

FISHERS CANYON CREEK

CHANNEL IMPROVEMENT PLANS

A PORTION OF THE WESTERN ONE-HALF (W. $\frac{1}{2}$) OF SECTION 4, TOWNSHIP 15 SOUTH, RANGE 66 WEST OF THE 6TH P.M.
COUNTY OF EL PASO, STATE OF COLORADO

PROJECT DESCRIPTION:

FISHERS CANYON APARTMENTS IS A MULTI-FAMILY RESIDENTIAL DEVELOPMENT THAT PROPOSES 336 DWELLING UNITS ALONG THE FISHERS CANYON CREEK CORRIDOR. THE PROJECT EMBRACES FISHERS CANYON CREEK TRIBUTARY TO THE WEST AND FISHERS CANYON CREEK TO THE NORTH WITH CREEK IMPROVEMENTS.

FLOODPLAIN

A PORTION OF THIS PROPERTY IS LOCATED WITHIN ZONE AE PER FEMA FLOOD INSURANCE RATE MAP NUMBER 08041C0743G, DATED 12/07/2018.

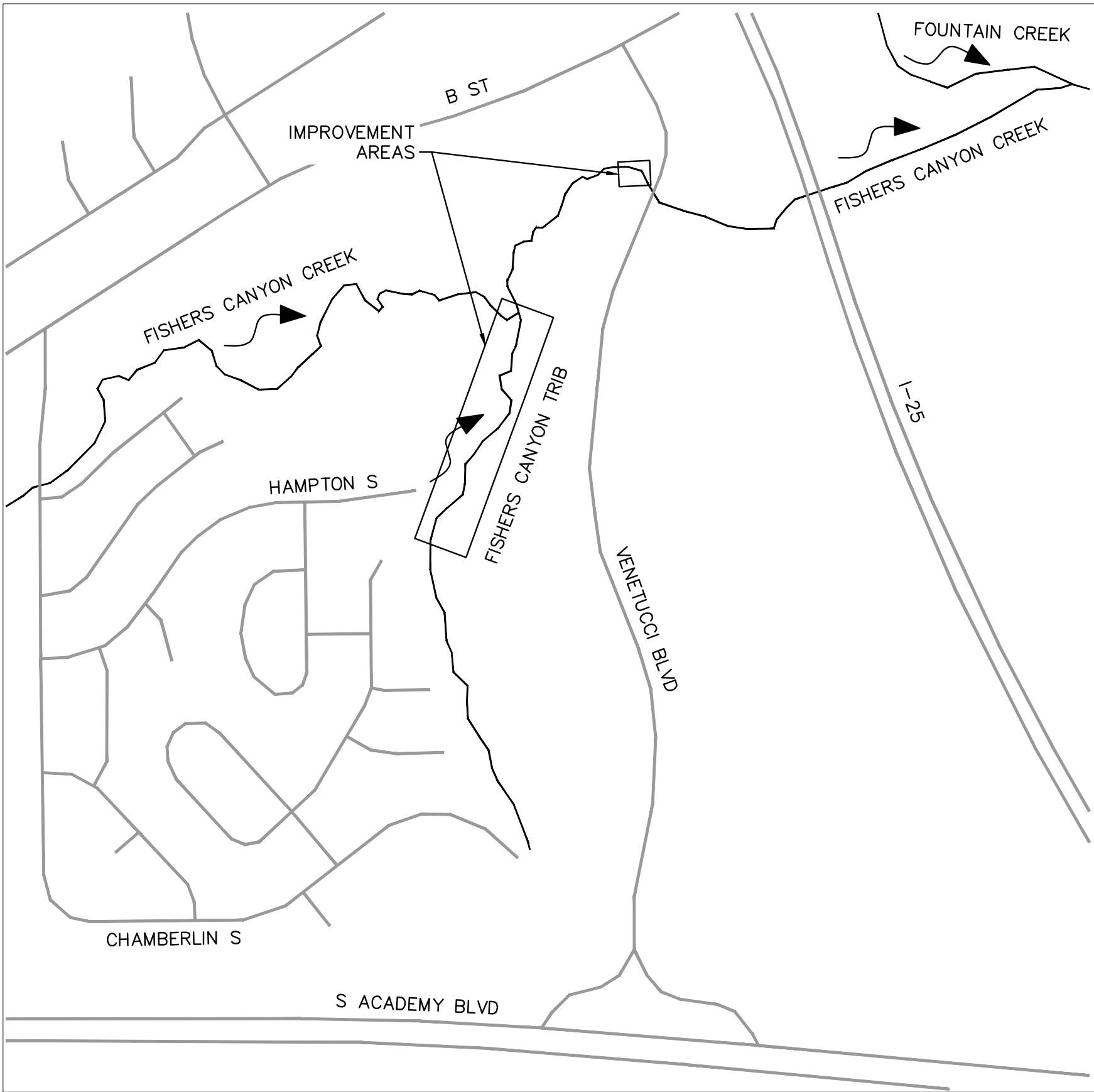
BASIS OF BEARING:

COMMENCING AT THE NORTHWESTERLY CORNER OF SOUTH ACADEMY HIGHLANDS FILING NO. 4 RECORDED UNDER RECEPTION NO. 222714970, EL PASO COUNTY, COLORADO; THENCE N 53° 59' 29" E, ALONG THE NORTHERLY LINE OF SAID SOUTH ACADEMY HIGHLANDS FILING NO. 4 (BASIS OF BEARING), A DISTANCE OF 226.24 FEET TO THE POINT OF BEGINNING.

BASIS OF ELEVATIONS: ELEVATIONS ARE BASED UPON COLORADO SPRINGS UTILITIES MONUMENT F159, A 3-1/4" ALUMINUM CAP IN RANGE BOX. (ELEVATION=5797.28 NAVD 88)

BENCHMARK

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C992	GEC DETAILS
C993	GEC DETAILS



VICINITY MAP
1" = 500'

DESIGN TEAM CONTACTS:

DEVELOPER/OWNER:
CS 2005 INVESTMENT, LLC
1480 HUMBOLDT STREET
DENVER, CO 80218
TEL: (303) 503-1016
CONTACT: CHAD ELLINGTON

ENGINEER:
KIMLEY-HORN AND ASSOCIATES, INC.
6200 SYRACUSE WAY, SUITE 300
GREENWOOD VILLAGE, CO 80111
TEL: (303) 228-2300
EMAIL: FRANS.LAMBRECHSTEN@KIMLEY-HORN.COM
CONTACT: FRANS LAMBRECHSTEN, PE, CFM

SURVEYOR:
BARRON LAND
2790 NORTH ACADEMY BOULEVARD, SUITE 311
COLORADO SPRINGS, CO 80917
TEL: (719) 360-6827
EMAIL: CONTACT@BARRONLAND.COM
CONTACT: SPENCER BARRON

AGENCY CONTACTS:

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TEL: (719) 520-7877
EMAIL: JEFFRICE@ELPASOCO.COM
CONTACT: JEFFREY RICE, PE, CFM

COLORADO SPRINGS UTILITIES:
1521 HANCOCK EXPRESSWAY
MAIL CODE 1812
COLORADO SPRINGS, CO 80903
PHONE: 719.668.8769

STRATMOOR HILLS WATER & SANITATION:
1811 B STREET
COLORADO SPRINGS, CO 80906
PHONE: 719.576.0311

DEVELOPER'S/OWNER'S SIGNATURE BLOCK

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

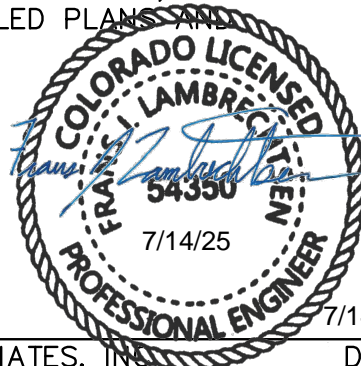
Chad Ellington
OWNER SIGNATURE

June 20, 2025
DATE

ENGINEER'S SIGNATURE BLOCK

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.

Frans Lambrechtsten
FRANS LAMBRECHTSEN, PE - KIMLEY-HORN AND ASSOCIATES, INC.



7/14/25
DATE

EL PASO COUNTY

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT. FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL, AS AMENDED.

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

COUNTY ENGINEER/ECM ADMINISTRATOR

DATE

CITY OF FOUNTAIN

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

CITY ENGINEER

DATE



EL PASO COUNTY PCO
FILE NO.: CDR246.

Kimley»Horn

2025 KIMLEY-HORN AND ASSOCIATES, INC.
2 North Nevada Avenue, Suite 900
Colorado Springs, Colorado 80903 (719) 453-0180

DESIGNED BY: DCM
DRAWN BY: LWM
CHECKED BY: DCM
DATE: 6/26/2025

FISHERS CANYON CREEK
CHANNEL IMPROVEMENT PLANS
EL PASO COUNTY, COLORADO
COVER

PRELIMINARY
FOR REVIEW ONLY
NOT FOR
CONSTRUCTION
Kimley»Horn
Kimley-Horn and Associates, Inc.

PROJECT NO.
196825001

SHEET
C970

REVISION

BY

DATE

APPR.

NO.

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 EARTHWORK. 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 AFFECTED AGENCY OR UTILITY.

2. 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.

3. OVERHEAD UTILITIES ARE NOT INDICATED ON PROFILE OR SECTION DRAWINGS.

4. 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 WITH NEEDED REPAIRS PER THE APPROPRIATE SPECIFICATIONS ACCORDING TO THE OWNER'S DIRECTION.

5. THE CONTRACTOR SHALL CONFIRM THE RECEIPT OF ALL NECESSARY PERMITS AND APPROVALS BEFORE THE START OF CONSTRUCTION.

6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS OF EL PASO COUNTY AND THE MILE HIGH FLOOD DISTRICT, AS NOTED, UNLESS SPECIFICALLY DETAILED OTHERWISE ON THESE PLANS AND ASSOCIATED SPECIFICATIONS.

7. THE CONTRACTOR SHALL MAINTAIN AT THE SITE AT ALL TIMES ONE SIGNED COPY OF THE PROJECT DRAWINGS AND SPECIFICATIONS, ONE COPY OF THE STORMWATER MANAGEMENT PLAN AND ONE COPY OF ALL REQUIRED PERMITS.
8. 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. DESIGNATED ACCESS SHALL BE MINIMAL AND AGREED UPON WITH THE ENGINEER PRIOR TO CONSTRUCTION ACTIVITIES.

9. FOR ALL SITE GRADING, SMOOTH, PARABOLIC TRANSITIONS SHALL BE MADE BETWEEN CHANGES IN SLOPE.

10. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING STABLE EXCAVATIONS AND TEMPORARY SLOPES AND FOR SATISFYING ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS. THIS INCLUDES BUT IS NOT LIMITED TO BENCHING, SHORING, AND SLOPING AS NEEDED FOR CONSTRUCTION.

11. CONSTRUCTION OF THE PROPOSED WORK WILL TAKE PLACE WITHIN THE CHANNEL AND WATER CONTROL MEASURES WILL BE REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCEPTANCE AND CONTROL OF DRAINAGE WATER FROM AREAS ADJACENT TO FISHERS CANYON CREEK AND FOR FLOW WITHIN FISHERS CANYON CREEK AND ITS TRIBUTARIES INCLUDING STORMWATER OUTFALLS. 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.

12. THE CONTRACTOR SHALL PREPARE AND MAINTAIN 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. ADDITIONAL INFORMATION IS PROVIDED ON THE GRADING AND EROSION CONTROL PLANS.

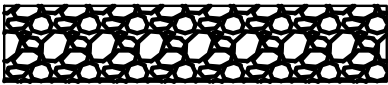




13. CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT DRAWINGS TO BE MAINTAINED AND SUBMITTED TO EL PASO COUNTY.

14. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ON-SITE SURVEY CONTROL AND CONSTRUCTION STAKING.










15. CONTRACTOR SHALL FENCE OFF CRITICAL AREAS TO BE PROTECTED AT THE DISCRETION OF EL PASO COUNTY.

16. THE CONTRACTOR SHALL DEVELOP A TRAFFIC CONTROL PLAN FOR PLANNED ACCESS TO THE SITE AND FOR EXITING AND ENTERING PUBLIC ROADS.
17. 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 EL PASO COUNTY.
18. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT AND MANAGE SPILLS OF TOXIC MATERIALS, SUCH AS EQUIPMENT FUELS.
19. ALL MATERIALS USED SHALL BE NEW AND WITHOUT FLAWS OR DEFECTS OF ANY TYPE AND SHALL BE THE BEST OF THEIR CLASS AND KIND.
20. WORK INCLUDES FURNISHING OF LABOR, MATERIALS, TOOLS, AND EQUIPMENT TO COMPLETE THE CONSTRUCTION OF ALL ELEMENTS OF THE DESIGN PLANS.

CHANNEL IMPROVEMENTS LEGEND

SYMBOL OR LINETYPE	DESCRIPTION
-----XXXX-----	PROPOSED CHANNEL MAJOR CONTOUR
-----XXXX-----	PROPOSED CHANNEL MINOR CONTOUR
-----XXXX-----	PROPOSED SITE MAJOR CONTOUR
-----XXXX-----	PROPOSED SITE MINOR CONTOUR
-----10+00-----	PROPOSED STREAM CENTERLINE ALIGNMENT
	PROPOSED RIPRAP
	PROPOSED GROUTED BOULDER DROP STRUCTURE
	PROPOSED SHEETPILE CUTOFF WALL
-----LDA-----	PROPOSED LIMIT OF CHANNEL DISTURBANCE
	PROPOSED RIPARIAN SEED MIX
	PROPOSED UPLAND SEED MIX

EXISTING SURVEY LEGEND:

SYMBOL OR LINETYPE	DESCRIPTION
-----XXXX-----	EXISTING MAJOR CONTOUR
-----XXXX-----	EXISTING MINOR CONTOUR
-----	PROPERTY LINE
-----G-----	GAS LINE
-----W-----	WATER LINE
-----OH-----	OVERHEAD POWER
-----ST-----	STORM LINE
-----E-----	UNDERGROUND POWER LINE
-----SS-----	SANITARY LINE
-----FO-----	COMMUNICATION LINE, FIBER OPTIC
-----T-----	COMMUNICATION LINE, TELEPHONE
=====	CURB AND GUTTER
	TREE/SHRUB
	SIGN
	TRAFFIC SIGNAL
	GAS VALVE
	LIGHT POLE
	POWER POLE
	GUY WIRE
	WATER VALVE
	FIRE HYDRANT
-----	EXISTING 100-YEAR FEMA BOUNDARY

ABBREVIATIONS

AC	ASPHALT CONCRETE
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
APPROX	APPROXIMATE OR APPROXIMATELY
BP OR BOP	BEGINNING OF PROJECT
BCR	BEGIN CURB RADIUS
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION
CL	CENTERLINE
CLR	CLEARANCE
CONC	CONCRETE
DWG	DRAWING
DR	DRIVE
EA	EACH
EP OR EOP	END OF PROJECT
ECR	END CURB RADIUS
ELEV OR EL	ELEVATION
ESMT	EASEMENT
EW	EACH WAY
EX	EXISTING
FES	FLARED END SECTION
FL	FLOWLINE
FT	FOOT/FEET
HMA	HOT MIX ASPHALT
HCL	HORIZONTAL CONTROL LINE
K	VERTICAL CURVE RATIO
LT	LEFT
ME	MATCH EXISTING
MAX	MAXIMUM
MIN	MINIMUM

LEGEND NOTES:

1. THIS IS A STANDARD DRAWING SHOWING COMMON SYMBOLOLOGY. ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH DRAWING FOR USAGE.
3. THESE ABBREVIATIONS APPLY TO THE ENTIRE SET OF CONTRACT DRAWINGS.
4. LISTING OF ABBREVIATIONS DOES NOT IMPLY THAT ALL ABBREVIATIONS ARE USED IN THE CONTRACT DRAWINGS.
5. ABBREVIATIONS SHOWN ON THIS SHEET INCLUDE VARIATIONS OF A WORD. FOR EXAMPLE, "MOD" MAY MEAN MODIFY OR MODIFICATION; "INC" MAY MEAN INCLUDED OR INCLUDING AND "REINF" MAY MEAN EITHER REINFORCE OR REINFORCING.

MISC. ABBREVIATIONS

⊙	AT
∅	PHASE, DIAMETER
&	AND
'	FEET, MINUTES
"	INCHES, SECONDS
°	DEGREE
#	NUMBER
CL	CENTERLINE



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DESIGNED BY: DCM
DRAWN BY: LWM
CHECKED BY: DCM
DATE: 6/26/2025

FISHERS CANYON CREEK
CHANNEL IMPROVEMENT PLANS
EL PASO COUNTY, COLORADO
GENERAL NOTES

PRELIMINARY
FOR REVIEW ONLY
NOT FOR
CONSTRUCTION
Kimley»Horn
Kimley-Horn and Associates, Inc.

PROJECT NO.
196825001

SHEET
C971

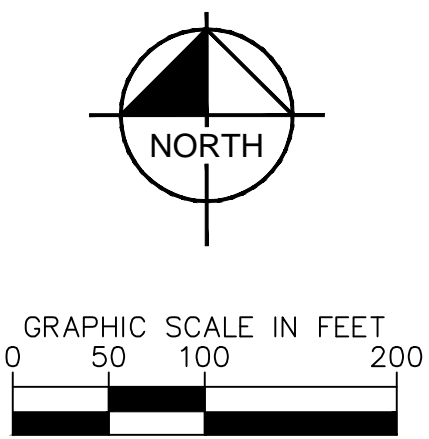
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DATE

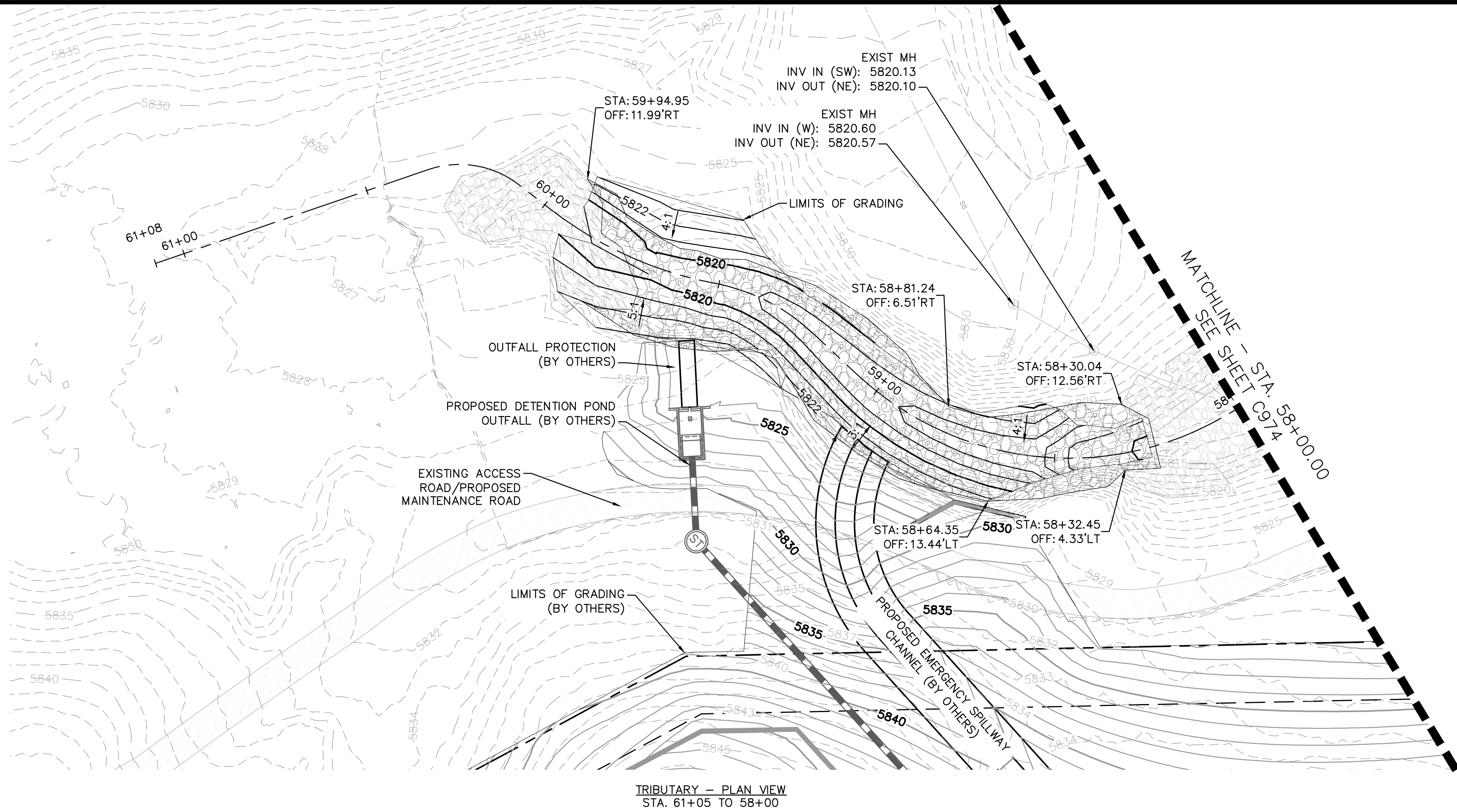
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REVISION

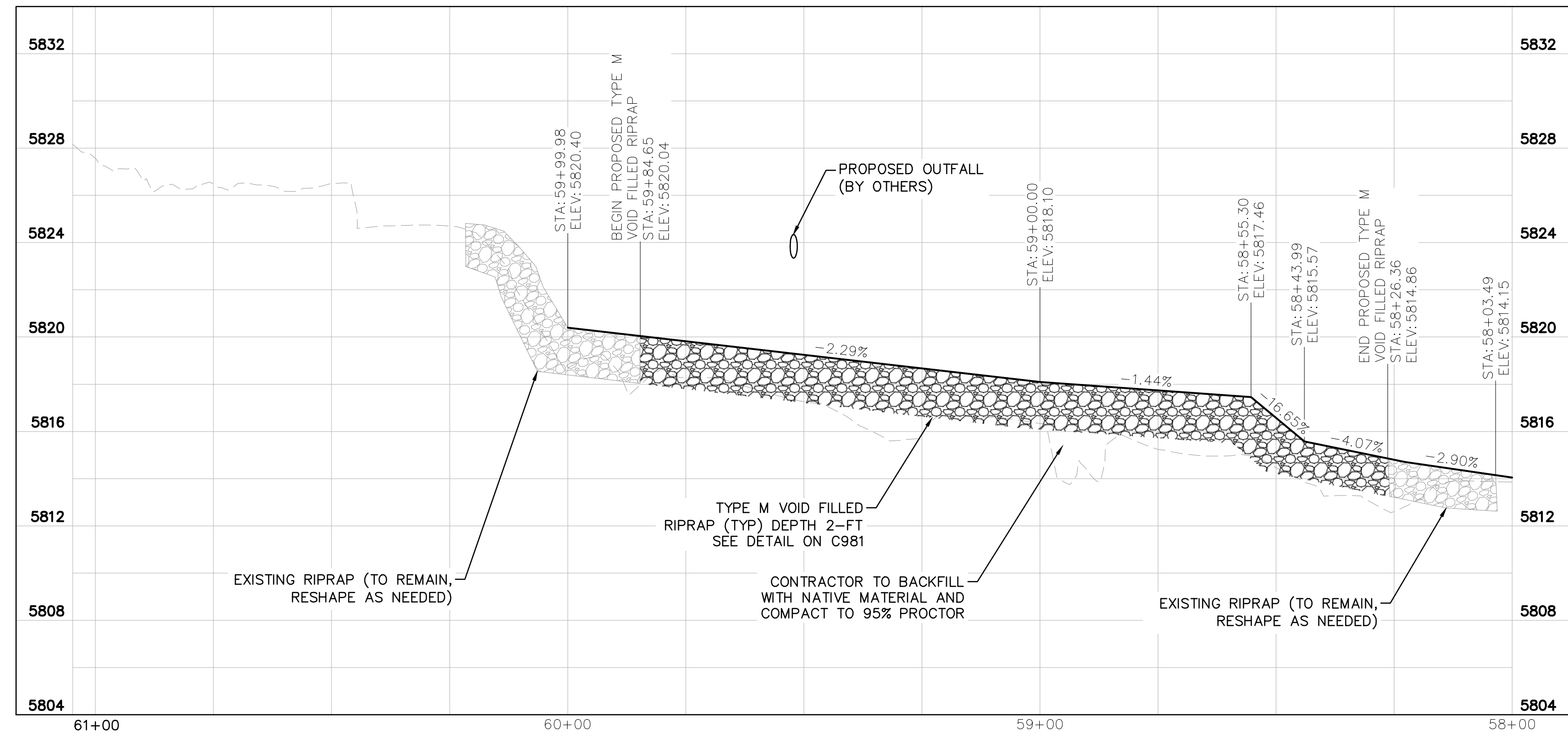
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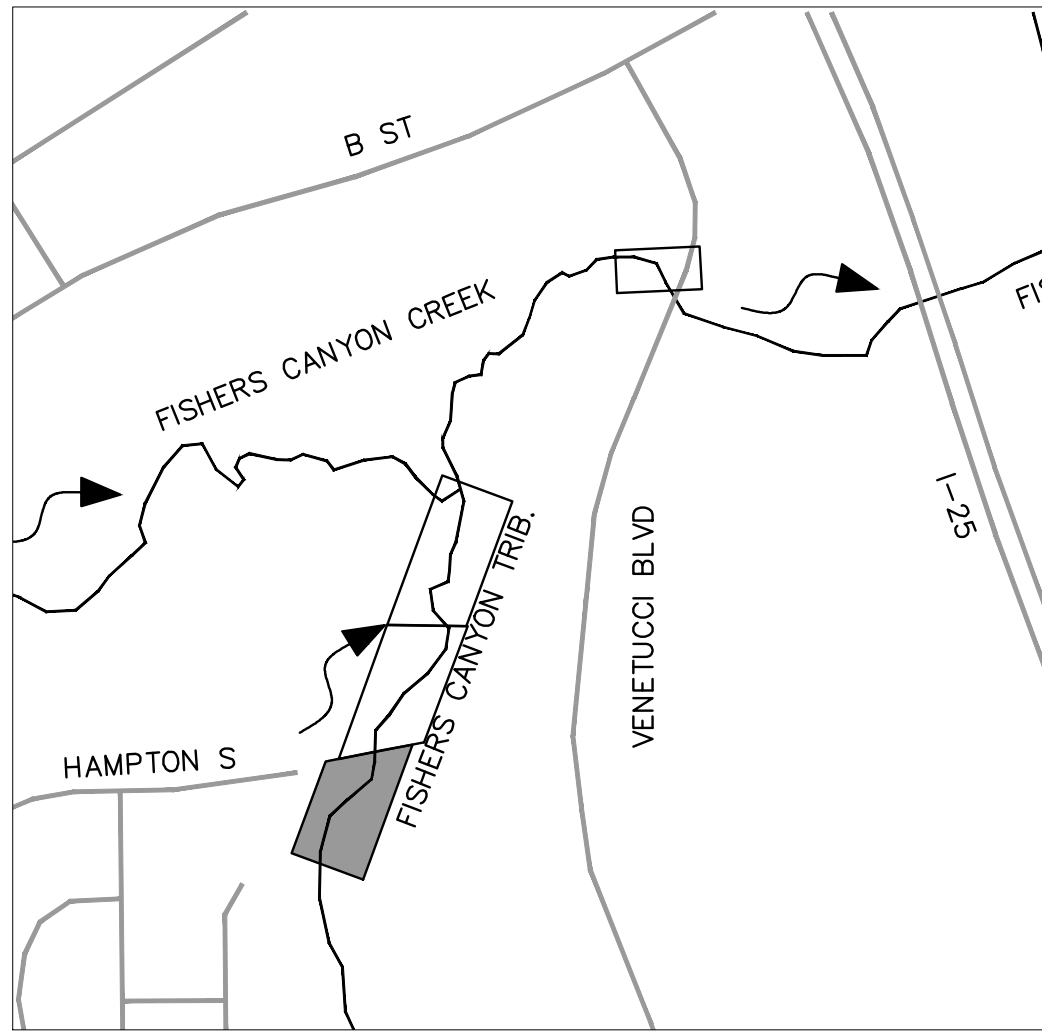
SHEET
C972



