SOUTHMOOR DRIVE CHANNEL STABLILIZATION FOUNTAIN CREEK WATERSHED DISTRICT

PERMIT PLANSET **APRIL 2023**

MATRIX PROJECT No. 23.526.036



VICINITY MAP N.T.S.

VERTICAL DATUM: THE ELEVATIONS ON THIS PROJECT ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

HORIZONTAL DATUM: THE COORDINATES FOR THIS PROJECT ARE NAD83/2011 COLORADO STATE PLANE CENTRAL ZONE GRID COORDINATES.

AERIAL PHOTO: PROVIDED BY AERIAL MAPPING SERVICES

REFERENC

DRAWINGS -526.036-MDG22x: -526.036-IMAGE

No. DATE

COMPUTER FILE MANAGEMENT

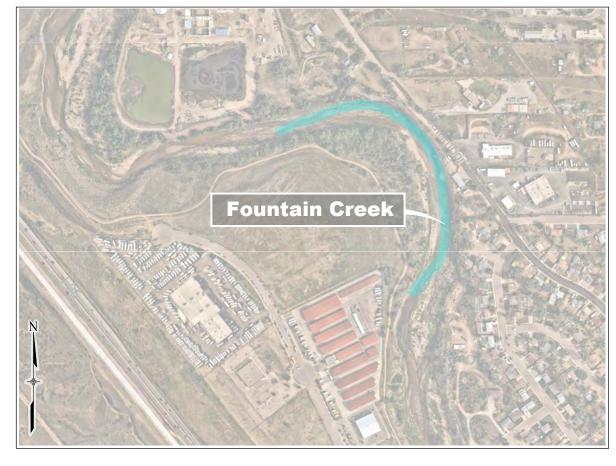
URRENT AS OF PLOT DATE AND I

BENCHMARK STATEMENT: BENCHMARK: NO. 5 REBAR LOCATED OFF THE NORTHERLY ASPHALT EDGE OF SOUTHMOOR DRIVE AND IS APPROXIMATELY 155 FEET NORTHWESTERLY ALONG SAID ASPHALT EDGE FROM THE CENTERLINE OF THE DRIVEWAY ENTRANCE TO 6625 SOUTHMOOR DRIVE, CITY OF FOUNTAIN, STATE OF COLORADO. [GLOBAL COORDINATES NAD83(2011) AT EPOCH 2010; LAT: N 38°44'07.89062", LONG: W 104°44'04.58072".] ELEVATION WAS ESTABLISHED BY G.P.S. OBSERVATIONS AND IS REFERENCED TO NAVD88. ELEVATION = 5,686.44 FEET.

REVISIONS

FILE NAME: S:\23.526.038 Southmoor Dr Fountain Cr Channel Stabilization\500 CADD\504 Plan Sets\Construction Plans\WR Design Plans\526.036-TS0 CTB FILE: Matrix(black).ctb PLOT DATE: April 27, 2023 1:47:24 PM

PROPERTY INFORMATION: PARCEL LINES AND PROPERTY OWNERSHIP INFORMATION SHOWN WERE PROVIDED BY AN ALTA SURVEY.



LOCATION MAP SCALE: 1" = 500'

PERMIT PLANSET

UNDER THE AUTHORITY OF

AARON J. SUTHERLIN, PE

IT IS NOT TO BE USED FOR

CONSTRUCTION OR BIDDING

OTICE

PURPOSES.

HIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW PREPARED BY: Matrix **Excellence by Desig**





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	Applicable Specifications (City of Co	olorado Sp	rings - Drainage Criteria Manual (DCM))
100	General Provisions	622	Channel Embankment and Backfill
620	Drainage Channels	624	Riprap and Grouted Riprap Channel Construction
621	Channel Excavation	900	Seeding, Fertilizer, Mulching, and Sodding
	Mobilization Traffic Control		Trenching and Backfill Erosion and Sediment Control
	Applicable Specifications (Mile High Fle	ood Distri	ct - Urban Storm Drainage Criteria Manual)
	Temporary Tree and Plant Protection		Erosion and Sediment Control Riprap, Boulders, and Bedding
	Clearing and Grubbing	32 91 13	
	Topsoil Stripping and Stockpiling		Seeding
	Excavation and Fill		Landscape Planting

	PRELIMINARY	FOUNTAIN CREEK WATERSHED DISTRICT					
	THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND	SOUTHMOOR DRIVE CHANNEL STABLILIZATION PERMIT PLANSET					
	IS SUBJECT TO CHANGE	TITLE SHEET					
m	FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 23.526.036	DESIGNED BY: TKM DRAWN BY: KDL CHECKED BY: AJS	SCALE HORIZ. 1" = 500' VERT. N/A	DATE ISSUED: SHEET	APRIL 2023 01 OF 25	drawing no. TS01	

GENERAL NOTES:

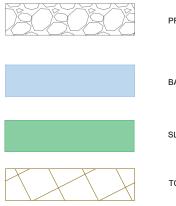
- 1. THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR TO CALL FOR UTILITY LOCATOR AT LEAST 3 CALENDAR DAYS BEFORE EXCAVATION. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ABOVE GROUND AND UNDERGROUND UTILITIES. IN THE EVENT THAT THE CONTRACTOR UTILITY VERIFICATION RESULTS IN EXISTING STRUCTURES OR UTILITIES BEING IN CONFLICT WITH THE PROPOSED WORK OF THIS CONTRACT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY UTILITIES AND COORDINATE ANY NEEDED MODIFICATIONS TO THE PROPOSED WORK AS DIRECTED BY THE FOUNTAIN CREEK WATERSHED DISTRICT (DISTRICT). THE CONTRACTOR SHALL COORDINATE WITH ALL AFFECTED UTILITY OWNERS TO ESTABLISH THE REQUIREMENTS AND METHODS TO ACCOMMODATE THE PROTECTION, TEMPORARY SUPPORT, ADJUSTMENT OR RELOCATION OF UTILITIES PRIOR TO THE START OF CONSTRUCTION.
- 2. OVERHEAD UTILITIES MAY NOT BE INDICATED ON PROFILE OR SECTION DRAWINGS.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND MAINTAINING IN CONTINUOUS OPERATION, ALL EXISTING STRUCTURES. NOT ALL POTENTIALLY IMPACTED STRUCTURES MAY BE SHOWN ON THE DRAWINGS AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND PROTECT ALL STRUCTURES INCLUDING BUT NOT LIMITED TO STREETS, CURB AND GUTTER, BRIDGE PIERS AND ABUTMENTS, CREEK BANK PROTECTION OF VARIOUS TYPES, CREEK DROP STRUCTURES, SIGNS, PEDESTRIAN WALKS, RETAINING WALLS AND FENCING. IN THE EVENT THAT A STRUCTURE OR UTILITY IS DAMAGED DURING CONSTRUCTION THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OF THE FACILITY IN WRITING AND COOPERATE AND COORDINATE AS REQUIRED BY THE OWNER OF THE FACILITY.
- 4. THE CONTRACTOR SHALL CONFIRM THE RECEIPT OF ALL NECESSARY PERMITS AND APPROVALS BEFORE THE START OF CONSTRUCTION.
- 5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS OF THE CITY OF FOUNTAIN, THE CITY OF COLORADO SPRINGS, AND DISTRICT UNLESS SPECIFICALLY DETAILED OTHERWISE ON THESE PLANS AND ASSOCIATED SPECIFICATIONS
- 6. THE CONTRACTOR SHALL MAINTAIN AT THE SITE AT ALL TIMES ONE SIGNED COPY OF THE PROJECT DRAWINGS AND SPECIFICATIONS AND ONE COPY OF ALL REQUIRED PERMITS
- 7. THE CONTRACTOR SHALL CONDUCT THEIR OPERATIONS IN SUCH A WAY THAT THE AREA OF DISTURBANCE IS MINIMIZED. ALL EXISTING TREES, SHRUBS AND VEGETATION SHALL BE PROTECTED UNLESS OTHERWISE NOTED ON THE DRAWINGS. NO TREES SHALL BE REMOVED WITHOUT APPROVAL.
- 8. FOR ALL GRADING. SMOOTH PARABOLIC TRANSITIONS SHALL BE MADE BETWEEN CHANGES IN SLOPE AND AN INTERSECTION WITH EXISTING GROUND.
- 9. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING STABLE EXCAVATIONS AND TEMPORARY SLOPES AND FOR SATISFYING ALL APPLICABLE FEDERAL. STATE AND LOCAL REGULATIONS
- 10.CONSTRUCTION OF THE PROPOSED WORK WILL TAKE PLACE WITHIN THE PROJECT LIMITS AND WATER CONTROL MEASURES WILL BE REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCEPTANCE AND CONTROL OF DRAINAGE WATER FROM AREAS ADJACENT TO THE PROJECT AND FOR FLOW WITHIN FOUNTAIN CREEK THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ESTABLISHING MEANS AND METHODS OF GROUND AND SURFACE WATER CONTROL APPROPRIATE FOR CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROJECT DRAWINGS AND SPECIFICATIONS AND ALL APPLICABLE FEDERAL STATE AND LOCAL REGULATIONS AND PERMITS
- 11. THE CONTRACTOR SHALL PREPARE AND MAINTAIN AT THE SITE AT ALL TIMES THE STORMWATER MANAGEMENT PLAN AND OBTAIN THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THROUGH THE COLORADO DEPARTMENT OF PUBLIC HEALTH (CDPHE) AND ALL OTHER APPROPRIATE FEDERAL. STATE AND LOCAL PERMITS
- 12.CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT DRAWINGS TO BE MAINTAINED AND SUBMITTED TO THE DISTRICT. IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- 13. THE CONTRACTOR SHALL PROTECT ON-SITE SURVEY CONTROL AND NOTIFY THE DISTRICT IN THE EVENT THAT SURVEY CONTROL IS DAMAGED OR DESTROYED
- 14.CONTRACTOR SHALL FENCE OFF CRITICAL AREAS TO BE PROTECTED AT THE DISCRETION OF THE DISTRICT.
- 15. THE CONTRACTOR SHALL DEVELOP A TRAFFIC CONTROL PLAN FOR PLANNED ACCESS TO THE SITE AND FOR EXITING AND ENTERING PUBLIC ROADS AS REQUIRED BY AGENCIES RESPONSIBLE FOR TRAFFIC CONTROL ON ADJACENT PUBLIC ROADS AND THE FRONT RANGE TRAIL.
- 16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND MAINTAINING PHYSICAL AND LEGAL ACCESS TO THE PROJECT SITE AND SHALL LIMIT TRANSPORTATION TO AND FROM THE SITE TO THOSE APPROVED BY LOCAL AGENCIES AND THE DISTRICT.
- 17. THE CONTRACTOR SHALL COMPLY WITH AGREEMENTS BETWEEN THE DISTRICT AND LAND OWNERS OR AGENCIES WITH REGARD TO CONSTRUCTION ACTIVITIES, INCLUDING BUT NOT LIMITED TO ACCESS, SECURITY, AND SITE RESTORATION. CONTRACTOR SHALL NOT ACCESS THE PROJECT BY ROUTES OTHER THAN THOSE DEFINED IN AGREEMENTS WITH LAND OWNERS OR AGENCIES.
- 18. TEMPORARILY DISTURBED AREAS, SUCH AS ACCESS ROUTES AND STAGING AREAS, SHALL BE RESTORED PRIOR TO DEMOBILIZATION WITH SOIL AMENDMENT AND UPLAND SEEDING AND COVERED WITH EROSION CONTROL FABRIC OR CRIMPED STRAW, PER DESIGN PLAN DETAILS AND SPECIFICATIONS OR AS DIRECTED BY ENGINEER.

Ģ	CENTER LINE
HCL	HORIZONTAL CONTROL
DIA	DIAMETER
EX./EXIST	EXISTING
EL./ELEV	ELEVATION
FT.	FEET
INV.	INVERT
LF	LINEAR FEET
LT	LEFT
N,S,E,W	NORTH, SOUTH, EAST,
Æ	PROPERTY LINE
ROW	RIGHT-OF-WAY
RT	RIGHT
SF	SQUARE FEET
STA.	STATION

STANDARD SYMBOLS

	EXI
	PR
PL PL PL	PR
	LIM
	CO

LEGEND



REFERENCE DRAWINGS X-526-036-MDG22x34	FILE N. CTB FI	AME: S:\23.52	DESCRIPTION REVISIONS LE MANAGEMENT 26/036 Southmoor Dr Fountain Cr Channel Stabilization\500 CADD\504 Plan Sets\Construction Plans\WR Design Plans\526.0: Jack).ctb 2023 8-31-02 AM	BY 36-GN01		FOUNTAIN CREEK WATERSHED	PREPARED BY: Matrix
	PLOT	DATE: April 26,	2 , 2023 8:31:02 AM AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.		PURPOSES.	PLOOD CONTROL & GREENWAY DISTRICT	Excellence by Design



ABBREVIATIONS

APPROX

MIN.

MAX.

HORIZ

VERT.

DIST.

