

**A PARCEL OF LAND LOCATED IN THE SOUTH HALF OF SECTION 3 AND THE NORTH HALF OF SECTION 10
TOWNSHIP 13 SOUTH, RANGE 64 WEST OF THE 6TH P.M.,
EL PASO COUNTY, STATE OF COLORADO**



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

PROPERTY GROUP, LLC
195 RIGDON STREET
NAPA, CALIFORNIA
(707) 365-6891
BRADY WILLIAMS

J·R ENGINEERING
A Westrian Company



Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

AC	ACRE	INT	INTERSECTION
AD	ALGEBRAIC DIFFERENCE	INV	INVERT
AR	AHEAD	IRR	IRRIGATION
ARCH	ARCHITECT	KB	KICK (THRUST) BLOCK
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	LB	POUND
		LE	LANDSCAPE EASEMENT
ASS'Y	ASSEMBLY	LF	LINEAR FOOT
AVE	AVENUE	LN	LANE
BB	BOX BASE	OMR	LETTER OF MAP REVISION
BC	BACK	LP	LOW POINT
BNDY	BOUNDARY	LS	LUMP SUM
BOP	BOTTOM OF PIPE	LT	LEFT
BOV	BLOW OFF VALVE	MAX	MAXIMUM
BT	BUTTERFLY VALVE	M/D	MOISTURE DENSITY
BLVD	BOULEVARD	MODP	MODULAR DEVELOPMENT
BW	BOTTOM OF WALL		DRAINAGE PLAN
C&G	CURB & GUTTER	MH	MANHOLE
CATV	CABLE TELEVISION	MIN	MINIMUM
CB	CATCH BASIN	MS	MOUNTABLE SIDEWALK
CBC	CABLE CLOSURE VALVE	N	NORTH
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION	NRCP	NON-REINFORCED CONCRETE PIPE
CD	CUL-DE-SAC	OP	OFFICIAL DEVELOPMENT PLAN
CFS	CUBIC FEET	OHE	OVERHEAD ELECTRIC
CFS	CUBIC FEET PER SECOND	OHU	OVERHEAD UTILITY
CL	COMPLETE IN PLACE	PC	POINT OF CURVATURE
CN	CENTER LINE	PCC	POINT OF COMPOUND CURVATURE
CLMR	CONDITIONAL LETTER OF MAP REVISION	PCR	POINT OF CURB RETURN
CLO	CLEAR	PDP	PRELIMINARY DEVELOPMENT PLAN
CM	CORRUGATED METAL PIPE	PE	PROFESSIONAL ENGINEER
CO	CLEAN OUT	PI	POINT OF INTERSECTION
COSS	CITY OF COLORADO SPRINGS	PKWY	PARKWAY
CONC	CONCRETE	PL	PROPERTY LINE
CR	CIRCLE	PR	PROPOSED
CSU	CORRUGATED STEEL PIPE	PRC	POINT OF REVERSE CURVATURE
CSP	COLORADO SPRINGS UTILITIES	PT	POINT OF TANGENCY
C'	CURB	PV	PLUG VALVE
CTRB	CURB THRUST REDUCER BLOCK	PVC	POLYVINYL CHLORIDE
CY	CUBIC YARD	R	RADIUS
DBPS	DRAINAGE BASIN PLANNING	RCBC	REINFORCED CONCRETE BOX CULVERT
DE	DRAINAGE EASEMENT	RCP	REINFORCED CONCRETE PIPE
DA	DIAMETER	RD	ROAD
DIP	DUCTILE IRON PIPE	ROW	RIGHT OF WAY
DIR	DRIVE	RT	RIGHT
DRC	DESIGN REVIEW COMMITTEE	S	SOUTH
DW	DWELLING UNITS	STE	STEEL
DY	DAY	SAN	SANITARY SEWER
E	EAST	SF	SQUARE FOOT
EA	EACH	ST	STREET
EGL	ENERGY GRADE LINE	STA	STATION
EL	ELEVATION	STM	STORM SEWER
ELEC	ELECTRIC	SY	SQUARE YARD
EOP	EDGE OF ASPHALT	SY-IN	SQUARE YARD INCH
EP	EL PASO COUNTY	TB	THRUST BLOCK
ETC	ETC	TBC	TOP BACK OF CURB
ESMT	EASEMENT	TBP	TOP BACK OF WALK
EST	ESTIMATE	TEL	TELEPHONE
EX	EXISTING	TN	TON
F	FINAL DEVELOPMENT PLAN	TOA	TOP OF ASPHALT
FDR	FINAL DRAINAGE REPORT	TOB	TOP OF BOX
FES	FLARED END SECTION	TOC	TOP OF CURB OR CONCRETE
FF	FINISHED FLOOR ELEVATION	TOF	TOP OF FOUNDATION
FG	FINISHED GRADE	TOI	TOP OF PIPE
FL	FIRE HYDRANT	TW	TOP OF WALL
FL	FLOWLINE	TYP	TYPICAL
FIL	FILING	UDFCD	URBAN DRAINAGE AND FLOOD CONTROL DISTRICT
FO	FIBER OPTIC CABLE	UE	UTILITY EASEMENT
GB	GRADE BREAK	UR&E	UTILITY & DRAINAGE EASEMENT
GB	GAS EASEMENT	UGE	UNDERGROUND ELECTRIC
GIS	GEOGRAPHIC INFORMATION SYSTEM	VCP	VITRIFIED CLAY PIPE
GL	GAS LINE	VPC	VERTICAL POINT OF CURVATURE
GPS	GLOBAL POSITIONING SYSTEM	VPI	VERTICAL POINT OF INTERSECTION
G'	GATE VALVE	VPT	VERTICAL POINT OF TANGENCY
HBP	HOT BITUMINOUS PAVEMENT	VTC	VEHICLE TRACKING CONTROL
HC	HANDICAP	W	WEST
HDC	HIGH DEFLECTION COUPLING	WL	WATER LINE
HDE	HIGH DENSITY POLYETHYLENE	WM	WATER MAIN
HGL	HYDRAULIC GRADE LINE	WRD	WATER RESOURCES DEPARTMENT
HMA	HOT MIX ASPHALT	WS	WATER SURFACE
HOA	HOME OWNERS ASSOCIATION	WSE	WATER SURFACE ELEVATION
HP	HIGH POINT	WTR	WATER
HR	HOUR	YR	YEAR
I	INLET		
IR	IRRIGATION EASEMENT		