TRIBUTARY - PLAN VIEW
STA. 61+05 TO 58+00



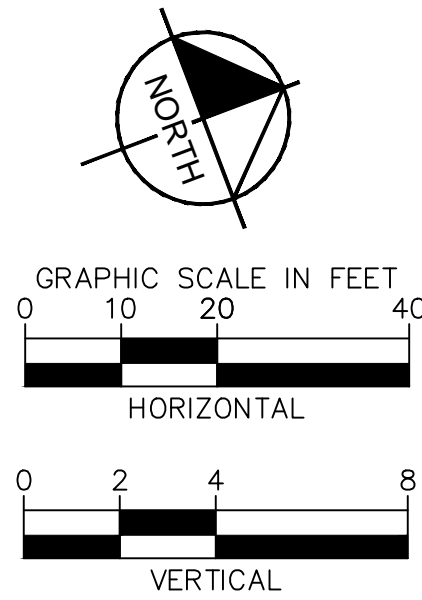
TRIBUTARY - PROFILE VIEW
STA. 61+00 TO 58+00



KEY MAP
N.T.S.

NOTES

1. SEE SHEET C980 FOR RIPRAP PLACEMENT DETAILS AND SPECIFICATIONS.
2. SEE SHEET C981 FOR SHEET PILE CUTOFF WALL AND CONCRETE CAP DETAILS.
3. CONTRACTOR SHALL NOT PERFORM WORK WITHIN 10 FEET OF THE EXISTING SANITARY SEWER AND PROTECT THE SANITARY SEWER.



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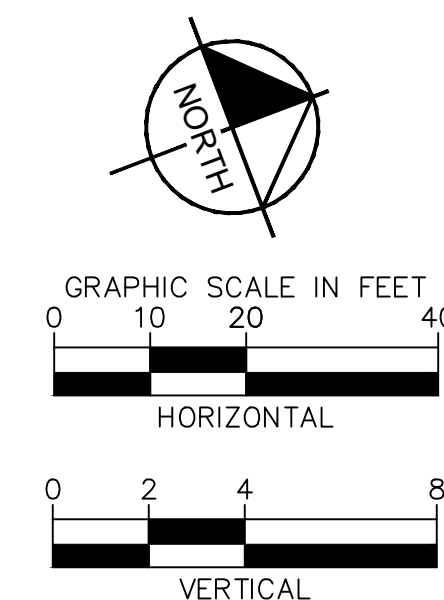
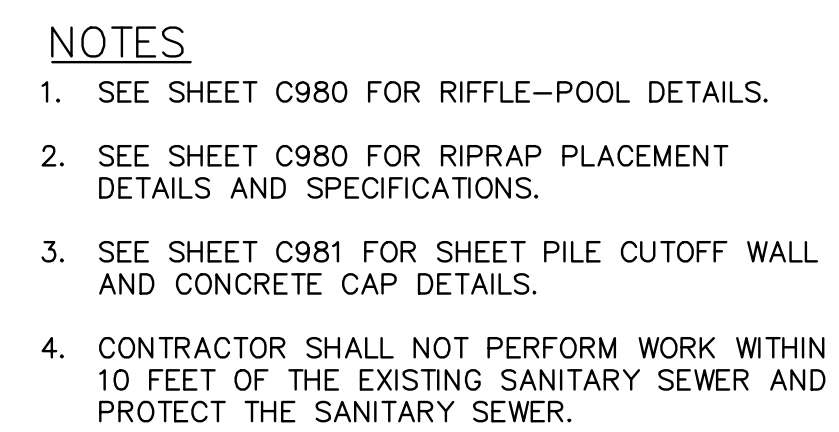
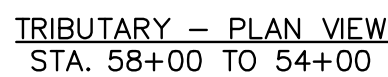
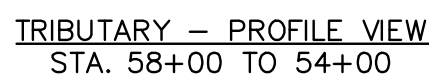
DESIGNED BY: DCM
DRAWN BY: LWM
CHECKED BY: DCM
DATE: 6/26/2025

FISHERS CANYON CREEK
CHANNEL IMPROVEMENT PLANS
EL PASO COUNTY, COLORADO
PLAN AND PROFILE

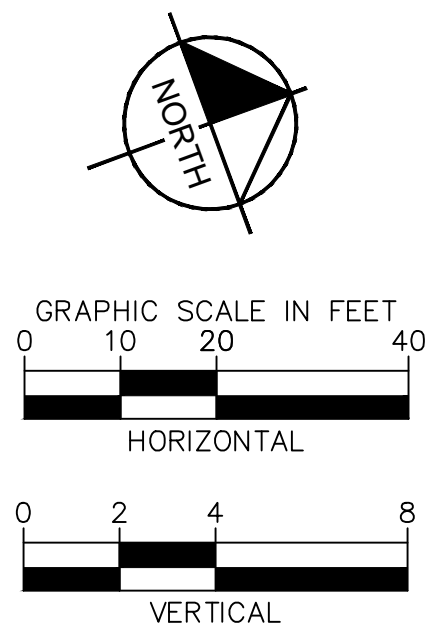
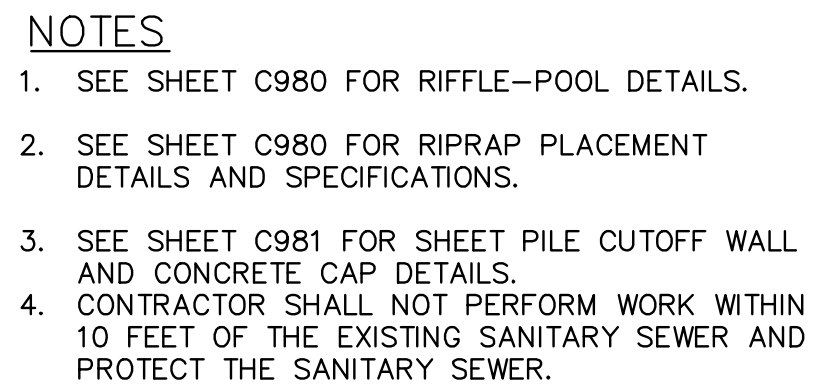
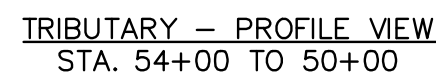
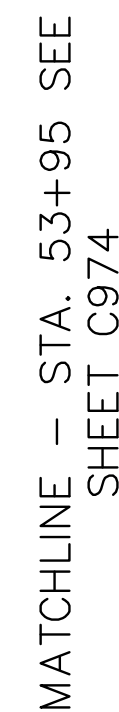
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Kimley-Horn and Associates, Inc.

PROJECT NO.
196825001

SHEET
C973



<p>FISHERS CANYON CREEK CHANNEL IMPROVEMENT PLANS EL PASO COUNTY, COLORADO PLAN AND PROFILE</p>	<p>DESIGNED BY: DCM DRAWN BY: LWM CHECKED BY: DCM DATE: 6/26/2025</p>	<p>Kimley»Horn 2025 KIMLEY-HORN AND ASSOCIATES, INC. 2 North Nevada Avenue, Suite 900 Colorado Springs, Colorado 80903 (719) 453-0180</p>
	<p>PRELIMINARY FOR REVIEW ONLY NOT FOR CONSTRUCTION Kimley»Horn Kimley-Horn and Associates, Inc.</p>	
<p>PROJECT NO. 196825001</p>	<p>SHEET C974</p>	



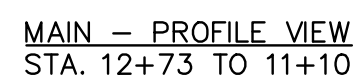
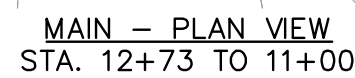
PROJECT NO.
196825001

SHEET
C975

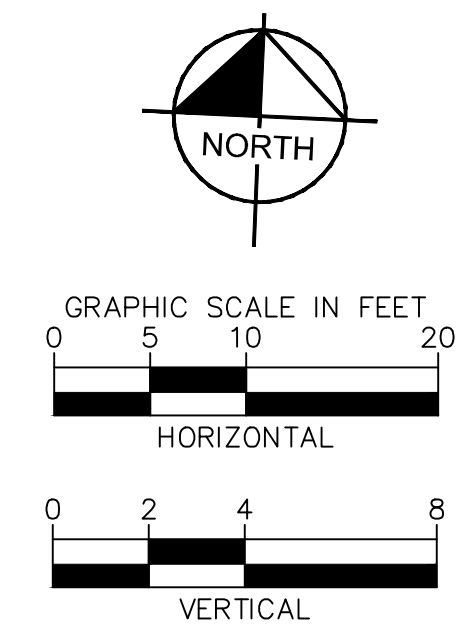
Kimley»»Horn
2025 KIMLEY-HORN AND ASSOCIATES, INC.
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Colorado Springs, Colorado 80903 (719) 453-0180



Call before you dig.



1. SEE SHEET C980 FOR RIPRAP PLACEMENT DETAILS AND SPECIFICATIONS.
2. SEE SHEET C981 FOR SHEET PILE CUTOFF WALL AND CONCRETE CAP DETAILS.
3. CONTRACTOR SHALL NOT PERFORM WORK WITHIN 10 FEET OF THE EXISTING SANITARY SEWER AND PROTECT THE SANITARY SEWER.



DESIGNED BY: DCM
DRAWN BY: LWM
CHECKED BY: DCM
DATE: 6/26/2025

FISHERS CANYON CREEK

CHANNEL IMPROVEMENT PLANS

EL PASO COUNTY, COLORADO

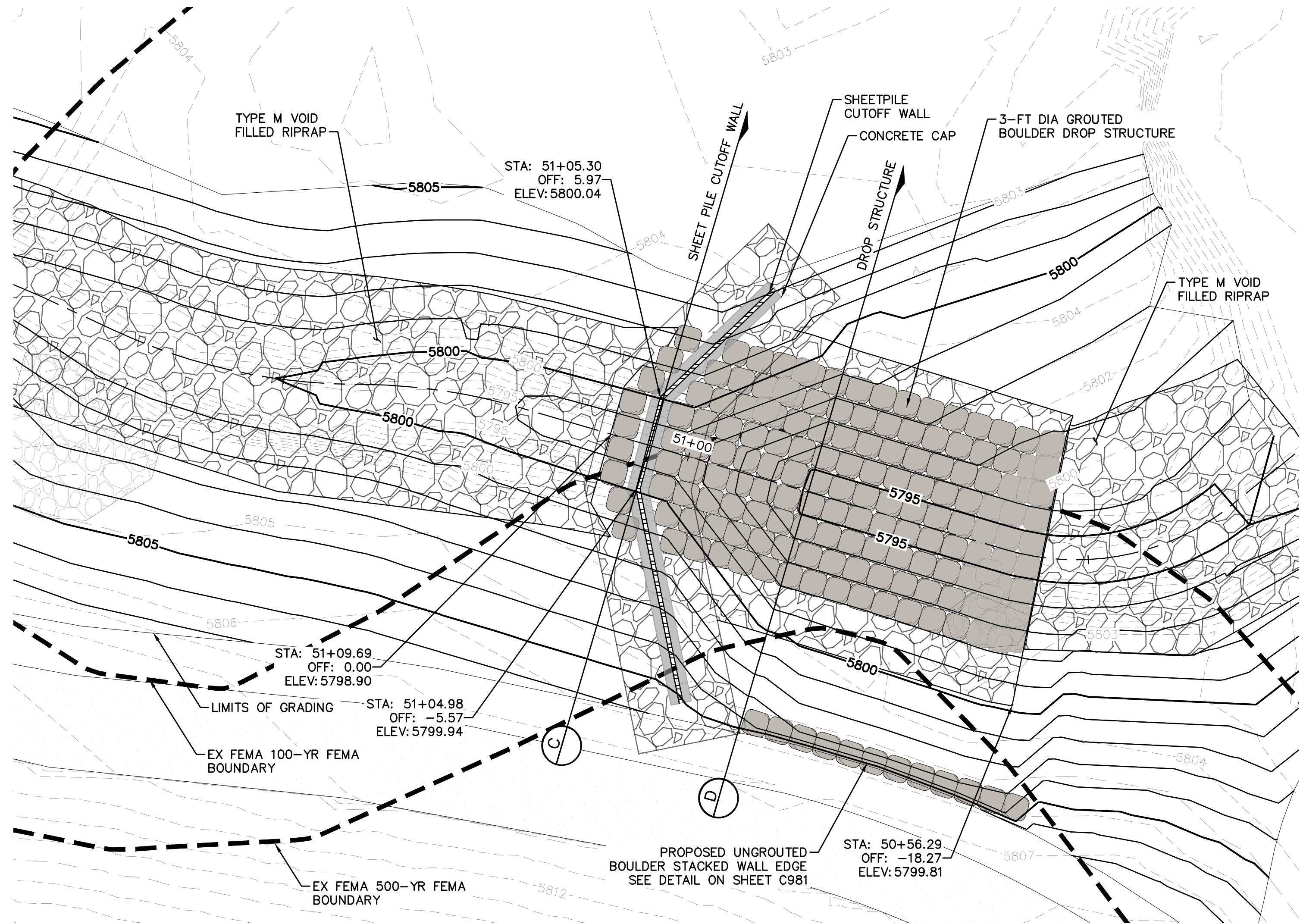
PLAN AND PROFILE

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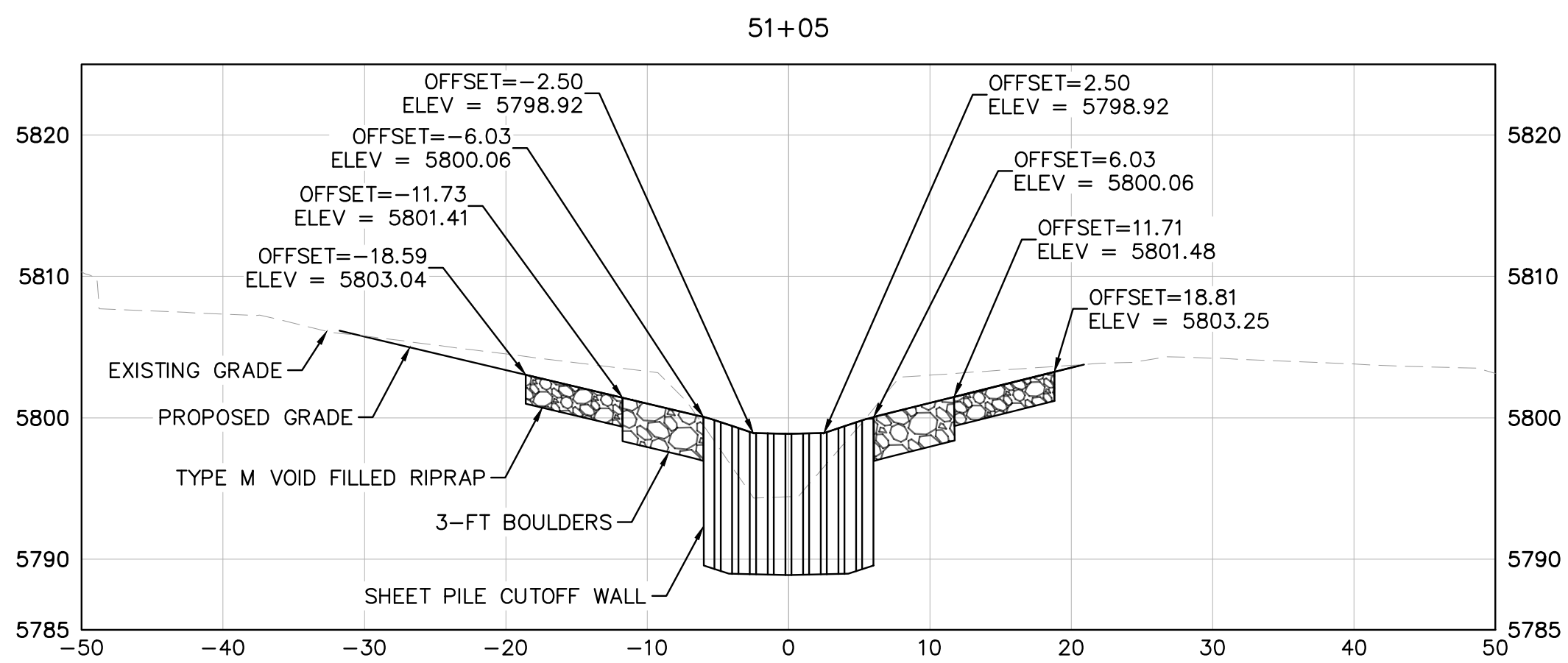
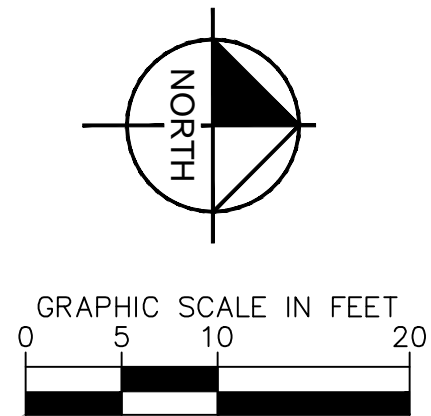
PROJECT NO.
196825001

SHEET
C976

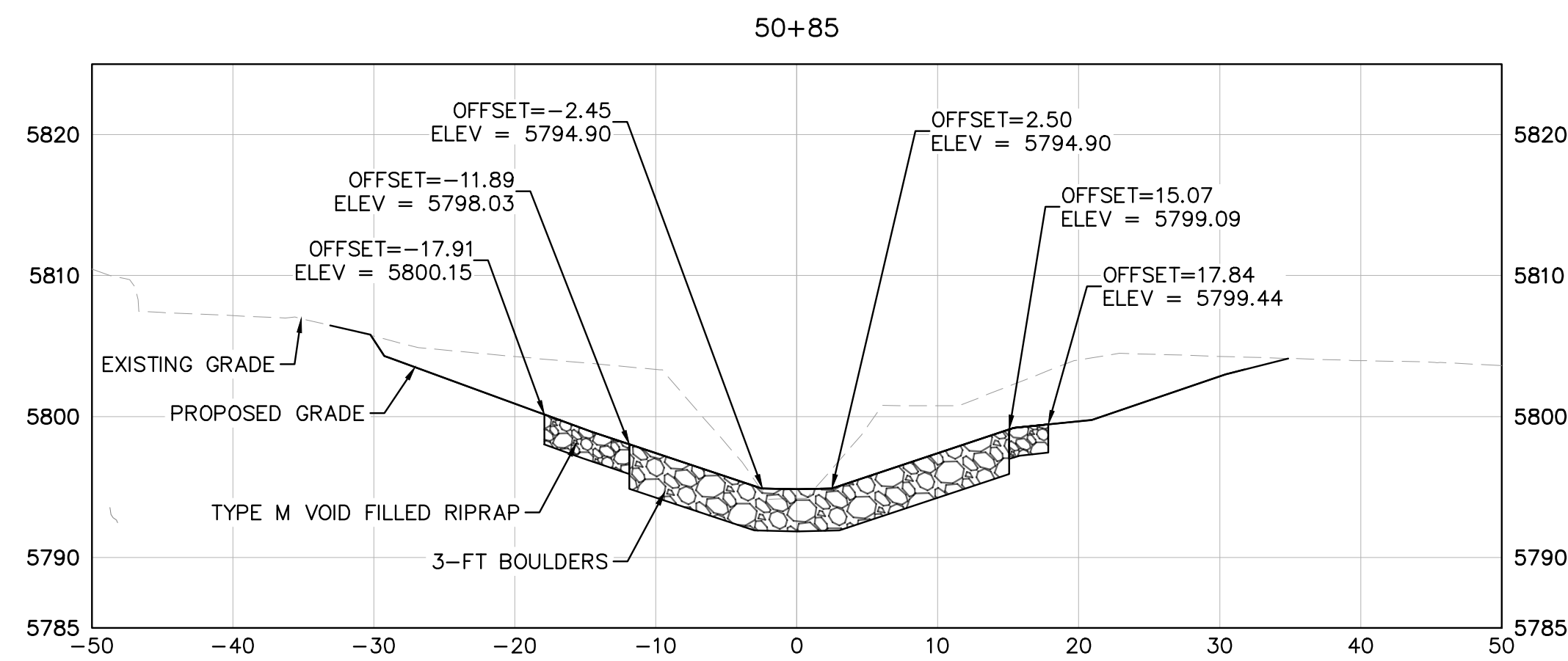
K:\COS_WaterResources\196825001_Fishers Canyon Creek\CADD\Plansheets\CHANNEL\CHNL_ENLARGED.dwg Kummerlen, Kayla 6/26/2025 8:44 AM



TRIBUTARY DROP STRUCTURE #2



SECTION C



SECTION D



Kimley»Horn

2025 KIMLEY-HORN AND ASSOCIATES, INC.
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Colorado Springs, Colorado 80903 (719) 453-0180

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FISHERS CANYON CREEK
CHANNEL IMPROVEMENT PLANS
EL PASO COUNTY, COLORADO
ENLARGED DROP STRUCTURE 2