NTS

TYP

00

RR

BCL

TCL

PR

100

WEST

APPROXIMATE MINIMUM MAXIMUM HORIZONTAL VERTICAL DISTANCE NOT TO SCALE TYPICAL ON CENTER LIMITS OF CONSTRUCTION RAILROAD BANKFULL CONTROL LINE THALWEG CONTROL LINE PROPOSED

KISTING CONTOURS

ROPOSED CONTOURS

ROPERTY LINE

MITS OF CONSTRUCTION

ONSTRUCTION ACCESS

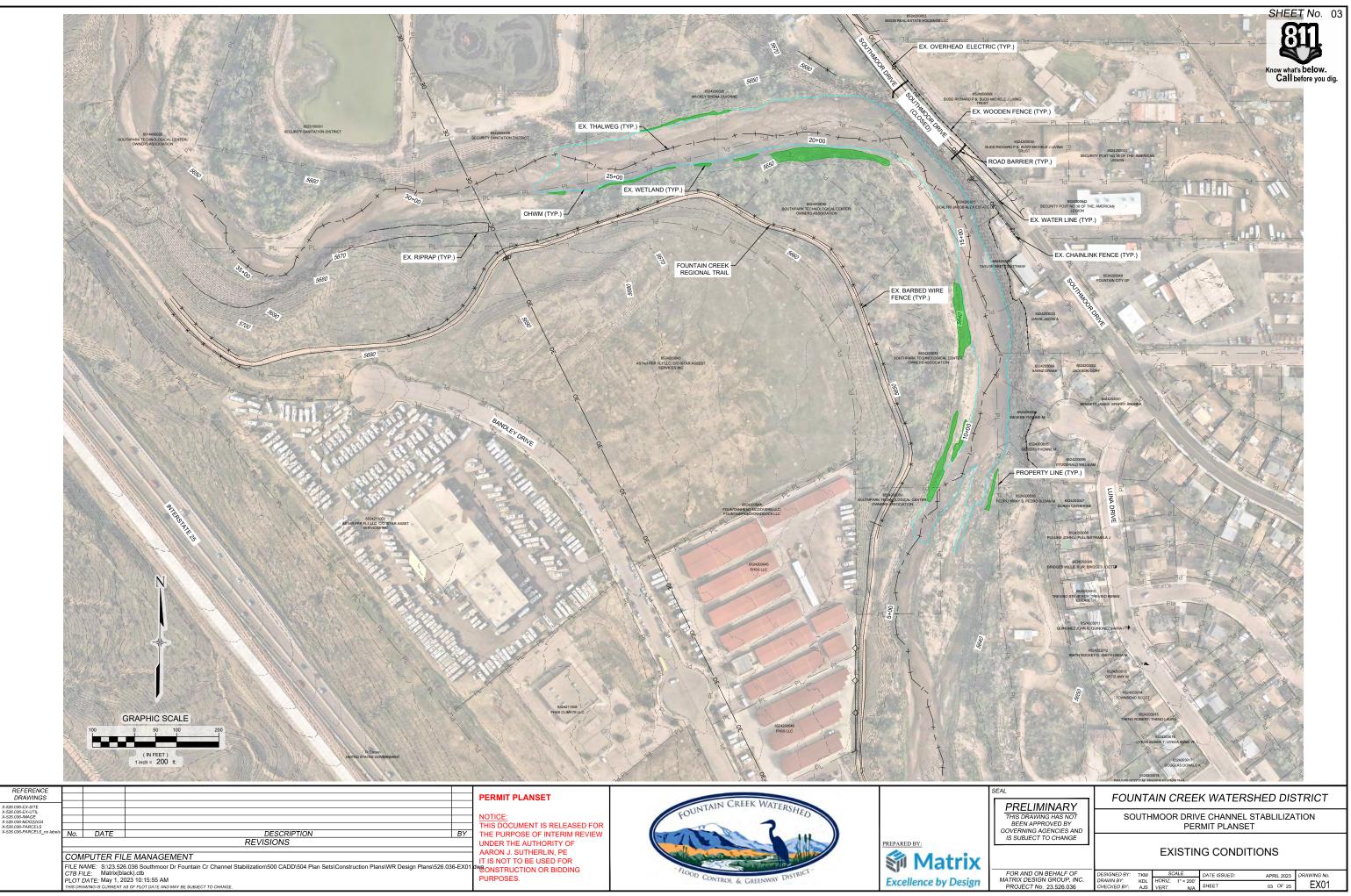
PROPOSED SOIL RIPRAP

BASEFLOW CHANNEL

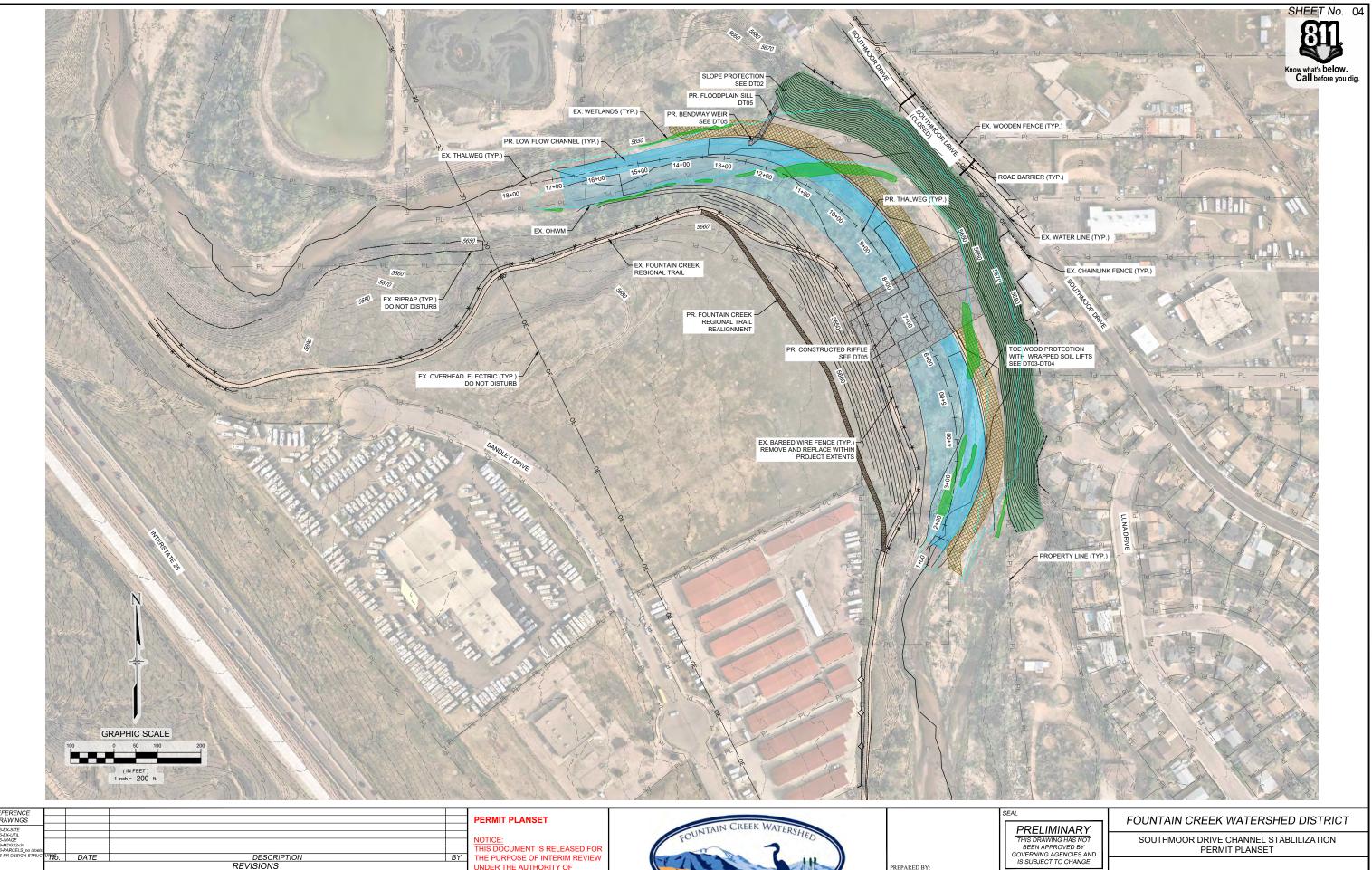
SLOPE PROTECTION

TOE WOOD BANK PROTECTION

		FOUNTAIN CREEK WATERSHED DISTRICT
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	FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC.	DESIGNED BY: TKM SCALE DATE ISSUED: APRIL 2023 DRAWING No.
n	PROJECT No. 23.526.036	CHECKED BY: AJS VERT, N/A SHEET 02 OF 25 GN01



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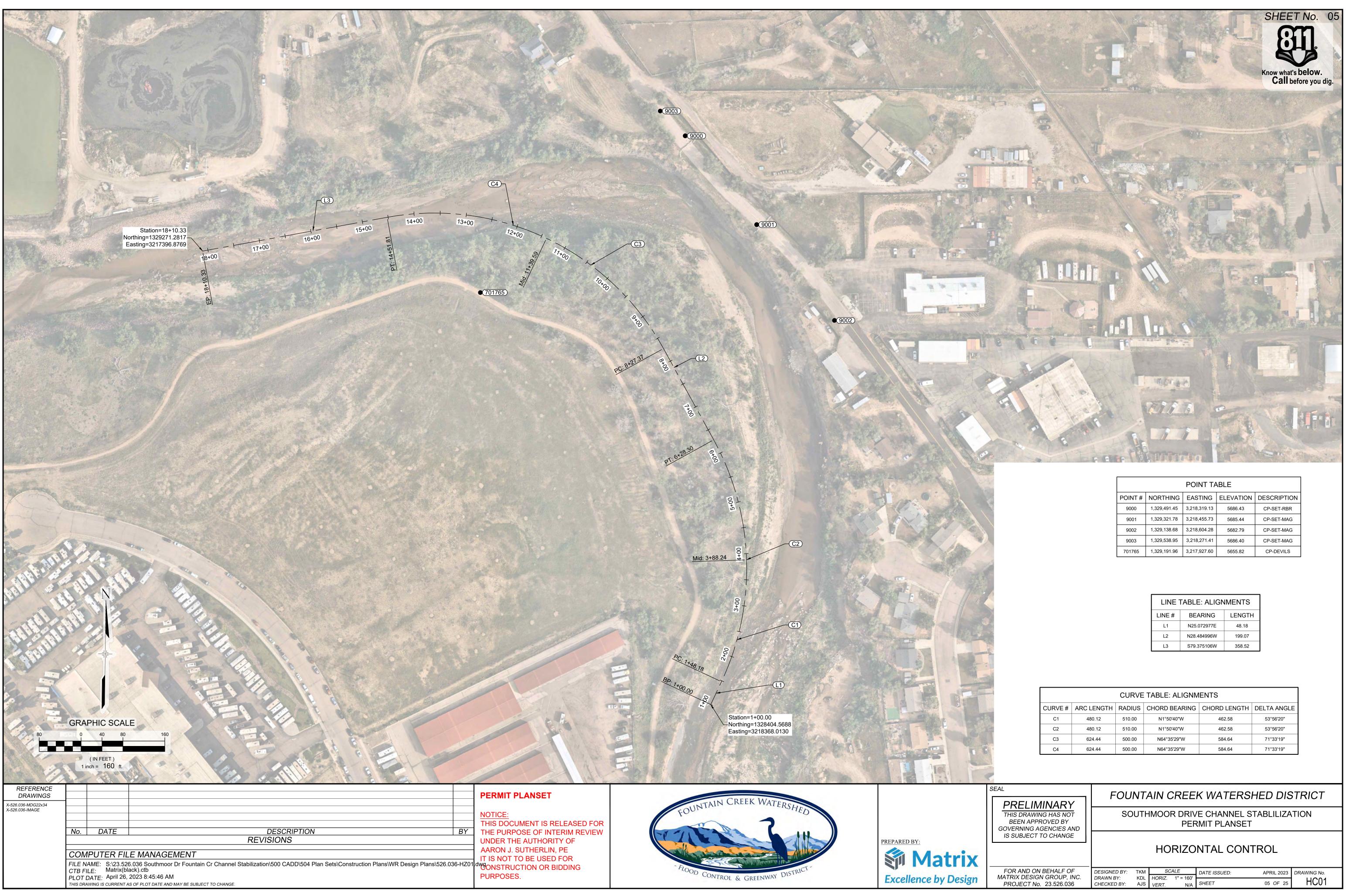


REFERENCE DRAWINGS					PERMIT PLANSET	Contra lui
X-526.036-EX-SITE X-528.036-EX-UTIL X-528.036-MAGE X-528.036-MDG22X34 X-528.036-MDG22X34 X-528.036-PR DESIGN STRUC	n¶€6.		DESCRIPTION REVISIONS	BY	NOTICE: THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF AARON J. SUTHERLIN, PE	FOUNTAIN CREEK WATERSH
	FILE N CTB F PLOT	JAME: S:\23.526 ILE: Matrix(bla DATE: May 1, 20	LE MANAGEMENT 6.036 Southmoor Dr Fountain Cr Channel Stabilization\500 CADD\504 Plan Sets\Construction Plans\WR Design Plan ack).ctb 023 10:35:07 AM AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.	s\526.036-DR01	IT IS NOT TO BE USED FOR dwgonstruction or Bidding PURPOSES.	-TLOOD CONTROL & GREENWAY DIST



CHANNEL IMPROVEMENT PLAN

1								
	FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC.	DESIGNED BY: DRAWN BY:	TKM		CALE	DATE ISSUED:	APRIL 2023	DRAWING No.
l.	PROJECT No. 23.526.036	CHECKED BY:	KDL AJS	HORIZ. VERT.	1" = 200' N/A	SHEET	04 OF 25	DR01

