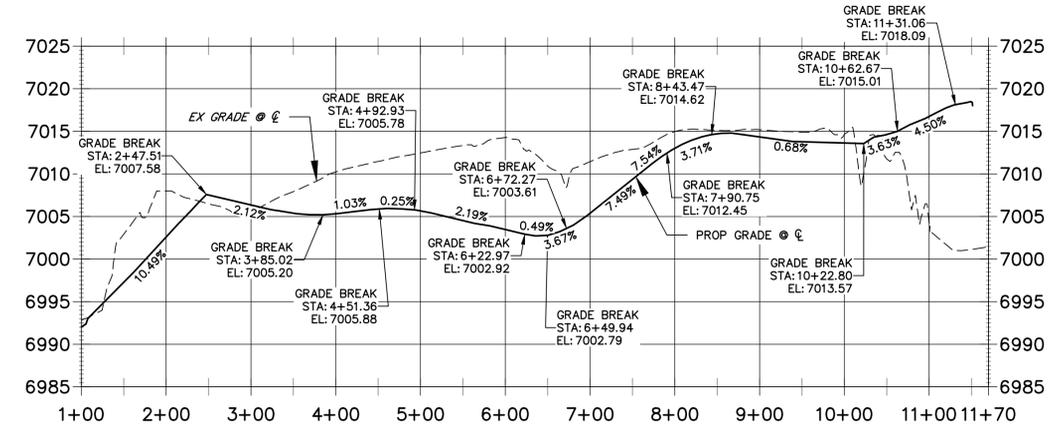
SAND CREEK RESTORATION
CONSTRUCTION DETAILS



KEY MAP
SCALE: 1"=2000'

**SECOND CREEK REACH 1 EAST REGIONAL TRAIL & MAINTENANCE ACCESS
STA 1+00.00 TO 11+70.00**

Provide plan for trail on west side



LINE TABLE			CURVE TABLE			
LINE	BEARING	DISTANCE	CURVE	DELTA	RADIUS	LENGTH
L1	S66°28'16"E	115.56'	C1	42°53'48"	17.50'	13.10'
L2	N70°37'22"E	18.85'	C2	37°03'01"	22.50'	14.55'
L3	N69°00'00"E	75.70'	C3	37°15'49"	22.50'	14.63'
L4	N31°56'59"E	141.86'	C4	46°04'50"	22.50'	18.10'
L5	N05°18'50"W	69.66'	C5	38°23'59"	42.50'	28.48'
L6	N51°23'41"W	53.67'	C6	28°43'00"	32.50'	16.29'
L7	N12°59'41"W	414.03'	C7	19°10'36"	32.50'	10.88'
L8	N41°42'42"W	48.15'				
L9	N22°32'06"W	12.98'				

BENCHMARK

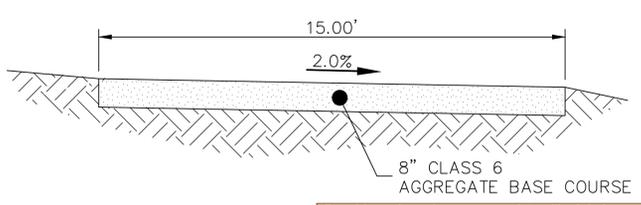
- THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411416.273
EASTING = 235167.071
ELEVATION = 7023.42
- THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHWEST BOUNDARY CORNER OF PAWNEE RANCHEROS SUBDIVISION
NORTHING = 410095.404
EASTING = 235052.131
ELEVATION = 7000.40
- THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411399.962
EASTING = 233849.817
ELEVATION = 7030.82

NOTES:

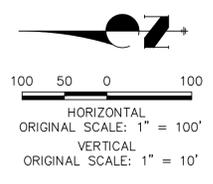
- STEEPEST ALLOWABLE GRADE IS 12%.

BASIS OF BEARINGS

THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AS MONUMENTED AT THE SOUTHWEST CORNER OF SAID BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624" AND AT THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624", SAID LINE BEARS N89°14'14"E, A DISTANCE OF 2,722.69 FEET.



SAND CREEK MAINTENANCE TRAIL
N.T.S.



ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL

PRELIMINARY NOT FOR CONSTRUCTION

MIKE A. BRAMLEY
COLORADO P.E. 30117
FOR AND ON BEHALF OF JR ENGINEERING, LLC

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

PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

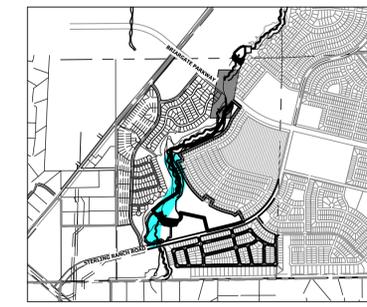
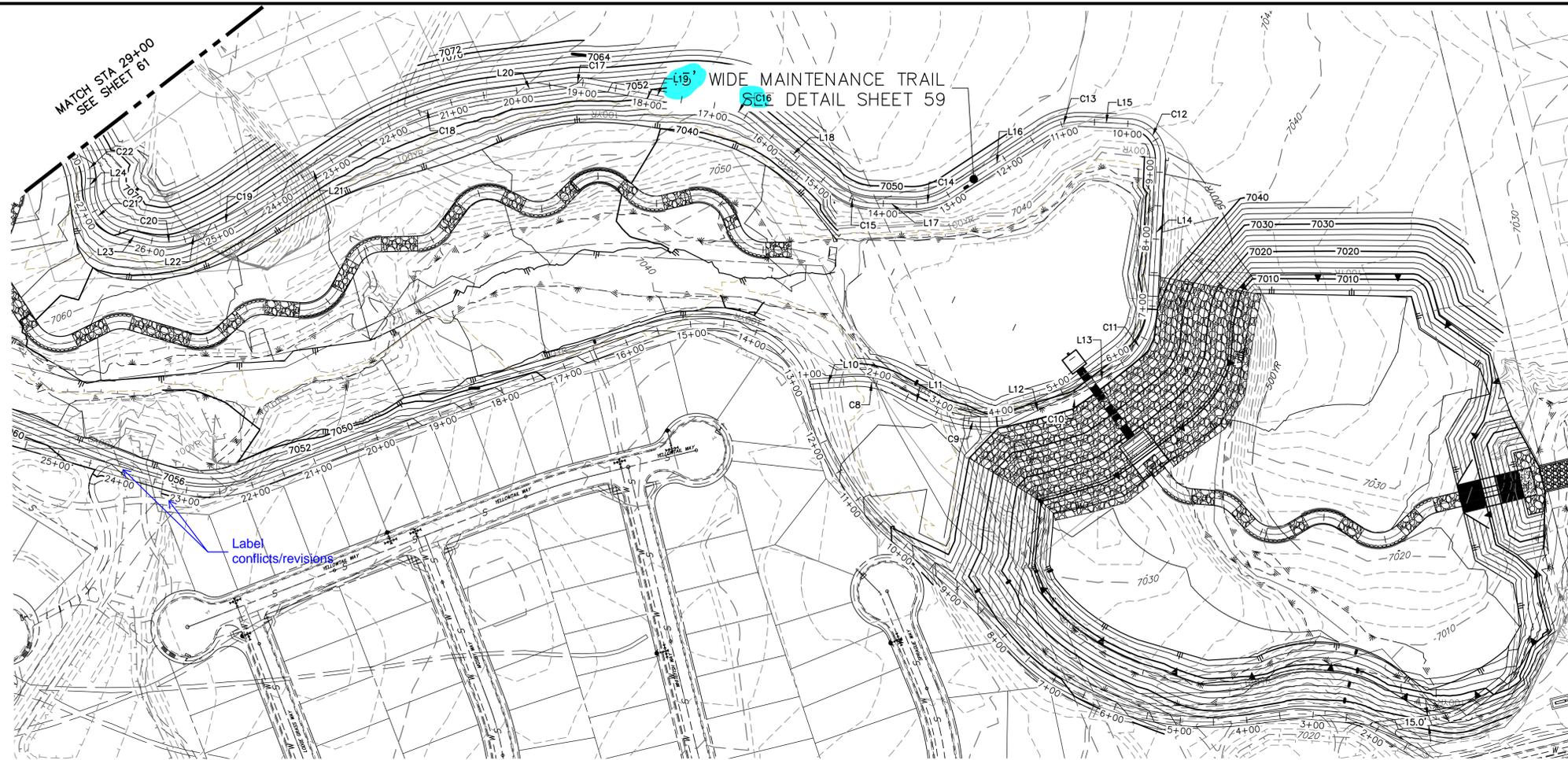
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BY	DATE	No.	REVISION

H-SCALE 1"=100'
V-SCALE 1"=50'
DATE 04/11/22
DESIGNED BY SCH
DRAWN BY SCH
CHECKED BY

SAND CREEK RESTORATION
MAINTENANCE ACCESS PLAN
& PROFILE

SHEET 59 OF 81
JOB NO. 25188.04

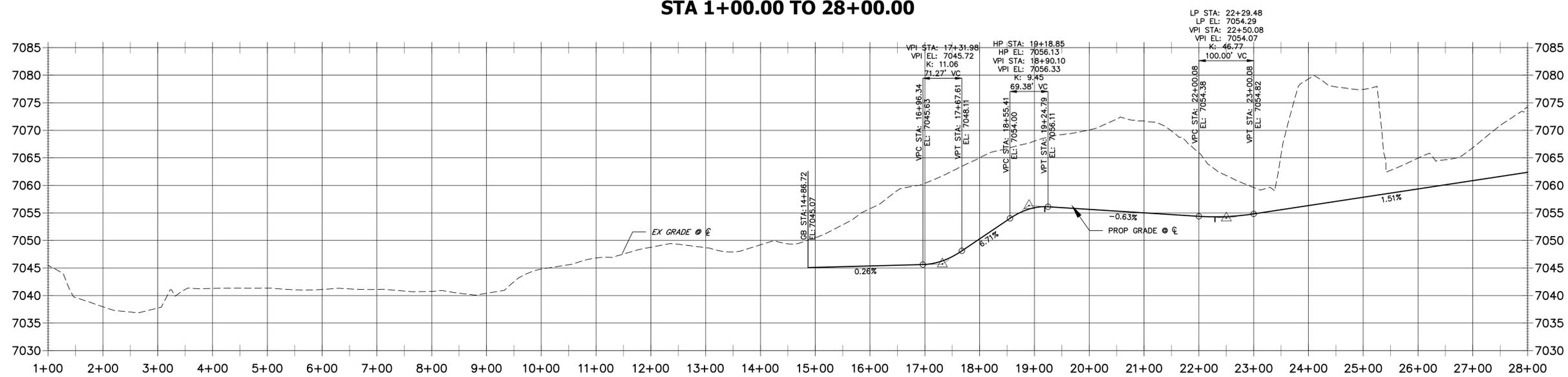


KEY MAP
SCALE: 1"=2000'

LINE	BEARING	DISTANCE
L10	S03°34'37"E	54.13'
L11	S27°22'07"W	73.23'
L12	S16°27'48"E	95.48'
L13	S37°27'39"E	85.03'
L14	S86°50'08"E	218.81'
L15	N02°49'40"E	67.10'
L16	N32°46'02"W	169.91'
L17	N01°43'21"E	56.20'
L18	N39°43'36"E	155.61'
L19	N09°46'16"E	203.96'
L20	N08°10'55"W	114.35'
L21	N30°57'44"W	202.94'
L22	N20°58'09"W	15.70'
L23	N14°40'22"E	41.11'
L24	S85°34'27"E	7.21'

CURVE	DELTA	RADIUS	LENGTH
C8	34°49'27"	125.87'	76.50'
C9	30°37'35"	194.55'	103.99'
C10	20°59'51"	57.51'	21.08'
C11	49°06'34"	110.44'	94.66'
C12	90°20'12"	50.00'	78.83'
C13	35°35'42"	100.00'	62.13'
C14	34°29'23"	100.00'	60.20'
C15	38°00'16"	100.00'	66.33'
C16	29°57'20"	100.00'	52.28'
C17	17°57'12"	100.00'	31.33'
C18	22°46'49"	500.00'	198.80'
C19	9°59'36"	500.00'	87.21'
C20	35°38'31"	100.00'	62.21'
C21	79°45'11"	65.00'	90.48'
C22	30°42'11"	80.00'	42.87'

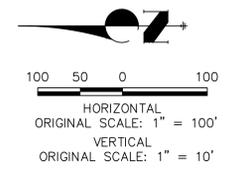
**SECOND CREEK REGIONAL TRAIL & MAINTENANCE ACCESS TRAIL PROFILE REACH 2
STA 1+00.00 TO 28+00.00**



- BENCHMARK**
1. THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411416.273
EASTING = 235167.071
ELEVATION = 7023.42
 2. THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHWEST BOUNDARY CORNER OF PAWNEE RANCHEROS SUBDIVISION
NORTHING = 410095.404
EASTING = 235052.131
ELEVATION = 7000.40
 3. THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411399.962
EASTING = 233849.817
ELEVATION = 7030.82

BASIS OF BEARINGS
THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AS MONUMENTED AT THE SOUTHWEST CORNER OF SAID BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624" AND AT THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624". SAID LINE BEARS N89°14'14"E, A DISTANCE OF 2,722.69 FEET.