OWNER	GORILLA CAPITAL CO SADDLEHORN RANCH, LLC 1342 HIGH STREET EUGENE, OR 97401 P~541-393-9043
DEVELOPER	ROI PROPERTY GROUP, LLC 2495 RIGDON STREET NAPA, CALIFORNIA 94558 P~707-633-9700
ENGINEER/SURVEYOR	JR ENGINEERING, LLC ATTN: BRYAN LAW 5475 TECH CENTER DRIVE, SUITE 235 COLORADO SPRINGS, CO 80919 P~(303) 267-6254
FIRE PROTECTION DISTRICT	FALCON FIRE PROTECTION 12072 ROYAL COUNTY DOWN ROAD FALCON, CO 80831 P~(719) 495-4050
DISTRICT	SADDLEHORN RANCH METRO DISTRICT



THE VERTICAL DATUM IS BASED OFF AN OPUS SOLUTION RAN ON CONTROL POINT #100 (NO. 4 REBAR) AND IS ADJUSTED TO NGVD 1929, ELEVATION 6754.61.

THE WEST LINE OF SECTION 3, T3S, R64W, 6TH P.M.,
MONUMENTED BY A 3-1/4" ALUMINUM CAP STAMPED "PLS
17496" IN A RANGE BOX AT THE NORTHWEST CORNER OF
SECTION 3 AND A NO. 8 REBAR IN A RANGE BOX AT THE
SOUTHWEST CORNER OF SECTION 3, BEARING N00°32'28"W
AS REFERENCED TO COLORADO STATE PLANE CENTRAL ZONE.