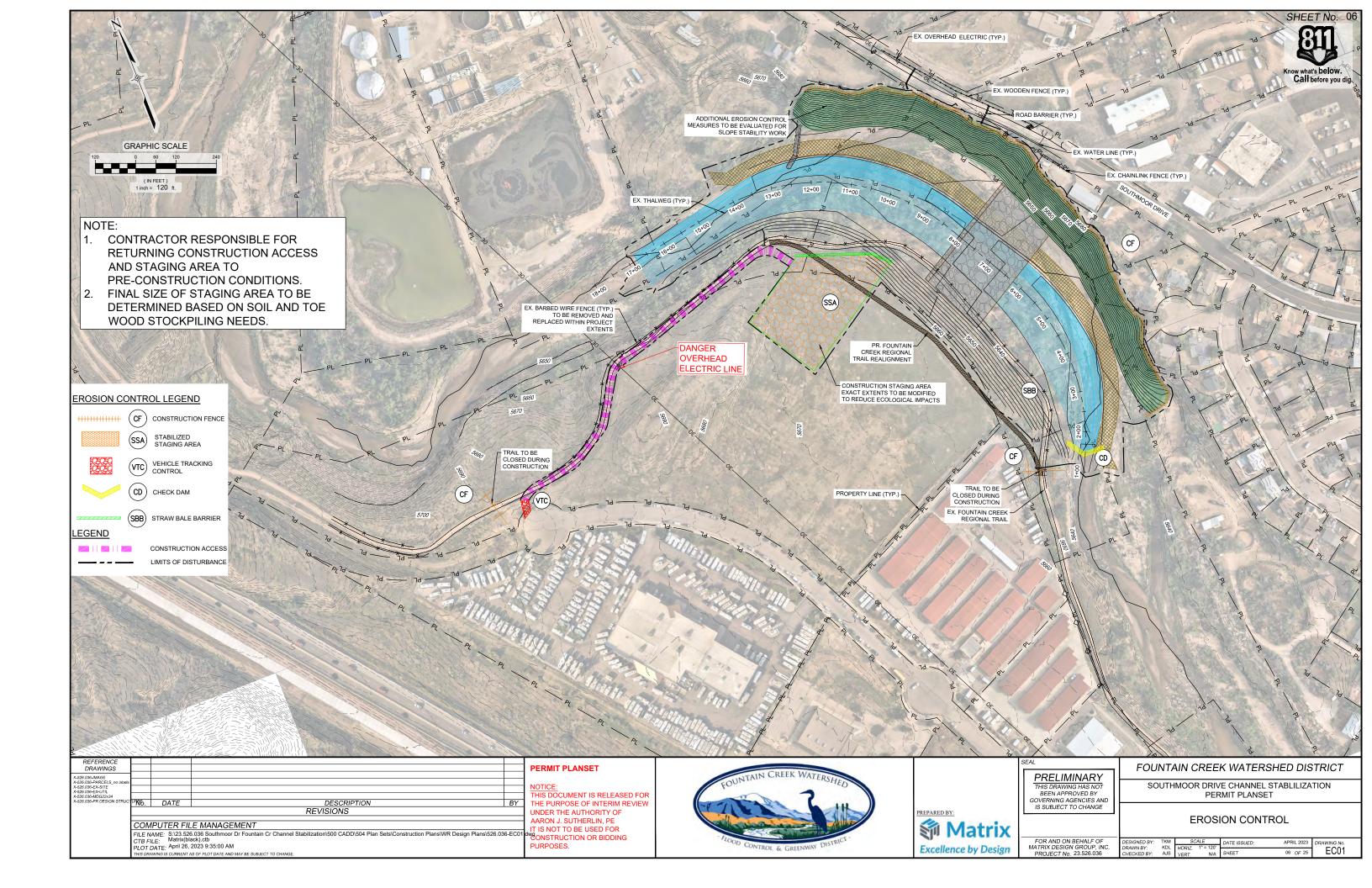


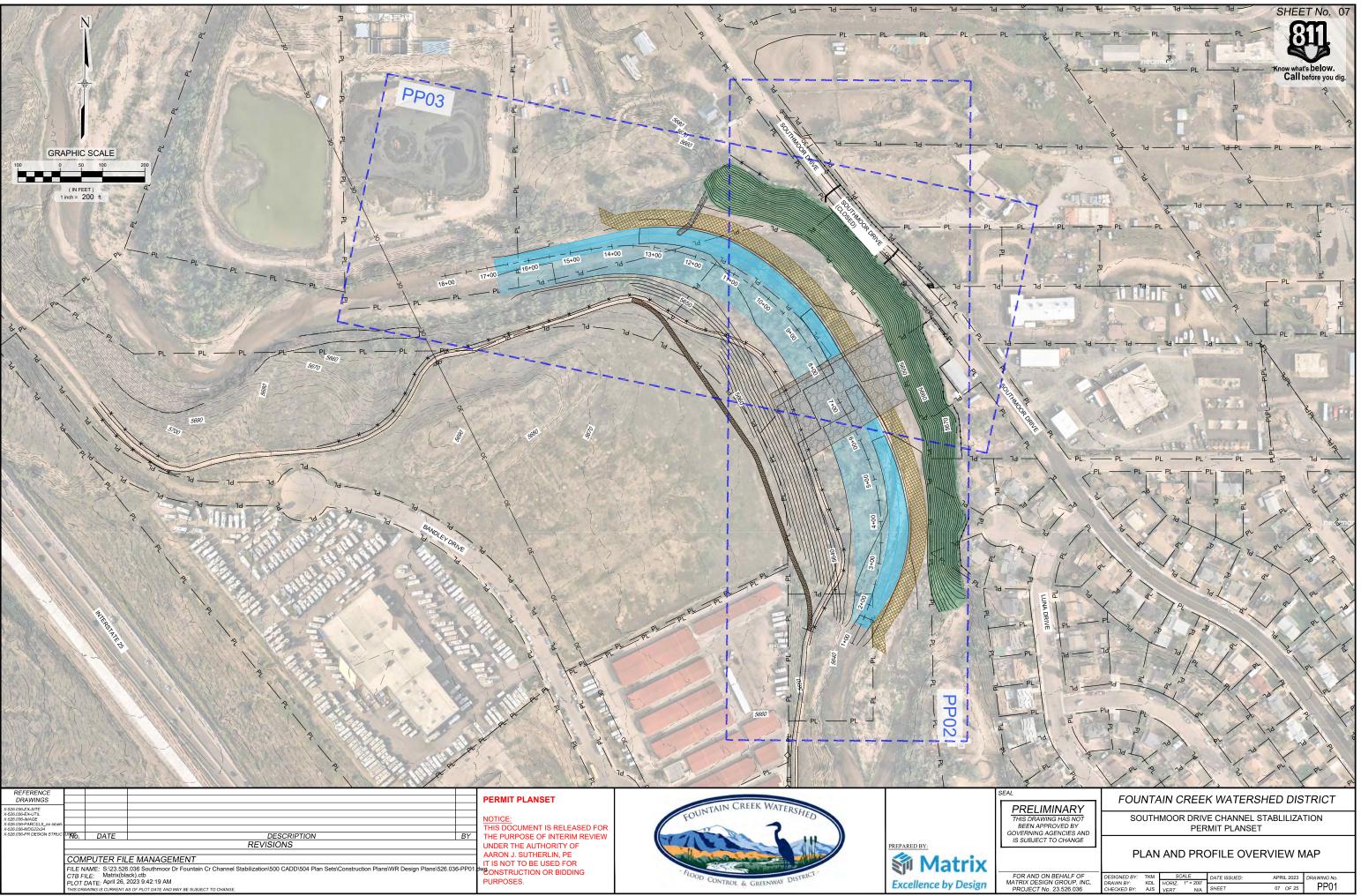
	POINT TABLE						
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION			
9000	1,329,491.45	3,218,319.13	5686.43	CP-SET-RBR			
9001	1,329,321.78	3,218,455.73	5685.44	CP-SET-MAG			
9002	1,329,138.68	3,218,604.28	5682.79	CP-SET-MAG			
9003	1,329,538.95	3,218,271.41	5686.40	CP-SET-MAG			
701765	1,329,191.96	3,217,927.60	5655.82	CP-DEVILS			

LINE TABLE: ALIGNMENTS					
LINE #	BEARING	LENGTH			
L1	N25.072977E	48.18			
L2	N28.484996W	199.07			
L3	S79.375106W	358.52			

CURVE TABLE: ALIGNMENTS									
CURVE #	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH	DELTA ANGLE				
C1	480.12	510.00	N1°50'40"W	462.58	53°56'20"				
C2	480.12	510.00	N1°50'40"W	462.58	53°56'20"				
C3	624.44	500.00	N64°35'29"W	584.64	71°33'19"				
C4	624.44	500.00	N64°35'29"W	584.64	71°33'19"				

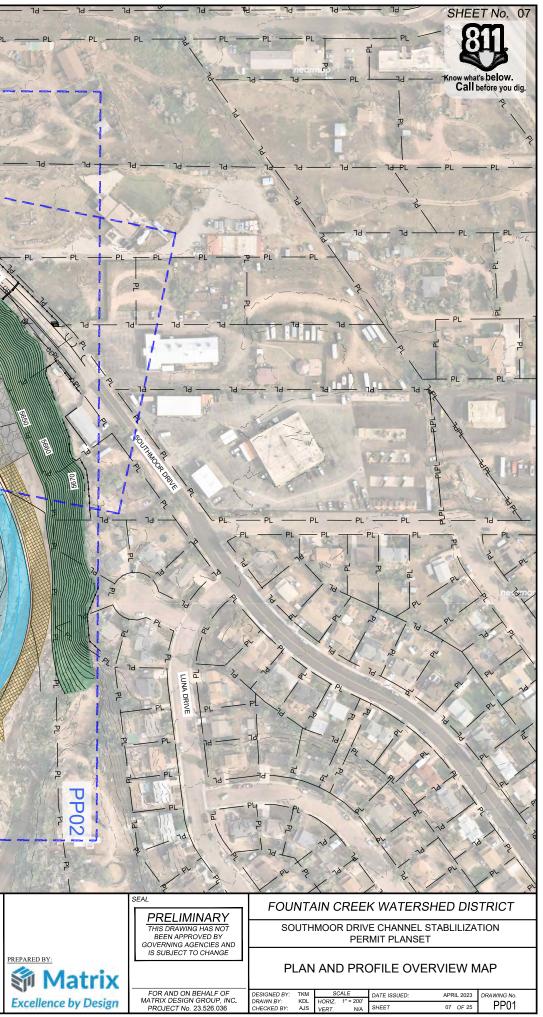
-	£						
	SEAL PRELIMINARY	FOUNTAIN CREEK WATERSHED DISTRICT					
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	IS SUBJECT TO CHANGE	HORIZONTAL CONTROL					
	FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 23.526.036	DESIGNED BY:TKMSCALEDATE ISSUED:APRIL 2023DRAWING No.DRAWN BY:KDLHORIZ.1" = 160"SHEET05 OF 25HC01CHECKED BY:AJSVERT.N/ASHEET05 OF 25HC01					

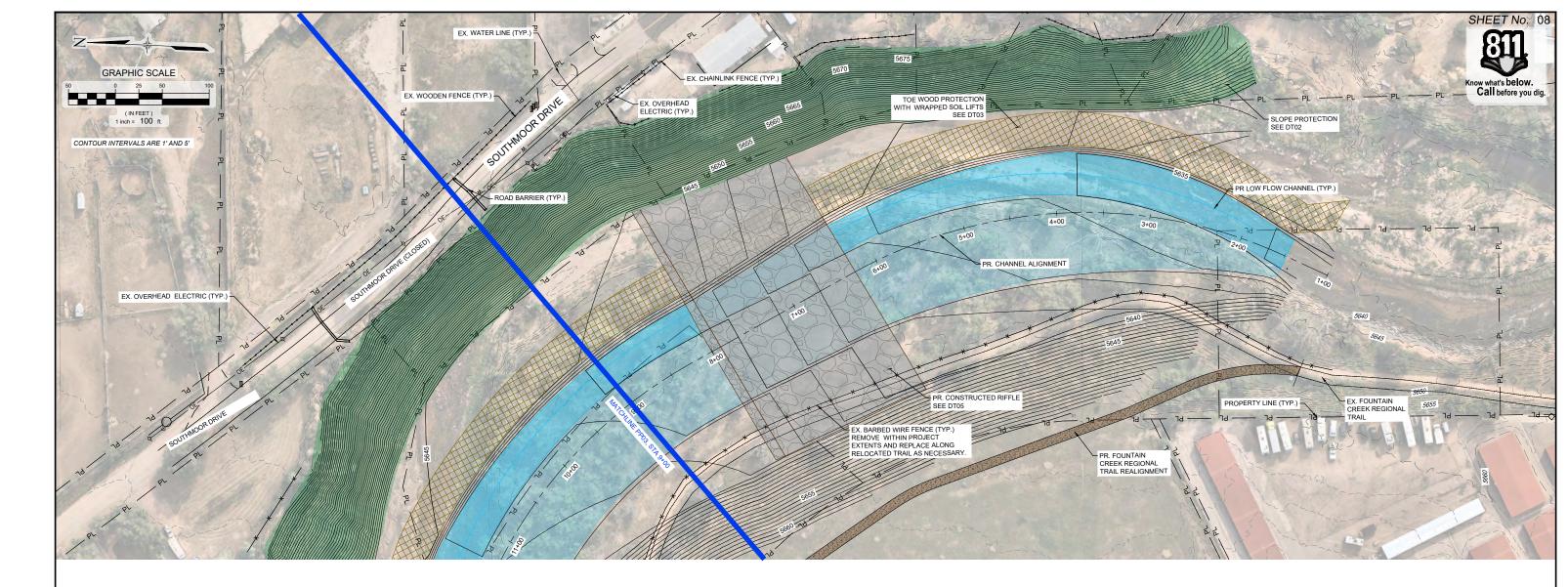


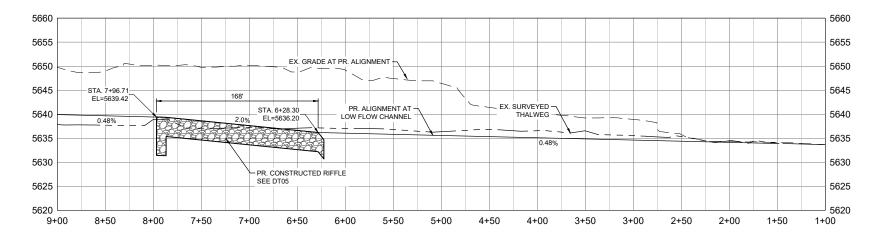


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5	April 26, 2023 9:42:19 AM
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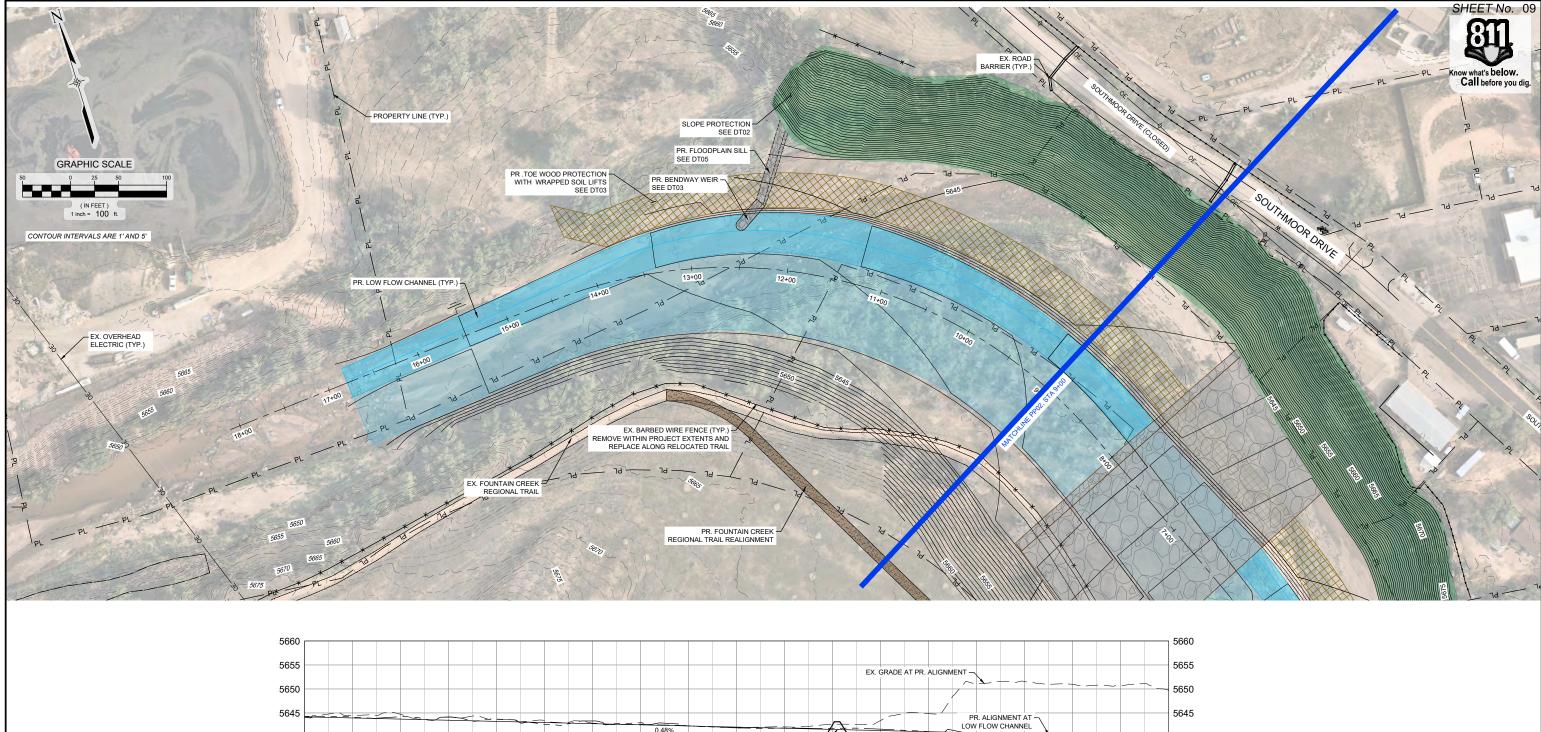