NOTES:
1. STEEPEST ALLOWABLE GRADE IS 12%.



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PRELIMINARY NOT FOR CONSTRUCTION
MIKE A. BRAMBLE
COLORADO P.E. 30100
FOR AND ON BEHALF OF JR ENGINEERING, LLC

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PREPARED FOR
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20 BOULDER CRESCENT
2ND FLOOR
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BY	DATE	No.	REVISION

H-SCALE 1"=100'
V-SCALE 1"=10'
DATE 04/11/22
DESIGNED BY SCH
DRAWN BY SCH
CHECKED BY

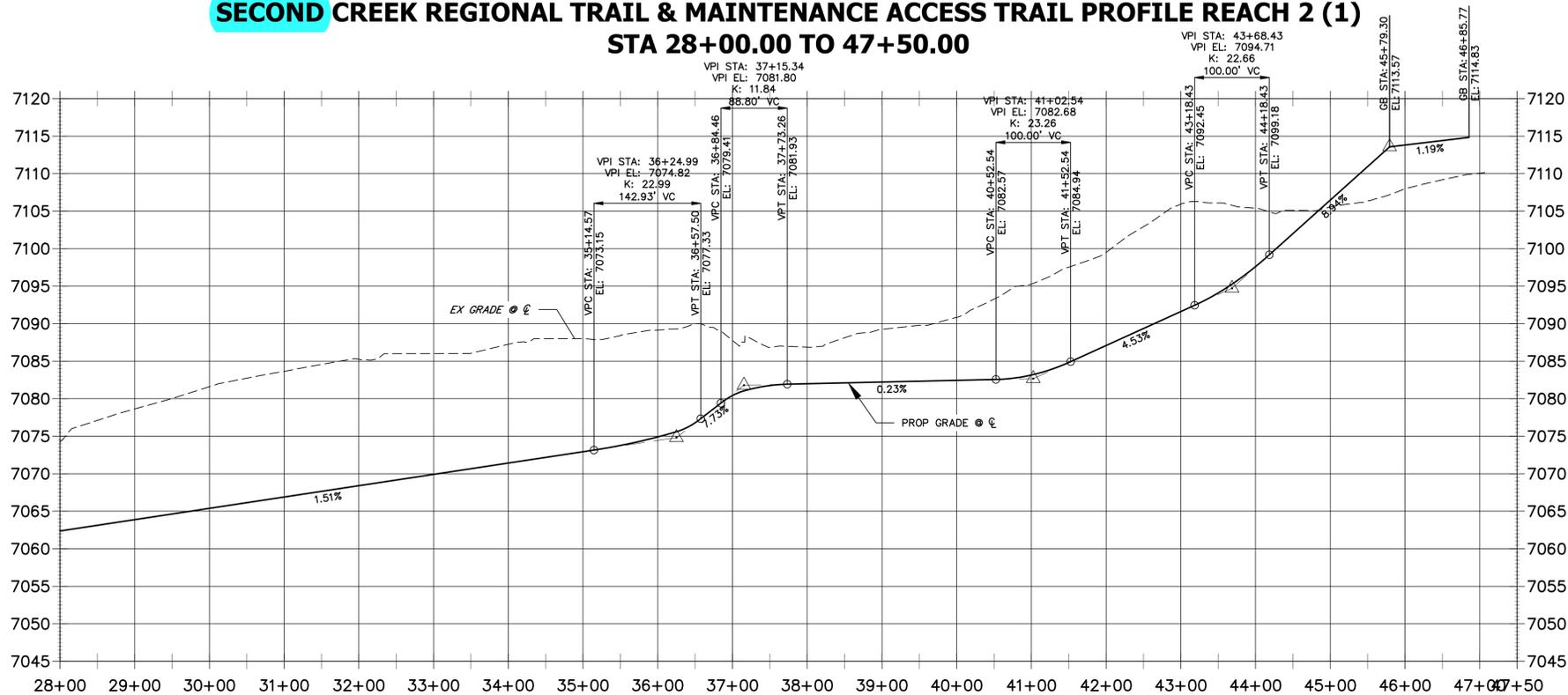
**SAND CREEK RESTORATION
MAINTENANCE ACCESS PLAN
& PROFILE**

SHEET 60 OF 81
JOB NO. 25188.04



MATCH STA 29+00
SEE SHEET 60

SECOND CREEK REGIONAL TRAIL & MAINTENANCE ACCESS TRAIL PROFILE REACH 2 (1)
STA 28+00.00 TO 47+50.00



LINE TABLE		
LINE	BEARING	DISTANCE
L26	N45°21'50"E	152.42'
L27	N61°01'32"E	100.23'
L28	N65°36'04"E	246.90'
L29	N61°48'21"E	23.84'
L30	N77°28'17"E	145.89'
L31	N66°51'47"E	144.36'
L32	N25°21'35"E	15.68'
L33	N07°04'06"E	104.42'
L34	N38°08'11"E	157.34'
L35	N48°27'22"E	81.16'
L36	N52°08'01"E	117.45'

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C24	15°39'42"	500.00'	136.67'
C25	4°34'32"	100.00'	7.99'
C26	3°47'43"	625.00'	41.40'
C27	15°39'56"	115.00'	31.44'
C28	10°36'30"	100.00'	18.51'
C29	41°30'13"	100.00'	72.44'
C30	18°17'28"	500.00'	159.62'
C31	31°04'05"	65.00'	35.25'
C32	10°19'10"	100.00'	18.01'

NOTES.

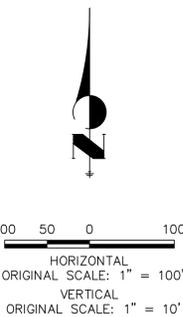
1. STEEPEST ALLOWABLE GRADE IS 12%.

BENCHMARK

- THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411416.273
EASTING = 235167.071
ELEVATION = 7023.42'
- THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHWEST BOUNDARY CORNER OF PAWNEE RANCHEROS SUBDIVISION
NORTHING = 410095.404
EASTING = 235052.131
ELEVATION = 7000.40'
- THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411399.962
EASTING = 233949.817
ELEVATION = 7030.82'

BASIS OF BEARINGS

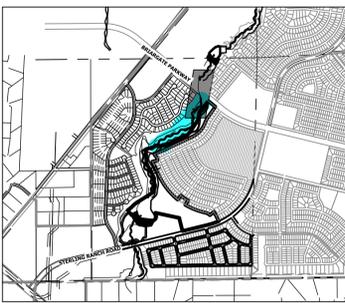
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ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL

PRELIMINARY NOT FOR CONSTRUCTION

MIKE A. BRAMBLE
COLORADO P.E. 30112
FOR AND ON BEHALF OF J.R. ENGINEERING, LLC



KEY MAP
SCALE: 1"=2000'

Label Briargate

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

PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

J.R. ENGINEERING
A Westman Company

Central 303-740-9888 • Colorado Springs 719-583-2583
Fort Collins 970-491-9888 • www.jrengineering.com

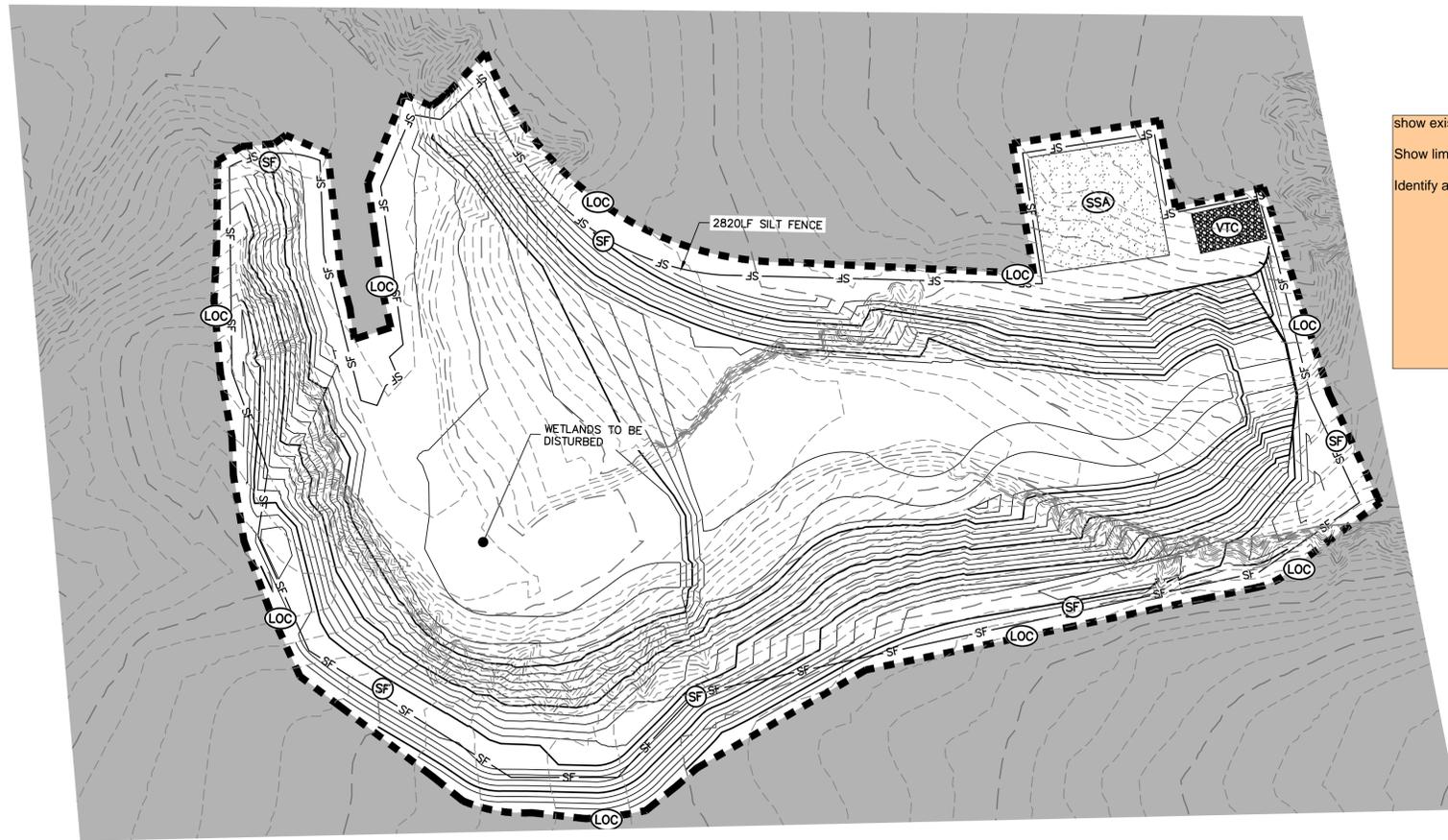
H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	REVISION	
						No.	DATE
1"=100'	1"=10'	04/11/22					

SAND CREEK RESTORATION

MAINTENANCE ACCESS PLAN & PROFILE

SHEET 61 OF 81

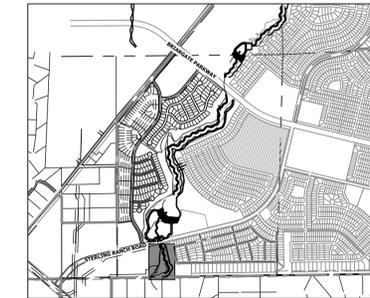
JOB NO. 25188.04



Show existing and proposed stormwater flow direction arrows.

Show limits of disturbance

Identify all areas of cut/fill



KEY MAP
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BY	DATE	No.	REVISION

H-SCALE	1" = 60'
V-SCALE	N/A
DATE	04/11/22
DESIGNED BY	SCH
DRAWN BY	SCH
CHECKED BY	

LEGEND

EXISTING CONTOUR	PROPOSED CONTOUR	CONTINUOUS GRADE INLET PROTECTION	IP
EXISTING PROPERTY LINE	LIMITS OF CONSTRUCTION	REINFORCED ROCK BERM FOR CULVERT PROTECTION	RRC
EXISTING RIGHT OF WAY LINE	DRAINAGE SWALE	CONSTRUCTION MARKERS	CM
EXISTING EASEMENT	CONSTRUCTION FENCE	SEDIMENT CONTROL LOG	SCL
SECTION LINE	SILT FENCE	PERMANENT SEEDING AND MULCHING - NATIVE REVEGETATION SEED MIX	SM
EXISTING STORM SEWER	VEHICLE TRACKING CONTROL	PERMANENT LANDSCAPING	LS
EXISTING CURB & GUTTER	STABILIZED STAGING AREA	GEOTEXTILE	ECB
PROPOSED RIGHT OF WAY LINE	CONCRETE WASHOUT AREA	COIR MATTING	ECB
PROPOSED EASEMENT	STOCK PILE	TEMP DRAINAGE CHANNEL	
PROPOSED STORM SEWER			
PROPOSED CURB & GUTTER			
PROPOSED TOP OF SLOPE			
PROPOSED TOE OF SLOPE			
EXISTING DRAINAGE ARROW			
PROPOSED DRAINAGE ARROW			

update quantities

TOTAL INITIAL PHASE SUMMARY OF APPROXIMATE QUANTITIES

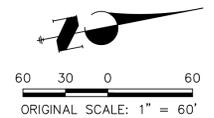
2700	LF	-	SILT FENCE (SF)
4	LS	-	STABILIZED STAGING AREA (SSA)
4	LS	-	VEHICLE TRACKING CONTROL (VTC)

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ELEVATION = 7030.82



Know what's below.
Call before you dig.