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PROJECT NO.
196825001

SHEET
C977

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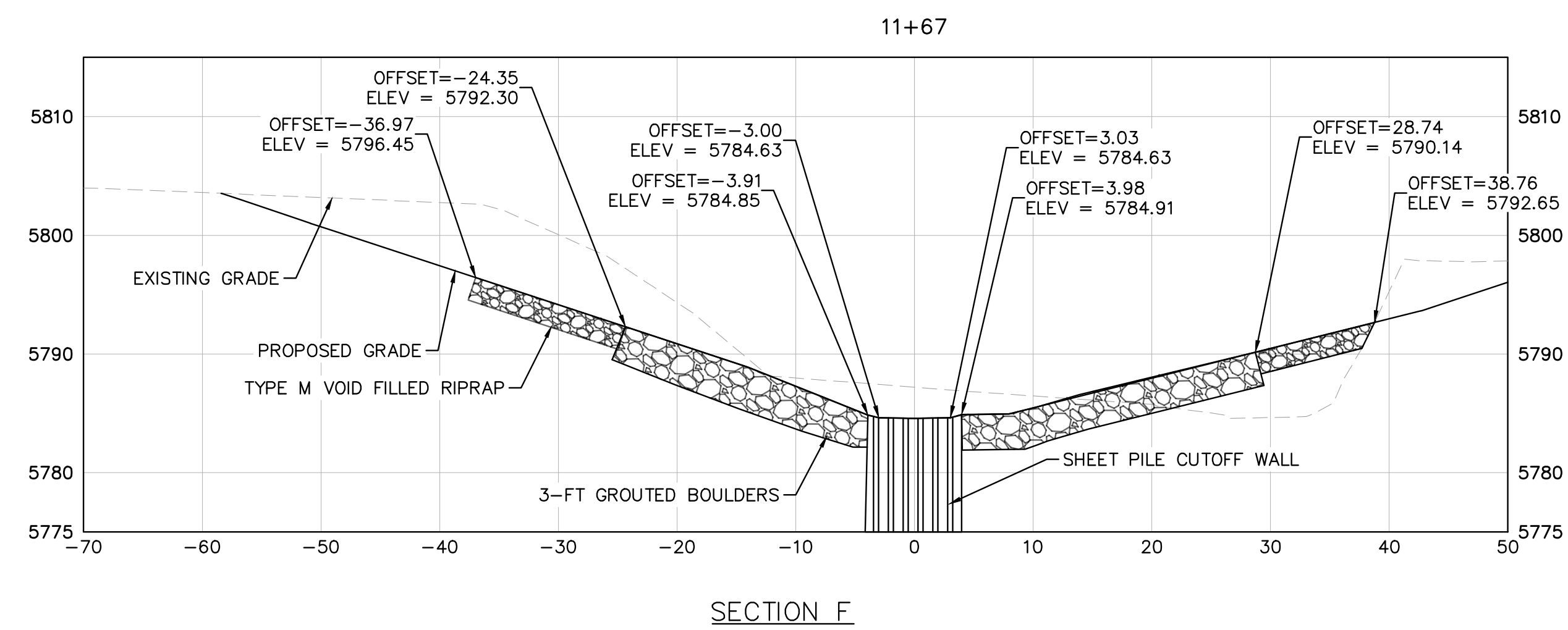
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**CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987**
CALL 2-BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE, OR EXCAVATE
FOR THE MARKING OF UNDERGROUND
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DESIGNED BY: DCM
DRAWN BY: LWM
CHECKED BY: DCM
DATE: 6/26/2025

FISHERS CANYON CREEK
CHANNEL IMPROVEMENT PLANS
EL PASO COUNTY, COLORADO
ENLARGED DROP STRUCTURE 1

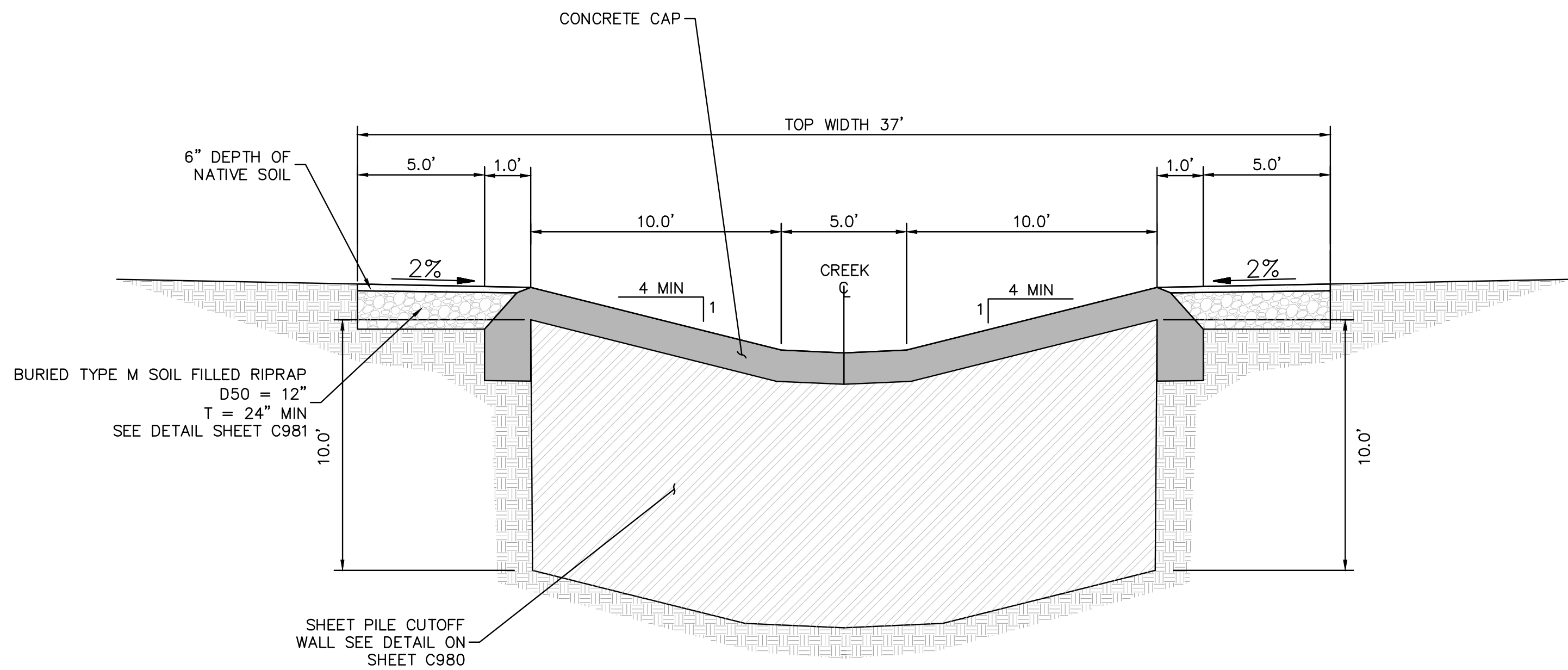
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PROJECT NO.
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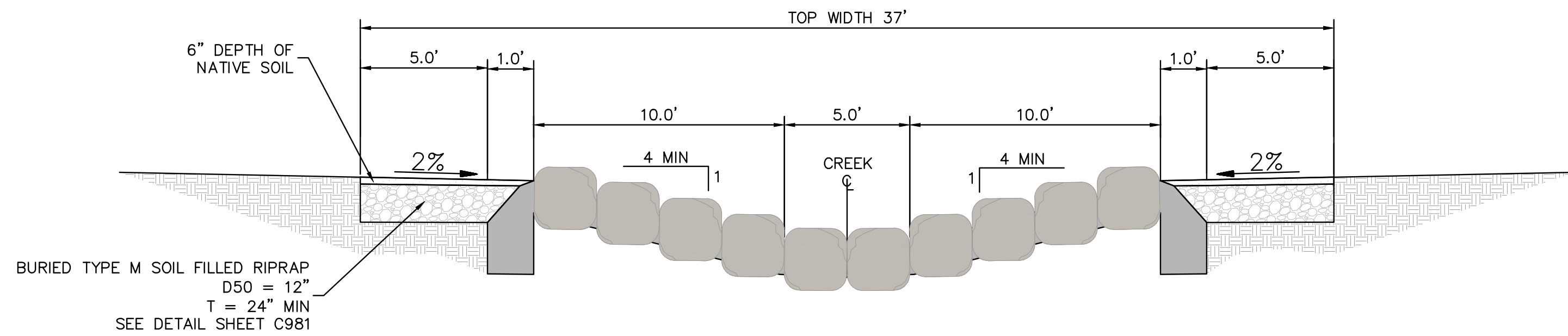
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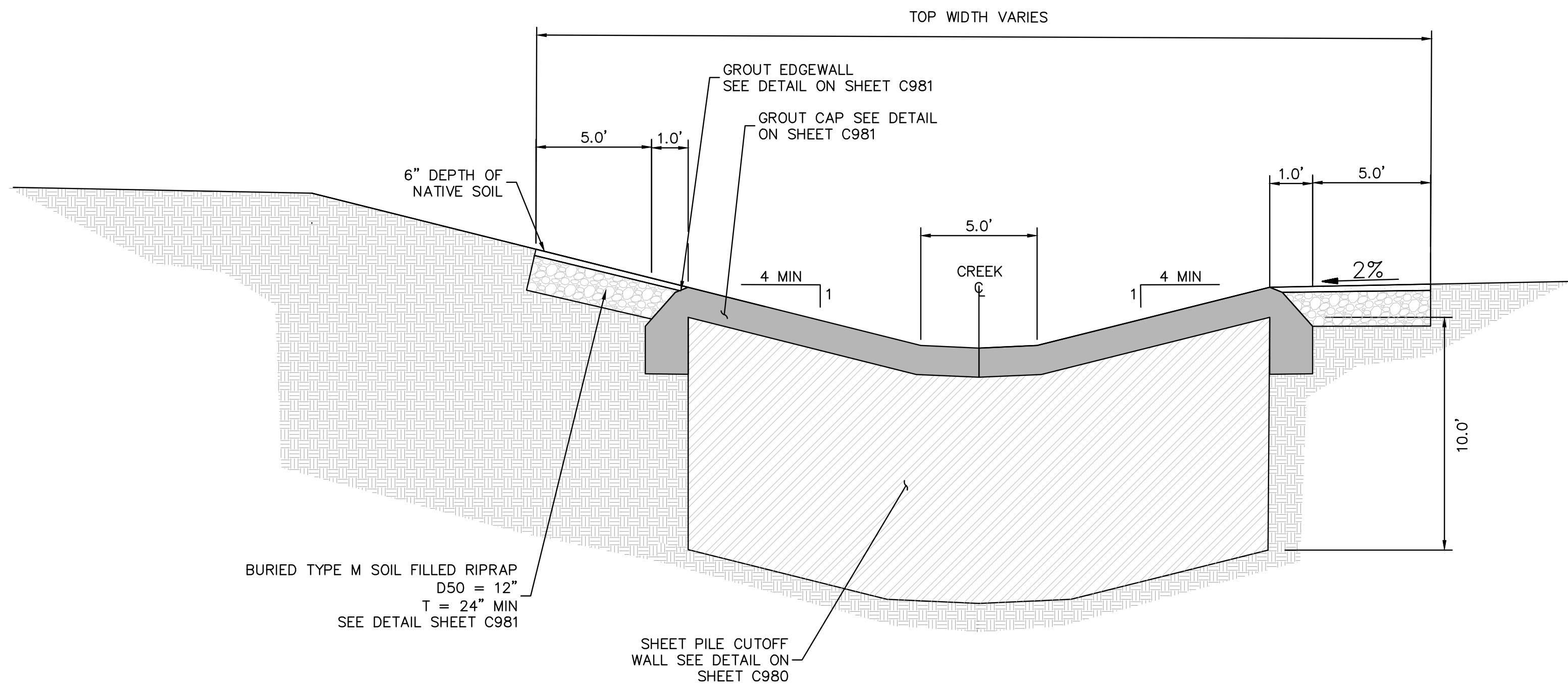
A FISHERS CANYON CREEK TRIBUTARY TYPICAL DROP STRUCTURE - SHEET PILE CUTOFF WALL

NTS



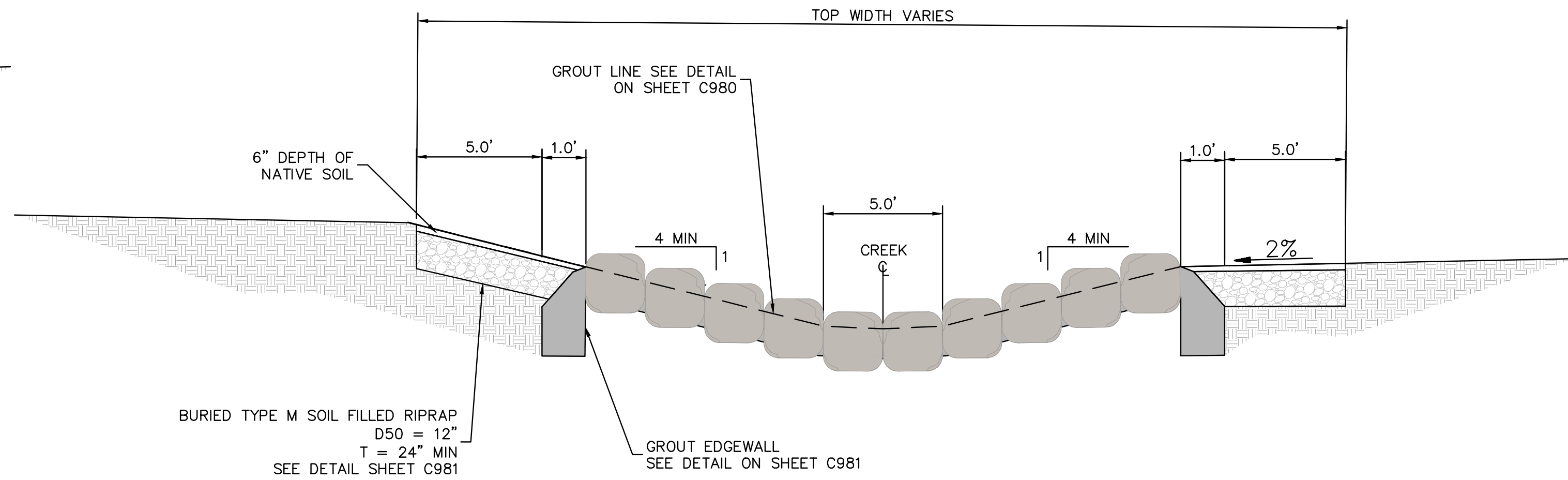
B FISHERS CANYON CREEK TRIBUTARY TYPICAL DROP STRUCTURE- GROUTED BOULDER DROP

NTS



C FISHERS CANYON CREEK TYPICAL DROP STRUCTURE - SHEET PILE CUTOFF WALL

NTS



D FISHERS CANYON CREEK TYPICAL DROP STRUCTURE- GROUTED BOULDER DROP

NTS



Kimley»Horn

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21 North Nevada Avenue, Suite 900
Colorado Springs, Colorado 80903 (719) 453-0180

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DRAWN BY: LWM
CHECKED BY: DCM
DATE: 6/26/2025

FISHERS CANYON CREEK
CHANNEL IMPROVEMENT PLANS
EL PASO COUNTY, COLORADO
TYPICAL SECTIONS

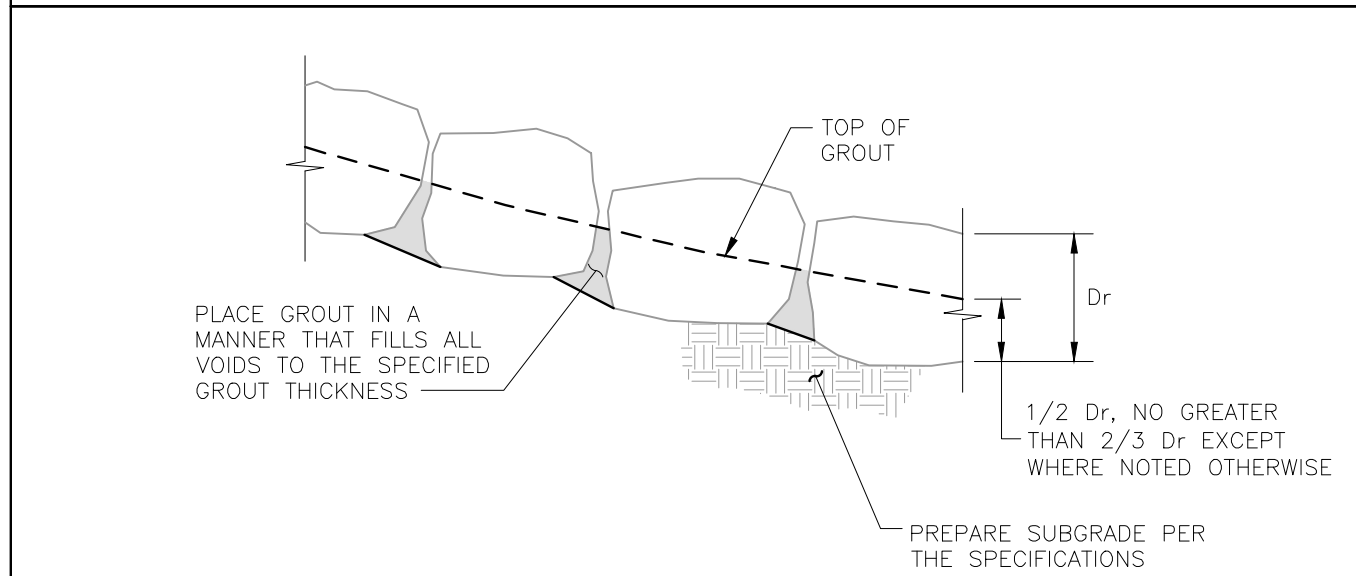
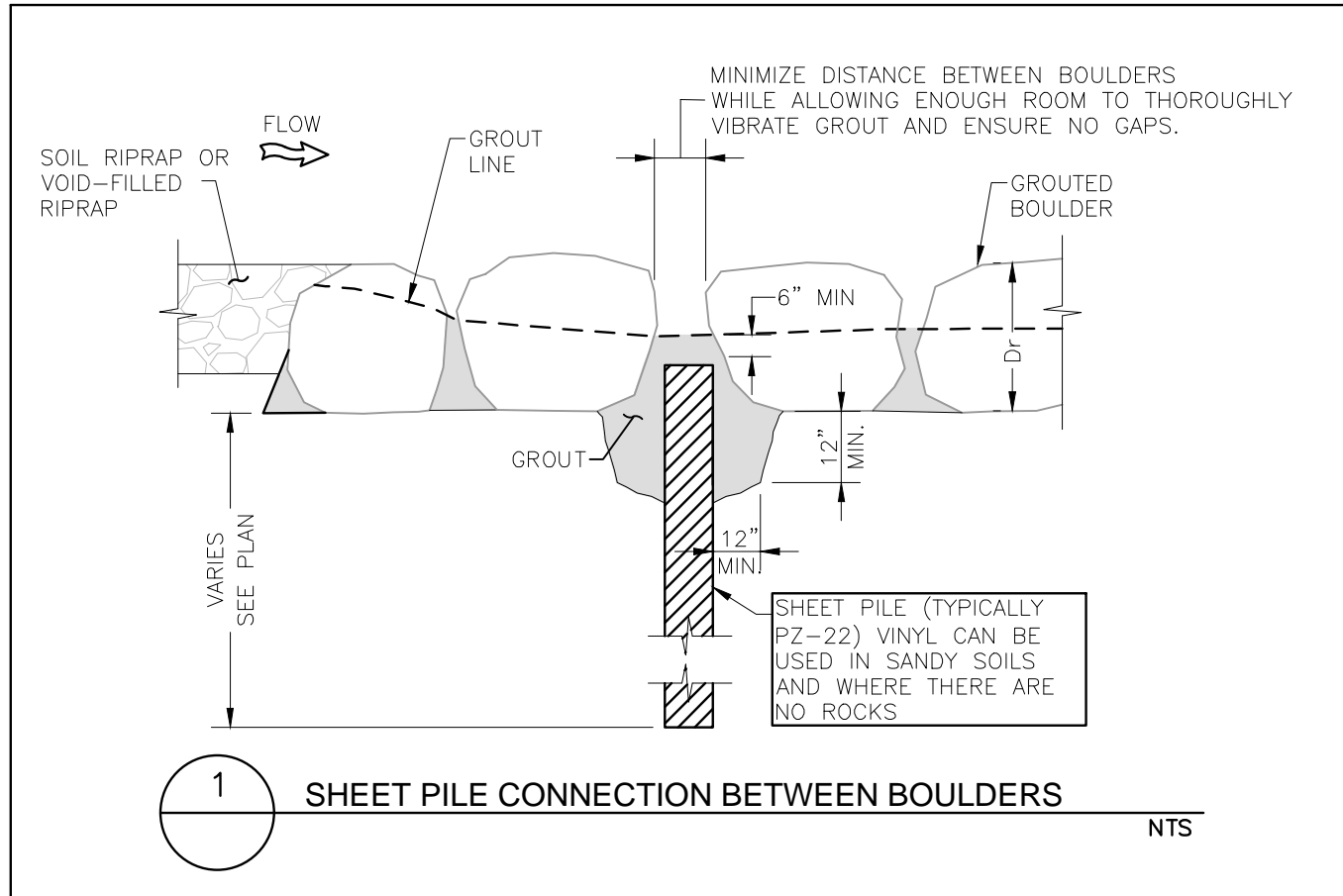
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BOULDER PLACEMENT NOTES:

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.

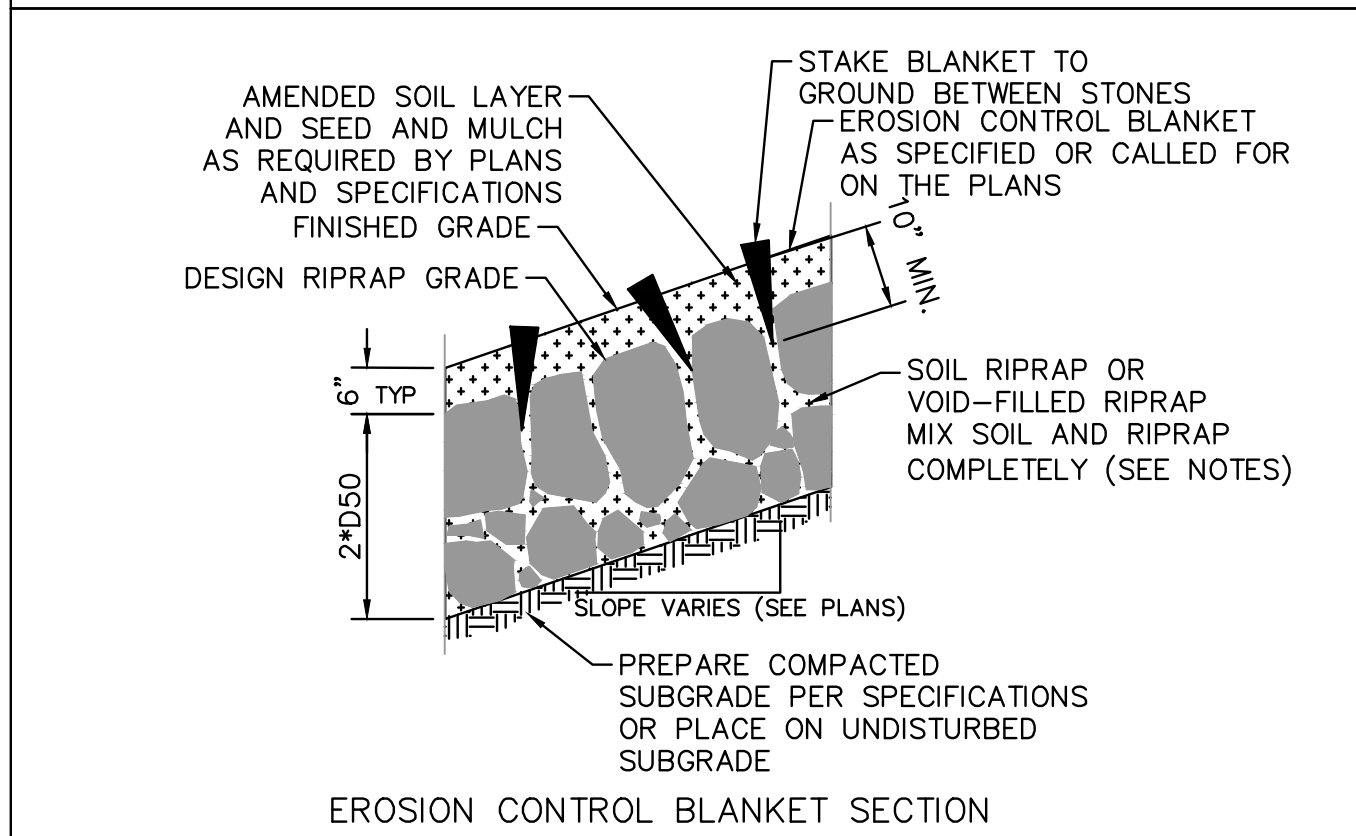
MATERIAL SPECIFICATIONS:

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% 3/4-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.