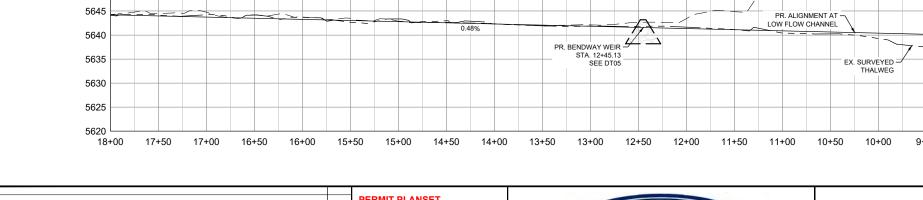


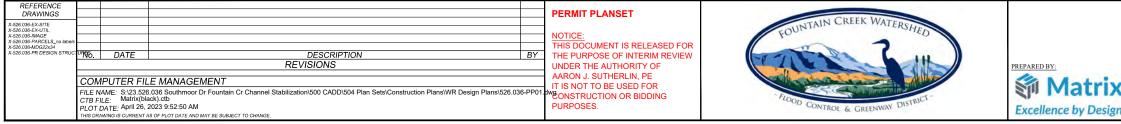


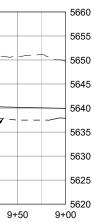
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	PLOT	DATE: April 26,	2023 9:50:32 AM As of PLOT DATE AND MAY BE SUBJECT TO CHANGE.		PURPOSES.	CONTROL & GREENWAY DIST.	Excellence by Design

	SEAL	FOUNTAIN CREEK WATERSHED DISTRICT							
	PRELIMINARY	TOONTAIN CREEK WATERSHED DISTRICT							
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	IS SUBJECT TO CHANGE	PLAN AND PROFILE STA 1+00 TO 9+00							
n	FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 23.526.036	DESIGNED BY: TKM SCALE DATE ISSUED: APRIL 2023 DRAWING NO. DRAWN BY: KDL HORIZ. 1*=100' CHECKED BY: AJS VERT. 1*=20' SHEET 08 OF 25 PP02							