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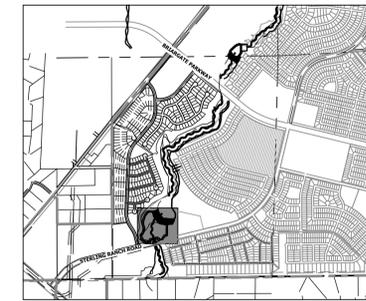
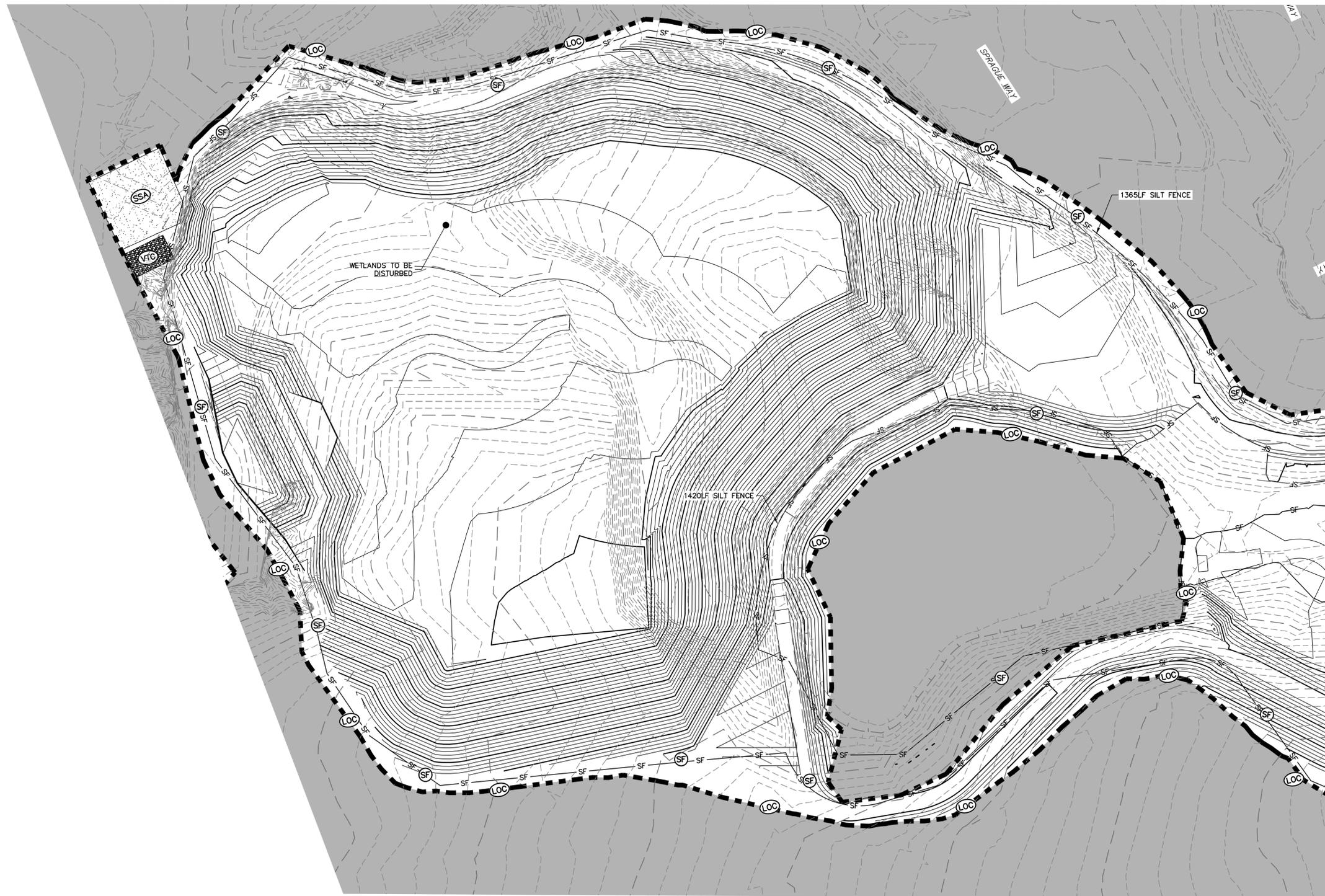
MIKE A. BRAMLEY
COLORADO P.E. 30112
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SAND CREEK RESTORATION

GESC INITIAL

SHEET 67 OF 81

JOB NO. 25188.04



KEY MAP
SCALE: 1" = 2000'

LEGEND

EXISTING CONTOUR	PROPOSED CONTOUR	CONTINUOUS GRADE INLET PROTECTION	IP
EXISTING PROPERTY LINE	LIMITS OF CONSTRUCTION (LOC)	REINFORCED ROCK BERM FOR CULVERT PROTECTION	RRC
EXISTING RIGHT OF WAY LINE	DRAINAGE SWALE	CONSTRUCTION MARKERS	CM
EXISTING EASEMENT	CONSTRUCTION FENCE (CF)	SEDIMENT CONTROL LOG	SCL
SECTION LINE	SILT FENCE (SF)	PERMANENT SEEDING AND MULCHING - NATIVE REVEGETATION SEED MIX	SM
EXISTING STORM SEWER	VEHICLE TRACKING CONTROL (VTC)	PERMANENT LANDSCAPING	LS
EXISTING CURB & GUTTER	STABILIZED STAGING AREA (SSA)	GEOTEXTILE	ECB
PROPOSED RIGHT OF WAY LINE	CONCRETE WASHOUT AREA (CWA)	COIR MATTING	ECB
PROPOSED EASEMENT	STOCK PILE (SP)		
PROPOSED STORM SEWER	TEMP DRAINAGE CHANNEL		
PROPOSED CURB & GUTTER			
PROPOSED TOP OF SLOPE			
PROPOSED TOE OF SLOPE			
EXISTING DRAINAGE ARROW			
PROPOSED DRAINAGE ARROW			

TOTAL INITIAL PHASE SUMMARY OF APPROXIMATE QUANTITIES

2700	LF - SILT FENCE (SF)
4	LS - STABILIZED STAGING AREA (SSA)
4	LS - VEHICLE TRACKING CONTROL (VTC)

BASIS OF BEARINGS

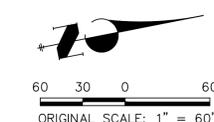
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BENCHMARK

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EASTING = 235052.131
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NORTHING = 411399.962
EASTING = 233849.817
ELEVATION = 7030.82



Know what's below.
Call before you dig.



ENGINEER'S STATEMENT

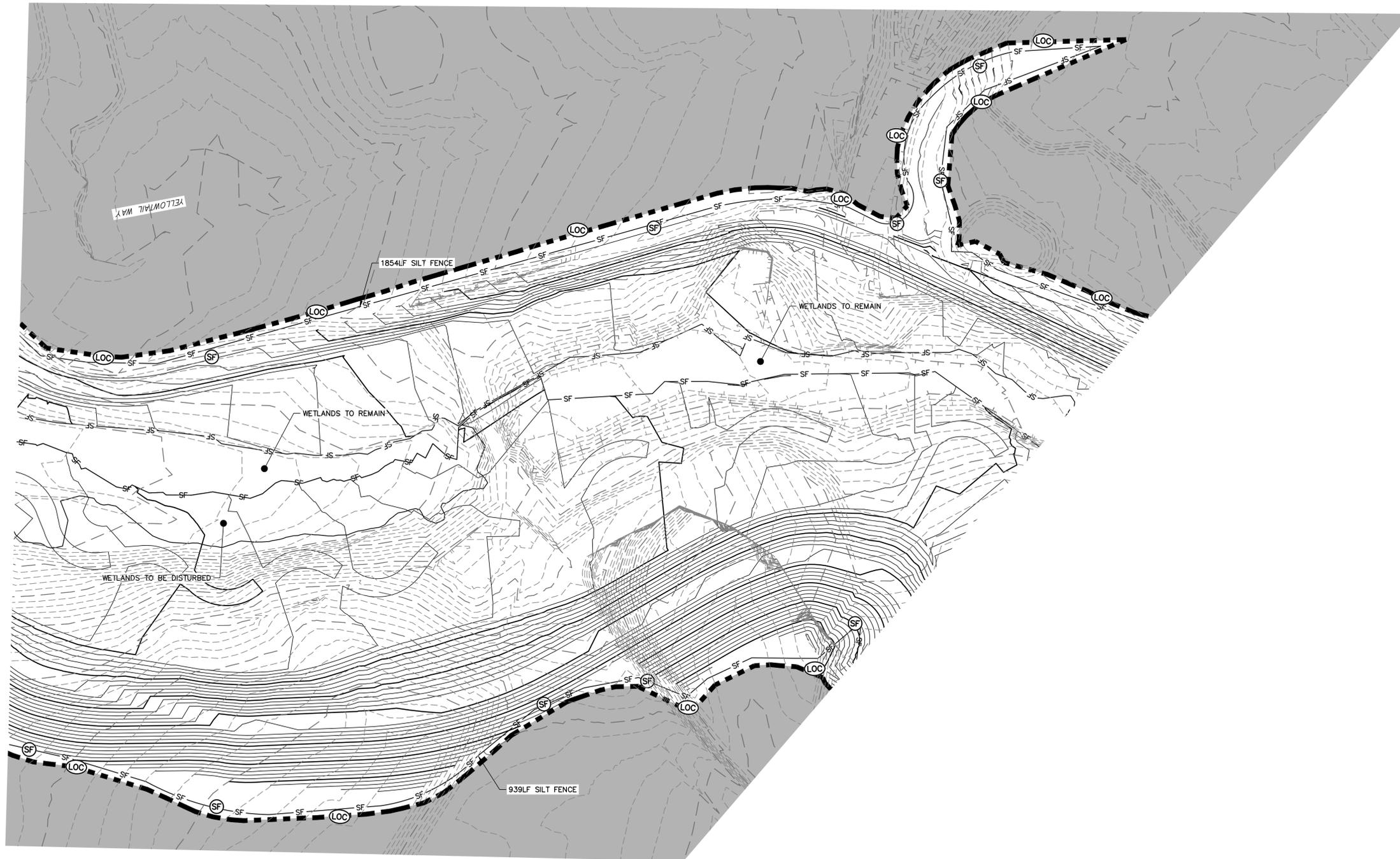
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CONSTRUCTION

MIKE A. BRAMLEY
COLORADO P.E. 30112
FOR AND ON BEHALF OF J.R. ENGINEERING, LLC

PREPARED FOR	SR LAND, LLC 20 BOULDER CRESCENT 2ND FLOOR COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 419-3024	
	J.R. ENGINEERING A Westman Company Central: 303-740-9888 • Colorado Springs 719-583-2583 Fort Collins 970-491-9888 • www.jrengineering.com	
BY	DATE	
No. REVISION		
H-SCALE	1" = 60'	
V-SCALE	N/A	
DATE	04/11/22	
DESIGNED BY	SCH	
DRAWN BY	SCH	
CHECKED BY		
SAND CREEK RESTORATION	GESC INITIAL	
SHEET 68	OF 81	
JOB NO.	25188.04	

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.