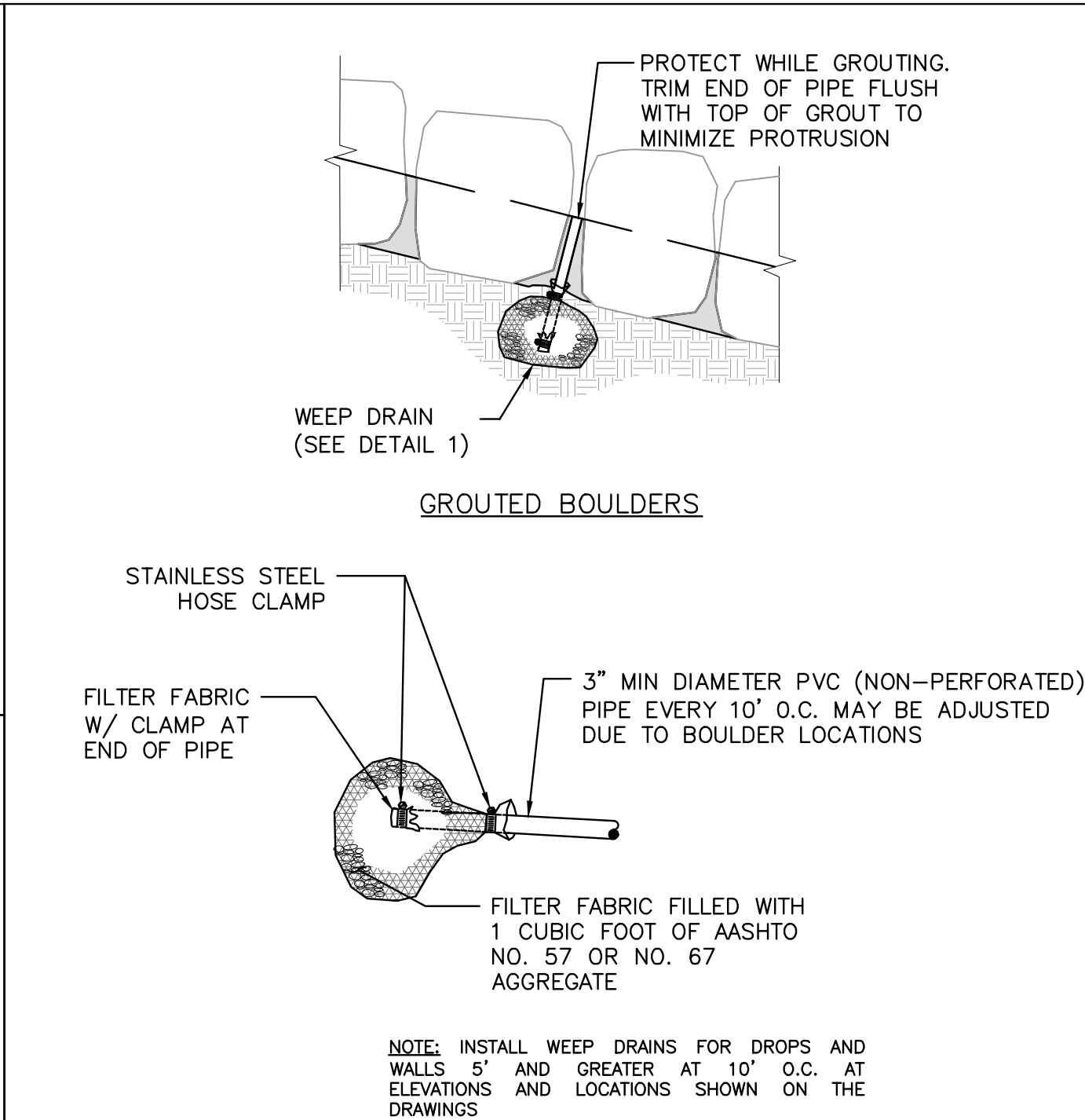
2 GROUTED BOULDER PLACEMENT DETAIL NTS



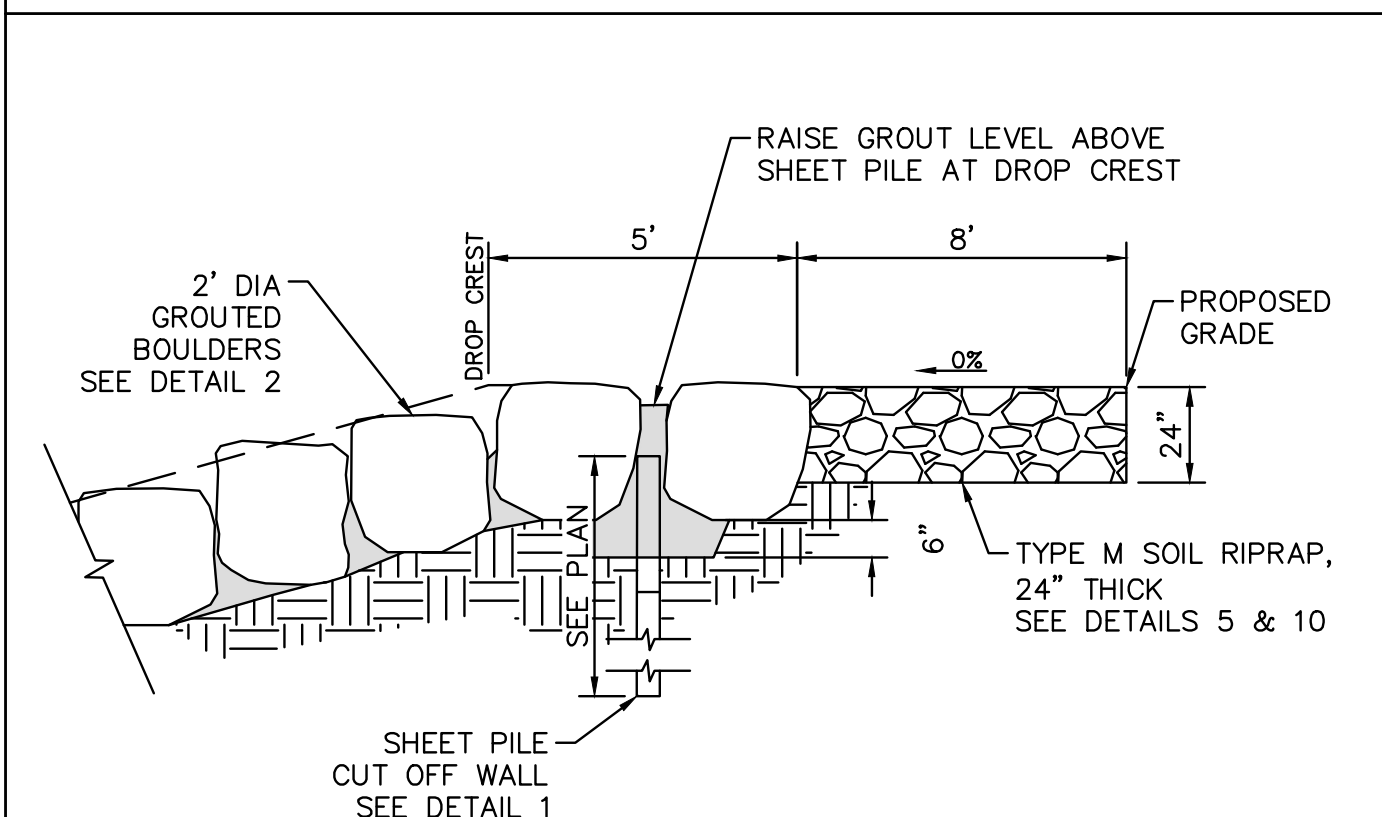
NOTES:

1. SOIL RIPRAP DETAILS ARE APPLICABLE TO SLOPED AREAS. REFER TO THE SITE PLAN ACTUAL LOCATION AND LIMITS.
2. MIX UNIFORMLY 65% RIPRAP BY VOLUME WITH 35% OF APPROVED SOIL BY VOLUME PRIOR TO PLACEMENT.
3. PLACE STONE-SOIL MIX TO RESULT IN SECURELY INTERLOCKED ROCK AT THE DESIGN THICKNESS AND GRADE. COMPACT AND LEVEL TO ELIMINATE ALL VOIDS AND ROCKS PROJECTING ABOVE DESIGN RIPRAP TOP GRADE.
4. CRIMP OR TACKIFY MULCH OR USE APPROVED HYDROMULCH AS CALLED FOR IN THE PLANS AND SPECIFICATIONS.
5. FOR TOE PROTECTION SEE DETAIL 10 ON THIS SHEET.

5 SOIL RIPRAP AND VOID-FILLED RIPRAP NTS



3 WEEP DRAIN DETAIL NTS



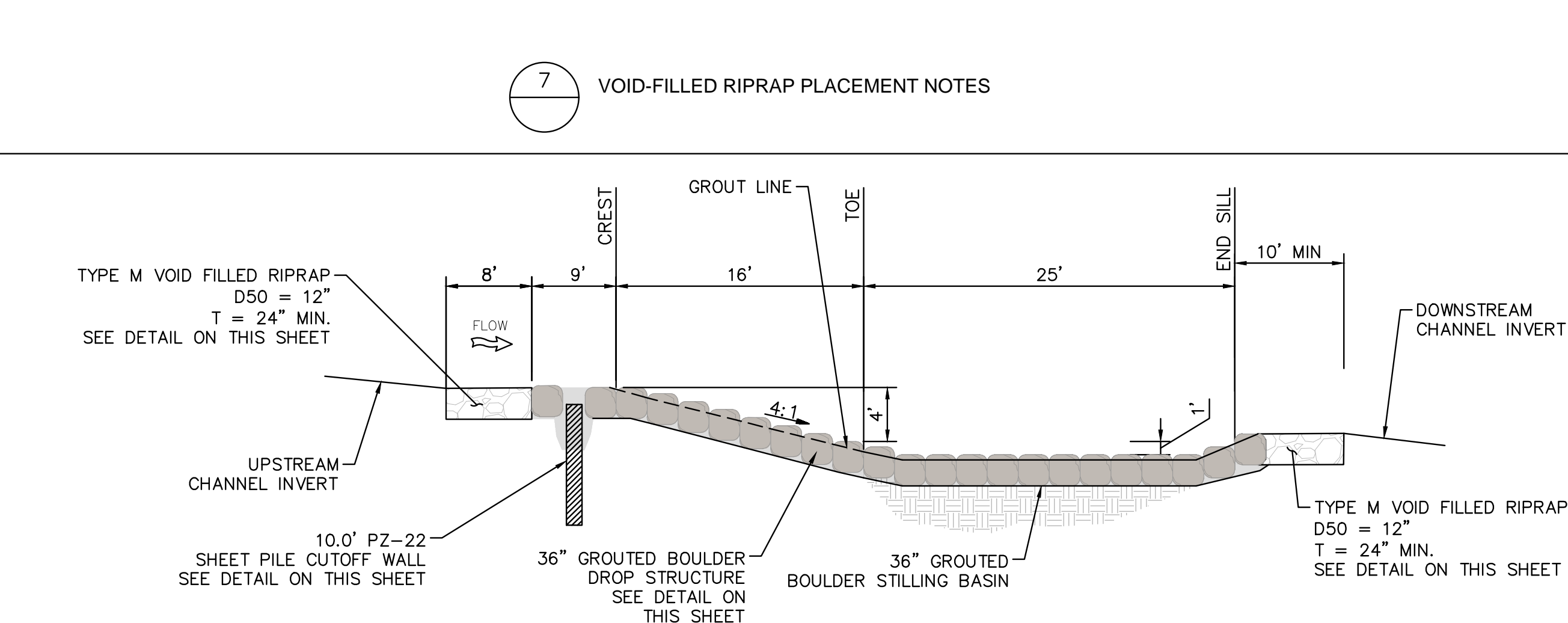
4 TYPICAL SHEET PILE CUT OFF WALL NTS

TYPE M VOID-FILLED RIPRAP MIX DESCRIPTION		
APPROXIMATE PROPORTIONS (LOADER BUCKETS)	MATERIAL TYPE	MATERIAL DESCRIPTION
5	RIPRAP	TYPE M RIPRAP (D50= 12 INCHES)
1	RIPRAP	TYPE L RIPRAP (D50= 9 INCHES)
3	VOID-FILLED MATERIAL	7-INCH MINUS CRUSHED ROCK SURGE (100% PASSING 7-INCH SIEVE, 80-100% PASSING 6-INCH SIEVE, 35-50% PASSING 3-INCH SIEVE, 10-20% PASSING 1.5-INCH SIEVE)
1	VOID-FILLED MATERIAL	2 TO 4-INCH COBBLE (ROUND WASHED RIVER ROCK THAT IS WELL-GRADED, 100% PASSING 6-INCH SIEVE, 35-50% PASSING 3-INCH SIEVE, 5-20% PASSING 2-INCH SIEVE)
1	VOID-FILLED MATERIAL	4-INCH MINUS PIT RUN SURGE (ROUND RIVER ROCK AND SAND, WELL GRADED, 90-100% PASSING 4-INCH SIEVE, 70-80% PASSING 1.5-INCH SIEVE, 40-60% PASSING 3/8-INCH SIEVE, 10-30% PASSING #16 SIEVE).
1.5	VOID-FILLED MATERIAL	TYPE II BEDDING
0.5	VOID-FILLED MATERIAL	NATIVE TOPSOIL
TOP LAYER	TOP DRESSING	ADDITIONAL 4 TO 12-INCH COBBLES (ROUND WASHED RIVER ROCK THAT IS WELL GRADED, 80-100% PASSING 12-INCH SIEVE, 35-50% PASSING 6-INCH SIEVE, 5-20% PASSING 4-INCH SIEVE) SHALL BE MIXED IN ON THE SURFACE OF THE VOID-FILLED RIPRAP (COVERING APPROXIMATELY 30% OF THE SURFACE) PRIOR TO COMPACTION OF THE VOID-FILLED RIPRAP. COBBLES SHALL BE FULLY EMBEDDED INTO THE MASS OF THE VOID-FILLED RIPRAP.
NOTE: MIX PROPORTIONS ARE APPROXIMATE AND SUBJECT TO FIELD ADJUSTMENT BY THE ENGINEER OR OWNER		

6 VOID-FILLED RIPRAP MIX NOTES NTS

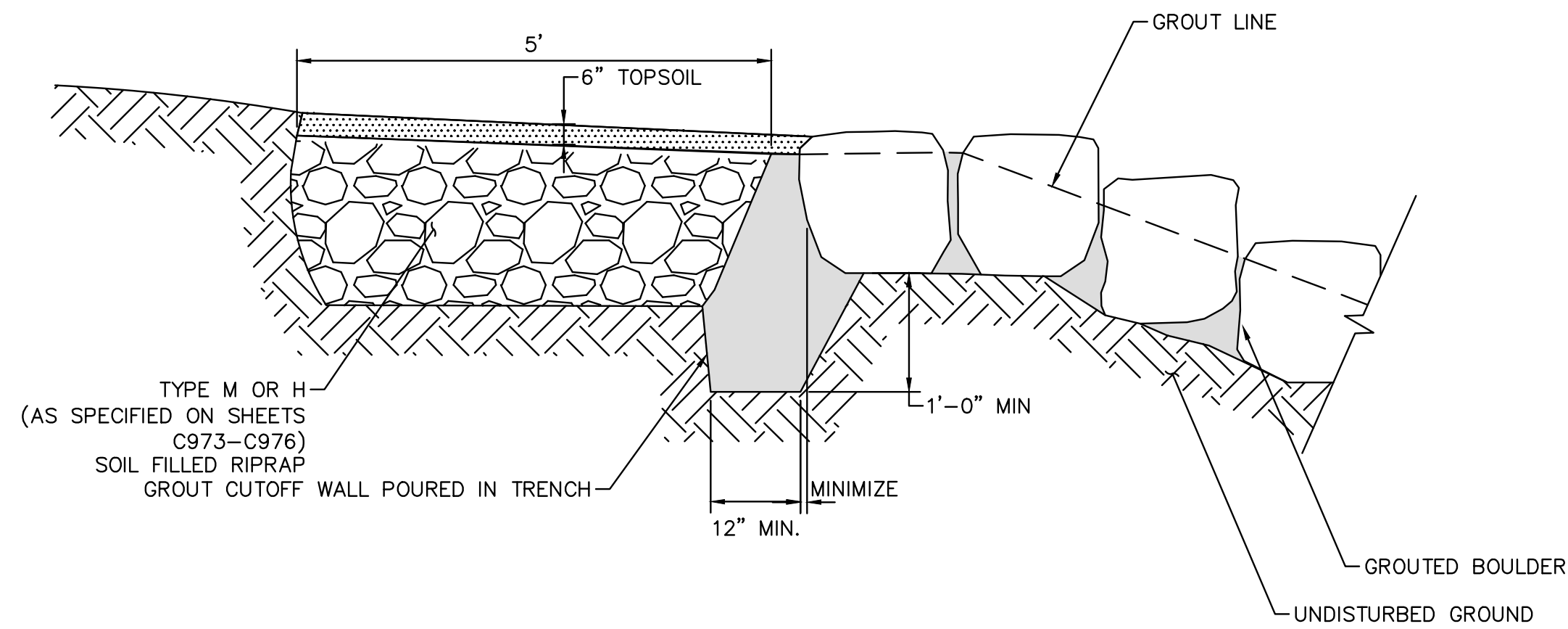
VOID-FILLED RIPRAP REPLACEMENT NOTES:

1. LABORATORY TEST CERTIFICATES AND GRADATIONS FOR ALL MATERIALS INCLUDED IN THE VOID-FILLED RIPRAP MIX SHALL BE SUBMITTED FOR REVIEW. FOR THE 7-INCH MINUS CRUSHED SURGE AND THE 4-INCH MINUS PIT RUN SURGE MATERIALS, PROVIDE SAMPLES IN 5-GALLON BUCKETS FOR REVIEW.
2. THE GOAL OF MIXING IS TO FILL THE VOIDS OF THE BASE RIPRAP MATERIAL WITHOUT DISPLACING THE RIPRAP. THE INTERLOCKING NATURE OF RIPRAP IN THE MIXED MATERIAL NEEDS TO REMAIN ESSENTIALLY THE SAME AS IF THE RIPRAP WAS PLACED WITHOUT VOID-FILLED MATERIAL.
3. THE SPECIFIED MIX PROPORTIONS ARE NOTED AS APPROXIMATE BECAUSE THE TWO SURGE MATERIALS VARY SOMEWHAT BETWEEN DIFFERENT SUPPLIERS AND VARIATIONS IN GRAVEL PITS. THE SURGE MATERIALS ARE ONLY PROCESSED THROUGH ONE SCREEN SIZE (7-INCH MINUS OR 4-INCH MINUS), SO THE GRADATIONS VARY. IT IS IMPORTANT THAT THE DESIGN ENGINEER IS ON-SITE DURING THE MIXING OPERATION TO MAKE ADJUSTMENTS TO THE PROPORTIONS IF NECESSARY. THE AMOUNT OF COBBLES IN THE 4-INCH MINUS PIT RUN SURGE MATERIAL DICTATES THE ADDITION OR REDUCTION IN THE AMOUNT OF 2 TO 4-INCH COBBLE MATERIAL.
4. VOID-FILLED RIPRAP MATERIAL CAN BE CHALLENGING TO PLACE BECAUSE IT HAS A TENDENCY TO SEGREGATE. THE FINER SANDS AND GRAVELS TEND TO SEPARATE FROM THE LARGER RIPRAP. CONTRACTORS SHALL TAKE CARE TO MINIMIZE SEGREGATION WHEN HAULING THE MIXED MATERIAL FROM STOCKPILE TO THE INSTALLATION LOCATION.
5. THE LOOSE MATERIAL IS TO BE PLACED IN A SINGLE LIFT OR SUFFICIENT HEIGHT SUCH THAT FINAL GRADE WILL BE ACHIEVED UPON COMPACTION. IN MOST CASES, SOME ADDITIONAL MIXING WITH A TRACK EXCAVATOR IS NEEDED AFTER THE INITIAL PLACEMENT TO MAKE SURE THAT VOID-FILLED RIPRAP CONSISTS PRIMARILY OF THE SMALLER VOID-FILL MATERIALS. THE GOAL IS TO COMPLETELY FILL THE RIPRAP VOIDS WITHOUT DISPLACING THE RIPRAP. IN SOME CASES, ADDITIONAL VOID-FILLING MAY BE NECESSARY AFTER THE VOID-FILLED RIPRAP HAS BEEN PLACED BECAUSE THE FINES HAVE A TENDENCY TO MIGRATE TO THE BOTTOM. IN THESE SITUATIONS, A 50:50 MIXTURE OF THE PIT RUN AND TYPE II BEDDING CAN BE SPRINKLED ON THE SURFACE AND WASHED IN WITH WATER USING A HIGH PRESSURE HOSE TO FILL ANY SMALL VOIDS THAT MAY EXIST BELOW THE SURFACE. OTHER THAN FILLING VOIDS THAT MAY EXTEND DOWN INTO THE VOID-FILLED RIPRAP, NOT MUCH OF THIS MATERIAL SHOULD BE LEFT ON THE SURFACE, AS IT WILL WASH AWAY DURING RUNOFF EVENTS.
6. AFTER THE VOID-FILLED RIPRAP MATERIAL HAS BEEN LOOSELY PLACED (PRIOR TO COMPACTION), A TOP DRESSING OF THE LARGE COBBLES CAN BE MIXED IN ON THE SURFACE FOR A MORE NATURAL RIVER BED LOOK, IF DESIRED. THIS IS USUALLY DONE BY SPRINKLING COBBLES SUCH THAT THEY COVER APPROXIMATELY 30-PERCENT OF THE SURFACE.
7. THE LAST STEP IS TO COMPACT THE LOOSELY PLACED VOID-FILLED RIPRAP MATERIAL. WATER CAN BE ADDED, IF NECESSARY, SO THAT THE MOISTURE CONTENT OF THE MIXTURE IS AT OPTIMUM CONDITIONS DURING THE COMPACTION PROCESS.
8. IT IS IMPORTANT THAT THE FINISHED TOP ELEVATIONS OF THE VOID-FILLED RIPRAP LAYER CLOSELY MATCH DESIGN GRADES TO WITHIN A TOLERANCE OF 0.10 FEET. HAVING TIGHT ELEVATION TOLERANCES HELPS TO MINIMIZE DEVELOPMENT OF FLOW CONCENTRATIONS. IF THE COMPACTED MATERIAL ENDS UP BELOW FINAL GRADE, IT IS NOT ACCEPTABLE TO ALLOW PLACEMENT OF ONLY THE SMALLER VOID-FILLED MATERIAL OR ADDITIONAL TOP DRESSING COBBLES TO ACHIEVE FINAL GRADE. IN SUCH CASES IT IS NECESSARY TO ADD MORE STANDARD SIZE VOID-FILLED RIPRAP MATERIAL AND REMIX THE ENTIRE THICKNESS OF ROCK TO ACHIEVE THE DESIGN SECTION. CONTRACTOR SHALL INSTALL A TEST SECTION OF THE VOID-FILLED RIPRAP MATERIAL AT THE BEGINNING OF THE PROJECT FOR REVIEW AND APPROVAL BY THE DESIGN ENGINEER.