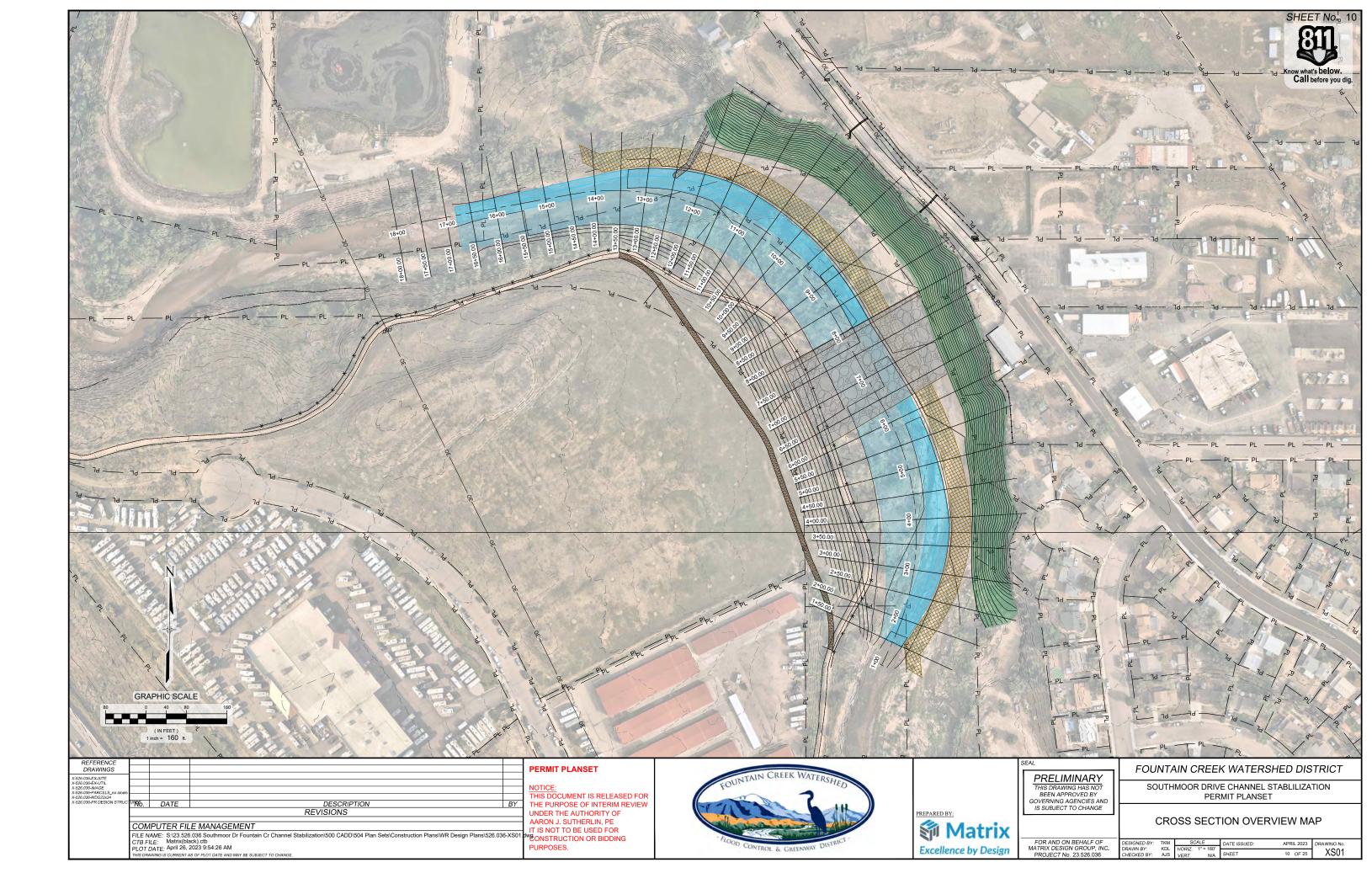


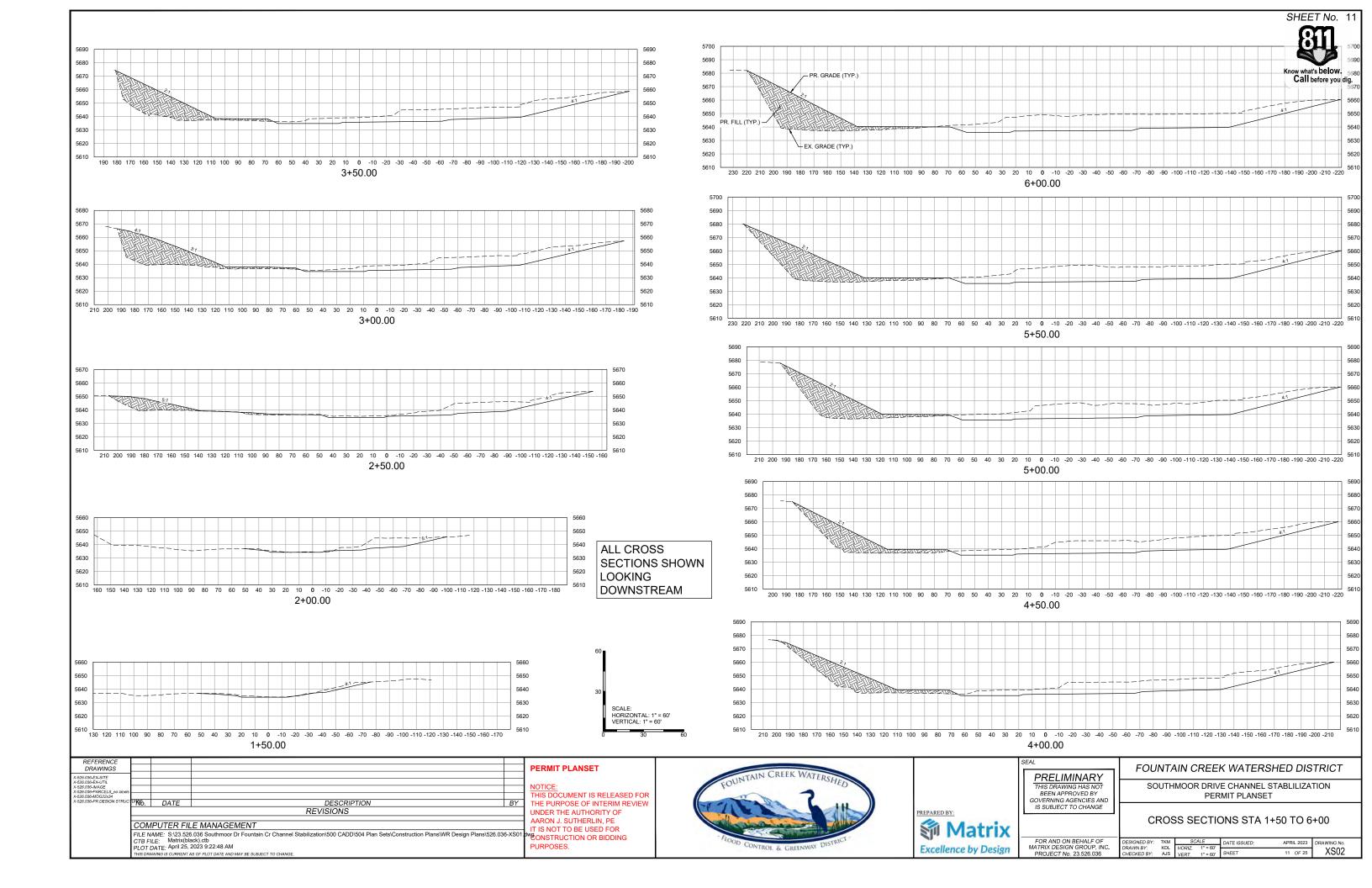


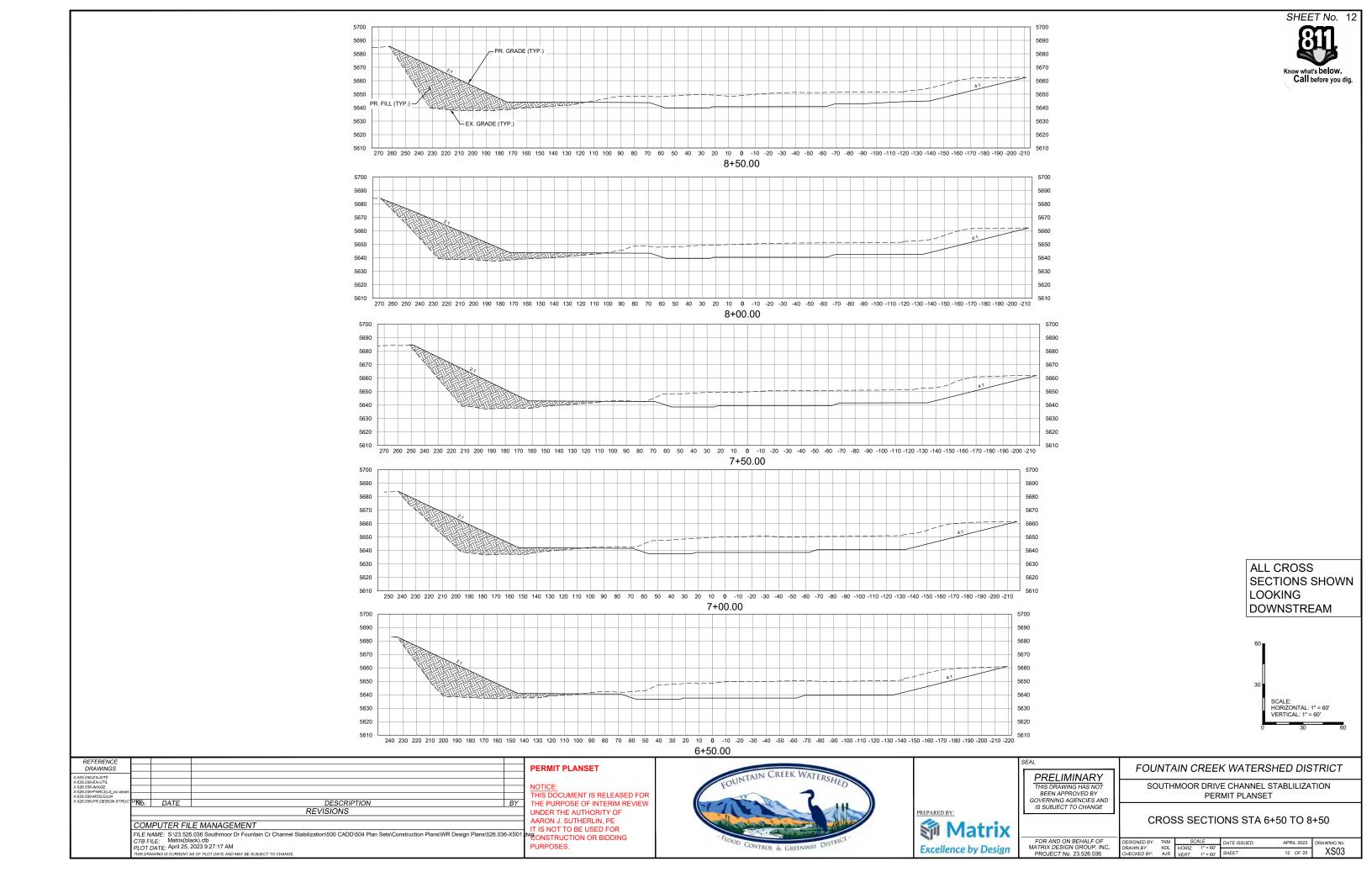


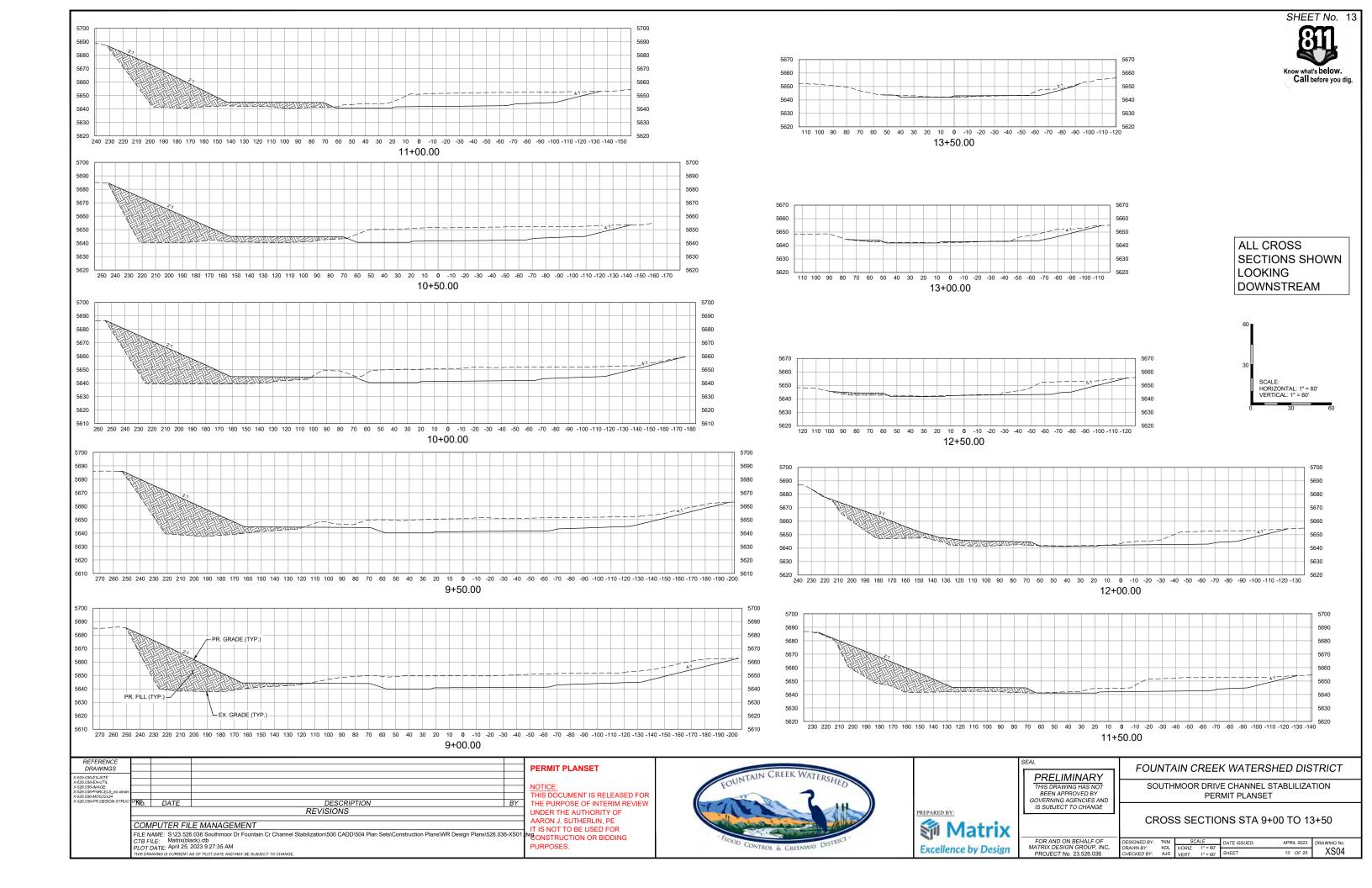


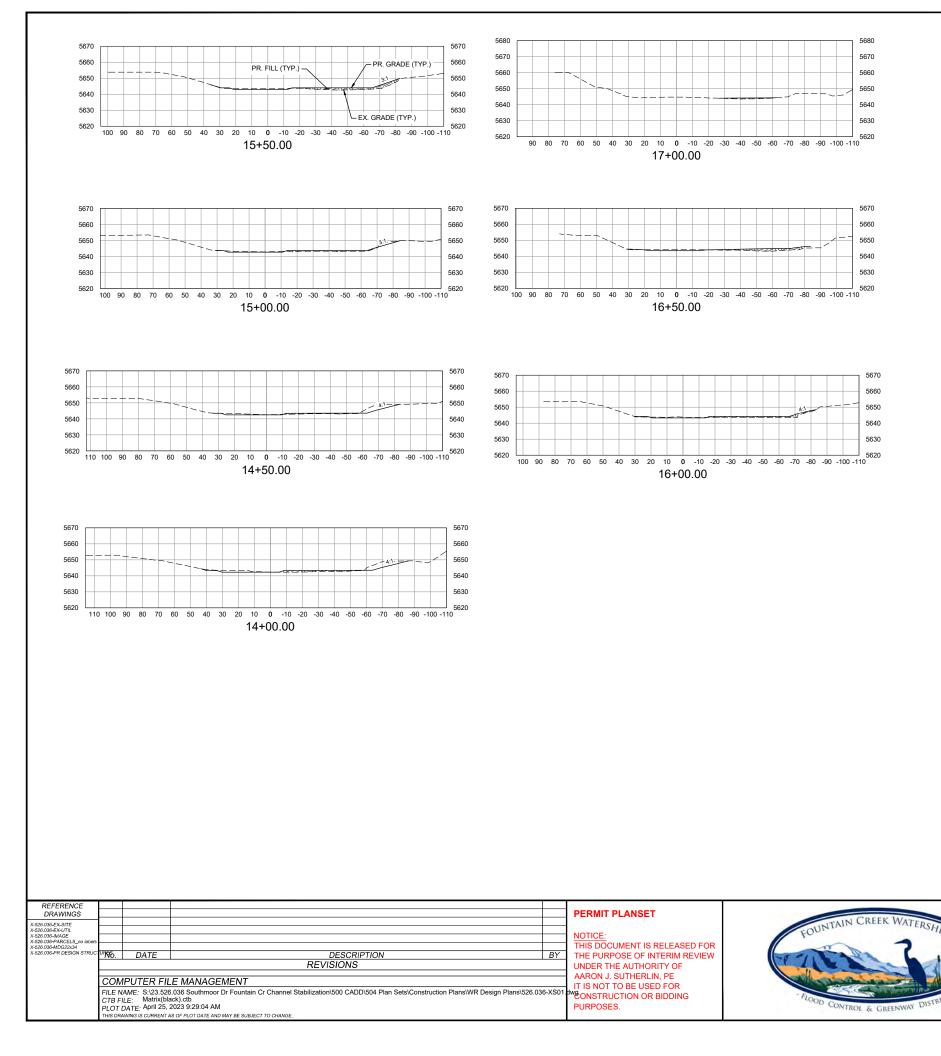
	SEAL	FOUNTAIN CREEK WATERSHED DISTRICT						
	PRELIMINARY	T CONTAIN CREEK WATERONED DIGTRICT						
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<	IS SUBJECT TO CHANGE	PLAN AND PROFILE STA 9+00 TO 18+00						
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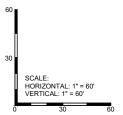




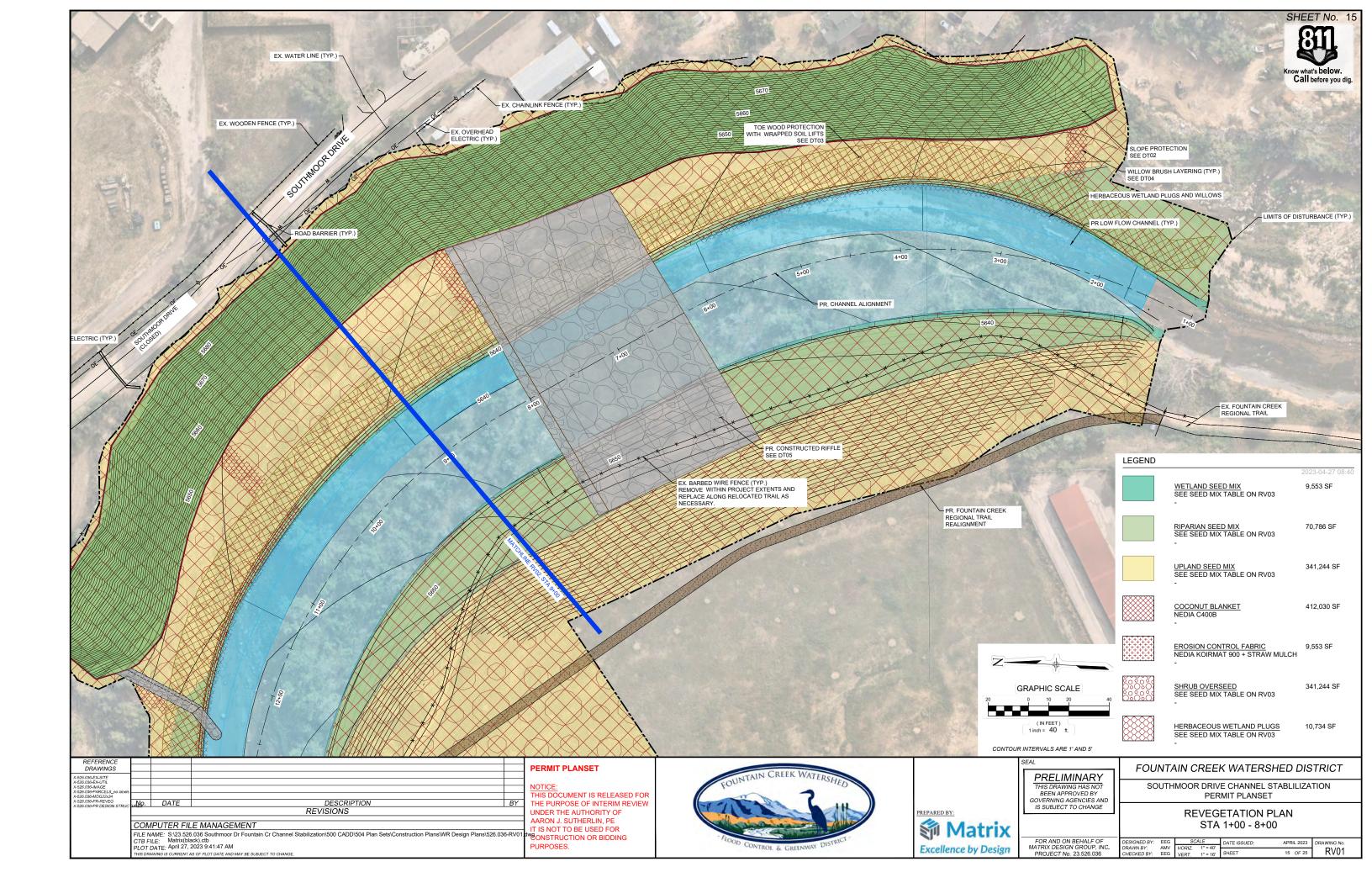
PREPARED BY: Matrix Excellence by Design

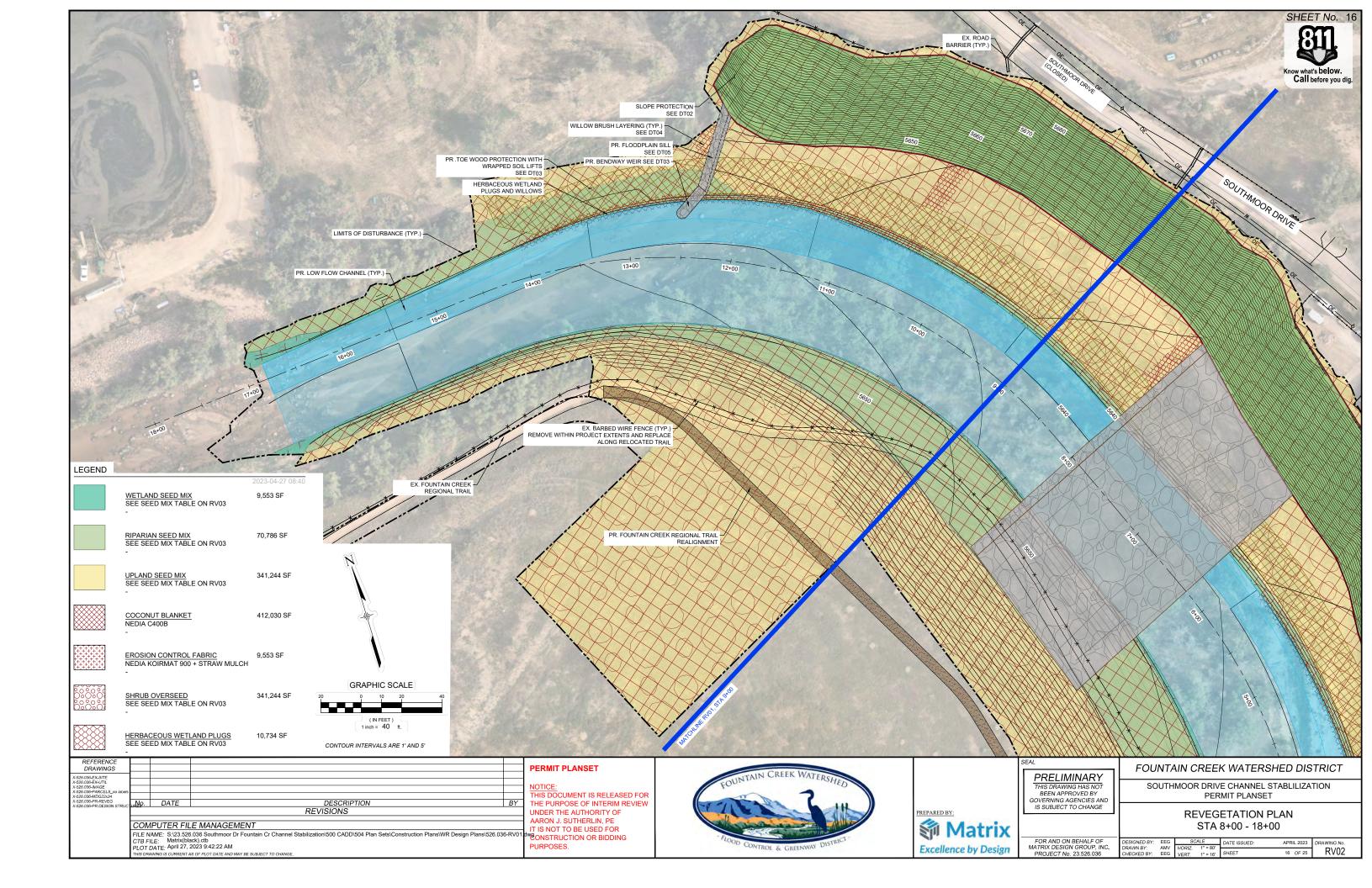


ALL CROSS SECTIONS SHOWN LOOKING DOWNSTREAM



	PRELIMINARY	FOUNT	AIN CREE	K WATERSI	HED DIS	TRICT				
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C	IS SUBJECT TO CHANGE	CRO	SS SECTIO	ON STA 14+(00 TO 17	7+00				
1	FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 23.526.036	DESIGNED BY: TKM DRAWN BY: KDL CHECKED BY: AJS	HORIZ. 1" = 60'	DATE ISSUED: SHEET	APRIL 2023 14 OF 25	drawing no. XS05				





Wetland Seed Mix					al: 9,553 S	3 SF	
		- · · ·				% of	
				% by	PLS/sq	PLS/sc	
Scientific Name	Variety	Common Name	PLS lbs/ac	Weight	ft	ft	
Graminoids							
Carex nebrascensis	vns.	nebraska sedge	0.70	2	9		
Distichlis spicata	vns.	inland saltgrass	1.50	5	18	1	
Eleocharis palustris	vns.	creeping spikerush	0.50	2	7		
Elymus canadensis	vns.	Canada wildrye	5.00	17	13		
Juncus balticus	vns.	baltic rush	0.07	0	18		
Panicum virgatum	vns.	switchgrass	2.00	7	18	1	
Pascopyrum smithii	Arriba	western wheatgrass	4.50	15	11		
Poa palustris	vns.	fowl bluegrass	0.20	1	14		
Schoenoplectus pungens	vns.	common threesquare	2.00	7	10		
Schoenoplectus tabernaemontani	vns.	softstem bulrush	1.20	4	15		
Sporobolus airoides	vns.	alkali sacaton	0.40	1	16		
		Graminoid Totals	18.07	62	149	8	
Forbs							
Asclepias incarnata	vns.	swamp milkweed	5.00	17	8		
Asclepias speciosa	vns.	showy milkweed	4.00	14	7		
Helianthus nuttallii	vns.	Nuttall's sunflower	2.00	7	10		
Solidago canadensis	vns.	Canada goldenrod	0.10	0	11		
		Forb Totals	11.10	38	35	1	
		Total	29.17	100	184	10	
*vns. = variety not specified							