KEY MAP
SCALE: 1"=2000'

LEGEND

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PROPOSED CURB & GUTTER			
PROPOSED TOP OF SLOPE			
PROPOSED TOE OF SLOPE			
EXISTING DRAINAGE ARROW			
PROPOSED DRAINAGE ARROW			

TOTAL INITIAL PHASE SUMMARY OF APPROXIMATE QUANTITIES

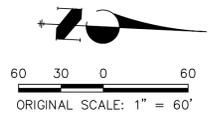
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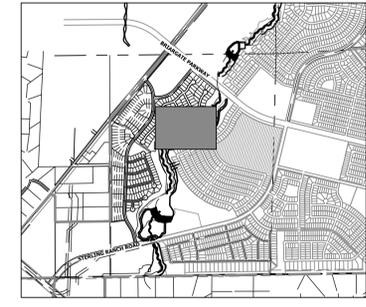
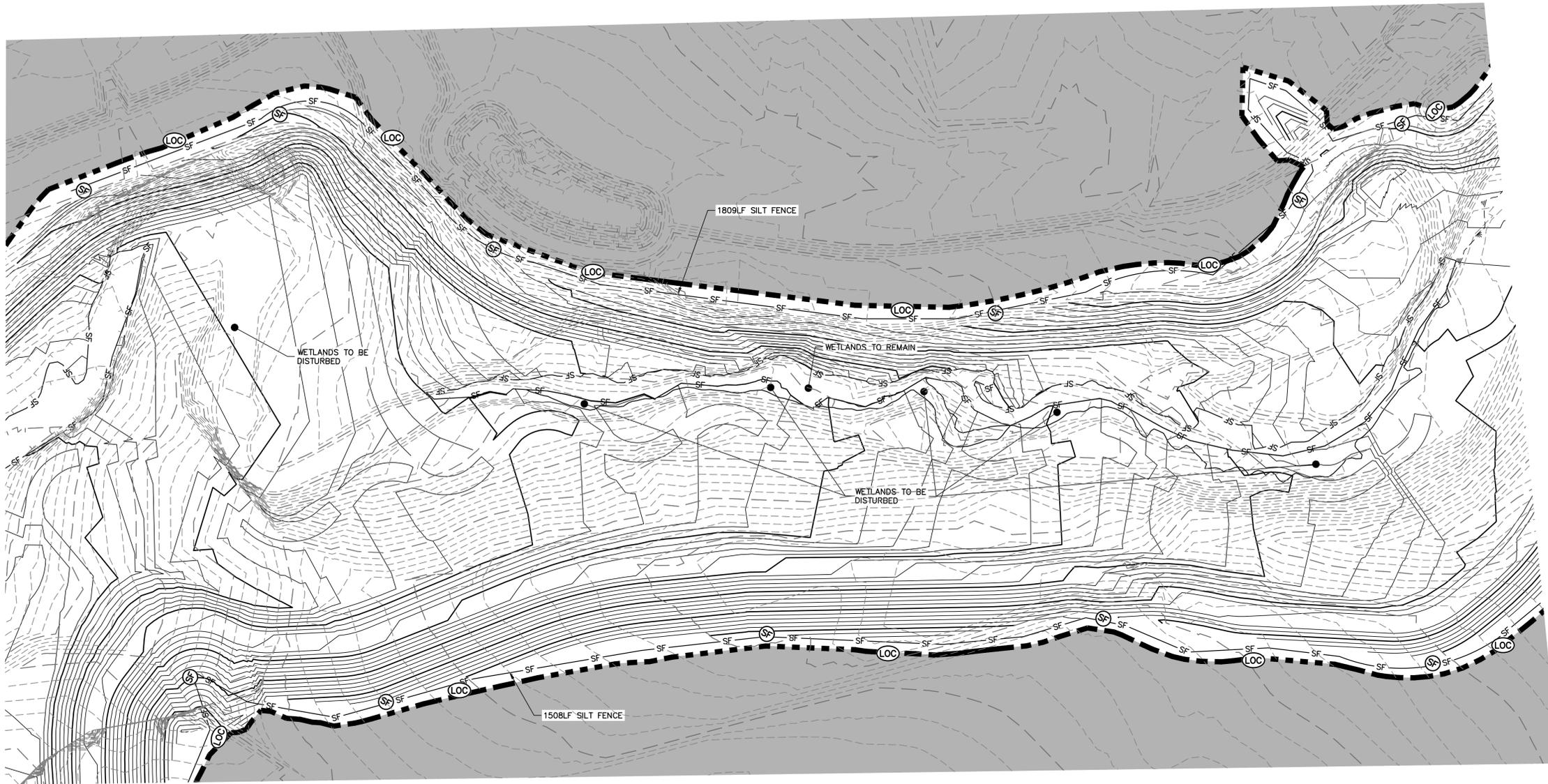


SAND CREEK RESTORATION	GESC INITIAL	BY	DATE				
		No.	REVISION				
H-SCALE	1"=60'						
V-SCALE	N/A						
DATE	04/11/22						
DESIGNED BY	SCH						
DRAWN BY	SCH						
CHECKED BY							
SHEET	69	OF	81				
JOB NO.	25188.04						

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BY	DATE	No.	REVISION

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LEGEND

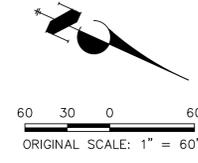
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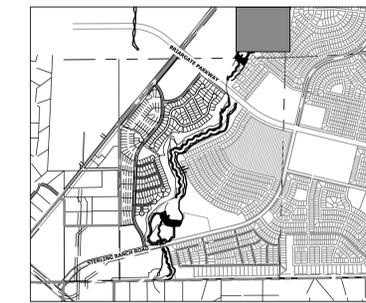
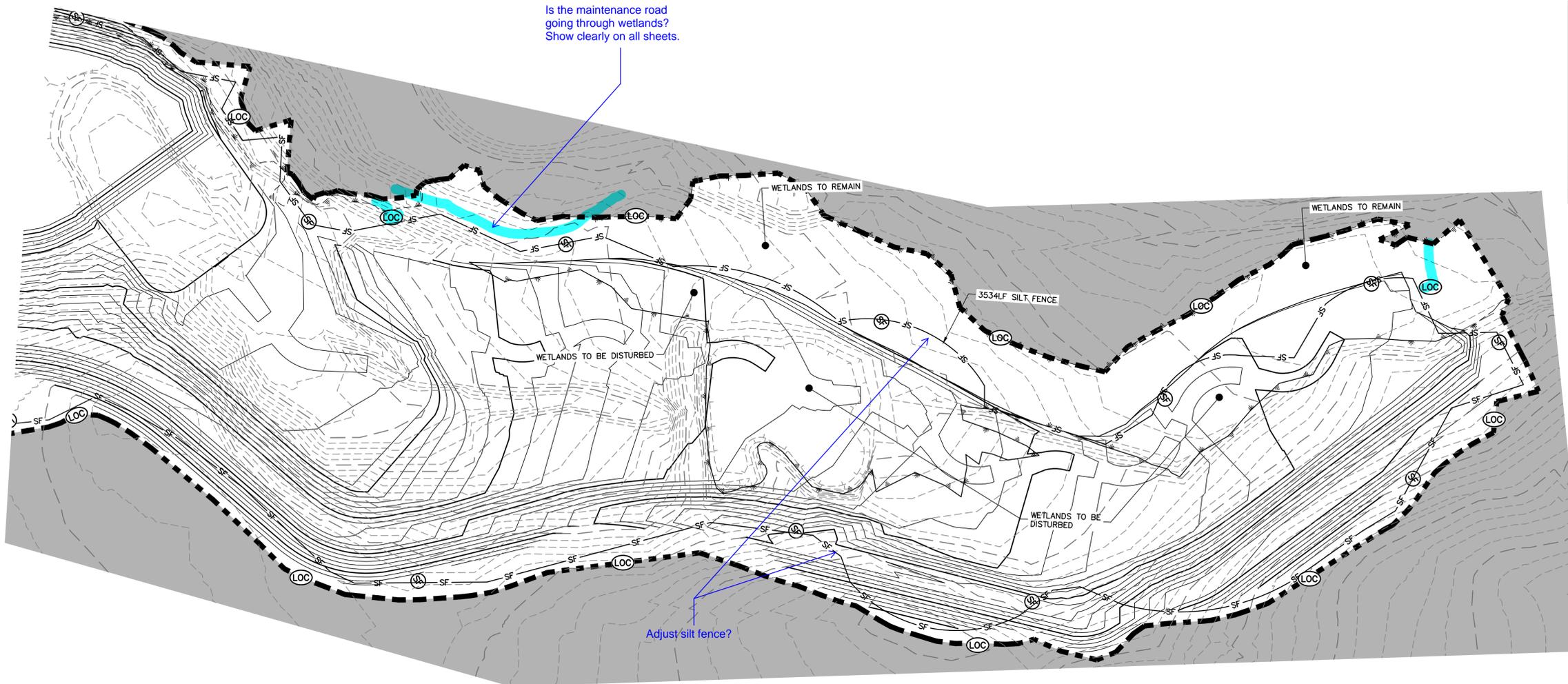
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SAND CREEK RESTORATION

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KEY MAP
SCALE: 1"=2000'

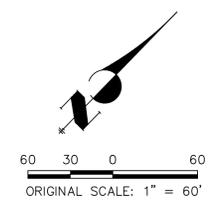
LEGEND			
EXISTING CONTOUR	PROPOSED CONTOUR	CONTINUOUS GRADE INLET PROTECTION	IP
EXISTING PROPERTY LINE	LIMITS OF CONSTRUCTION	REINFORCED ROCK BERM FOR CULVERT PROTECTION	RRC
EXISTING RIGHT OF WAY LINE	DRAINAGE SWALE	CONSTRUCTION MARKERS	CM
EXISTING EASEMENT	CONSTRUCTION FENCE	SEDIMENT CONTROL LOG	SCL
SECTION LINE	SILT FENCE	PERMANENT SEEDING AND MULCHING - NATIVE REVEGETATION SEED MIX	SM
EXISTING STORM SEWER	VEHICLE TRACKING CONTROL	PERMANENT LANDSCAPING	LS
EXISTING CURB & GUTTER	STABILIZED STAGING AREA	GEOTEXTILE	ECB
PROPOSED RIGHT OF WAY LINE	CONCRETE WASHOUT AREA	COIR MATTING	ECB
PROPOSED EASEMENT	STOCK PILE		
PROPOSED STORM SEWER	TEMP DRAINAGE CHANNEL		
PROPOSED CURB & GUTTER			
PROPOSED TOP OF SLOPE			
PROPOSED TOE OF SLOPE			
EXISTING DRAINAGE ARROW			
PROPOSED DRAINAGE ARROW			

TOTAL INITIAL PHASE SUMMARY OF APPROXIMATE QUANTITIES

2700	LF	-	SILT FENCE (SF)
4	LS	-	STABILIZED STAGING AREA (SSA)
4	LS	-	VEHICLE TRACKING CONTROL (VTC)

BASIS OF BEARINGS
THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AS MONUMENTED AT THE SOUTHWEST CORNER OF SAID BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624" AND AT THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624", SAID LINE BEARS N89°14'14"E, A DISTANCE OF 2,722.69 FEET.

- BENCHMARK**
1. THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411416.273
EASTING = 235167.071
ELEVATION = 7023.42
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NORTHING = 410095.404
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ELEVATION = 7000.40
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NORTHING = 411399.962
EASTING = 233849.817
ELEVATION = 7030.82



ENGINEER'S STATEMENT

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PRELIMINARY NOT FOR CONSTRUCTION

MIKE A. BRAMLEY
COLORADO P.E. 30111
FOR AND ON BEHALF OF J.R. ENGINEERING, INC.

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

PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

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

BY	DATE	No.	REVISION

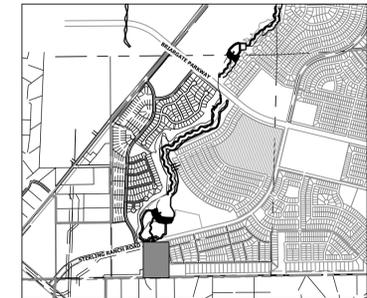
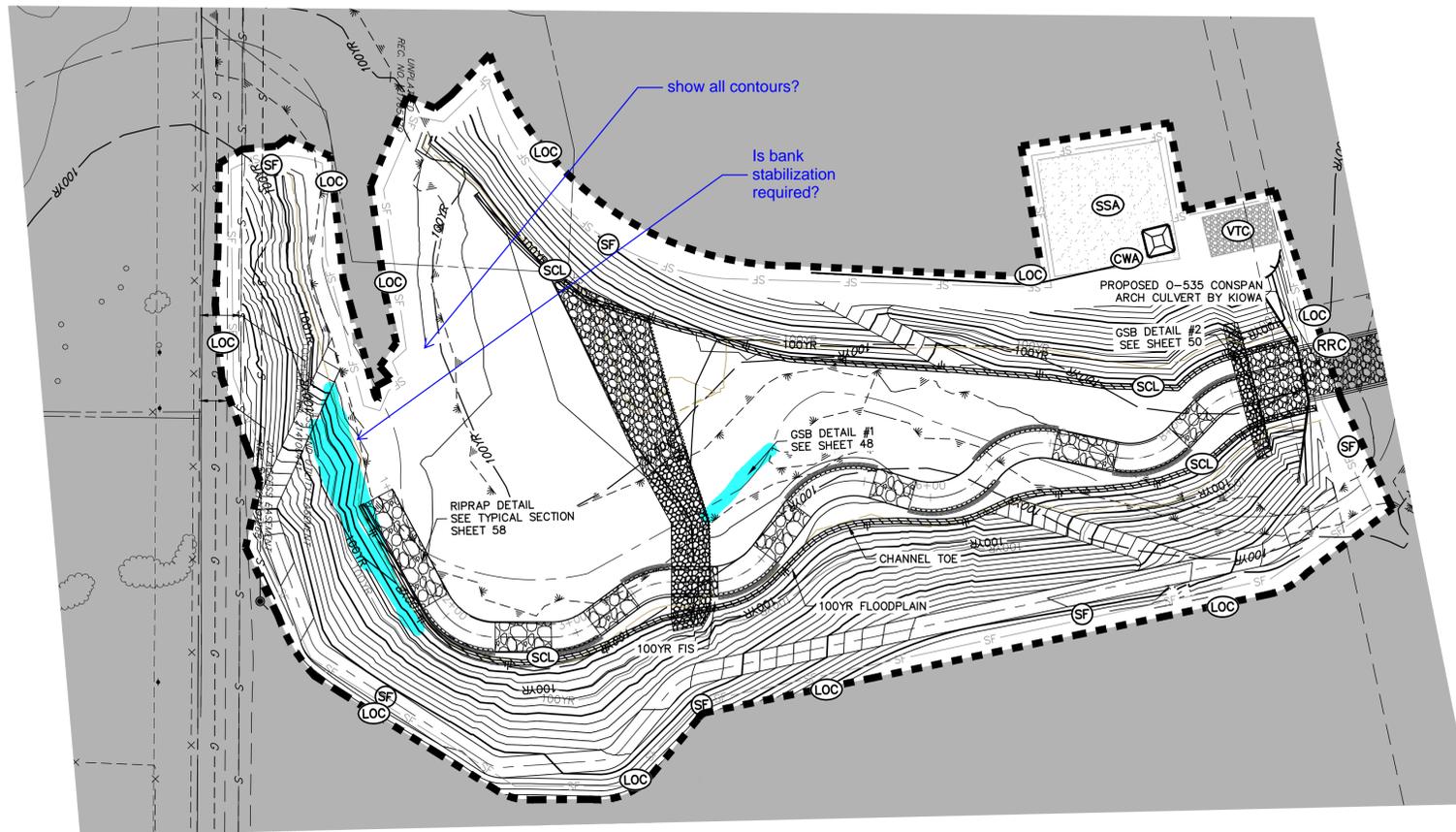
H-SCALE	1"=60'
V-SCALE	N/A
DATE	04/11/22
DESIGNED BY	SCH
DRAWN BY	SCH
CHECKED BY	