SCALE: 1" = 2000'

1	-	COVER SHEET
2	-	LEGEND & NOTES
3	-	TYPICAL SECTIONS
4	-	GRADING & EROSION CONTROL SITE PLAN
4.1	-	EARLY GRADING IMPROVEMENTS
5-7	-	GRADING & EROSION CONTROL PLANS
8-14	-	GRADING & EROSION CONTROL DETAILS

EARTHWORK SUMMARY TABLE	
NET CUT (CY)	50,633
NET FILL (CY)	46,469
NET EXPORT (CY)	4,164
* 1' ROAD CUT	
* 10% COMPACTION	

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

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

John Helmick
JOHN HELMICK

6/15/22
DATE

GORILLA CAPITAL CO SADDLEHORN RANCH, LLC
1342 HIGH STREET
EUGENE, OR 97401

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

7/14/22

DATE _____

SADDLEHORN RANCH -
FILING NO. 2

COVER SHEET

SHEET 1 OF 14

WB NO. 2514204

GRADING AND EROSION CONTROL STANDARD NOTES

1. CONSTRUCTION MAY NOT COMMENCE UNTIL A CONSTRUCTION PERMIT IS OBTAINED FROM PLANNING AND COMMUNITY DEVELOPMENT AND A PRECONSTRUCTION CONFERENCE IS HELD WITH PLANING AND COMMUNITY DEVELOPMENT INSPECTIONS.
2. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
3. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
4. A SEPARATE STORMWATER MANAGEMENT PLAN (SWMP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
5. 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 APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.
6. 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.
7. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
8. 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.
9. 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 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.
10. ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT AFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
11. 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 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.
12. 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).
13. 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.
14. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED 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.
15. 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.
16. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
17. 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.
18. 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 DEMAED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
19. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
20. 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.
21. 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.
22. 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.
23. 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.
24. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
25. 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.
26. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
27. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
28. 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.
29. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY ENTECH ENGINEERING, INC. ON APRIL 29, 2019 AND SHALL BE CONSIDERED A PART OF THESE PLANS. THIS REPORT CAN BE FOUND IN PGD FILE NO: SF-21-033.
30. 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
WQCD – PERMITS
4300 CHERRY CREEK DRIVE SOUTH
DENVER, CO 80246-1530
ATTN: PERMITS UNIT

LAYER LINETYPE LEGEND

	EXISTING	PROPOSED
PHASE LINE		
MATCH LINE		
SECTION LINE		
BOUNDARY LINE		
PROPERTY LINE		
EASEMENT LINE		
RIGHT OF WAY		
R.O.W. A LINE		
CENTERLINE		
CITY LIMITS		
WIRE FENCE		
CHAIN LINK FENCE		
WOOD FENCE		
MASONRY FENCE		
GUARDRAIL		
CONC. BARRIER		
CABLE TV		
ELECTRIC		
FIBER OPTIC		
GAS MAIN		
IRRIGATION MAIN		
OIL/PETRO. MAIN		
OVERHEAD UTILITY		
SANITARY SEWER		
STORM DRAIN		
TELEPHONE		
WATER MAIN		
RAW WATER LINE		
SWALE/WATERWAY FLOWLINE		
DIVERSION DITCH		
DIVERSION CHANNEL		
MAJOR DRAINAGE BASIN		
MINOR DRAINAGE BASIN		
TOP OF SLOPE		
TOE OF SLOPE		
EDGE OF WATER		
INDEX CONTOUR		
INTERMEDIATE CONTOUR		
DEPRESSION CONT. (INDEX)		
DEPRESSION CONT. (INTER)		
TOP OF CUTS		
TOE OF FILLS		
CUT AND FILL LINE		
SILT FENCE		
100 YEAR FLOODPLAIN		
500 YEAR FLOODPLAIN		
FLOODWAY		
BASE FLOOD ELEVATION		
EDGE OF WETLANDS		
STONE WALL		
STORMWATER FLOW ARROWS		