Riparian Transition Seed Mix					l: 70,786	SF	
						% of	
				% by	PLS/sq	PLS/s	
Scientific Name	Variety	Common Name	PLS lbs/ac	Weight	ft	ft	
Graminoids							
Achnatherum hymenoides	vns.	Indian ricegrass	3.00	7	10		
Distichlis spicata	vns.	inland saltgrass	1.20	3	14		
Elymus canadensis	vns.	Canada wildrye	4.00	10	11		
Elymus trachycaulus ssp. trachycaulus	vns.	slender wheatgrass	3.00	7	11		
Juncus balticus	vns.	baltic rush	0.05	0	13		
Panicum obtusum	vns.	vine mesquite	2.50	6	8		
Panicum virgatum	vns.	switchgrass	2.00	5	18	1	
Pascopyrum smithii	Arriba	western wheatgrass	5.00	12	13		
Schizachyrium scoparium	vns.	little bluestem	2.50	6	15		
Sorghastrum nutans	vns.	yellow Indiangrass	2.50	6	10		
Sporobolus airoides	vns.	alkali sacaton	0.30	1	12		
Sporobolus cryptandrus	vns.	sand dropseed	0.10	0	12		
		Graminoid Totals	26.15	63	146	8	
Forbs							
Dalea purpurea var. purpurea	vns.	purple prairie clover	2.00	5	10		
Helianthus annuus	vns.	common sunflower	5.00	12	5		
Liatris punctata	vns.	dotted gayfeather	4.00	10	6		
Solidago canadensis	vns.	Canada goldenrod	0.06	0	6		
Vicia americana	vns.	American vetch	4.00	10	3		
		Forb Totals	15.06	37	30	1	
		Total	41.21	100	176	10	

	Upland Seed	Mix		Total	341,244	SF
		· · · · ·				
				% by	PLS/sq	PLS/se
Scientific Name	Variety	Common Name	PLS lbs/ac	Weight	ft	ft
Graminoids						
Achnatherum hymenoides	vns.	Indian ricegrass	3.50	10	11	
Andropogon hallii	vns.	sand bluestem	4.00	12	10	
Bouteloua curtipendula	Butte	sideoats grama	2.50	7	11	
Bouteloua gracilis	Hachita	blue grama	0.80	2	15	
Elymus trachycaulus ssp. trachycaulus	vns.	slender wheatgrass	3.00	9	11	
Koeleria macrantha	vns.	prairie junegrass	0.20	1	11	
Nassella viridula	vns.	green needlegrass	3.00	9	12	
Nassella viruda	vns.	green needlegrass	3.00	9	12	
Pascopyrum smithii	Arriba	western wheatgrass	5.00	15	13	
Pleuraphis jamesii	vns.	James' galleta	2.70	8	10	
Schizachyrium scoparium	vns.	little bluestem	2.50	7	15	
Sporobolus cryptandrus	vns.	sand dropseed	0.10	0	12	
		Graminoid Totals	30.30	90	143	8
Forbs						
Artemisia ludoviciana	vns.	Lousiana sagewort	1.00	2	7	
Dalea purpurea var. purpurea	vns.	purple prairie clover	0.07	0	7	
Gaillardia aristata	vns.	blanketflower	4.00	8	4	
Ratibida columnifera	vns.	upright prairie coneflower	1.20	2	7	
Sphaeralcea coccinea	vns.	scarlet globemallow	3.00	6	5	
		Forb Totals	9.27	19	30	1
		Total	39.57	109	173	10

	Shrub Overseed Mix				Total	SF	
						% of	
					% by	PLS/sq	PLS/sq
Scientific Name	Variety	Common Name		PLS lbs/ac	Weight	ft	ft
Shrubs							
Atriplex canescens	vns.	fourwing saltbush		3.00	25	3	14
Ericameria nauseosa	vns.	rubber rabbitbrush		0.50	4	5	22
Gutierrezia sarothrae	vns.	broom snakeweed		1.30	11	7	31
Krascheninnikovia lanata	vns.	winterfat		2.00	17	5	23
Rhus trilobata	vns.	skunkbush sumac		5.00	42	2	11
			Total	11.80	100	22	100

WETLAND AND RIPARIAN STABILIZATION PLUG MIX),734 SF
		Perce	ent		Spacing	
Scientific Name	Common Name	Mix		Size	(O.C)	QTY
Carex nebrascensis	Nebraska Sedge		20	10 CI	12"	249
Distichilis spicata	InlandSaltgrass		20	10 CI	12"	249
Juncus balticus	Baltic Rush		10	10 CI	12"	124
Panicum virgatum	Switchgrass		20	10 CI	24"	62
Schizachyrium scoparium	Little bluestem		10	10 CI	18"	5
Scirpus validus	Soft-stem bulrush		20	10 CI	18"	11
					Total	702

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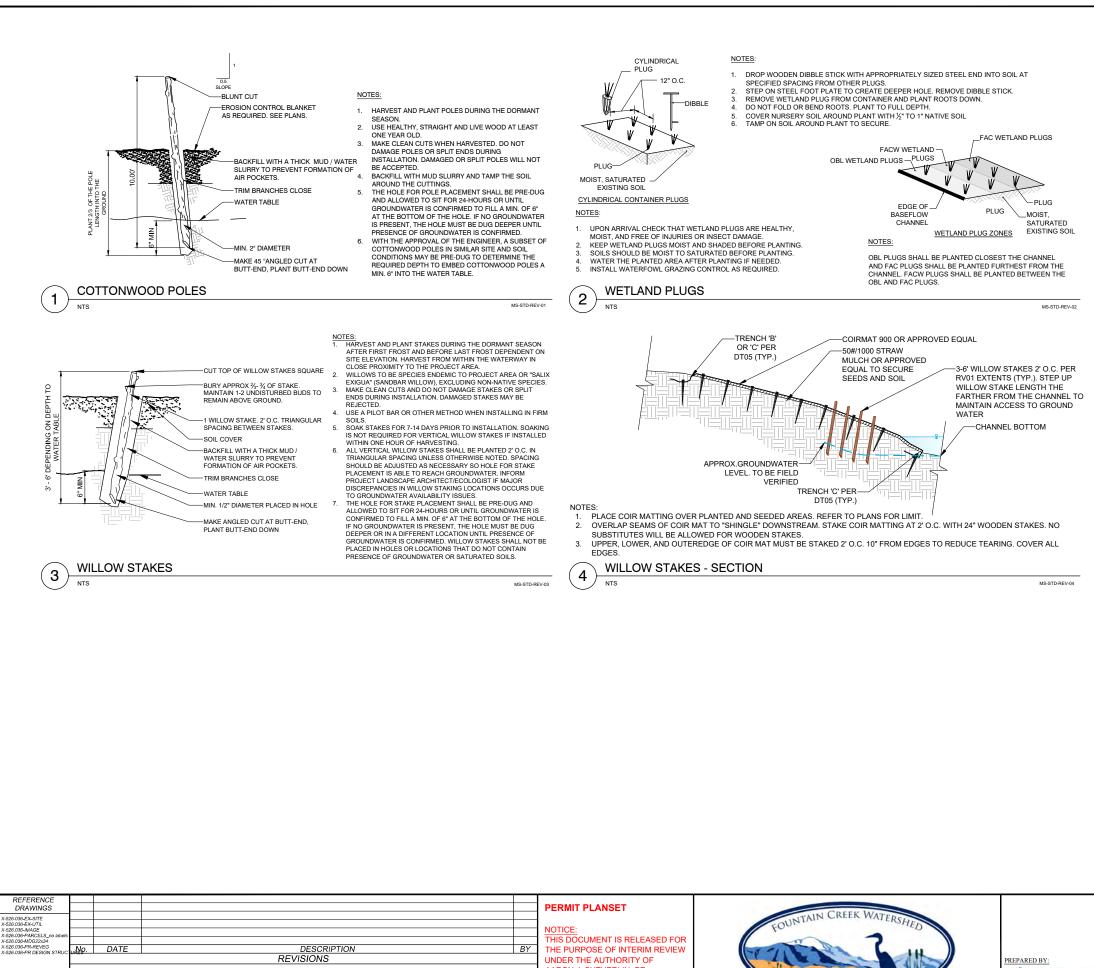
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	FOUNTAIN CREEK WATERSHED DISTRICT					
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IS SUBJECT TO CHANGE	REVEGETATION PLAN SCHEDULES					
FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 23.526.036	DESIGNED BY: EEG SCALE DATE ISSUED: APRIL 2023 DRAWING NO. HORIZ. 11 = 80' DRAWN BY: ANN HORIZ. 11 = 80' CHECKED BY: EEG VERT. 11 = 16' SHEET 17 OF 25 RV03					





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FOUNTAIN CREEK WATERSHED DISTRIC	т
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REVEGETATION PLAN DETAILS	
FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 23.526.036 CHECKED BY: EEG CHECKED	^{∋ №.} /04

REVEGETATION NOTES

GENERAL

- ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE FREE OF NOXIOUS SPECIES, UNDESIRABLE SPECIES AS DEFINED IN THE SEEDING SPECIFICATION, AND AGGRESSIVE NON-NATIVE SPECIES INCLUDING BUT NOT LIMITED TO CHEATGRASS, KOCHIA, SMOOTH BROME, AND RUSSIAN THISTLE
- 2. ALL MATERIALS SHALL BE FURNISHED IN ORIGINAL MANUFACTURER'S SHIPPING BAGS OR CONTAINERS AND REMAIN IN THESE BAGS OR CONTAINERS UNTIL THEY ARE USED. ALL MATERIALS SHALL BE STORED IN A MANNER THAT WILL PREVENT THEM FROM COMING INTO CONTACT WITH PRECIPITATION, SURFACE WATER, OR ANY OTHER CONTAMINATING SUBSTANCE. ANY MATERIALS THAT HAVE BECOME WET, MOLDY, OR OTHERWISE DAMAGED IN TRANSIT OR IN STORAGE SHALL NOT BE USED.
- AFTER ROUGH GRADING HAS BEEN COMPLETED, A MINIMUM OF THREE (3) COMPOSITE SOIL SAMPLES, ONE (1) FROM EACH OF THE SEED MIX AREA(S) 3. SUBSOILS AND ONE (1) FROM THE TOPSOIL STOCKPILE. SHALL BE COLLECTED FROM THE PROJECT AREA AND SUBMITTED FOR SOIL FERTILITY AND TEXTURE TESTING PRIOR TO APPLICATION OF SOIL CONDITIONER, SEEDING, OR PLANTING. EXACT LOCATIONS OF SAMPLES TO BE DETERMINED BY THE PROJECT ENGINEER. A RECOMMENDED SOIL CONDITIONING AMENDMENT AND APPLICATION RATE SHALL BE DETERMINED BASED ON THE SOIL TEST RESULTS. NO SOIL CONDITIONING, SEEDING, OR PLANTING SHALL OCCUR PRIOR TO SOIL TEST AND UNTIL A SOIL CONDITIONING AMENDMENT IS ACCEPTED

4. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED AND EROSION CONTROL APPLIED.

TOPSOIL

I TMECC

- 1. IF THE SOIL FERTILITY TESTING INDICATES NATIVE TOPSOIL MEETS THE MINIMUM SPECIFICATIONS, NATIVE MATERIAL MAY BE REUSED UNAMENDED AS DETERMINED BY THE PROJECT ENGINEER. IF SOIL FERTILITY TESTING INDICATES NATIVE TOPSOIL DOES NOT MEET MINIMUM SPECIFICATIONS, THE PROJECT ENGINEER SHALL CONFIRM THE REQUIRED APPLICATION RATE OF COMPOST AMENDMENT OR SOIL CONDITIONER PER THE CONSTRUCTION DOCUMENTS AS NECESSARY TO MEET THE MINIMUM SPECIFICATIONS.
- TOPSOIL SHALL BE PLACED TO A MINIMUM DEPTH OF SIX (6) INCHES ON ALL DISTURBED AREAS. WHERE SOIL AMENDMENT IS REQUIRED, IT SHALL BE 2. EVENLY DISTRIBUTED AND TILLED TO A DEPTH OF NINE (9) INCHES MINIMUM OR AS SPECIFIED BY THE PRODUCT MANUFACTURER INSTRUCTIONS. IF DEPTH IS NOT POSSIBLE, NOTIFY PROJECT ENGINEER IMMEDIATELY. RECOMMENDATIONS OR MODIFICATIONS TO DEPTH OF TOPSOIL SHALL BE DETERMINED BY THE PROJECT ENGINEER BASED ON THE SOIL TEST RESULTS. NO SOIL CONDITIONING, SEEDING, OR PLANTING SHALL OCCUR PRIOR TO SOIL TEST AND UNTIL TOPSOIL TESTING IS ACCEPTED.
- 3. WITHIN THE PROJECT AREA, ANY AREAS WITH ADEQUATE TOPSOIL SHALL BE SALVAGED AND STOCKPILED FOR REUSE.

SOIL AMENDMENT AND SITE PREPARATION

- FOR BIDDING PURPOSES, IT IS ASSUMED ALL SEEDING AREAS OUTSIDE OF 10 FEET FROM THE ACTIVE WATERWAY SHALL BE AMENDED WITH 2 CUBIC YARDS OF ORGANIC, WEED FREE, CLASS A COMPOST PER 1,000 S.F AND ALL SEEDING AREAS, INCLUDING ALONG THE ACTIVE WATERWAY, SHALL BE AMENDED WITH HUMATE SOIL CONDITIONER THAT SHALL BE APPLIED AT A RATE OF 250 POUNDS PER ACRE. HUMATE SOIL CONDITIONER WILL BE APPLIED AT A RATE OF 250 POUNDS PER ACRE AND SHALL BE TOPICALLY APPLIED OR AS SPECIFIED BY THE PRODUCT MANUFACTURER INSTRUCTIONS FINAL COMPOST AMENDMENT AND SOIL CONDITIONER APPLICATION RATES SHALL BE CONFIRMED BY THE PROJECT ENGINEER FROM THE RESULTS OF THE SOIL FERTILITY TESTS.
- 2. COMPOST: COMPOST SHALL BE CLASS A AS DEFINED BY CFR TITLE 40, PART 503 OR CLASS 1 AS DESCRIBED IN THE TABLE BELOW. THE AMOUNT OF COMPOST ADDED TO THE SOIL MAY VARY DEPENDING ON SOIL TEST RESULTS.