SAND CREEK RESTORATION

GESC INITIAL

SHEET 72 OF 81

JOB NO. 25188.04



KEY MAP
SCALE: 1" = 2000'

LEGEND

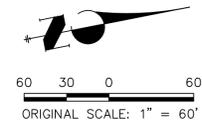
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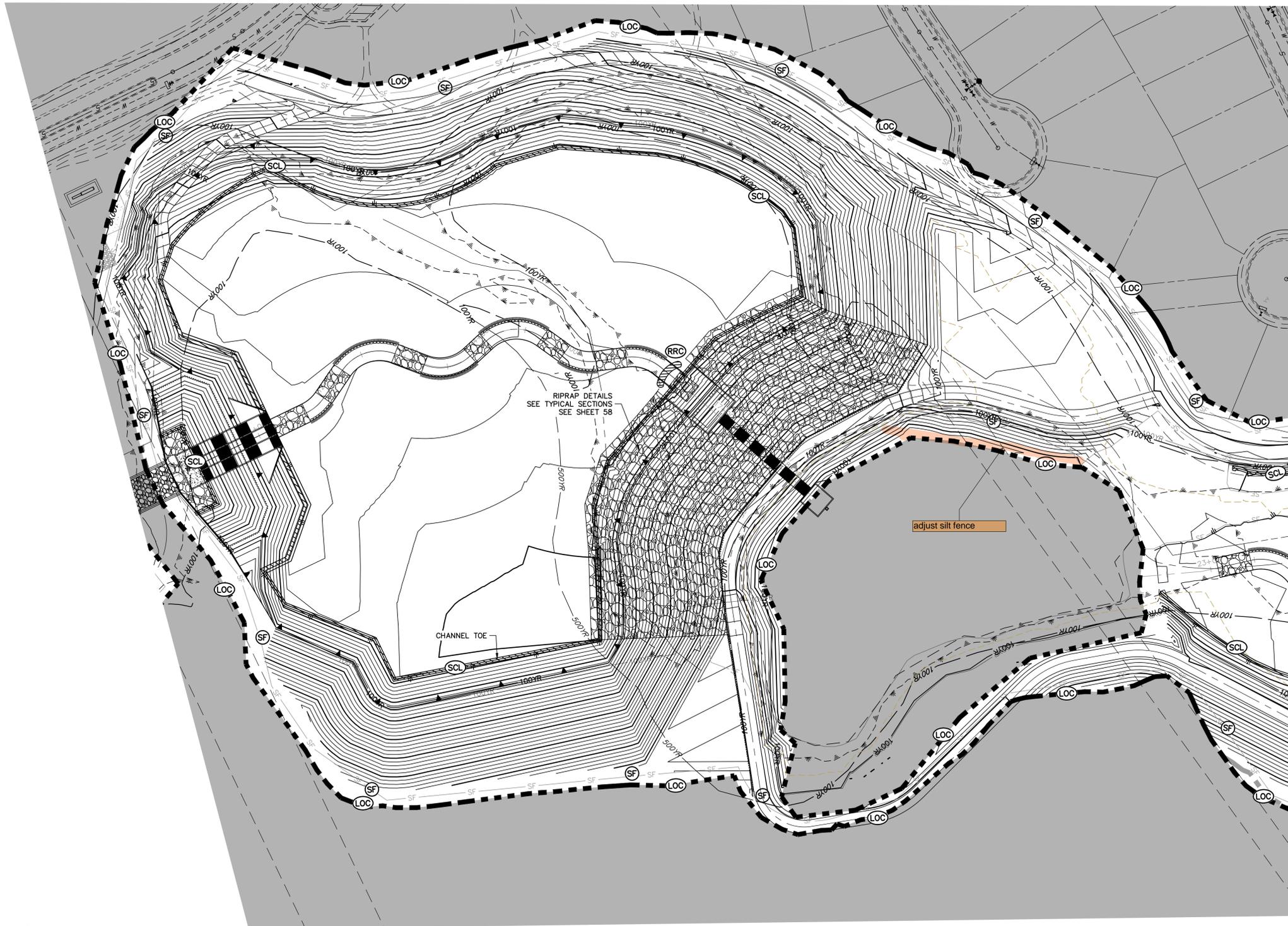
PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
2ND FLOOR
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

J.R. ENGINEERING
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Fort Collins 970-491-9888 • www.jrengineering.com

BY	DATE	No.	REVISION

H-SCALE	1" = 60'
V-SCALE	N/A
DATE	04/11/22
DESIGNED BY	SCH
DRAWN BY	SCH
CHECKED BY	

SAND CREEK RESTORATION	GESC INTERIM
SHEET 73	OF 81
JOB NO.	25188.04



KEY MAP
SCALE: 1"=2000'

LEGEND

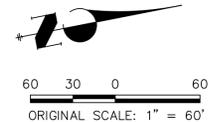
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MIKE A. BRAMLEY
COLORADO P.E. # 30000
FOR AND ON BEHALF OF J.R. ENGINEERING, LLC



BY DATE

No. REVISION

H-SCALE 1"=60'

V-SCALE N/A

DATE 04/11/22

DESIGNED BY SCH

DRAWN BY SCH

CHECKED BY

SAND CREEK RESTORATION

GESC INTERIM

SHEET 74 OF 81

JOB NO. 25188.04

PREPARED FOR

SR LAND, LLC

20 BOULDER CRESCENT

2ND FLOOR

COLORADO SPRINGS, CO 80903

JAMES F. MORLEY

(719) 419-3024

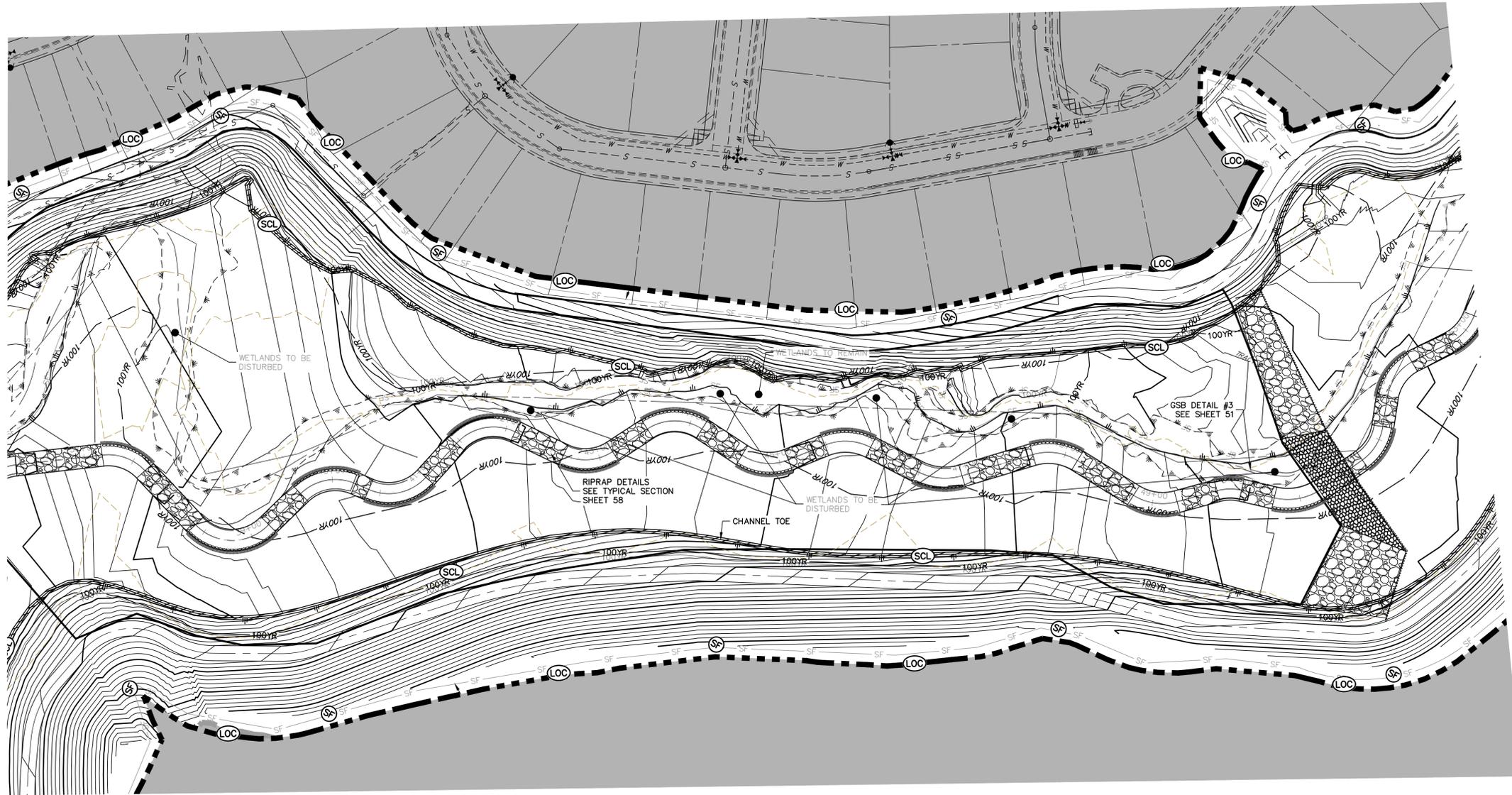
J.R. ENGINEERING

A Westman Company



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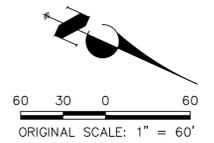
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LEGEND	
EXISTING CONTOUR	PROPOSED CONTOUR
EXISTING PROPERTY LINE	LIMITS OF CONSTRUCTION
EXISTING RIGHT OF WAY LINE	DRAINAGE SWALE
EXISTING EASEMENT	CONSTRUCTION FENCE
SECTION LINE	SILT FENCE
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PROPOSED TOP OF SLOPE	REINFORCED ROCK BERM FOR CULVERT PROTECTION
PROPOSED TOE OF SLOPE	CONSTRUCTION MARKERS
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PROPOSED DRAINAGE ARROW	PERMANENT SEEDING AND MULCHING - NATIVE REVEGETATION SEED MIX
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SAND CREEK RESTORATION	GESC INTERIM
SHEET 76 OF 81	JOB NO. 25188.04