UTILITIES LEGEND

	EXISTING	PROPOSED
STORM SEWER		
MANHOLE		
STORM INLET		
AREA INLET – SQUARE		
AREA INLET – ROUND		
FLARED END SECTION		
RIPRAP		
SANITARY SEWER		
LINE MARKER		
SERVICE MARKER		
CLEAN-OUT		
MANHOLE W/ DIRECTIONAL FLOW ARROW		
WATER LINE		
LINE MARKER		
SERVICE MARKER		
FIRE HYDRANT		
FIRE CONNECTION		
MANHOLE		
BEND		
BLOW-OFF VALVE		
WELL		
METER		
VALVE		
REDUCER		
THRUST BLOCK		
CROSS		
PLUG W/ THRUST BLOCK		
TEE		
REVERSE ANCHOR		
ANODE		
AIR & VACUUM VALVE ASSEMBLY		
TRANSMISSION BLOW-OFF ASSEMBLY		
GAS LINE		
MARKER		
SERVICE MARKER		
METER		
VALVE		
PLUG		
TEE		
DRY UTILITIES		
CABLE TV MARKER		
CABLE TELEVISION PEDESTAL		
ELECTRIC MARKER		
ELECTRIC SERVICE MARKER		
ELECTRICAL PEDESTAL		
ELECTRICAL METER		
ELECTRICAL MANHOLE		
FIBER-OPTIC MARKER		
IRRIGATION PEDESTAL		
TELEPHONE MARKER		
TELEPHONE PEDESTAL		
TELEPHONE MANHOLE		
UTILITY POLE		
GUY ANCHOR		
GUY POLE		

STORM WATER MANAGEMENT

KEY	SYMBOL
CHECK DAM	
CONSTRUCTION ROAD STABILIZATION	
CURB SOCK INLET PROTECTION	
CONCRETE WASHOUT AREA	
DIVERSION DITCH AND DIKE, TEMPORARY	
DIVERSION CHANNEL, TEMPORARY	
DEWATERING	
EROSION CONTROL BLANKET	
INLET FILTER	
INLET PROTECTION	
MULCHING	
OUTLET PROTECTION	
PAVED FLUME	
PERMENENT SEEDING	
REINFORCED CONCRETE DAM	
ROUGH CUT STREET CONTROL	
SEDIMENT BASIN	
SEDIMENT CONTROL LOG	
SILT FENCE	
SURFACE ROUGHENING	
STABILIZED STAGING AREA	
SEDIMENT TRAP	
STRAW BALE BARRIER	
TERRACING	
TEMPORARY SEEDING	
TEMPORARY STREAM CROSSING CULVERT/BRIDGE	
TEMPORARY STREAM CROSSING FORD TYPE	
TEMPORARY SLOPE DRAIN	
VEHICLE TRACKING CONTROL	
VEHICLE TRACKING CONTROL WITH WASH RACK	
CONSTRUCTION MARKER	
LIMITS OF CONSTRUCTION	