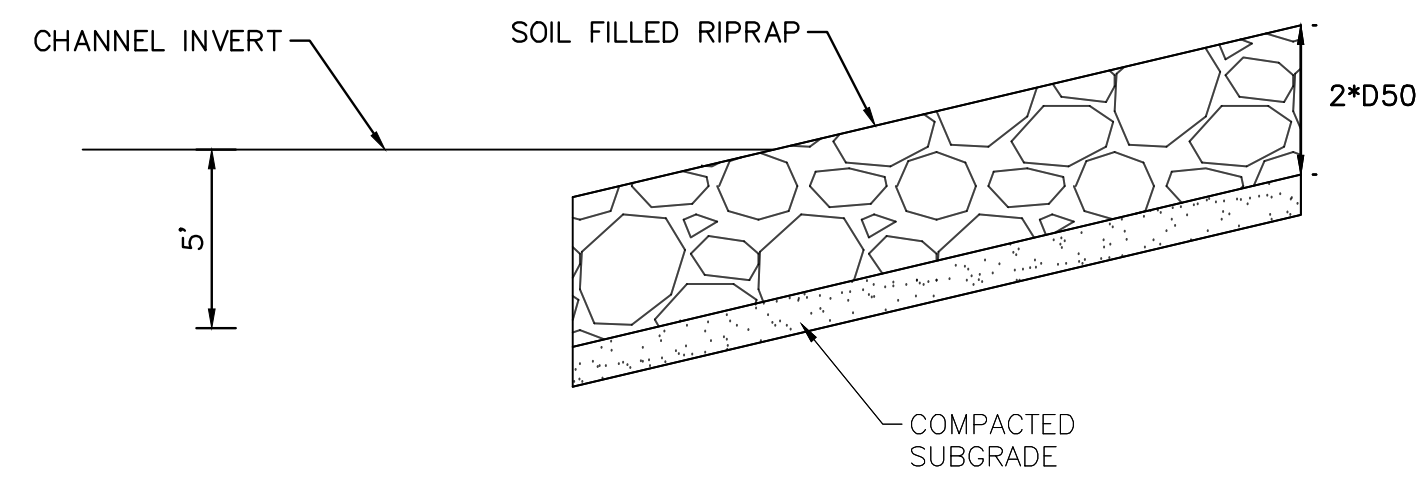


8 GROUTED BOULDER DROP WITH DEPRESSED STILLING BASIN - PROFILE VIEW NTS

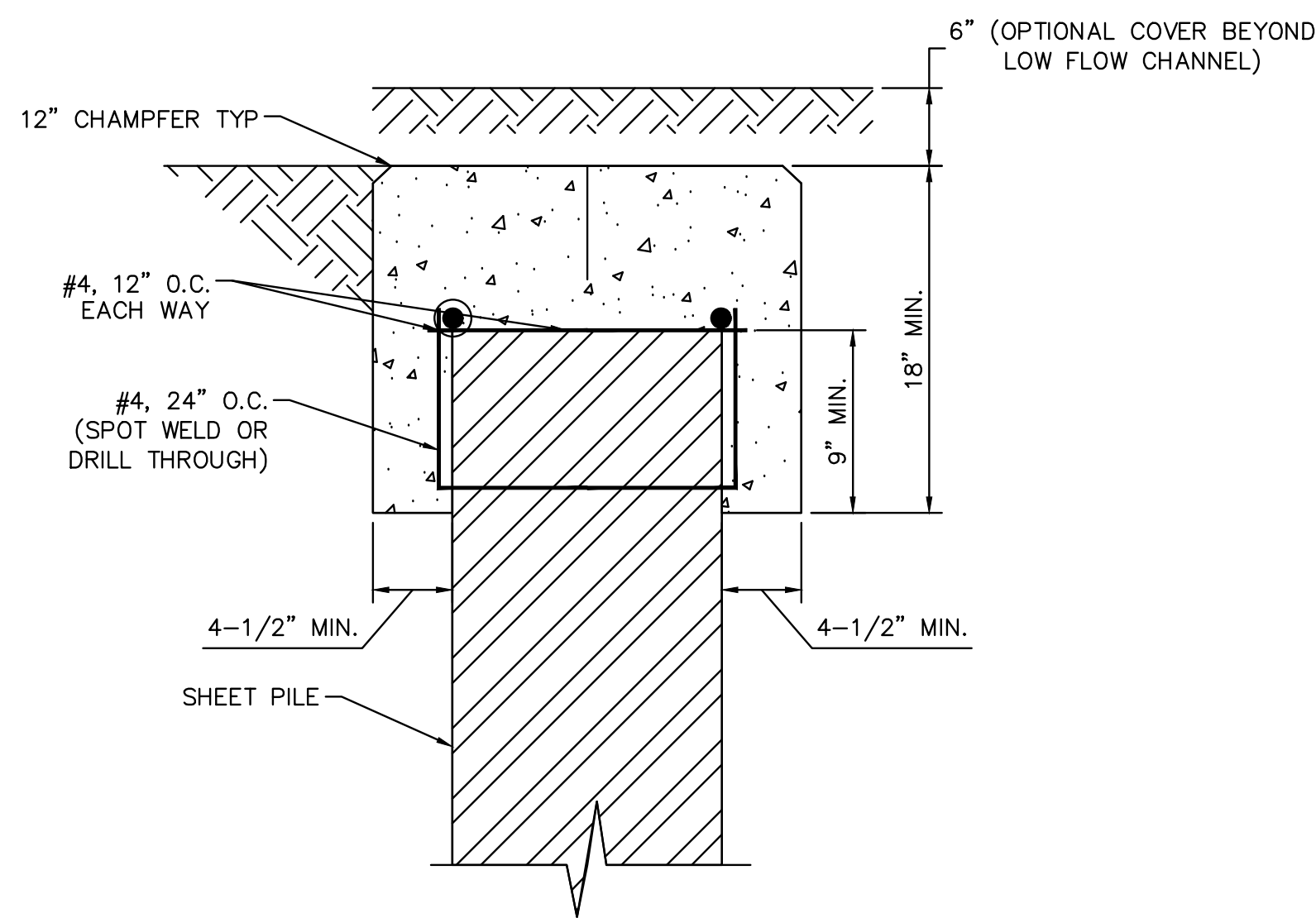




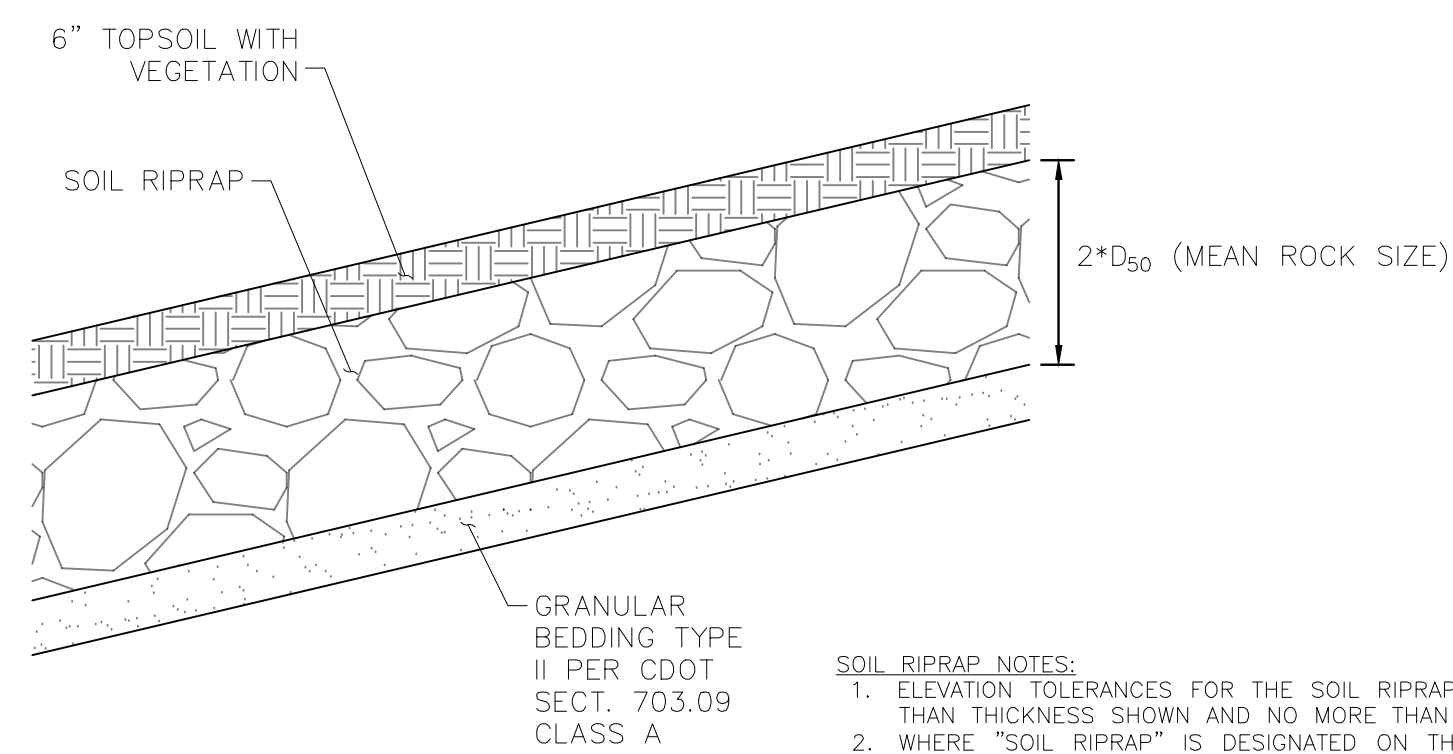
9 STRUCTURE EDGE WALL DETAIL (GSB) NTS



10 TOE-IN CHANNEL DETAIL NTS

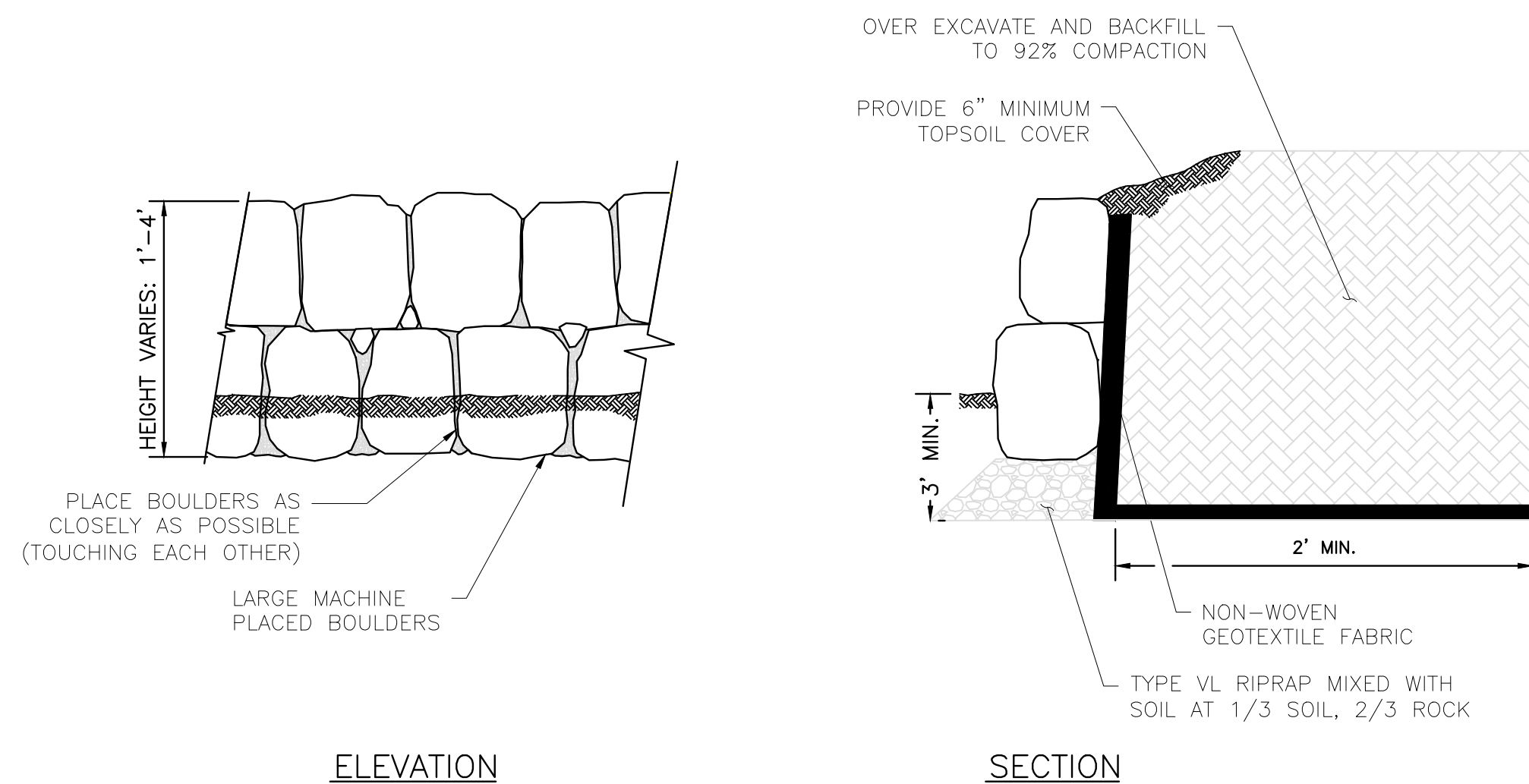


11 CONCRETE SHEET PILE CAP DETAIL NTS



- SOIL RIPRAP NOTES:
- ELEVATION TOLERANCES FOR THE SOIL 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.
 - WHERE "SOIL RIPRAP" IS DESIGNATED ON THE CONTRACT DRAWINGS, RIPRAP VOIDS ARE TO BE FILLED WITH NATIVE SOIL. THE RIPRAP SHALL BE PRE-MIXED WITH THE NATIVE SOIL 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.
 - A SURFACE LAYER OF TOPSOIL SHALL BE PLACED OVER THE SOIL RIPRAP ACCORDING TO THE THICKNESS SPECIFIED ON THE CONTRACT DRAWINGS. THE TOPSOIL SURFACE LAYER SHALL BE COMPACTED TO APPROXIMATELY 85% OF MAXIMUM DENSITY AND WITHIN TWO PERCENTAGE POINTS OF OPTIMUM MOISTURE IN ACCORDANCE WITH ASTM D698. TOPSOIL SHALL BE ADDED TO ANY AREAS THAT SETTLE.
 - ALL SOIL RIPRAP THAT IS BURIED WITH TOPSOIL SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO ANY TOPSOIL PLACEMENT.
 - TOPSOIL TO BE PLACED ATOP SOIL RIPRAP AND CONTRACTOR TO ENSURE PERMANENT SEEDING IS APPLIED TO ALL SOIL RIPRAP. CONTRACTOR TO ENSURE FINAL VEGETATION STANDARDS ARE MET PER EL PASO COUNTY REQUIREMENTS.
 - RIPRAP SHALL BE PLACED SO THAT TOP OF RIPRAP IS FLUSH WITH PROPOSED OR EXISTING GRADE.
 - AT THE UPSTREAM AND DOWNSTREAM TERMINATION OF RIPRAP LINING, THE THICKNESS SHALL BE INCREASED 50% FOR AT LEAST 5 LINEAR FEET TO PREVENT UNDERCUTTING.
 - THE PLACEMENT OF FILL, EITHER LOOSE OR COMPACTED IN THE RECEIVING CHANNEL SHALL NOT BE ALLOWED.

12 SOIL FILLED RIPRAP DETAIL NTS



15 BOULDER STACKED WALL EDGE NTS

RIP RAP DESIGNATION	% SMALLER THAN GIVEN SIZE BY WIEGHT	INTERMEDIATE ROCK DIMENSION (INCHES)	D50* (INCHES)
TYPE VL	70 – 100	12	6
	50 – 70	9	
	35 – 50	6	
	2 – 10	2	
TYPE L	70 – 100	15	9
	50 – 70	12	
	35 – 50	9	
	2 – 10	3	
TYPE M	70 – 100	21	12
	50 – 70	18	
	35 – 50	12	
	2 – 10	4	
TYPE H	70 – 100	30	18
	50 – 70	24	
	35 – 50	18	
	2 – 10	6	
*D50 = MEAN ROCK SIZE			

13 RIPRAP SIZING DETAIL

GRADATION FOR GRANULAR BEDDING	
U.S. STANDARD SIEVE SIZE	TYPE II CDOT SECT. 703.09 CLASS A
3 INCHES	90 - 100
1½ INCHES	-
¾ INCHES	20 - 90
¾ INCHES	-
#4	0 - 20
#16	-
#50	-
#100	-
#200	0 - 3

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2 North Nevada Avenue, Suite 900
Colorado Springs, Colorado 80903 (719) 453-0180

DESIGNED BY: DCM
DRAWN BY: LWN
CHECKED BY: DCM
DATE: 6/26/2025

FISHERS CANYON CREEK
CHANNEL IMPROVEMENT PLANS
EL PASO COUNTY, COLORADO
CHANNEL DETAILS

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EPC STANDARD GEC PLAN NOTES

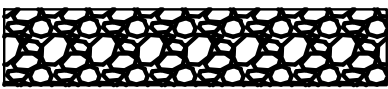




1. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCES SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
2. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGNS AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO HE 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, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
3. A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) 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.
4. ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVAL 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.
5. 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.
6. 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 BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
7. 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.
8. 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.
9. 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.
10. 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.
 11. 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).
 12. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.
 13. 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.
 14. DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER 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.
 15. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
 16. 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.
 17. 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.
 18. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
 19. 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.










20. 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.
21. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE 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.
22. 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 ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
23. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
24. 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.
25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
26. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
27. 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.
28. THE PRELIMINARY GEOTECHNICAL EXPLORATION REPORT FOR THIS SITE HAS BEEN PREPARED BY PROFESSIONAL SERVICE INDUSTRIES, INC. AND SHALL BE CONSIDERED A PART OF THESE PLANS.
29. 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

CHANNEL IMPROVEMENTS LEGEND

SYMBOL OR LINETYPE	DESCRIPTION
-----XXXX-----	PROPOSED CHANNEL MAJOR CONTOUR
-----XXXX-----	PROPOSED CHANNEL MINOR CONTOUR
-----XXXX-----	PROPOSED SITE MAJOR CONTOUR
-----XXXX-----	PROPOSED SITE MINOR CONTOUR
-----10+00-----	PROPOSED STREAM CENTERLINE ALIGNMENT
	PROPOSED RIPRAP
	PROPOSED GROUTED BOULDER DROP STRUCTURE
	PROPOSED SHEETPILE CUTOFF WALL
-----LDA-----	PROPOSED LIMIT OF CHANNEL DISTURBANCE
	PROPOSED RIPARIAN SEED MIX
	PROPOSED UPLAND SEED MIX

EXISTING SURVEY LEGEND:

SYMBOL OR LINETYPE	DESCRIPTION
-----XXXX-----	EXISTING MAJOR CONTOUR
-----XXXX-----	EXISTING MINOR CONTOUR
-----	PROPERTY LINE
-----G-----	GAS LINE
-----W-----	WATER LINE
-----OH-----	OVERHEAD POWER
-----ST-----	STORM LINE
-----E-----	UNDERGROUND POWER LINE
-----SS-----	SANITARY LINE
-----FO-----	COMMUNICATION LINE, FIBER OPTIC
-----T-----	COMMUNICATION LINE, TELEPHONE
=====	CURB AND GUTTER
	TREE/SHRUB
	SIGN
	TRAFFIC SIGNAL
	GAS VALVE
	LIGHT POLE
	POWER POLE
	GUY WIRE
	WATER VALVE
	FIRE HYDRANT
----- --	EXISTING 100--YEAR FEMA BOUNDARY

ABBREVIATIONS

AC	ASPHALT CONCRETE
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
APPROX	APPROXIMATE OR APPROXIMATELY
BP OR BOP	BEGINNING OF PROJECT
BCR	BEGIN CURB RADIUS
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION
CL	CENTERLINE
CLR	CLEARANCE
CONC	CONCRETE
DWG	DRAWING
DR	DRIVE
EA	EACH
EP OR EOP	END OF PROJECT
ECR	END CURB RADIUS
ELEV OR EL	ELEVATION
ESMT	EASEMENT
EW	EACH WAY
EX	EXISTING
FES	FLARED END SECTION
FL	FLOWLINE
FT	FOOT/FEET
HMA	HOT MIX ASPHALT
HCL	HORIZONTAL CONTROL LINE
K	VERTICAL CURVE RATIO
LT	LEFT
ME	MATCH EXISTING
MAX	MAXIMUM
MIN	MINIMUM

LEGEND NOTES:

1. THIS IS A STANDARD DRAWING SHOWING COMMON SYMBOLOGY. ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH DRAWING FOR USAGE.
3. THESE ABBREVIATIONS APPLY TO THE ENTIRE SET OF CONTRACT DRAWINGS.
4. LISTING OF ABBREVIATIONS DOES NOT IMPLY THAT ALL ABBREVIATIONS ARE USED IN THE CONTRACT DRAWINGS.
5. ABBREVIATIONS SHOWN ON THIS SHEET INCLUDE VARIATIONS OF A WORD. FOR EXAMPLE, "MOD" MAY MEAN MODIFY OR MODIFICATION; "INC" MAY MEAN INCLUDED OR INCLUDING AND "REINF" MAY MEAN EITHER REINFORCE OR REINFORCING.

MISC. ABBREVIATIONS

⊙	AT
∅	PHASE, DIAMETER
&	AND
'	FEET, MINUTES
"	INCHES, SECONDS
°	DEGREE
#	NUMBER
CL	CENTERLINE



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2 North Nevada Avenue, Suite 900
Colorado Springs, Colorado 80903 (719) 453-0180

DESIGNED BY: DCM
DRAWN BY: LWM
CHECKED BY: DCM
DATE: 6/26/2025

FISHERS CANYON CREEK
GRADING AND EROSION CONTROL PLANS
EL PASO COUNTY, COLORADO
GENERAL NOTES

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PROJECT NO.
196825001

SHEET
C982

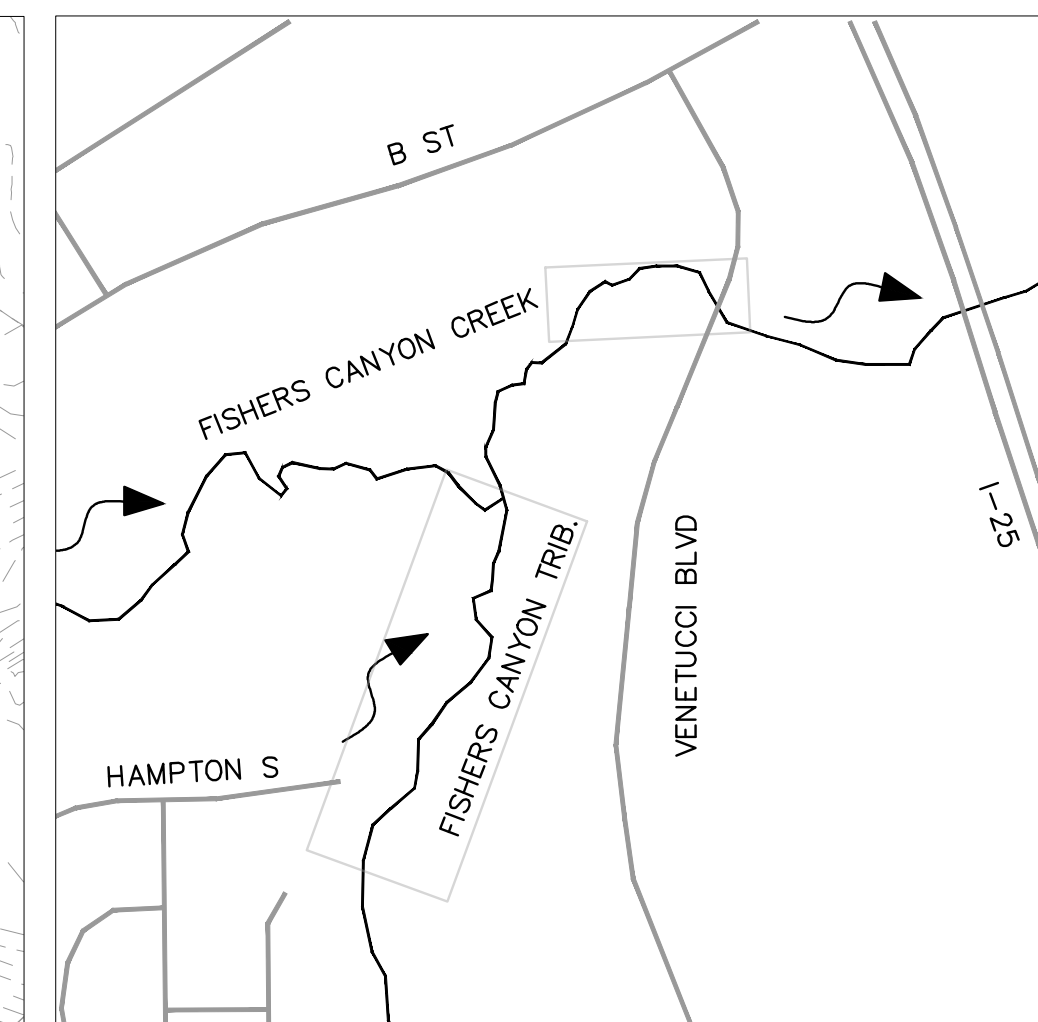
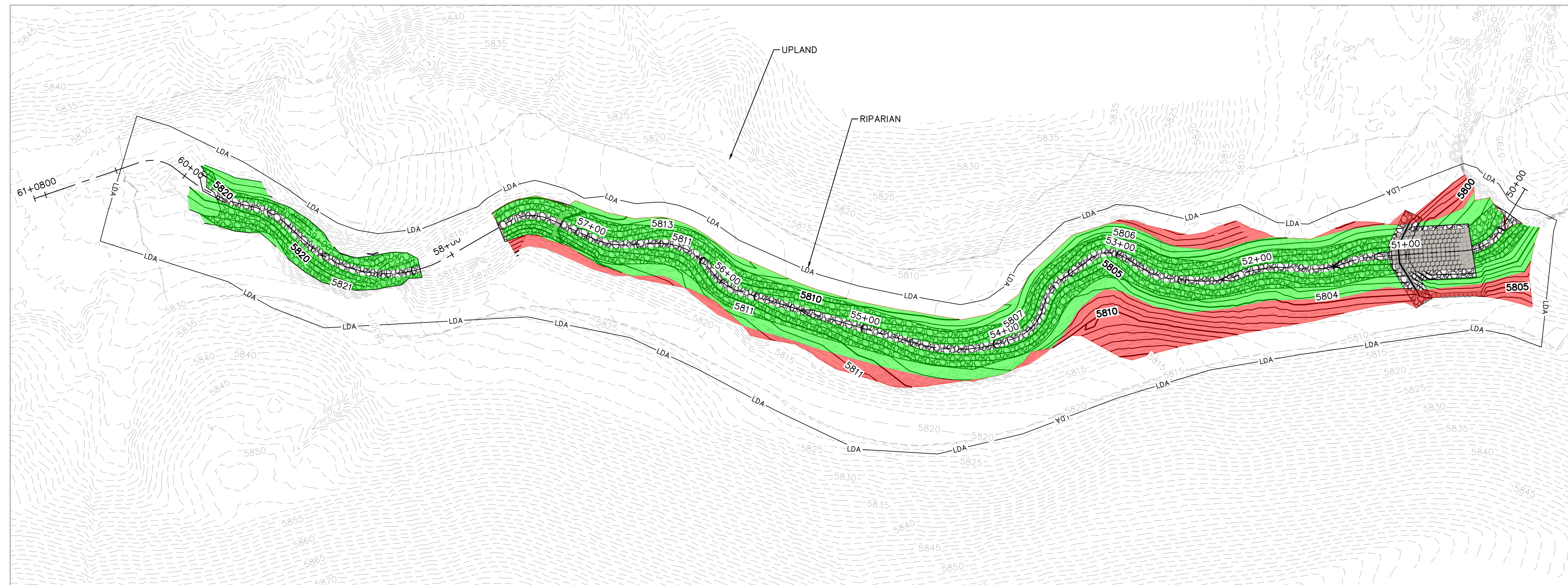
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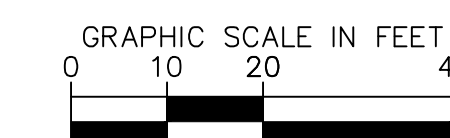
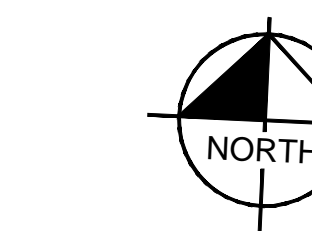
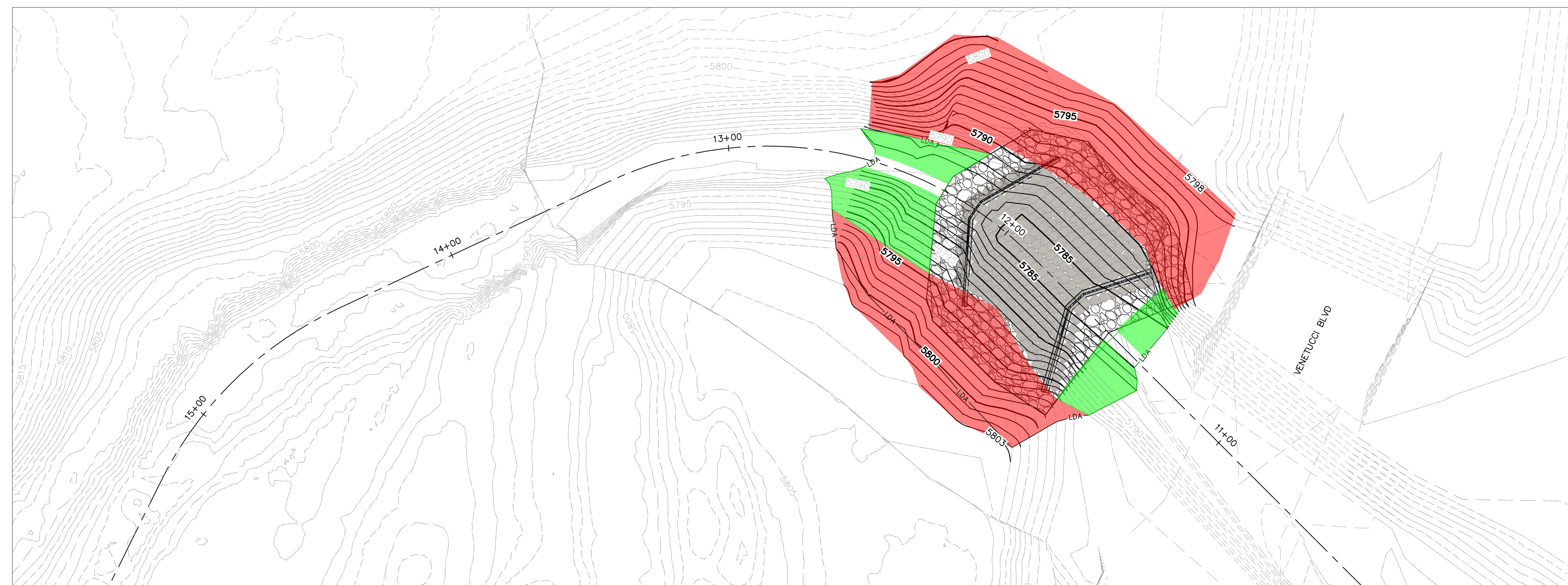
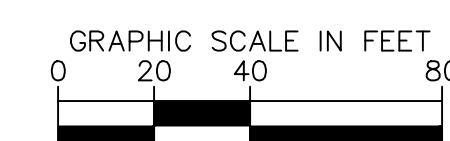
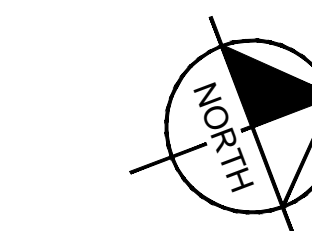
REVISION