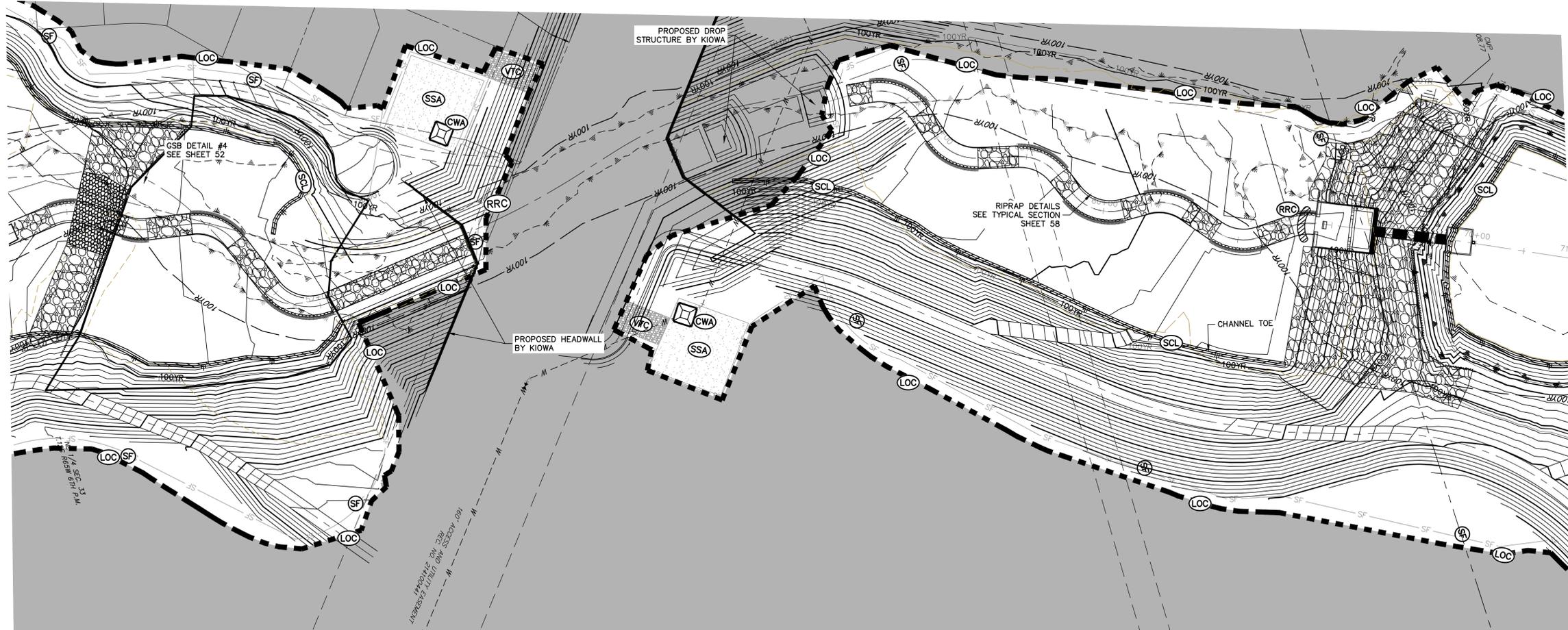


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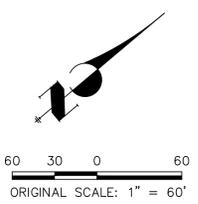


LEGEND

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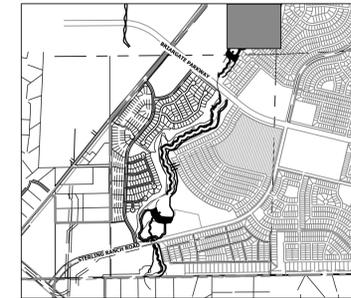
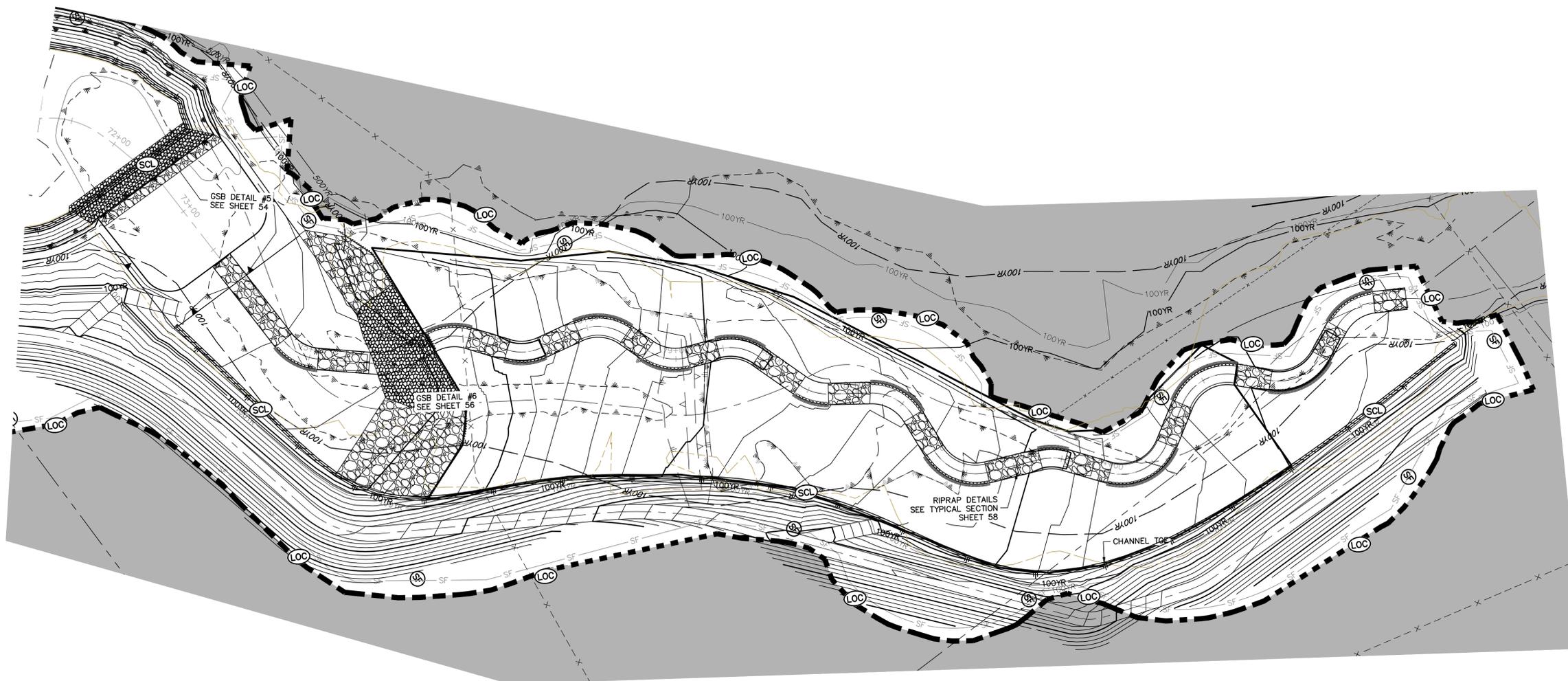
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SAND CREEK RESTORATION	GESC INTERIM	DESIGNED BY	SCH
		DRAWN BY	SCH
SHEET 77 OF 81		DATE	04/11/22
JOB NO. 25188.04		BY	
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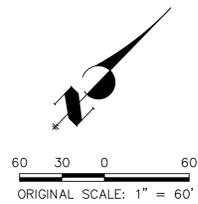


KEY MAP
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COIR MATTING	

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 THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AS MONUMENTED AT THE SOUTHWEST CORNER OF SAID BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624" AND AT THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624", SAID LINE BEARS N89°14'14"E, A DISTANCE OF 2,722.69 FEET.

- BENCHMARK**
1. THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9863", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION
 NORTHING = 411416.273
 EASTING = 235167.071
 ELEVATION = 7023.42
 2. THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHWEST BOUNDARY CORNER OF PAWNEE RANCHEROS SUBDIVISION
 NORTHING = 410095.404
 EASTING = 235052.131
 ELEVATION = 7000.40
 3. THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
 NORTHING = 411399.962
 EASTING = 233849.817
 ELEVATION = 7030.82



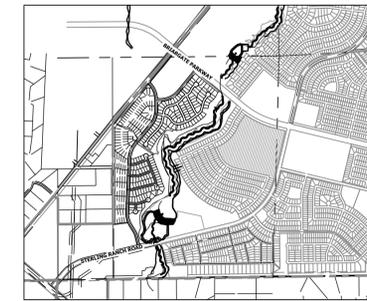
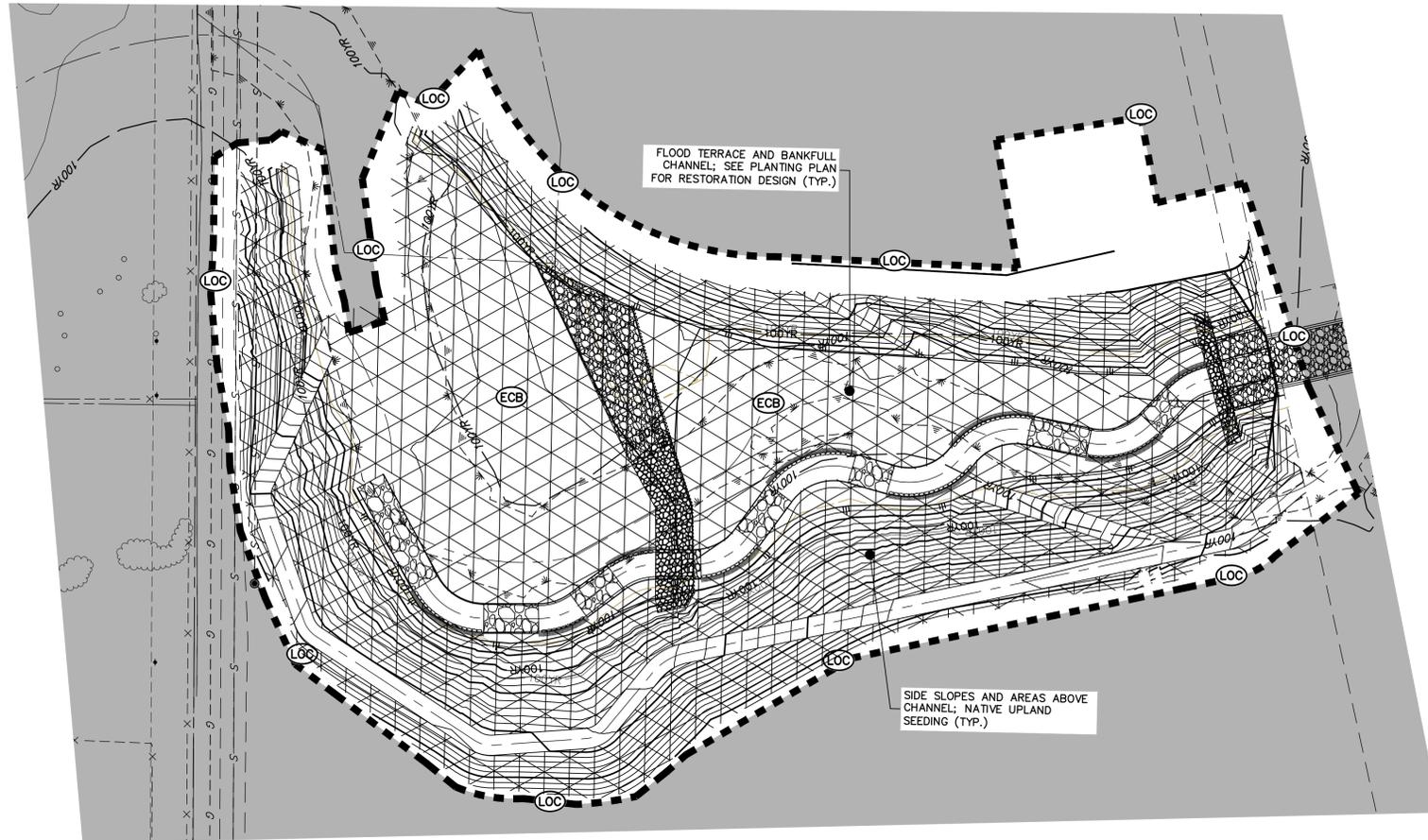
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PRELIMINARY NOT FOR CONSTRUCTION

MIKE A. BRAMLEY
 COLORADO P.E. 30112
 FOR AND ON BEHALF OF J.R. ENGINEERING, LLC

PREPARED FOR	SR LAND, LLC 20 BOULDER CRESCENT 2ND FLOOR COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 419-3024	
	J.R. ENGINEERING A Westman Company Central 303-740-9888 • Colorado Springs 719-583-2583 Fort Collins 970-491-9888 • www.jrengineering.com	
BY	DATE	
No.	REVISION	
H-SCALE	1" = 60'	
V-SCALE	N/A	
DATE	04/11/22	
DESIGNED BY	SCH	
DRAWN BY	SCH	
CHECKED BY		
SAND CREEK RESTORATION	GESC INTERIM	
SHEET 78	OF 81	
JOB NO.	25188.04	

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.