4

CHARACTERISTICS:

Compost Parameters	Reported As	Requirements	Test Method	
pН	pH units	6.0 - 8.4	TMECC 04.11-A	
Soluble Salts (Electrical Conductivity)	dS m ⁻¹ or mmhos cm ⁻¹	0-3 mmhos/cm	TMECC 04.11-A	
Moisture Content	%, wet weight basis	35 - 60%	TMECC 03.09-A	
Organic Matter Content	%, dry weight basis	30 - 70%	TMECC 05.07-A	
Particle Size (Sieve Sizes)	%, dry weight basis for each sieve fraction	<u>Passing</u> 1 inch - 100% 1/2 inch - 95%	TMECC 02.02-B	
Man-made Inert Contamination	%, dry weight basis	< 1%	TMECC 03.08-A	
Stability (Respirometry)	mg CO₂ - C per g TS per day mg CO₂ - C per g OM per day	8 or below	TM ECC 05.08-B	
Select Pathogens	(PASS/FAIL) Limits: Salmonella < 3 MPN/4grams of TS, or Coliform Bacteria <1000 MPN/gram	Pass	TMECC 07.01-B Fecal Coliforms, c 07.02 Samonella	
Trace Metals	(PASS/FAIL) Limits (mg kg ¹ dw basis): As 41, Cd 39, Cu 1500, Pb 300, Hg 17, Ni 420, Se 100, Zn 2800	Pass	TMECC 04.06	
Maturity (Bioassay) Percent Emergency Relative	%, (average)	> 80%	TMECC 05.05-A	
	%, (average)	> 80%		

HUMIC ACIDS >50% **ORGANIC MATTER >85%** 1%N, <0.1% AS P2O5, <0.10%K AS K2O PH 34 APPLICATION RATE IS ASSUMED TO BE 250 LBS/ACRE FOR BIDDING PURPOSES BUT IS DEPENDENT ON SOIL TEST RESULTS. HUMATE WORKS BEST WHEN MINIMUM DAILY SOIL TEMPERATURES REACH 55°F. HUMATE CONDITIONERS MUST BE THOROUGHLY MIXED INTO SOIL. CONTRACTOR SHALL SUBMIT A LAB TEST OF COMPOST SAMPLE TO BE USED FOR APPROVAL. LAB TEST OF COMPOST SHALL BE TAKEN FROM THE SAME SOURCE THAT IS TO BE USED ON THIS PROJECT. LAB TEST SHALL BE TAKEN A

HUMATE SOIL CONDITIONER, NATURAL MINERAL, CARBON, AND HUMIC ACID-BASED SOIL CONDITIONER SHOULD HAVE THE FOLLOWING

- MAXIMUM OF SIX (6) MONTHS PRIOR TO APPLICATION. THE COMPOST SHALL BE TESTED IN ACCORDANCE WITH THE U.S. COMPOSTING COUNCIL'S TEST METHODS FOR EXAMINING OF COMPOSTING AND COMPOST (TMECC) MANUAL ALL DISTURBED AREAS SHALL BE RIPPED TO A MINIMUM DEPTH OF NINE (9) 5
- INCHES, WITH NO MORE THAN A TEN (10) INCH INTERVAL BETWEEN FURROWS SLOPES FLATTER THAN 2:1 SHALL HAVE A WELL SETTLED SEEDBED EIGHT (8) INCHES DEEP. SLOPES 2:1 OR STEEPER SHALL BE LEFT IN A ROUGHENED CONDITION 6.
- SLOPES SHALL BE FREE OF SOIL CLODS, STICKS, STONES, AND DEBRIS IN EXCESS OF FOUR (4) INCHES IN ANY DIMENSION, AND BE BROUGHT TO THE DESIRED GRADE AND LINE. SOIL PREPARATION FOR SEEDING SHALL NOT OCCUR WHEN SOIL IS FROZEN OR IN AN EXTREME WET OR DRY CONDITION
- DRAGGING EXCAVATOR TEETH IS NOT AN ACCEPTABLE METHOD FOR RIPPING.

SEEDING

- CONTRACTOR IS RESPONSIBLE TO MEET THE SUCCESS RATE OF SEEDING ESTABLISHMENT AS DEFINED IN THE SPECIFICATIONS.
- SEED MIXES SHALL BE INSTALLED WITH A TWO FOOT OVERLAP BETWEEN SEED AREAS.
- 3. NATIVE SEEDING SHALL BE RESTRICTED TO BETWEEN SPRING THAW AND JUNE 1 AND BETWEEN OCTOBER 1 UNTIL CONSISTENT GROUND FREEZE AND SHALL NOT BE APPLIED DURING INCLEMENT WEATHER INCLUDING RAIN AND HIGH WINDS, OR WHEN SOIL MOISTURE IS TOO HIGH
- TO EVENLY DISTRIBUTE SEED. SEEDING SHALL BE ACCOMPLISHED WITHIN 24 HOURS OF PREPARING THE SEEDING SURFACE.
- DRILL SEEDING OR BROADCAST SEEDING SHALL BE USED FOR REVEGETATION. THE SIZE AND SLOPE OF THE DISTURBED AREA SHALL DETERMINE WHICH SEEDING METHOD(S) IS APPROPRIATE AND ACCEPTABLE. WHERE FEASIBLE, DRILL SEEDING IS THE REQUIRED METHOD. IF BROADCAST SEEDING IS EMPLOYED, EITHER BY HAND, SPREADER, OR OTHER APPROVED MEANS, THE SEEDING RATE (PLS LBS/ACRE) SHALL BE DOUBLED AS SHOWN ON THE DESIGN PLAN. HYDROMULCHING, HYDRAULIC SEEDING, AND STRAW MULCHING WILL NOT BE ACCEPTED UNLESS APPROVED BY THE PROJECT ENGINEER.
- FOR SLOPES EQUAL TO OR LESS THAN 3:1, SEED SHALL BE PLANTED USING A RANGELAND DRILL WITH A SMALL SEED/LEGUME BOX AND AN AGITATOR BOX FOR FLUFFY OR BULKY SEED. SEED ROWS SHALL BE SPACED SEVEN (7) TO TEN (10) INCHES APART, AND PLANTED ½ INCH TO % INCH DEEP. THE DRILL SHALL HAVE DOUBLE-DISK FURROW OPENERS WITH DEPTH BANDS AND PACKER WHEELS. SEEDING SHALL BE ACCOMPLISHED USING BI-DIRECTIONAL DRILLING AND WITH THE SECOND DIRECTION FOLLOWING THE SLOPE CONTOUR. THE DRILL EQUIPMENT SHALL BE CALIBRATED EACH DAY OR WHENEVER THERE IS A CHANGE IN THE SEED MIX TO ENSURE PROPER SEED DISTRIBUTION AND RATE
- 7. SEEDERS SHALL BE RAKED IN OR COVERED WITH SOIL TO A DEPTH OF AT LEAST 1/4 INCH. BROADCAST SEEDING SHALL PROCEED ON FRESHLY DISTURBED (RAKED OR HARROWED) SOIL SURFACE AND BROADCAST SEED SHALL BE IMMEDIATELY RAKED OR HARROWED INTO THE SURFACE. RAKING SHALL BE ACCOMPLISHED USING METAL-TINED GARDEN OR LANDSCAPE RAKES: NO PLASTIC LEAF RAKES SHALL BE ALLOWED. IF HARROWING IS USED, AN ENGLISH HARROW OR ITS EQUIVALENT SHALL BE REQUIRED. BROADCAST SEEDING SHALL BE AVOIDED WHEN WIND SPEED EXCEEDS 15 MILES-PER-HOUR
- FOLLOWING SEEDING, ALL SEEDED AREAS SHALL BE WATERED SUFFICIENTLY AS TO SATURATE THE SOILS.
- FOLLOWING SEEDING, HEAVY MACHINERY SHALL NOT BE DRIVEN ACROSS SEEDED AREAS TO AVOID RE-COMPACTION OF SOILS.
- 10 ACCESS ROUTES SHALL BE REVEGETATED AFTER CONSTRUCTION. SEED AND BLANKET ALONG ACCESS SHOULD MATCH HYDROLOGIC ZONES
- AS SHOWN IN REVEGETATION PLANS AND AS DIRECTED BY THE PROJECT ENGINEER. 11. CONTRACTOR SHALL BE REQUIRED TO SUBMIT SIGNED STATEMENTS OF GUARANTEE, SEED CERTIFICATIONS, AND SEED LOT ANALYSIS FROM VENDORS WHO SUPPLY SEED AND SOIL CONDITIONER. SEED CERTIFICATION SHOULD PROVIDE INFORMATION THAT THE SEED FURNISHED IS FROM A LOT THAT HAS BEEN TESTED BY A RECOGNIZED LABORATORY FOR SEED TESTING WITHIN TWELVE (12) MONTHS PRIOR TO THE DATE OF SEEDING
- 12 ALL SEED SHALL BE FURNISHED IN BAGS OR CONTAINERS CLEARLY AND PROPERLY LABELED TO SHOW THE NAME AND ADDRESS OF THE SUPPLIER, THE SEED NAME, THE LOT NUMBER, NET WEIGHT, ORIGIN, THE PERCENT OF WEED SEED CONTENT, THE GUARANTEED PERCENTAGE OF PURITY AND GERMINATION, POUNDS OF PURE LIVE SEED (PLS) OF EACH SEED SPECIES, AND THE TOTAL POUNDS OF PLS IN THE CONTAINER. ALL SEED SHALL BE GUARANTEED FOR PURITY AND GERMINATION, FREE OF NOXIOUS WEED SEED AND SUPPLIED ON A PURE LIVE SEED (PLS) BASIS.
- ANY SUBSTITUTIONS OF SEED SPECIES MUST BE APPROVED BY THE PROJECT ENGINEER PRIOR TO DELIVERY OF SEED TO CONSTRUCTION 13.
- 14 SEEDING OR PLANTING SHALL NOT OCCUR WHEN THE GROUND IS MUDDY, FROZEN, WHEN FREEZING TEMPERATURES ARE FORECASTED WITHIN 24 HOURS, OR WHEN CONDITIONS ARE OTHERWISE UNSUITABLE.

WILLOW STAKING

- ELEVATIONS ARE CRITICAL FOR PLANT SUCCESS.
- WILLOW STAKES SHALL BE HARVESTED FROM APPROPRIATE LOCATIONS AS DESCRIBED IN THE SPECIFICATIONS IN AREAS WITHIN 1,000 VERTICAL FEET OF ELEVATION AND OF SIMILAR HYDROLOGY TO THOSE EXISTING AT THE PLANTING SITE. IF A SUFFICIENT NUMBER OF WILLOW CUTTINGS ARE NOT AVAILABLE AT OR NEAR THE PLANTING SITE. THE CONTRACTOR WILL COLLECT THE REQUIRED WILLOW CUTTINGS AT AN ACCEPTABLE SITE WITH APPROVAL OF THE PROPERTY OWNER (AS APPLICABLE) AND TRANSPORT THEM TO THE PLANTING SITE.
 - a. WILLOW COLLECTION SITES SHALL BE A MINIMUM OF ONE-QUARTER ACRE IN SIZE, WITH MATURE WILLOW STANDS, NO MORE THAN TWENTY (20) PERCENT OF MIDDLE AGE PLANT MATERIAL SHALL BE TAKEN FROM THE SITE UNLESS THE PLANT WILL BE REMOVED OR WHERE HARVESTING WILL OCCUR, AND WILL SPECIFY IF IT IS BENEFICIAL TO TAKE MORE THAN TWENTY (20) PERCENT OF THE PLANT MATERIAI
 - b. CUTTINGS SHALL BE MAINTAINED IN A SHADED, MOIST, AND COOL CONDITION FROM THE TIME OF HARVEST THROUGH THE TIME OF INSTALLATION, INCLUDING DURING TRANSPORTATION AND UPON DELIVERY TO THE SITE. THE CUTTINGS WILL BE KEPT WET UNTIL PLACED INTO THE GROUND AND WILL NOT BE ALLOWED OUT OF WATER FOR MORE THAN TEN MINUTES DURING PLANTING.

EROSION CONTROL

- ALL EROSION CONTROL FABRIC, BLANKET, OR MATTING SHALL BE INSTALLED PERPENDICULAR TO THE CHANNEL UNLESS OTHERWISE APPROVED BY THE PROJECCCT ENGINEER
- CONTRACTOR SHALL SUBMIT SAMPLES OF THE EROSION CONTROL FABRIC, BLANKET, AND/OR MATTING, GROUND ANCHORING DEVICES, AND METHOD OF ANCHORING PRIOR TO INSTALLATION FOR APPROVAL

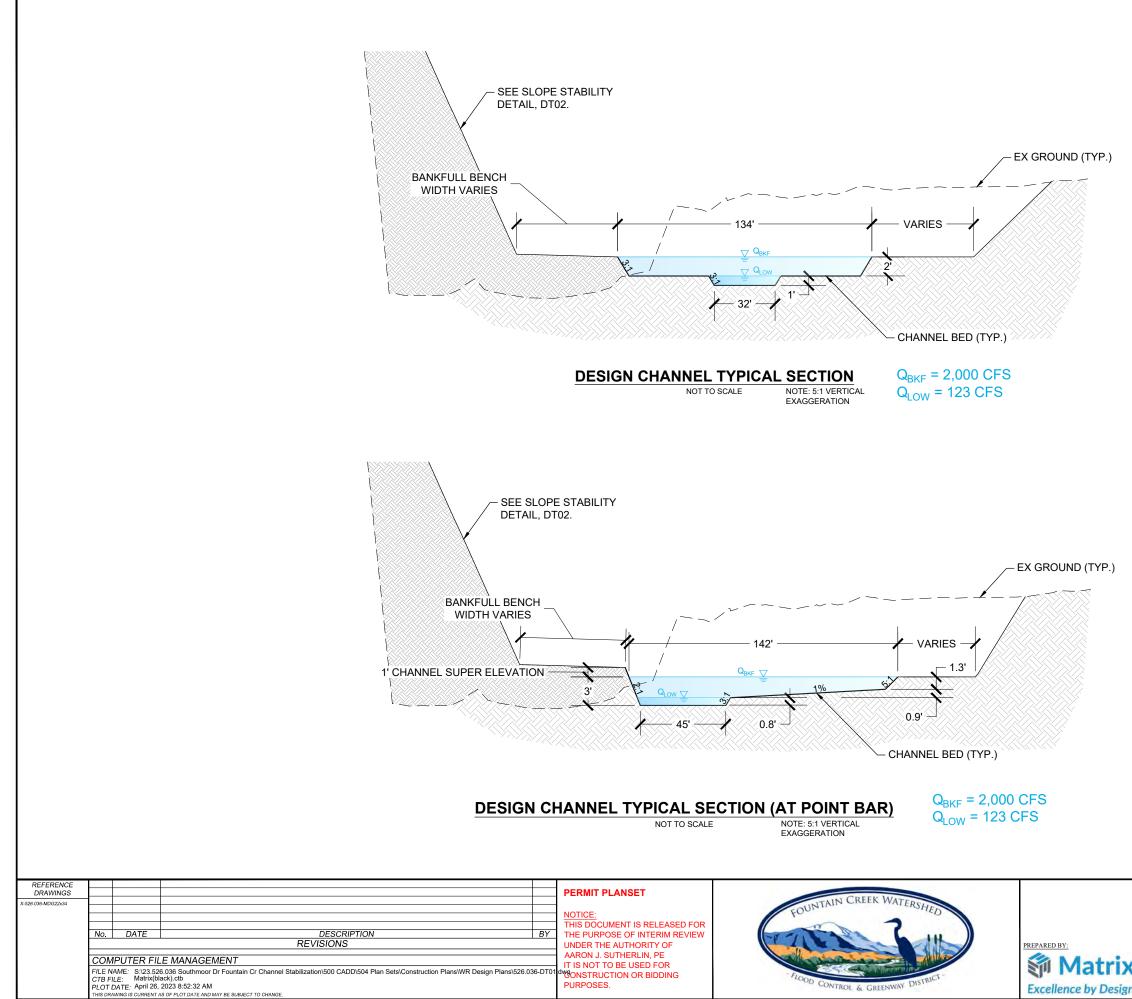
REFERENCE DRAWINGS		PERMIT PLANSET	IN CREEK WAR	SE.	EAL	FOUNTAIN CREEK WATERSHED DISTRICT
X-526.036-EX-SITE X-526.036-EX-UTIL X-526.036-IMAGE X-526.036-PARCELS_no labels X-526.036-MDG22x34 X-526.036-PR-REVEG		NOTICE: THIS DOCUMENT IS RELEASED FOR	FOUNTAIN CREEK WATERSHED		PRELIMINARY THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND	SOUTHMOOR DRIVE CHANNEL STABLILIZATION PERMIT PLANSET
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FOR SLOPES GREATER THAN 3:1, SEED SHALL BE BROADCAST BY HAND OR MECHANICAL SPREADER. ALL SEED SOWN BY BROADCAST-TYPE