NO.



RIPARIAN

UPLANDS



FISHERS CANYON CREEK

CHANNEL IMPROVEMENT PLANS

EL PASO COUNTY, COLORADO

Kimley»Horn

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DRAWN BY: LWM
CHECKED BY: DCM
DATE: 6/26/2025

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PROJECT NO.
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SHEET
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Table A-2. Upland area seed mix – sandy soil

Common Name	Scientific Name	Growth Season	Growth Form	% Mix	Lb/ac (PLS ¹)
Grasses					
Switchgrass	<i>Panicum virgatum</i>	Warm	Sod/Bunch	15	2.3
Prairie sandreed	<i>Calamovilfa longifolia</i>	Warm	Sod	10	2.2
Sideoats grama	<i>Bouteloua curtipendula</i>	Warm	Sod	10	3.1
Blue grama	<i>Bouteloua gracilis</i>	Warm	Sod	10	0.7
Indian ricegrass	<i>Oryzopsis hymenoides</i>	Cool	Bunch	10	4.3
Western wheatgrass	<i>Pascopyrum smithii</i>	Cool	Sod	10	5.5
Little bluestem	<i>Schizachyrium scoparium</i>	Warm	Bunch	10	2.3
Sand dropseed	<i>Sporobolus cryptandrus</i>	Warm	Bunch	10	0.1
Green needlegrass	<i>Stipa viridula</i>	Cool	Bunch	10	3.3
Herbaceous/Wildflowers					
Pasture sage	<i>Artemisia frigida</i>			1	0.1
Blanket flower	<i>Gaillardia aristata</i>			2	0.9
Tansy aster	<i>Maceranthera tanacetifolia</i>			2	0.2
TOTAL PLS POUNDS/ACRE				100	25

PLS = Pure Live Seed – If broadcast seeding, double the rate

Table A-5. Riparian area seed mix – sandy soil

(Recommended for middle to upper terraces and slopes above 5-year flood elevations.)

Common Name	Scientific Name	Growth Season	Growth Form	% Mix	Lb/ac (PLS ¹)
Sand dropseed	<i>Sporobolus</i>	Warm	Bunch	20	0.2
Switchgrass	<i>Panicum virgatum</i>	Warm	Sod/Bunch	20	3.1
Blue grama	<i>Bouteloua gracilis</i>	Warm	Sod	15	1.1
Canada wildrye	<i>Elymus canadensis</i>	Cool	Bunch	10	5.2
Sand bluestem	<i>Andropogon hallii</i>	Warm	Bunch	10	5.3
Western wheatgrass	<i>Pascopyrum smithii</i>	Cool	Sod	10	5.5
Yellow Indiangrass	<i>Sorghastrum nutans</i>	Warm	Sod	10	3.5
Wildflowers					
Blanket flower	<i>Gaillardia aristata</i>			1	0.5
Rocky Mountain	<i>Penstemon strictus</i>			1	0.1
Purple prairie clover	<i>Dalea purpurea</i>			1	0.3
Mexican hat	<i>Ratibida columnifera</i>			1	0.1
Western yarrow	<i>Achillea millefolium</i>			1	0.02
TOTAL PLS POUNDS/ACRE				100	24.92

¹PLS = Pure Live Seed – If broadcast seeding, double the rate



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DATE: 6/26/2025

FISHERS CANYON CREEK
CHANNEL IMPROVEMENT PLANS
EL PASO COUNTY, COLORADO
REVEGETATION DETAILS

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PROJECT NO.
196825001

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APPR.

DATE

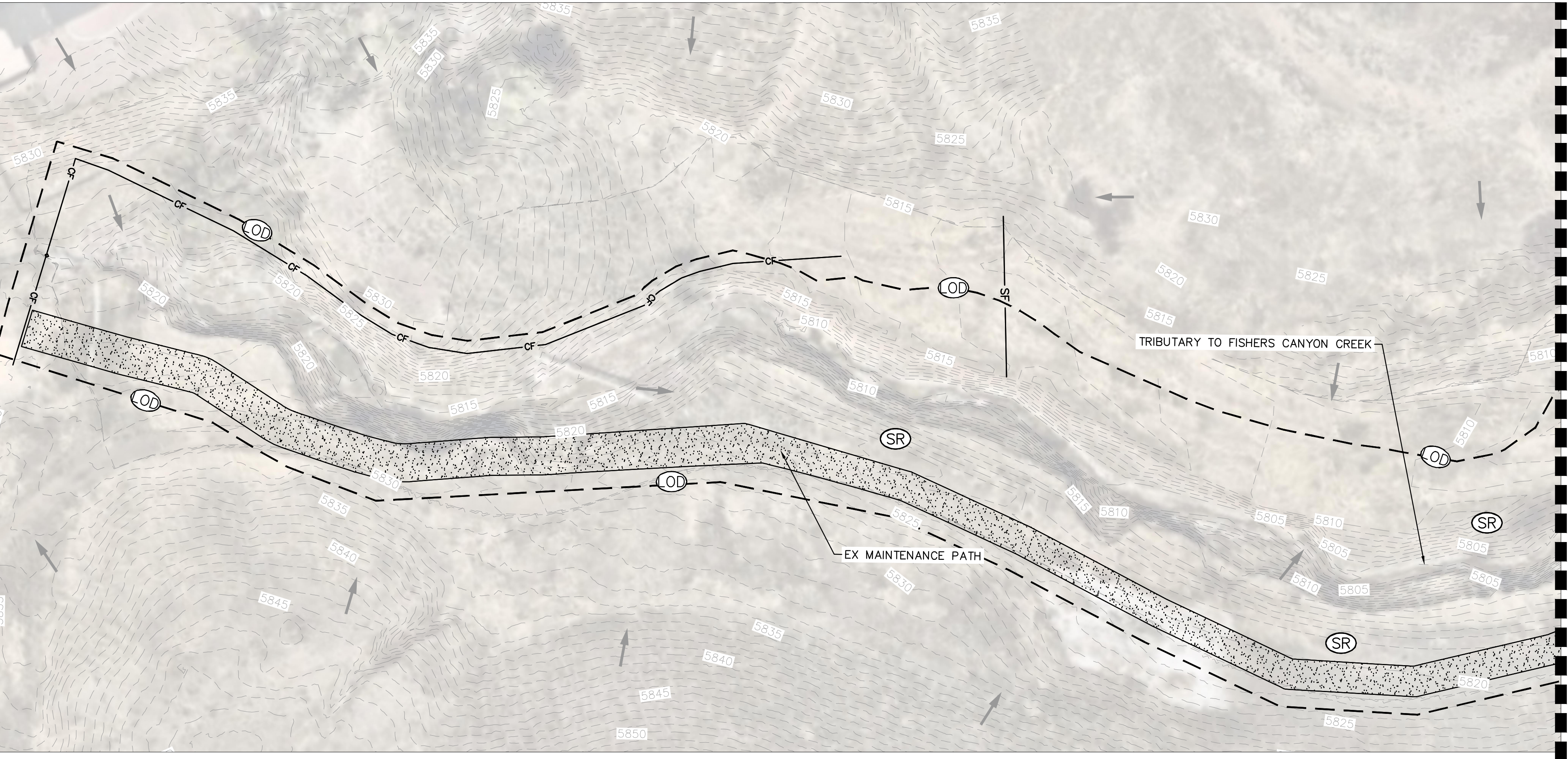
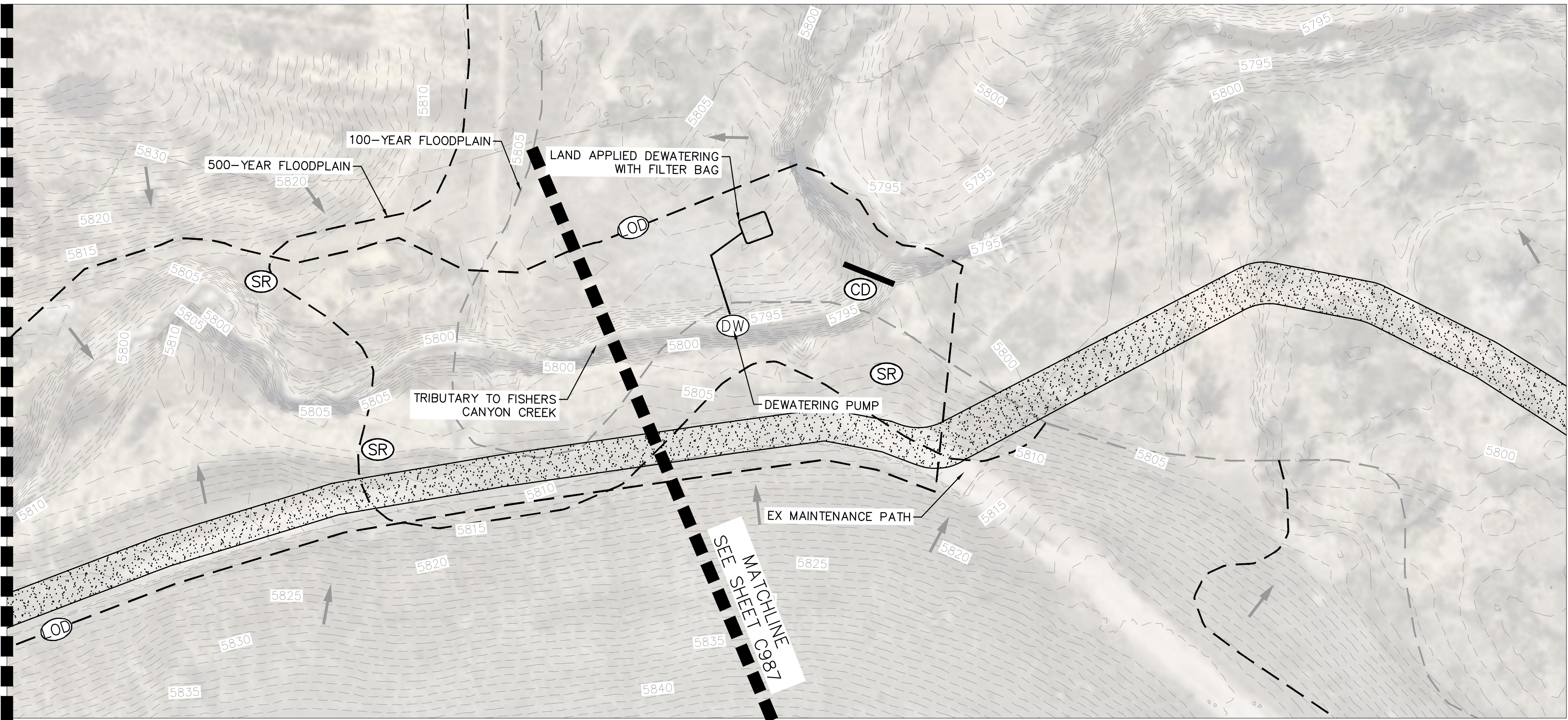
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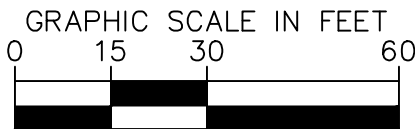
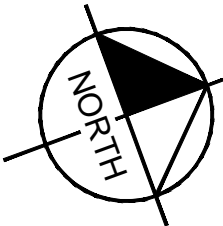
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MATCHLINE
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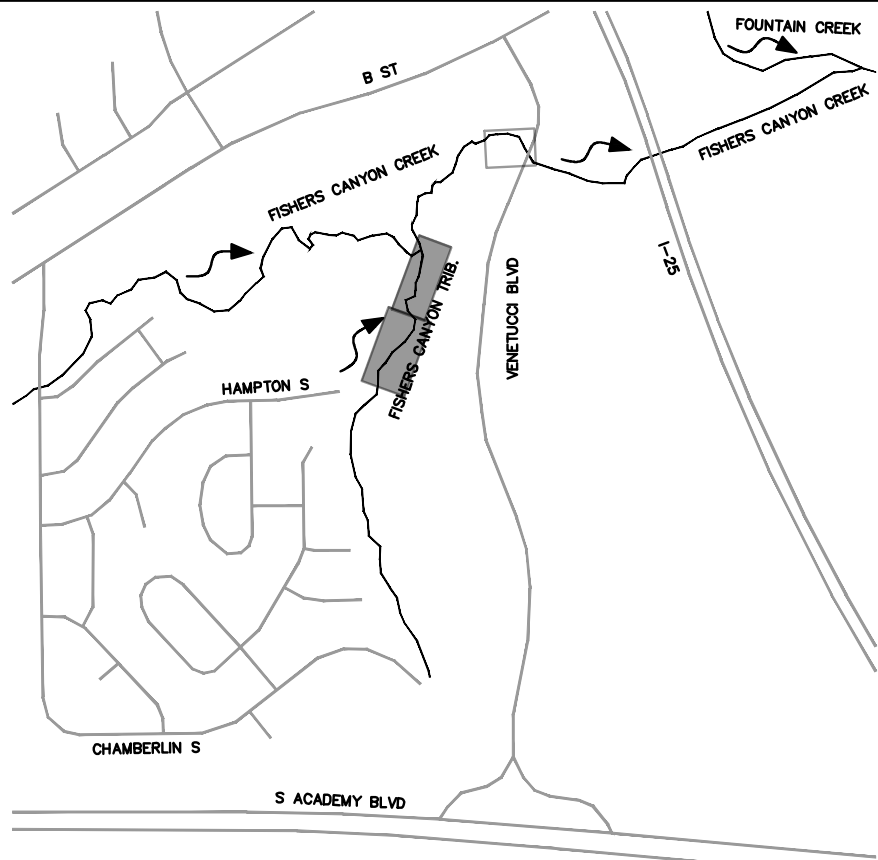


MATCHLINE
SEE BOTTOM LEFT



LIMITS OF CONSTRUCTION

TOTAL ONSITE DISTURBANCE =±2.66 ACRES
ONSITE DISTURBANCE (THIS SHEET) =±2.12 ACRES



KEY MAP N. T. S.

LEGEND

- PROPERTY LINE
- LOD LIMITS OF DISTURBANCE/CONSTRUCTION
- EXISTING MAINTENANCE PATH
- EXISTING FLOW ARROW
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR

INITIAL BMPS

- SF SILT FENCE
- CF CONSTRUCTION FENCE
- CWA CONCRETE WASHOUT AREA
- SSA STABILIZED STAGING AREA
- VTG VEHICLE TRACKING CONTROL
- SP SOIL STOCKPILE
- SM SEEDING AND MULCHING
- DW DEWATERING

INTERIM BMPS

- CD CHECK DAMS
- SR SURFACE ROUGHENING

VEGETATION NOTES

- THE EXST VEGETATION IS PRIMARILY NATIVE GRASSES AND WITH NO NOTABLE VEGETATION. TREES WITHIN THE CONSTRUCTION LIMITS ARE LIMITED AND ANY EXST TREES SHALL BE PROTECTED FROM ANY CONSTRUCTION ACTIVITIES.

NOTES

- THE INTENT OF THIS PLAN IS TO IDENTIFY THE EROSION CONTROL PRACTICES RECOMMENDED. THE CONTRACTOR SHALL REFERENCE ADDITIONAL CONSTRUCTION PLANS FOR DEMOLITION OF EXISTING AND CONSTRUCTION OF PROPOSED IMPROVEMENTS.
- ADJACENT STREETS SHALL BE KEPT CLEAN AND FREE OF SEDIMENT AND/OR DEBRIS AT ALL TIMES.
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- VEGETATION COVER IS ABOUT 90% CONSISTING OF NATIVE GRASSES, TREES AND SHRUBS, BASED ON VISUAL INSPECTION
- NO ASPHALT OR CONCRETE BATCH PLANTS SHALL BE USED FOR THIS PROJECT.
- REFERENCE SHEETS C1.3-C1.7 FOR STABILIZED DRAINAGE WAY CONSTRUCTION DESIGN

SURFACE ROUGHENING NOTES

- STAIR STEP GRADING - USED ON SLOPES WITH GRADIENTS BETWEEN 3:1 AND 2:1 AND FOR SOIL CONTAINING A LARGE AMOUNT OF SMALL ROCKS. STAIRS ARE TO BE WIDE ENOUGH TO WORK WITH STANDARD EARTH MOVING EQUIPMENT.
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- TRACKING - USED ON SOILS WITH HIGHER SAND CONTENT DUE TO COMPACTION BY HEAVY MACHINERY.
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EL PASO COUNTY, COLORADO
INITIAL GEC PLAN

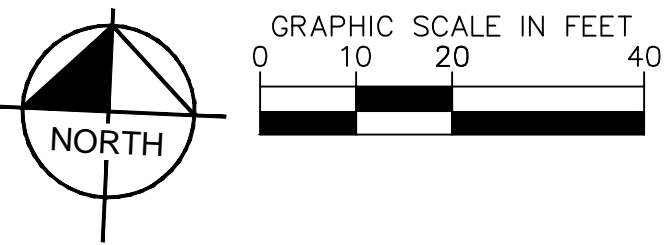
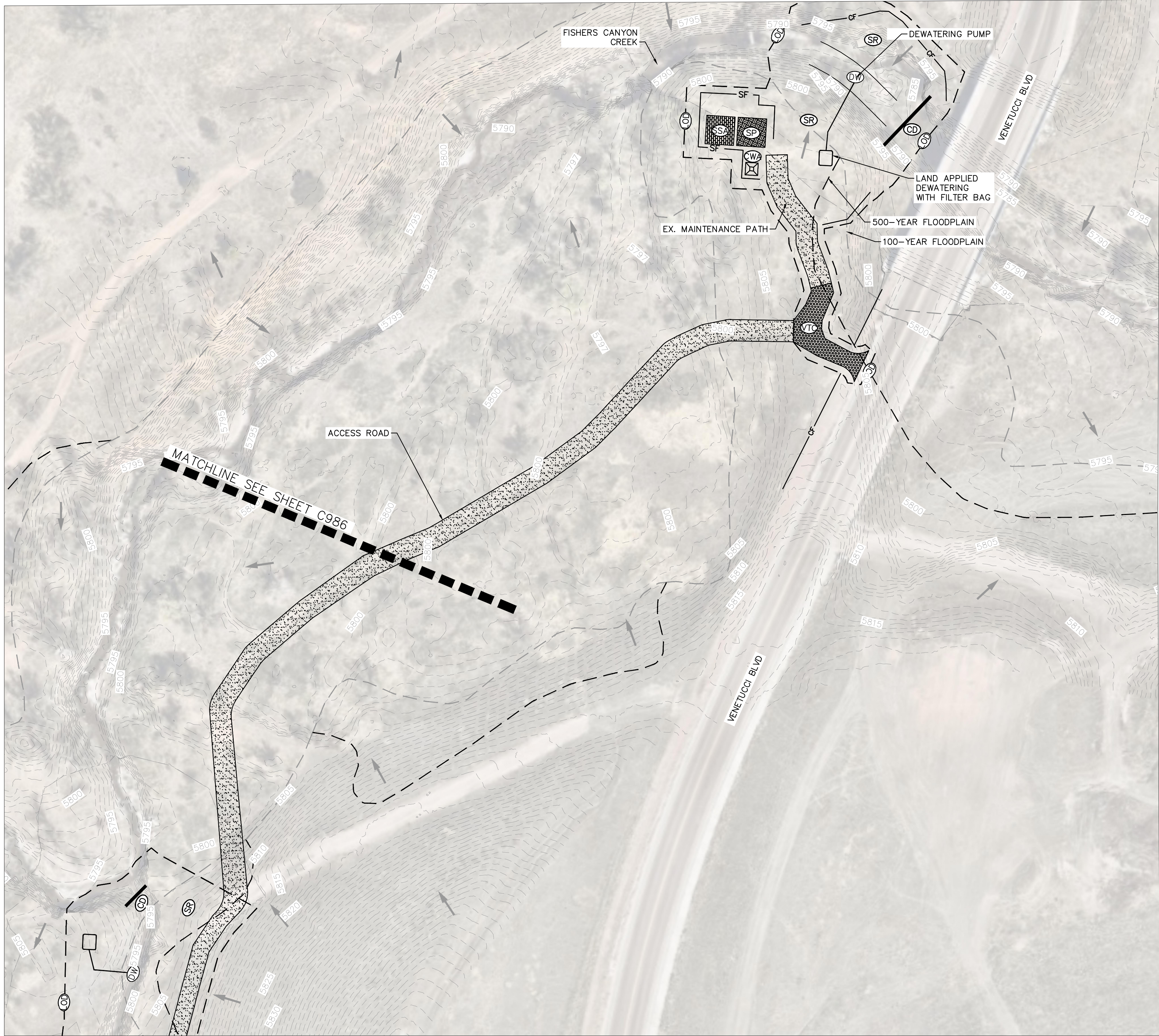
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PROJECT NO.
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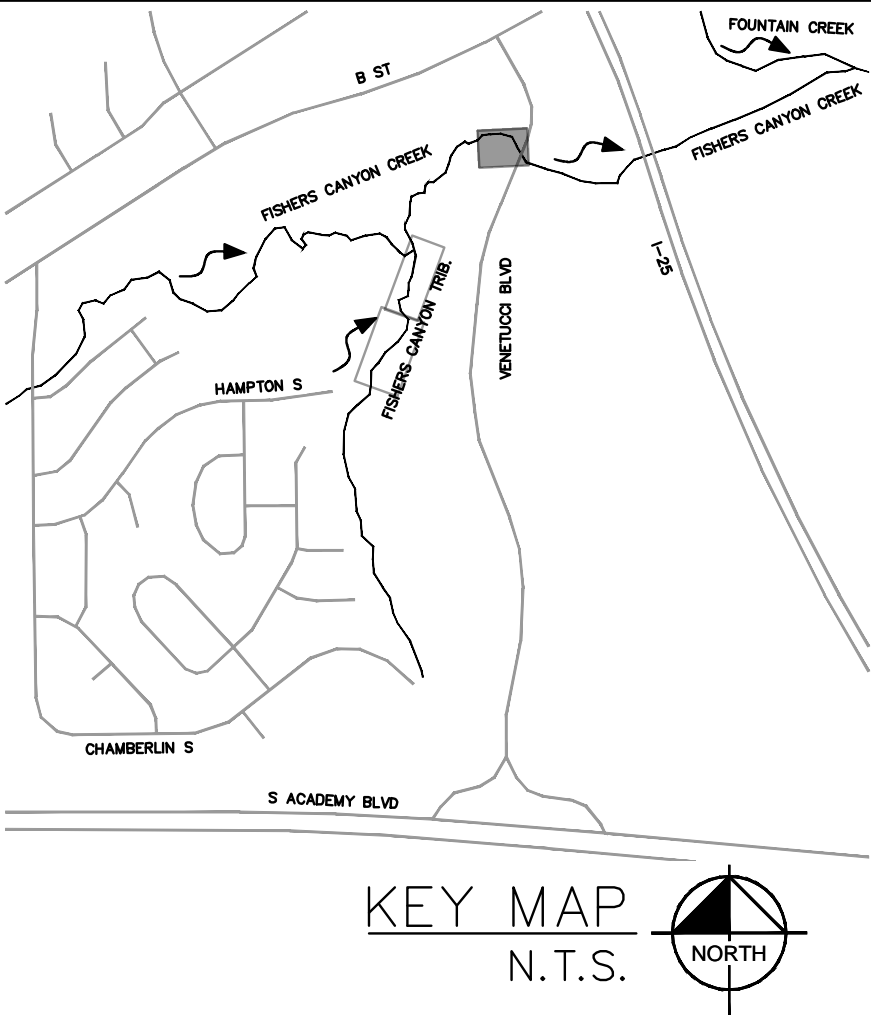
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LIMITS OF CONSTRUCTION