KEY MAP
SCALE: 1"=2000'

LEGEND

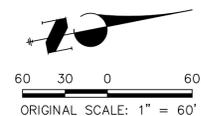
EXISTING CONTOUR	PROPOSED CONTOUR	CONTINUOUS GRADE INLET PROTECTION	
EXISTING PROPERTY LINE	LIMITS OF CONSTRUCTION	REINFORCED ROCK BERM FOR CULVERT PROTECTION	
EXISTING RIGHT OF WAY LINE	DRAINAGE SWALE	CONSTRUCTION MARKERS	
EXISTING EASEMENT	CONSTRUCTION FENCE	SEDIMENT CONTROL LOG	
SECTION LINE	SILT FENCE	PERMANENT SEEDING AND MULCHING - NATIVE REVEGETATION SEED MIX	
EXISTING STORM SEWER	VEHICLE TRACKING CONTROL	PERMANENT LANDSCAPING	
EXISTING CURB & GUTTER	STABILIZED STAGING AREA	GEOTEXTILE	
PROPOSED RIGHT OF WAY LINE	CONCRETE WASHOUT AREA	COIR MATTING	
PROPOSED EASEMENT	STOCK PILE		
PROPOSED STORM SEWER	TEMP DRAINAGE CHANNEL		
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COLORADO P.E. 30112
FOR AND ON BEHALF OF J.R. ENGINEERING, LLC



BY DATE

No. REVISION

1"=60'

V-SCALE N/A

DATE 04/11/22

DESIGNED BY SCH

DRAWN BY SCH

CHECKED BY

SAND CREEK RESTORATION

GLSC FINAL

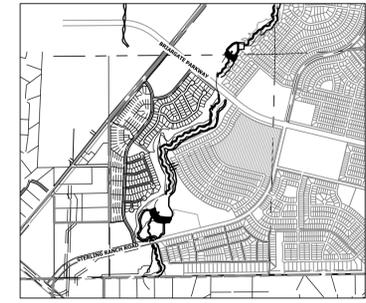
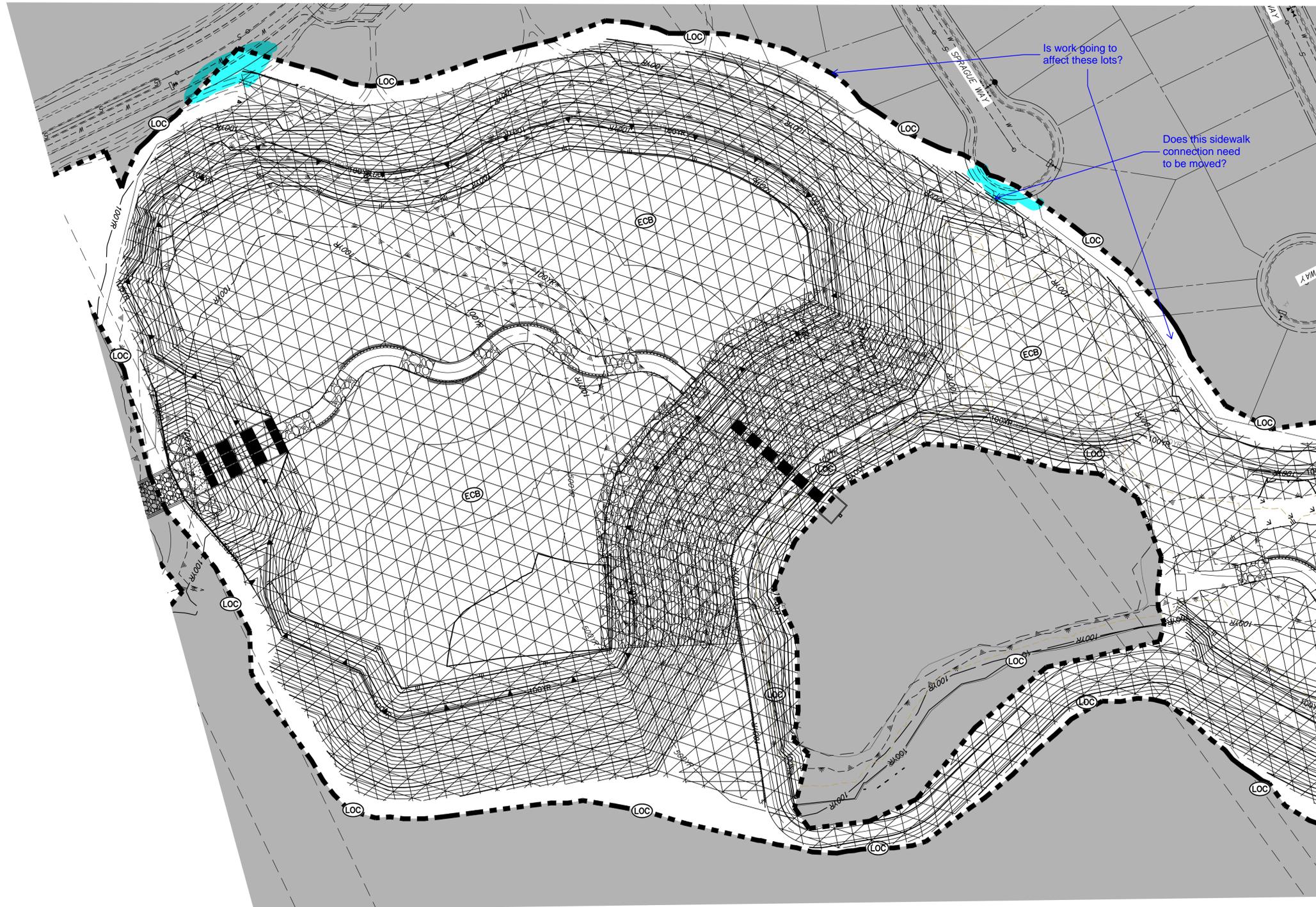
SHEET 79 OF 81

JOB NO. 25188.04

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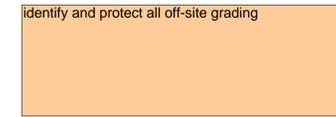
PREPARED FOR
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20 BOULDER CRESCENT
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COLORADO SPRINGS, CO 80903
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KEY MAP
SCALE: 1"=2000'

Identify and protect all off-site grading



LEGEND

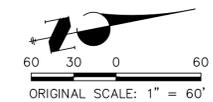
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EXISTING PROPERTY LINE	LIMITS OF CONSTRUCTION	REINFORCED ROCK BERM FOR CULVERT PROTECTION	RRC
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Know what's below.
Call before you dig.

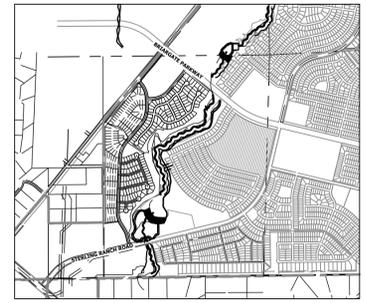
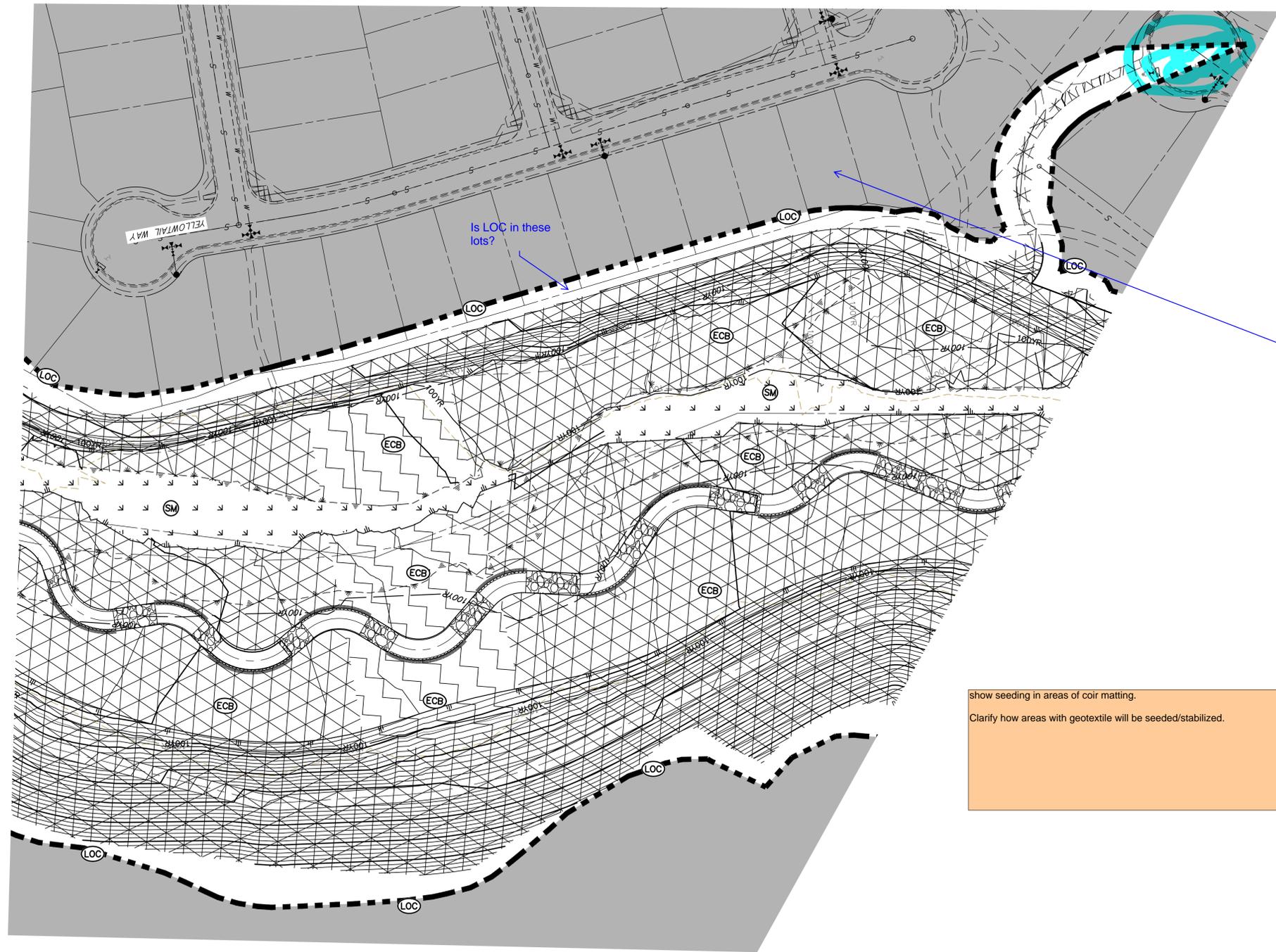
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MIKE A. BRAMLEY
COLORADO P.E. 30000
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PREPARED FOR SR LAND, LLC 20 BOULDER CRESCENT 2ND FLOOR COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 419-3024	UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEW AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.
SAND CREEK RESTORATION GLESC FINAL	SHEET 80 OF 81 JOB NO. 25188.04



KEY MAP
SCALE: 1" = 2000'

show seeding in areas of coir matting.
Clarify how areas with geotextile will be seeded/stabilized.

LEGEND

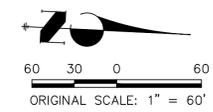
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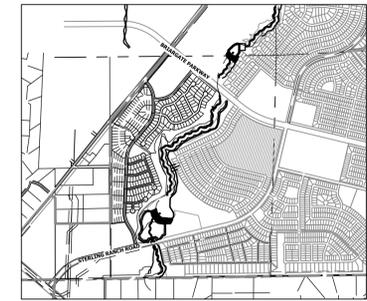
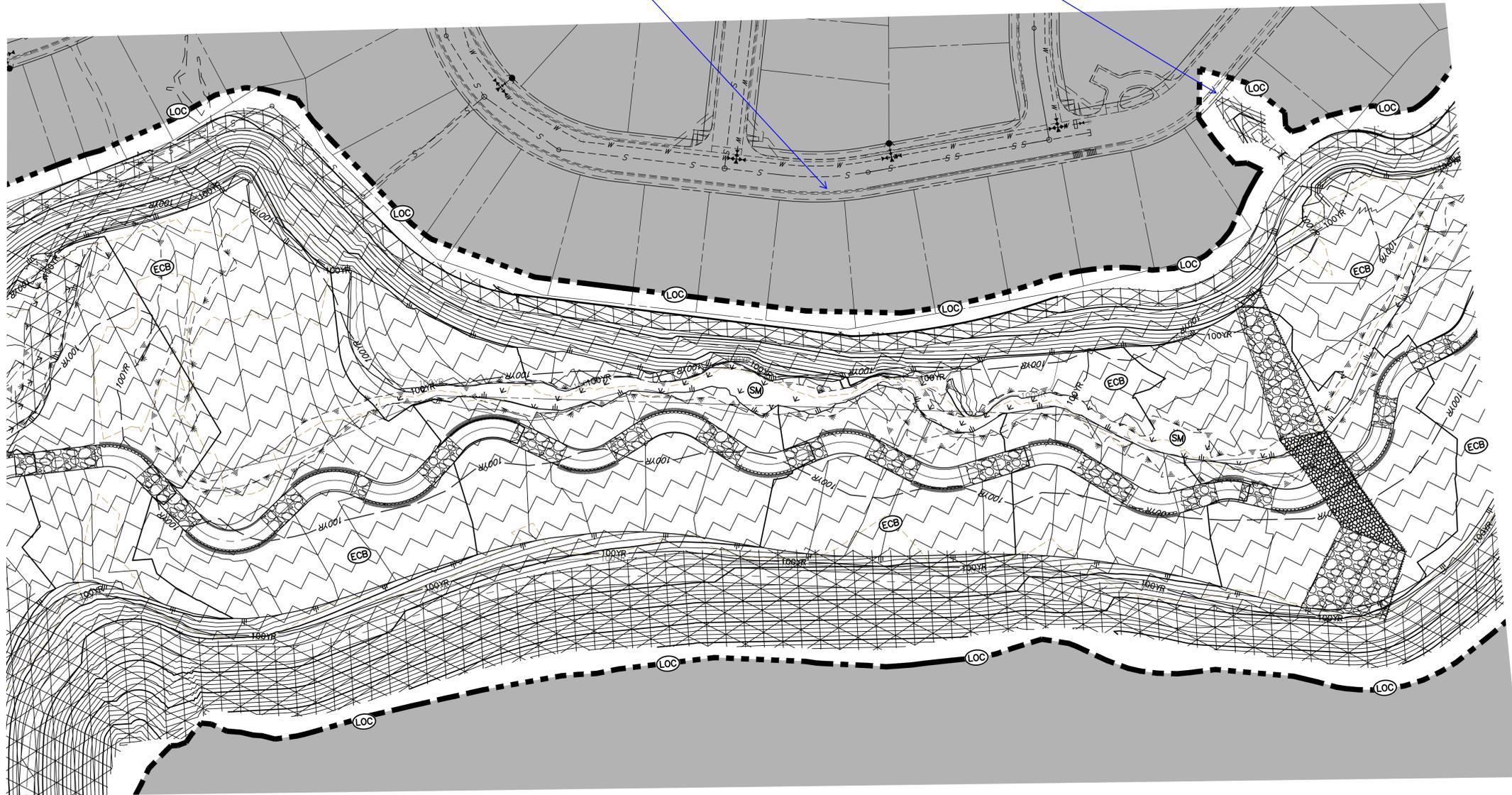
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PREPARED FOR
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20 BOULDER CRESCENT
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BY	DATE	No.	REVISION