LIMITS FOR WILLOW STAKING SHALL BE LOCATED AND APPROVED BY THE PROJECT ENGINEER PRIOR TO INSTALLATION AS LOCATIONS AND

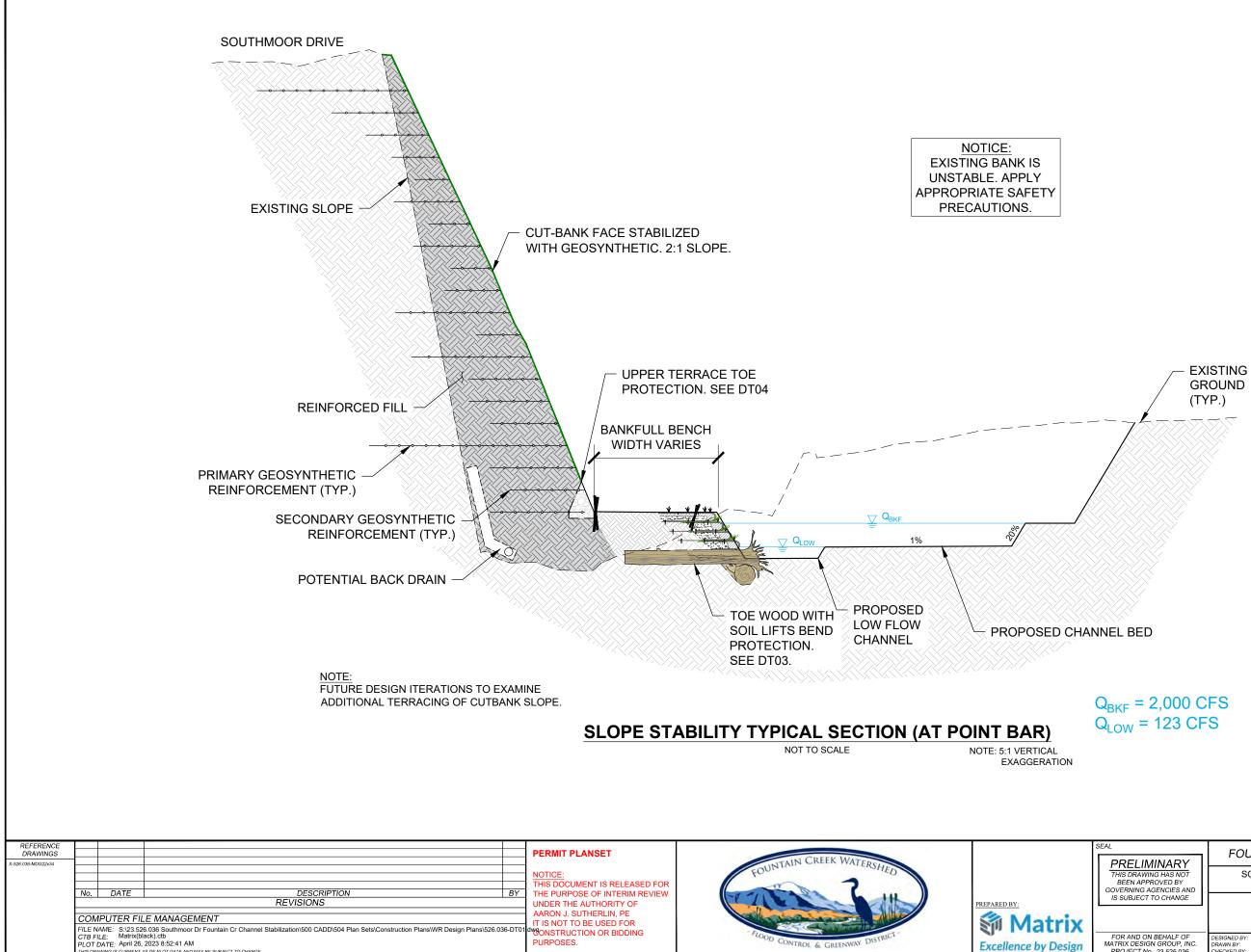
TRANSPLANTED DURING EXCAVATION AND GRADING. WRITTEN CONSENT FROM THE PROPERTY OWNER MUST BE RECEIVED IN AREAS







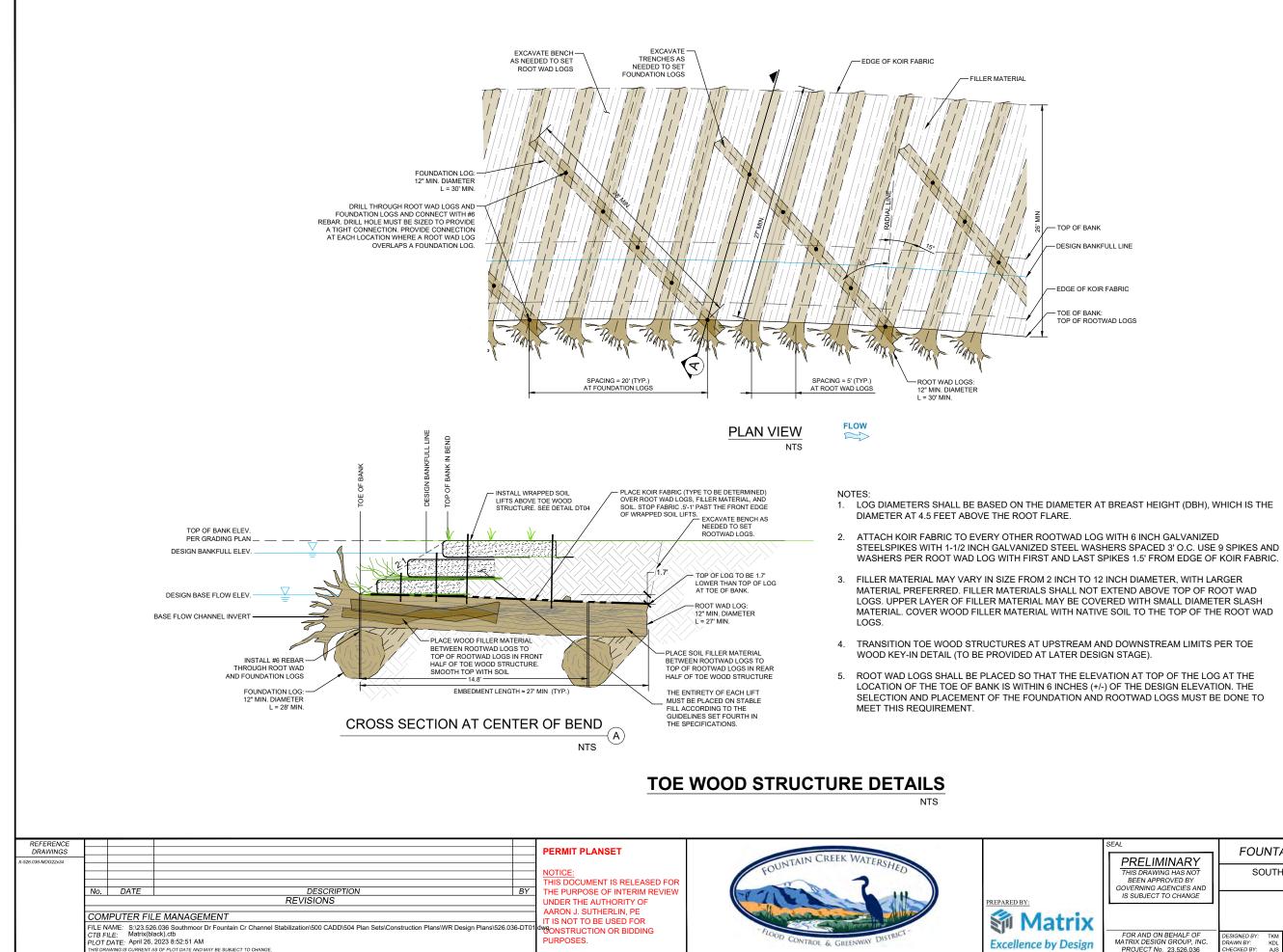
FOUNTAIN CREEK WATERSHED DISTRICT				
SOUTHMOOR DRIVE CHANNEL STABLILIZATION PERMIT PLANSET				
TYPICAL CROSS SECTIONS				
DESIGNED BY: TKM SCALE DATE ISSUED: APRIL 2023 DRAWING NO. DRAWN BY: KDL HORIZ. NAA CHECKED BY: ALS VERT. NIA SHEET 20 OF 25 DT01				



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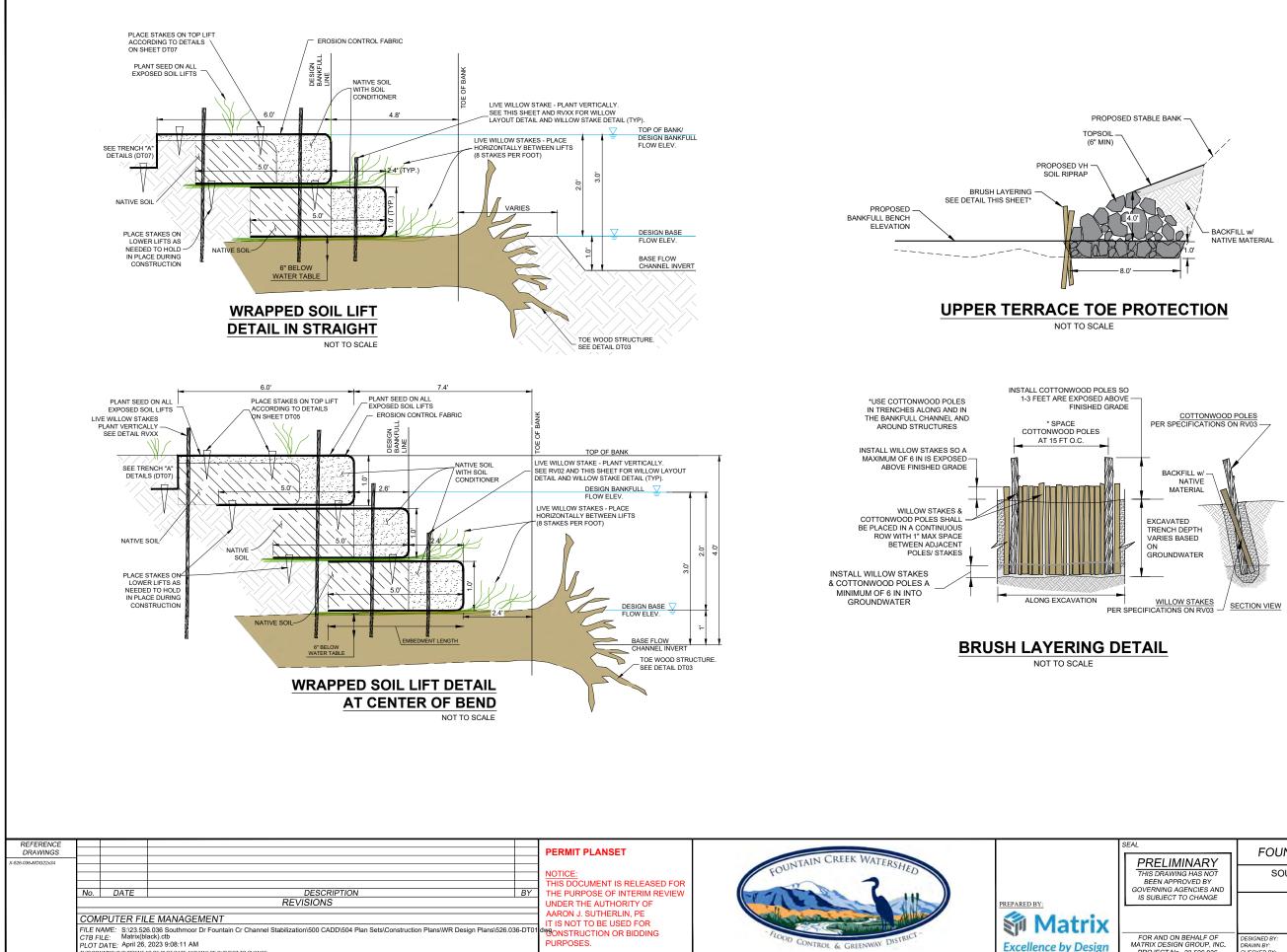


	PRELIMINARY	FOUNTAIN CREEK WATERSHED DISTRICT				
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	IS SUBJECT TO CHANGE	SLOPE STABILITY DETAIL				
5	FOR AND ON BEHALF OF	DESIGNED BY: TKM SCALE DATE ISSUED: APRIL 2023 DRAWING No.				
n	MATRIX DESIGN GROUP, INC. PROJECT No. 23.526.036	DRAWN BY: KDL HORIZ. N/A CHECKED BY: AJS VERT. N/A SHEET 21 OF 25 DT02				





	PRELIMINARY	FOUNTAIN CREEK WATERSHED DISTRICT					
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	IS SUBJECT TO CHANGE	DETAIL SHEETS				
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n	FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 23.526.036	DESIGNED BY: TKM <u>SCALE</u> DATE ISSUED: APRIL 2023 DRAWING NO. DRAWN BY: KDL HORIZ. NA CHECKED BY: AJS VERT. NIA SHEET 23 OF 25 DT04				