TOTAL ONSITE DISTURBANCE =±2.66 ACRES
ONSITE DISTURBANCE (THIS SHEET) =±0.54 ACRES



LEGEND

- PROPERTY LINE
- LIMITS OF DISTURBANCE/CONSTRUCTION
- EXISTING MAINTENANCE PATH
- EXISTING FLOW ARROW
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR

INITIAL BMPS

- SILT FENCE
- CONSTRUCTION FENCE
- CONCRETE WASHOUT AREA
- STABILIZED STAGING AREA
- VEHICLE TRACKING CONTROL
- SOIL STOCKPILE
- SEEDING AND MULCHING
- DEWATERING

INTERIM BMPS

- CHECK DAMS
- SURFACE ROUGHENING

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INITIAL GEC PLAN

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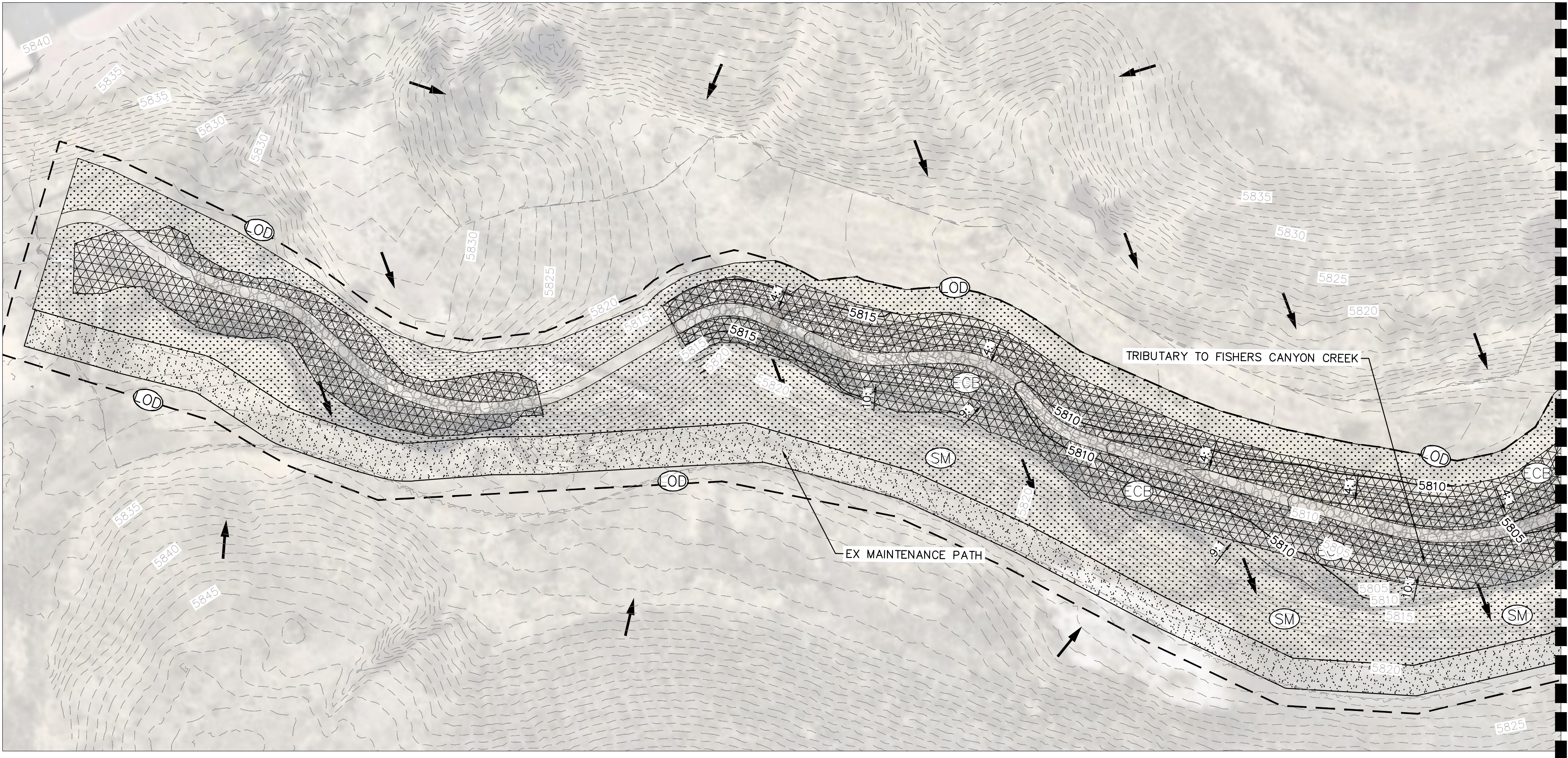
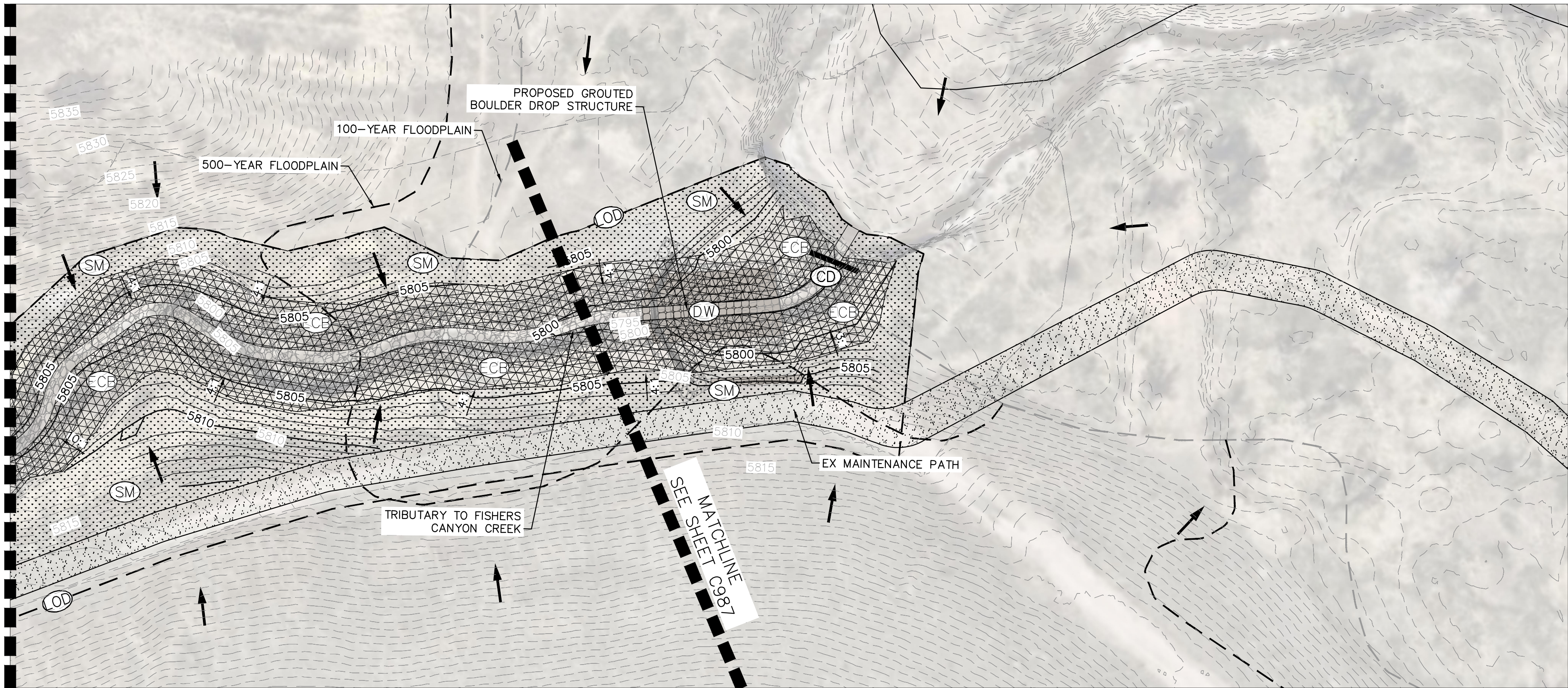
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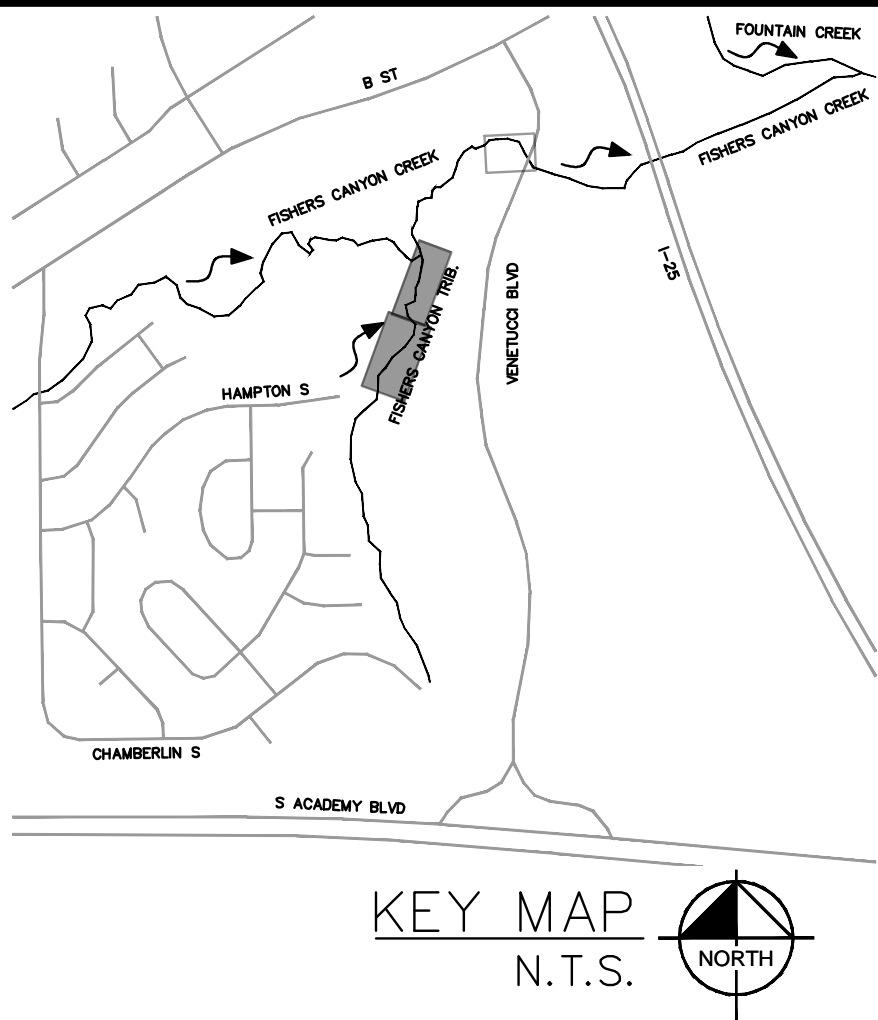
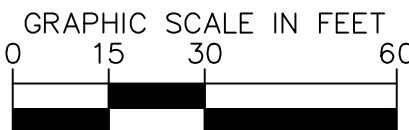
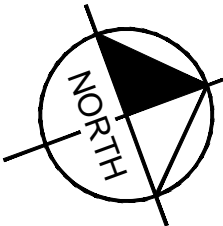
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LIMITS OF CONSTRUCTION

TOTAL ONSITE DISTURBANCE =±2.66 ACRES
ONSITE DISTURBANCE (THIS SHEET) =±2.12 ACRES



LEGEND

—	PROPERTY LINE
OD	LIMITS OF DISTURBANCE/CONSTRUCTION
CE	EROSION CONTROL BLANKET
RIPRAP	RIPRAP
SM	SEEDING AND MULCH
CD	CHECK DAMS
SR	SURFACE ROUGHENING
EXISTING MAINTENANCE PATH	EXISTING MAINTENANCE PATH
EXISTING FLOW ARROW	EXISTING FLOW ARROW
PROPOSED FLOW ARROW	PROPOSED FLOW ARROW
EXISTING MINOR CONTOUR	EXISTING MINOR CONTOUR
EXISTING MAJOR CONTOUR	EXISTING MAJOR CONTOUR
PROPOSED MAJOR CONTOUR	PROPOSED MAJOR CONTOUR
EXISTING MAJOR CONTOUR	EXISTING MAJOR CONTOUR

NOTES

- THE INTENT OF THIS PLAN IS TO IDENTIFY THE EROSION CONTROL PRACTICES RECOMMENDED. THE CONTRACTOR SHALL REFERENCE ADDITIONAL CONSTRUCTION PLANS FOR DEMOLITION OF EXISTING AND CONSTRUCTION OF PROPOSED IMPROVEMENTS.
- ADJACENT STREETS SHALL BE KEPT CLEAN AND FREE OF SEDIMENT AND/OR DEBRIS AT ALL TIMES.
- TEMPORARY STABILIZATION (TS) SHALL BE IMPLEMENTED WITHIN THE DISTURBED PORTIONS OF THE PROJECT SITE NO LATER THAN 14 DAYS FOLLOWING THE CEASE OF CONSTRUCTION ACTIVITIES WITHIN THE DISTURBED AREAS.
- PERMANENT STABILIZATION (PS) MAY BE USED WITHIN AREAS OF TEMPORARY STABILIZATION (TS) AT THE CONTRACTOR'S DISCRETION. STABILIZATION SHALL BE APPLIED IN ACCORDANCE WITH APPLICABLE TEMPORARY STABILIZATION SEQUENCING REQUIREMENTS.
- CONTRACTOR SHALL UTILIZE ROLLED EROSION CONTROL PRODUCTS (STRAW-SINGLE NET EROSION CONTROL BLANKETS AND OPEN WEAVE TEXTILES) ON ALL SLOPES 3H:1V OR GREATER TO ACHIEVE REQUIRED STABILIZATION.
- CONTRACTOR SHALL MAINTAIN ACCEPTABLE EROSION CONTROL PRACTICES WITHIN THE ANTICIPATED LIMITS OF CONSTRUCTION IDENTIFIED HEREIN. BEST MANAGEMENT PRACTICES AND STABILIZATION SHALL BE COMPLETED AS IDENTIFIED HEREIN IN ACCORDANCE WITH OWNER REQUIREMENTS.
- ALL WORK IN THE HODGEN ROAD AND MERJAIN ROAD ROW REQUIRES A ROW PERMIT FROM EL PASO COUNTY. CONTRACTOR IS RESPONSIBLE FOR APPLYING FOR AND OBTAINING ALL NECESSARY ROW PERMITS.
- SILT FENCE TO BE INSTALLED PRIOR TO COMMENCEMENT OF ONSITE GRADING AND CONSTRUCTION ACTIVITIES.
- DEMOLITION, REMOVAL, OVEREXCAVATION AND SOIL TREATMENT SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER RECOMMENDATIONS AS NOTED IN THE APPROVED PROJECT GEOTECHNICAL REPORT.
- VEGETATION COVER IS ABOUT 90% CONSISTING OF NATIVE GRASSES, TREES AND SHRUBS, BASED ON VISUAL INSPECTION.
- NO ASPHALT OR CONCRETE BATCH PLANTS SHALL BE USED FOR THIS PROJECT.
- CHECK DAMS TO BE PLACED IN TEMPORARY AND PERMANENT DRAINAGE SWALES AND ROADSIDE DITCHES AND TO BE SPACED AS DEEMED NECESSARY. RIPRAP IN CHECK DAMS TO BE SUBSTITUTED WITH SCL.
- TRM MATTING DEPICTED IN PLAN VIEW SHALL BE PLACED BY THE CONTRACTOR SUCH THAT IT COVERS THE CHANNEL BOTTOM EXTENDS 2 VERTICAL FEET UP THE SIDE SLOPES FROM THE TOE OF SLOPE.

Kimley»Horn

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DRAWN BY: LWM
CHECKED BY: DCM
DATE: 6/26/2025

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GRADING AND EROSION CONTROL PLANS
EL PASO COUNTY, COLORADO
FINAL GEC PLAN

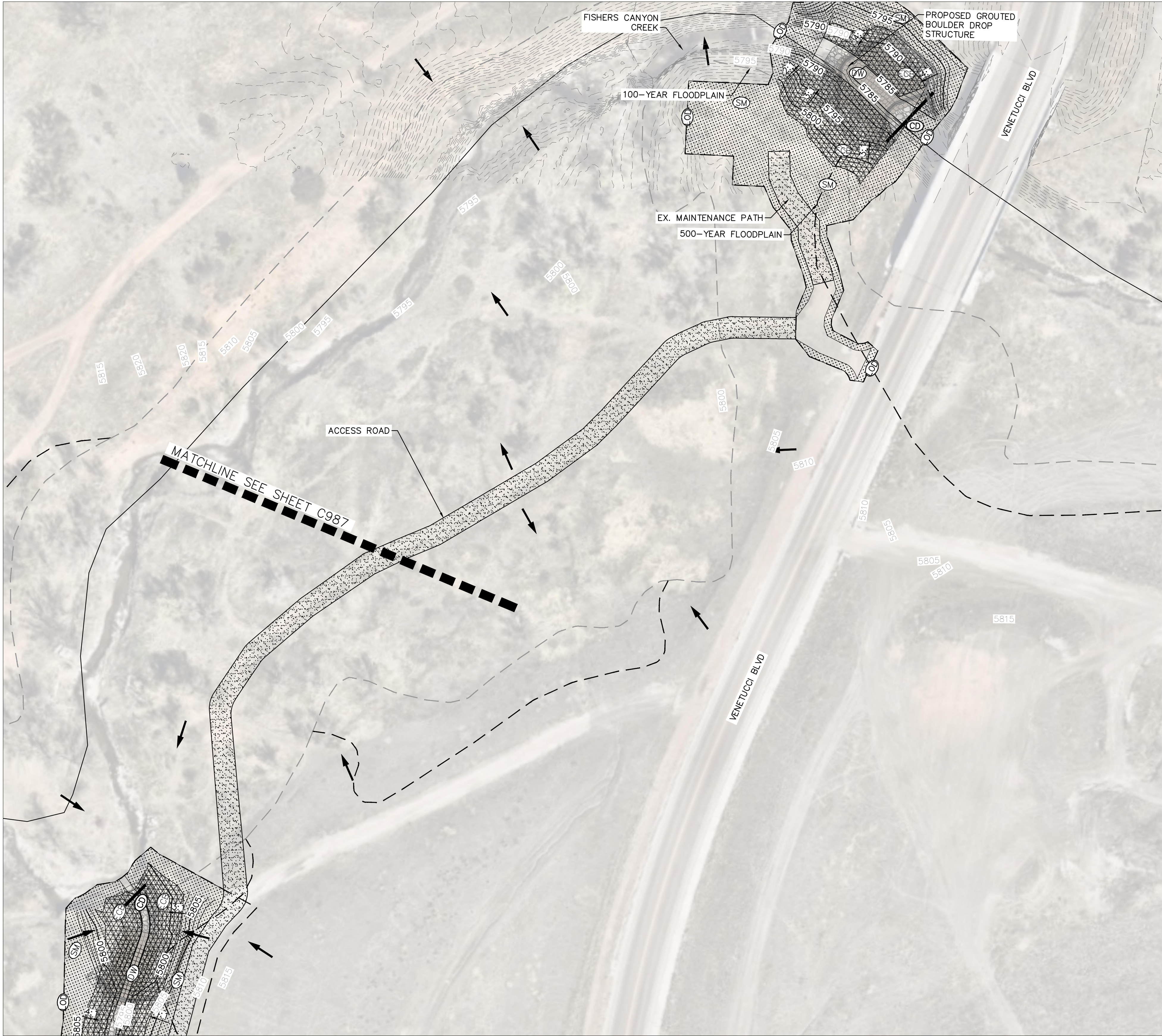
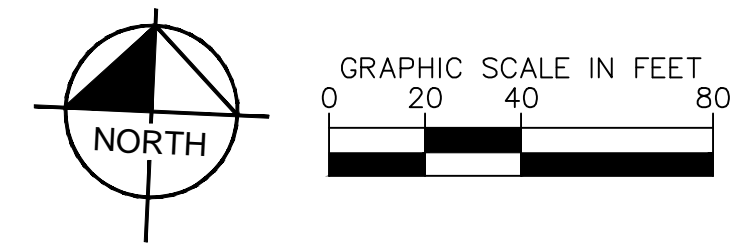
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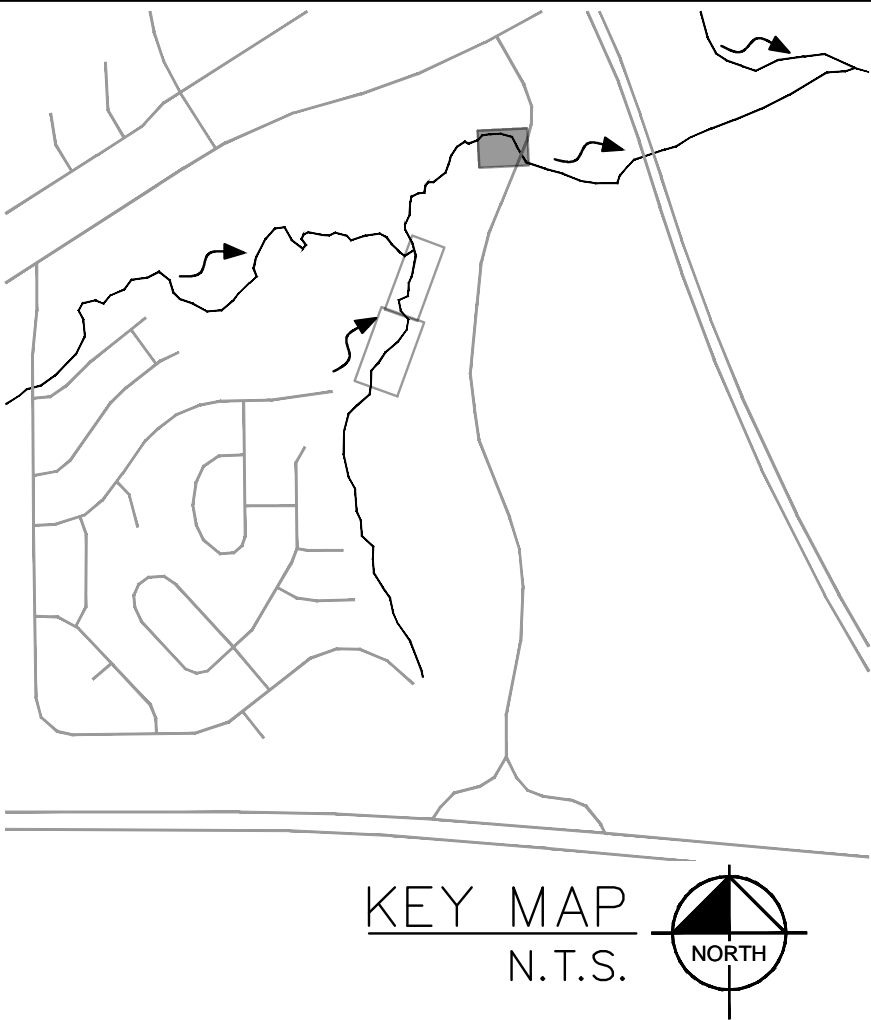
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LIMITS OF CONSTRUCTION