H-SCALE	1" = 60'
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DATE	04/11/22
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DRAWN BY	SCH
CHECKED BY	



KEY MAP
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LEGEND

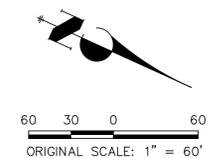
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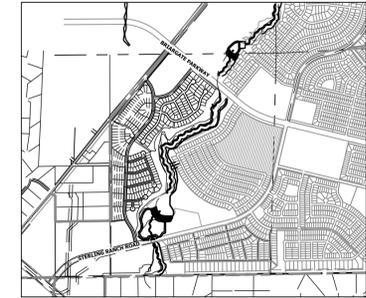
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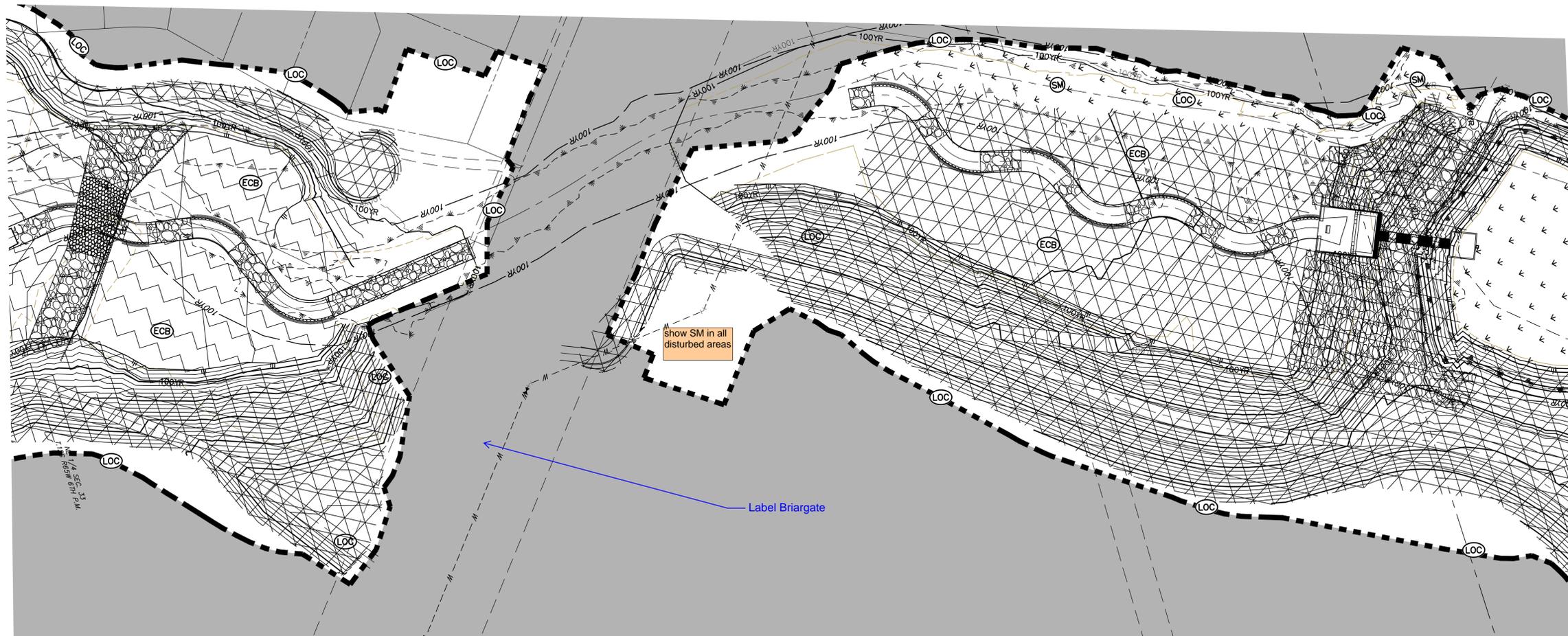
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SAND CREEK RESTORATION
GLSC FINAL
SHEET 82 OF 81
JOB NO. 25188.04



KEY MAP
SCALE: 1" = 2000'

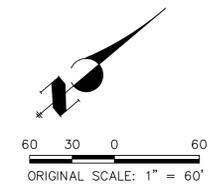


LEGEND

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EXISTING PROPERTY LINE	LIMITS OF CONSTRUCTION	REINFORCED ROCK BERM FOR CULVERT PROTECTION	RRC
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ELEVATION = 7000.40
 - THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411399.962
EASTING = 233849.817
ELEVATION = 7030.82



ENGINEER'S STATEMENT

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS 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, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

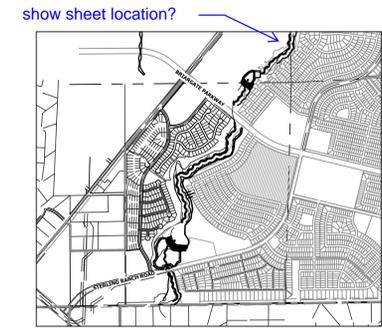
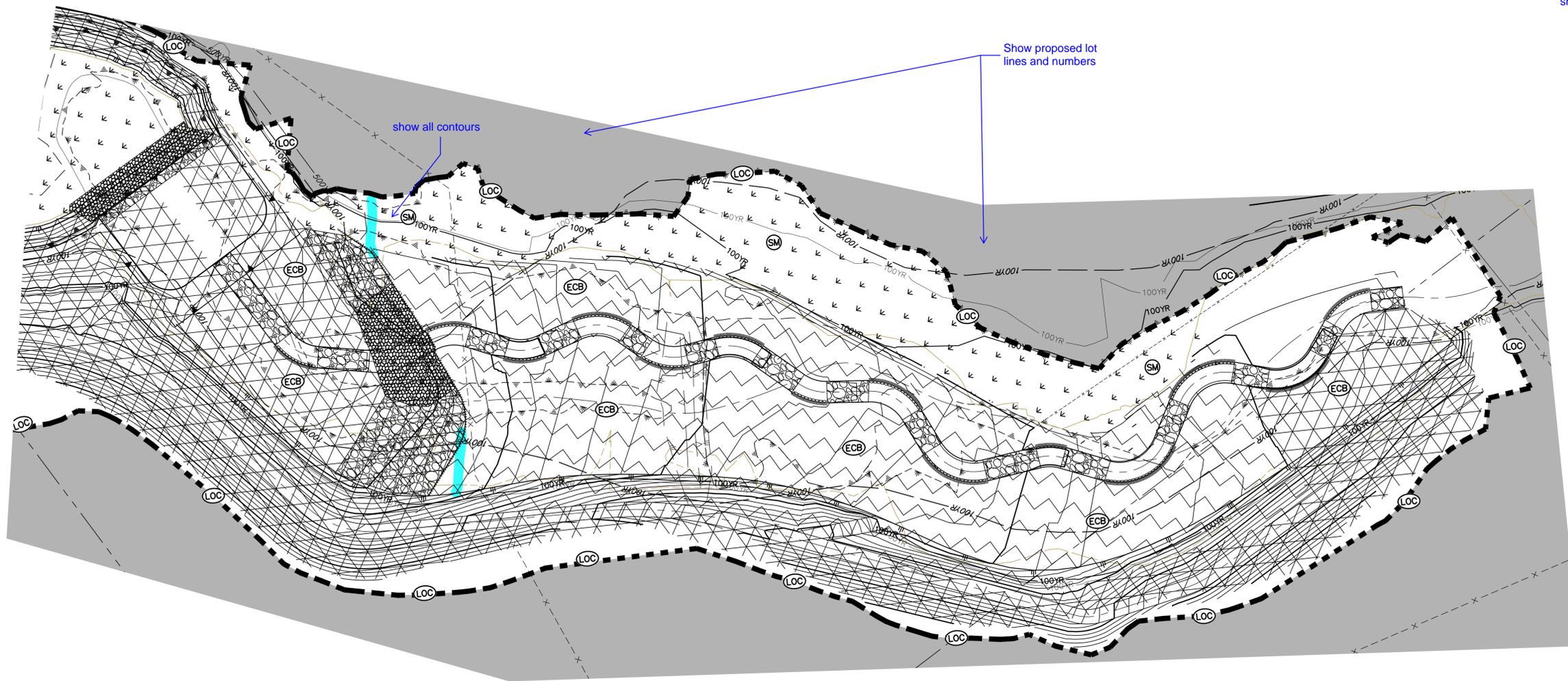
PRELIMINARY NOT FOR CONSTRUCTION

MIKE A. BRAMLEY
COLORADO P.E. 30114
FOR AND ON BEHALF OF J.R. ENGINEERING, LLC



PREPARED FOR	SR LAND, LLC 20 BOULDER CRESCENT 2ND FLOOR COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 419-3024	
	J.R. ENGINEERING A Westman Company Central 303-740-9888 • Colorado Springs 719-583-2683 Fort Collins 970-491-9888 • www.jrengineering.com	
BY	DATE	
No.	REVISION	
H-SCALE	1" = 60'	
V-SCALE	N/A	
DATE	04/11/22	
DESIGNED BY	SCH	
DRAWN BY	SCH	
CHECKED BY		
SAND CREEK RESTORATION	GLSC FINAL	
SHEET	83	OF 81
JOB NO.	25188.04	

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.



KEY MAP
SCALE: 1"=2000'

include all BMP details.
show all dewatering areas

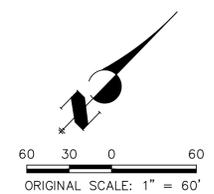
LEGEND

EXISTING CONTOUR	PROPOSED CONTOUR	CONTINUOUS GRADE INLET PROTECTION	IP
EXISTING PROPERTY LINE	LIMITS OF CONSTRUCTION	REINFORCED ROCK BERM FOR CULVERT PROTECTION	RRC
EXISTING RIGHT OF WAY LINE	DRAINAGE SWALE	CONSTRUCTION MARKERS	CM
EXISTING EASEMENT	CONSTRUCTION FENCE	SEDIMENT CONTROL LOG	SCL
SECTION LINE	SILT FENCE	PERMANENT SEEDING AND MULCHING - NATIVE REVEGETATION SEED MIX	SM
EXISTING STORM SEWER	VEHICLE TRACKING CONTROL	PERMANENT LANDSCAPING	LS
EXISTING CURB & GUTTER	STABILIZED STAGING AREA	GEOTEXTILE	ECB
PROPOSED RIGHT OF WAY LINE	CONCRETE WASHOUT AREA	COIR MATTING	ECB
PROPOSED EASEMENT	STOCK PILE		
PROPOSED STORM SEWER	TEMP DRAINAGE CHANNEL		
PROPOSED CURB & GUTTER			
PROPOSED TOP OF SLOPE			
PROPOSED TOE OF SLOPE			
EXISTING DRAINAGE ARROW			
PROPOSED DRAINAGE ARROW			

BASIS OF BEARINGS
THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AS MONUMENTED AT THE SOUTHWEST CORNER OF SAID BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624" AND AT THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624", SAID LINE BEARS N89°14'14"E, A DISTANCE OF 2,722.69 FEET.

- BENCHMARK**
1. THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411416.273
EASTING = 235167.071
ELEVATION = 7023.42
 2. THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHWEST BOUNDARY CORNER OF PANNEE RANCHEROS SUBDIVISION
NORTHING = 410095.404
EASTING = 235052.131
ELEVATION = 7000.40
 3. THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411399.962
EASTING = 233849.817
ELEVATION = 7030.82

add a note about existing vegetation



ENGINEER'S STATEMENT
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SAND CREEK RESTORATION

GLSC FINAL

SHEET 84 OF 81

JOB NO. 25188.04