TOTAL ONSITE DISTURBANCE $\approx \pm 2.66$ ACRES
ONSITE DISTURBANCE (THIS SHEET) $\approx \pm 0.54$ ACRES



LEGEND

	PROPERTY LINE
	LIMITS OF DISTURBANCE/CONSTRUCTION
	EROSION CONTROL BLANKET
	RIPRAP
	SEEDING AND MULCH
	CHECK DAMS
	SURFACE ROUGHENING
	EXISTING MAINTENANCE PATH
	EXISTING FLOW ARROW
	PROPOSED FLOW ARROW
	EXISTING MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	PROPOSED MAJOR CONTOUR
	EXISTING MAJOR CONTOUR

NOTES

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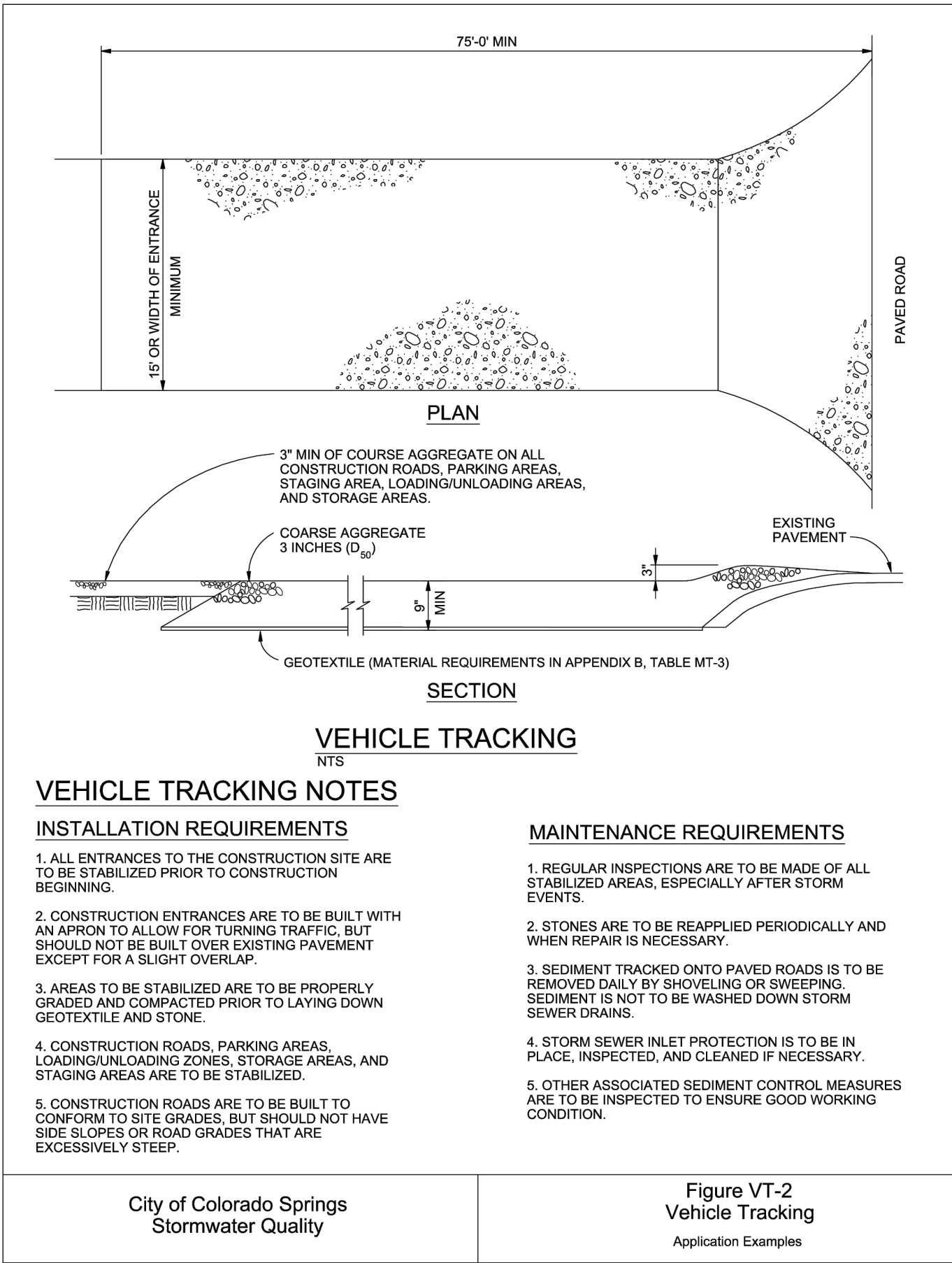
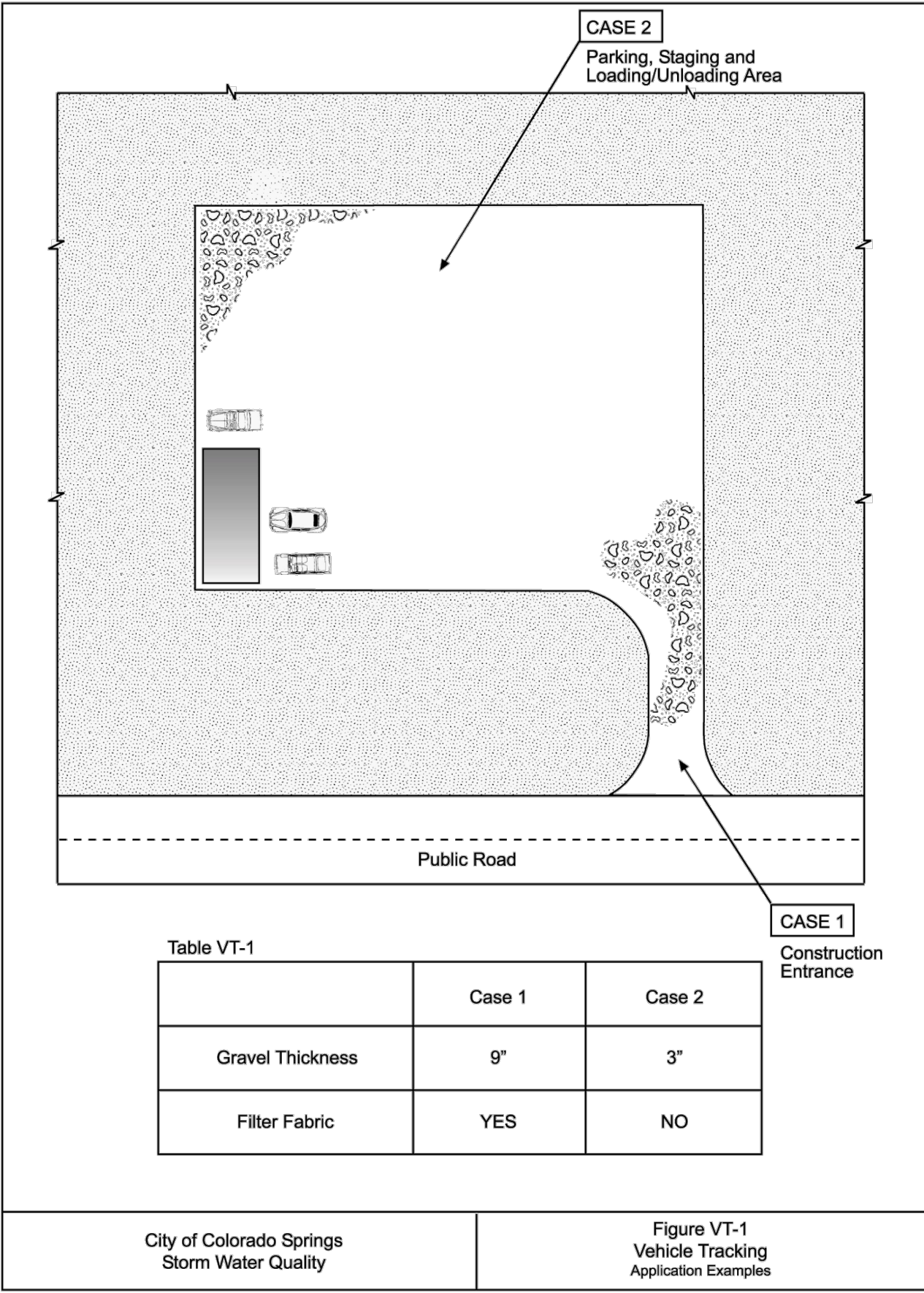
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Stabilized Staging Area (SSA)

SM-6

Description

A stabilized staging area is a clearly designated area where construction equipment and vehicles, stockpiles, waste bins, and other construction-related materials are stored. The contractor office trailer may also be located in this area. Depending on the size of the construction site, more than one staging area may be necessary.



Photograph SSA-1. Example of a staging area with a gravel surface to prevent mud tracking and reduce runoff. Photo courtesy of Douglas County.

Appropriate Uses

Most construction sites will require a staging area, which should be clearly designated in SWMP drawings. The layout of the staging area may vary depending on the type of construction activity. Staging areas located in roadways due to space constraints require special measures to avoid materials being washed into storm inlets.

Design and Installation

Stabilized staging areas should be completed prior to other construction activities beginning on the site. Major components of a stabilized staging area include:

- Appropriate space to contain storage and provide for loading/unloading operations, as well as parking if necessary.
- A stabilized surface, either paved or covered, with 3-inch diameter aggregate or larger.
- Perimeter controls such as silt fence, sediment control logs, or other measures.
- Construction fencing to prevent unauthorized access to construction materials.
- Provisions for Good Housekeeping practices related to materials storage and disposal, as described in the Good Housekeeping BMP Fact Sheet.
- A stabilized construction entrance/exit, as described in the Vehicle Tracking Control BMP Fact Sheet, to accommodate traffic associated with material delivery and waste disposal vehicles.

Over-sizing the stabilized staging area may result in disturbance of existing vegetation in excess of that required for the project. This increases costs, as well as requirements for long-term stabilization following the construction period. When designing the stabilized staging area, minimize the area of disturbance to the extent practical.

Stabilized Staging Area	
Functions	
Erosion Control	Yes
Sediment Control	Moderate
Site/Material	Yes

November 2010

Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

SSA-1

FISHERS CANYON CREEK
GRADING AND EROSION CONTROL PLANS
EL PASO COUNTY, COLORADO
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SM-6 Stabilized Staging Area (SSA)

Minimizing Long-Term Stabilization Requirements

- Utilize off-site parking and restrict vehicle access to the site.
- Use construction mats in lieu of rock when staging is provided in an area that will not be disturbed otherwise.
- Consider use of a bermed contained area for materials and equipment that do not require a stabilized surface.
- Consider phasing of staging areas to avoid disturbance in an area that will not be otherwise disturbed.

See Detail SSA-1 for a typical stabilized staging area and SSA-2 for a stabilized staging area when materials staging in roadways is required.

Maintenance and Removal

Maintenance of stabilized staging areas includes maintaining a stable surface cover of gravel, repairing perimeter controls, and following good housekeeping practices.

When construction is complete, debris, unused stockpiles and materials should be recycled or properly disposed. In some cases, this will require disposal of contaminated soil from equipment leaks in an appropriate landfill. Staging areas should then be permanently stabilized with vegetation or other surface cover planned for the development.

SSA-2	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	November 2010
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EC-1 Surface Roughening (SR)

Maintenance and Removal

Care should be taken not to drive vehicles or equipment over areas that have been surface roughened. Tire tracks will smooth the roughened surface and may cause runoff to collect into rills and gullies.

Because surface roughening is only a temporary control, additional treatments may be necessary to maintain the soil surface in a roughened condition.

Areas should be inspected for signs of erosion. Surface roughening is a temporary measure, and will not provide long-term erosion control.

SR-2	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	November 2010
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Stabilized Staging Area (SSA) SM-6

SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

- SEE PLAN VIEW FOR
-LOCATION OF STAGING AREA(S).
-CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
- STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
- STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
- THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
- ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

November 2010

Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

SSA-3

Concrete Washout Structure

Standard Drawing

DATE APPROVED: 1/1/08

DATE: 7/17/07

FILE NAME: SD_3-84

John A. McCarty

DEPARTMENT OF TRANSPORTATION

EL PASO COUNTY
DEPARTMENT OF TRANSPORTATION

SM-6 Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES

5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDCFD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

SSA-4	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	November 2010
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Mulching (MU) EC-4

Description

Mulching consists of evenly applying straw, hay, shredded wood mulch, rock, bark or compost to disturbed soils and securing the mulch by crimping, tackifiers, netting or other measures. Mulching helps reduce erosion by protecting bare soil from rainfall impact, increasing infiltration, and reducing runoff. Although often applied in conjunction with temporary or permanent seeding, it can also be used for temporary stabilization of areas that cannot be reseeded due to seasonal constraints.

Mulch can be applied either using standard mechanical dry application methods or using hydromulching equipment that hydraulically applies a slurry of water, wood fiber mulch, and often a tackifier.

Appropriate Uses

Use mulch in conjunction with seeding to help protect the seedbed and stabilize the soil. Mulch can also be used as a temporary cover on low to mild slopes to help temporarily stabilize disturbed areas where growing season constraints prevent effective reseeding. Disturbed areas should be properly mulched and tacked, or seeded, mulched and tacked promptly after final grade is reached (typically within no longer than 14 days) on portions of the site not otherwise permanently stabilized.

Standard dry mulching is encouraged in most jurisdictions; however, hydromulching may not be allowed in certain jurisdictions or may not be allowed near waterways.

Do not apply mulch during windy conditions.

Design and Installation

Prior to mulching, surface-rough areas by rolling with a crimping or punching type roller or by track walking. Track walking should only be used where other methods are impractical because track walking with heavy equipment typically compacts the soil.

A variety of mulches can be used effectively at construction sites. Consider the following:

Mulch	
Functions	
Erosion Control	Yes
Sediment Control	Moderate
Site/Material Management	No

June 2012	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	MU-1
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Surface Roughening (SR) EC-1

Description

Surface roughening is an erosion control practice that involves tracking, scarifying, imprinting, or tilling a disturbed area to provide temporary stabilization of disturbed areas. Surface roughening creates variations in the soil surface that help to minimize wind and water erosion. Depending on the technique used, surface roughening may also help establish conditions favorable to establishment of vegetation.

Appropriate Uses

Surface roughening can be used to provide temporary stabilization of disturbed areas, such as when revegetation cannot be immediately established due to seasonal planting limitations. Surface roughening is not a stand-alone BMP, and should be used in conjunction with other erosion and sediment controls.

Surface roughening is often implemented in conjunction with grading and is typically performed using heavy construction equipment to track the surface. Be aware that tracking with heavy equipment will also compact soils, which is not desirable in areas that will be revegetated. Scarifying, tilling, or ripping are better surface roughening techniques in locations where revegetation is planned. Roughening is not effective in very sandy soils and cannot be effectively performed in rocky soil.

Design and Installation

Typical design details for surfacing roughening on steep and mild slopes are provided in Details SR-1 and SR-2, respectively.

Surface roughening should be performed either after final grading or to temporarily stabilize an area during active construction that may be inactive for a short time period. Surface roughening should create depressions 2 to 6 inches deep and approximately 6 inches apart. The surface of exposed soil can be roughened by a number of techniques and equipment. Horizontal grooves (running parallel to the contours of the land) can be made using tracks from equipment treads, stair-step grading, ripping, or tilling.

Fill slopes can be constructed with a roughened surface. Cut slopes that have been smooth graded can be roughened as a subsequent operation. Roughening should follow along the contours of the slope. The tracks left by truck mounted equipment working perpendicular to the contour can leave acceptable horizontal depressions; however, the equipment will also compact the soil.

Surface Roughening	
Functions	
Erosion Control	Yes
Sediment Control	No
Site/Material Management	No

November 2010	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	SR-1
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EC-4 Mulching (MU)

- Clean, weed-free and seed-free cereal grain straw should be applied evenly at a rate of 2 tons per acre and must be tacked or fastened by a method suitable for the condition of the site. Straw mulch must be anchored (and not merely placed) on the surface. This can be accomplished mechanically by crimping or with the aid of tackifiers or nets. Anchoring with a crimping implement is preferred, and is the recommended method for areas flatter than 3:1. Mechanical crimpers must be capable of tucking the long mulch fibers into the soil to a depth of 3 inches without cutting them. An agricultural disk, while not an ideal substitute, may work if the disk blades are dull or blunted and set vertically; however, the frame may have to be weighted to afford proper soil penetration.
- Grass hay may be used in place of straw; however, because hay is comprised of the entire plant including seed, mulching with hay may seed the site with non-native grass species which might in turn out-compete the native seed. Alternatively, native species of grass hay may be purchased, but can be difficult to find and are more expensive than straw. Purchasing and utilizing a certified weed-free straw is an easier and less costly mulching method. When using grass hay, follow the same guidelines as for straw (provided above).
- On small areas sheltered from the wind and heavy runoff, spraying a tackifier on the mulch is satisfactory for holding it in place. For steep slopes and special situations where greater control is needed, erosion control blankets anchored with stakes should be used instead of mulch.
- Hydraulic mulching consists of wood cellulose fibers mixed with water and a tackifying agent and should be applied at a rate of no less than 1,500 pounds per acre (1,425 lbs of fibers mixed with at least 75 lbs of tackifier) with a hydraulic mulcher. For steeper slopes, up to 2000 pounds per acre may be required for effective hydroseeding. Hydromulch typically requires up to 24 hours to dry; therefore, it should not be applied immediately prior to inclement weather. Application to roads, waterways and existing vegetation should be avoided.
- Erosion control mats, blankets, or nets are recommended to help stabilize steep slopes (generally 3:1 and steeper) and waterways. Depending on the product, these may be used alone or in conjunction with grass or straw mulch. Normally, use of these products will be restricted to relatively small areas. Biodegradable mats made of straw and jute, straw-coconut, coconut fiber, or excelsior can be used instead of mulch. (See the ECM/TRM BMP for more information.)
- Some tackifiers or binders may be used to anchor mulch. Check with the local jurisdiction for allowed tackifiers. Manufacturer's recommendations should be followed at all times. (See the Soil Binder BMP for more information on general types of tackifiers.)
- Rock can also be used as mulch. It provides protection of exposed soils to wind and water erosion and allows infiltration of precipitation. An aggregate base course can be spread on disturbed areas for temporary or permanent stabilization. The rock mulch layer should be thick enough to provide full coverage of exposed soil on the area it is applied.

Maintenance and Removal

After mulching, the bare ground surface should not be more than 10 percent exposed. Reapply mulch, as needed, to cover bare areas.

MU-2	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	June 2012
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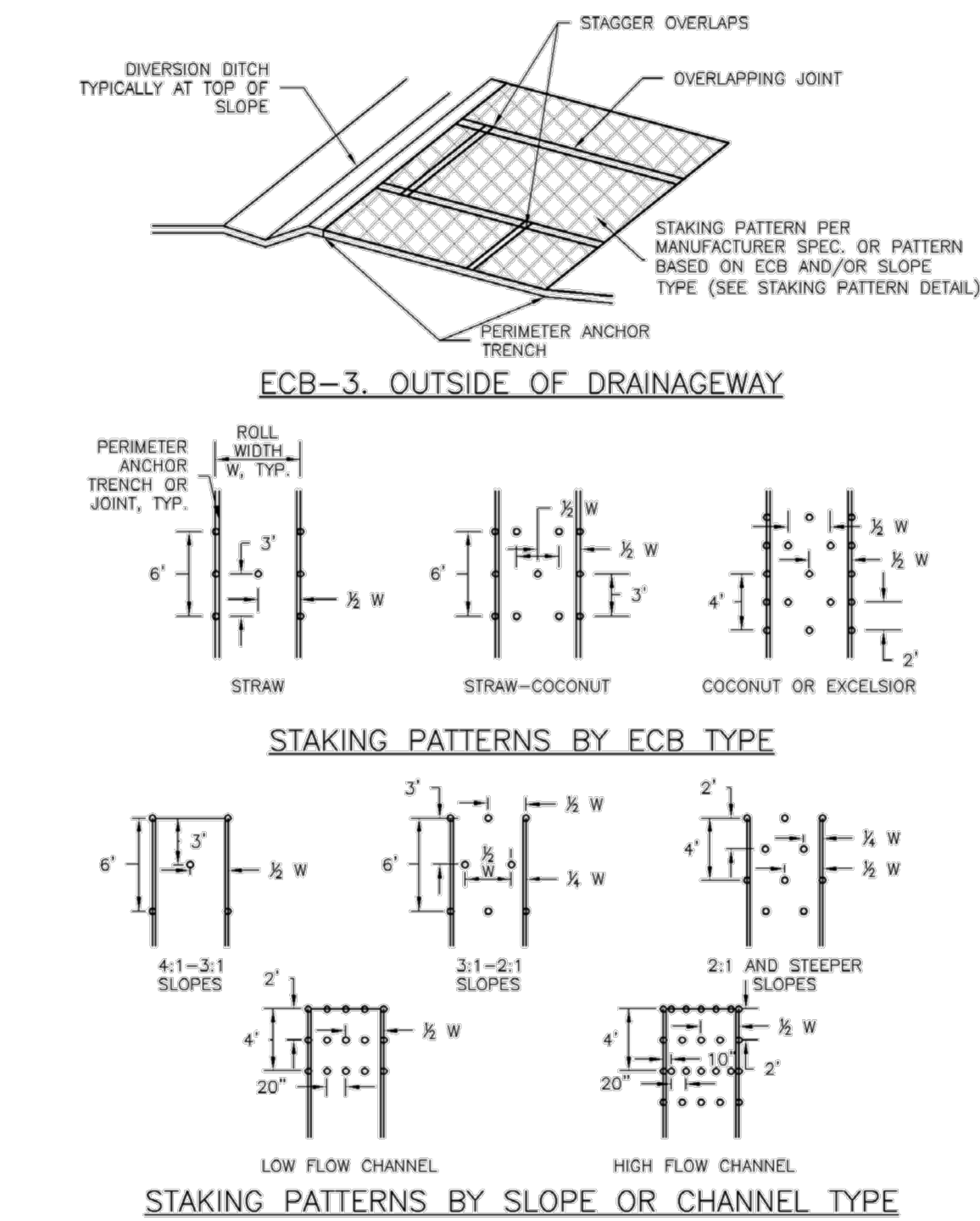
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EROSION CONTROL BLANKET MAINTENANCE NOTES

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 2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED.
 3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 4. ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE REMOVED BY THE LOCAL JURISDICTION.
 5. ANY ECB PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SURFACE AREAS BELOW THE GEOTEXTILE THAT HAVE ERODED TO CREATE A HOLES OR A BLANKET OF SOIL SHALL BE REPAIRED. ANY AREAS OF GRASS SHALL BE REPAIRED, RESEEDING AND MULCHED AND THE ECB REINSTALLED.
- NOTE:** MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USED STANDARD DETAILS. THE LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE OBTAINED FROM DIFFERENCES ARE NOTED.

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING*
STRAW*	—	100%	—	DOUBLE/ NATURAL
STRAW— COCONUT	30% MIN	70% MAX	—	DOUBLE/ NATURAL
COCONUT	100%	—	—	DOUBLE/ NATURAL
EXCELSIOR	—	—	100%	DOUBLE/ NATURAL

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STRAW*	—	100%	—	DOUBLE/ NATURAL
STRAW— COCONUT	30% MIN	70% MAX	—	DOUBLE/ NATURAL
COCONUT	100%	—	—	DOUBLE/ NATURAL
EXCELSIOR	—	—	100%	DOUBLE/ NATURAL

*STRAW ECBs MAY ONLY BE USED OUTSIDE OF STREAMS AND DRAINAGE CHANNEL.
**ALTERNATE NETTING MAY BE ACCEPTABLE IN SOME JURISDICTIONS