EPC 7/27/22

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

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

7/14/22
DATE

SADDLEHORN RANCH –
FILING NO. 2
GRADING & EROSION
CONTROL NOTES & LEGEND

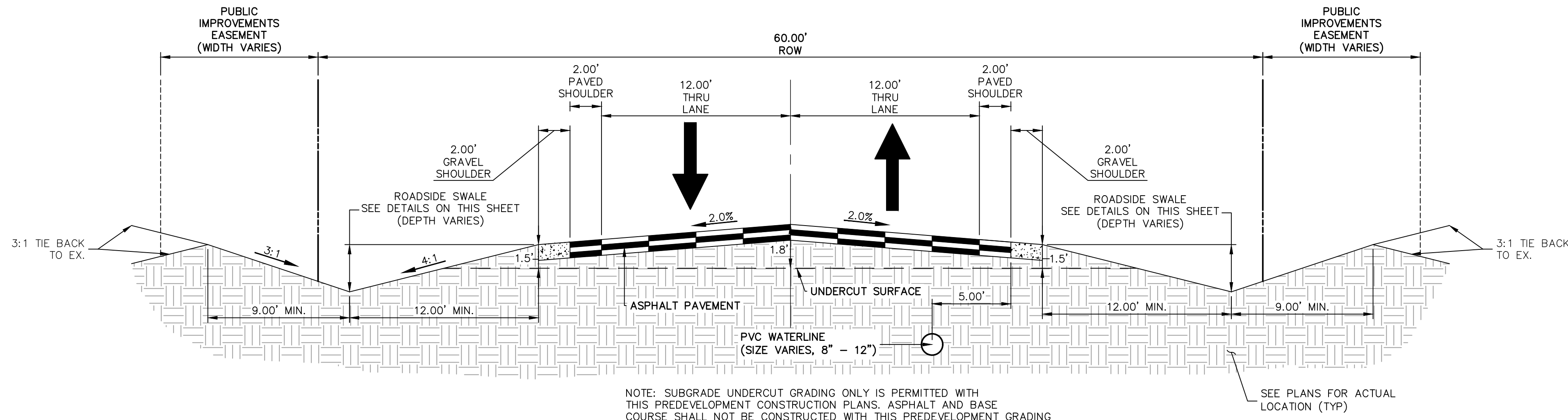
SHEET 2 OF 14

JOB NO. 2514204

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

PREPARED FOR
ROI PROPERTY GROUP, LLC
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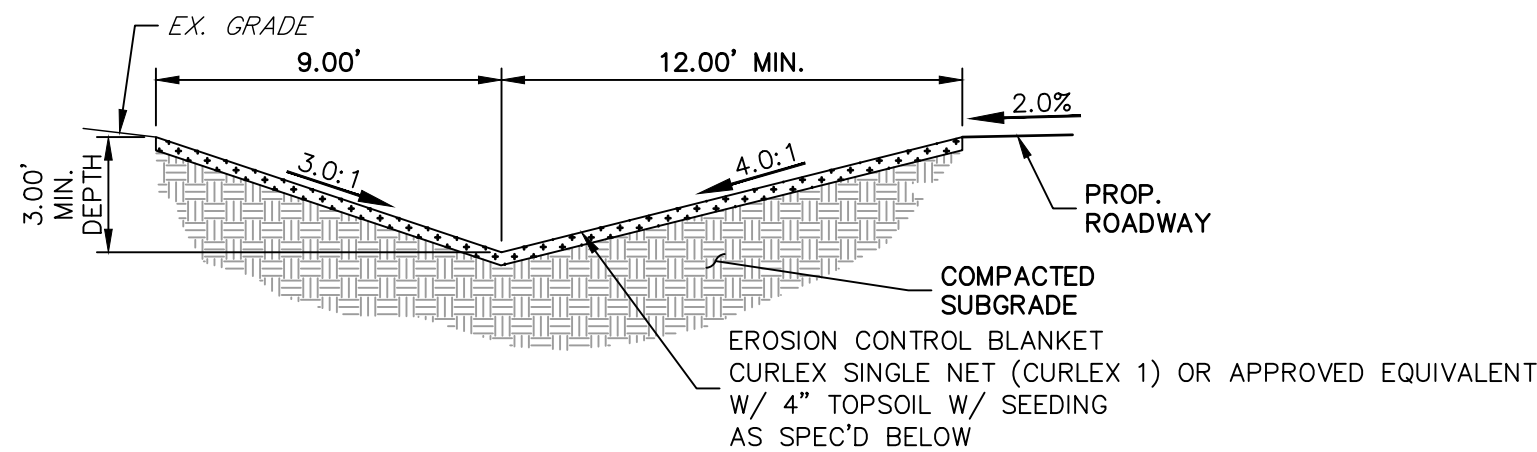


NOTE: SUBGRADE UNDERCUT GRADING ONLY IS PERMITTED WITH THIS PREDEVELOPMENT CONSTRUCTION PLANS. ASPHALT AND BASE COURSE SHALL NOT BE CONSTRUCTED WITH THIS PREDEVELOPMENT GRADING

TYPICAL RURAL LOCAL

POSTED SPEED LIMIT = 30 MPH, DESIGN SPEED LIMIT = 30 MPH

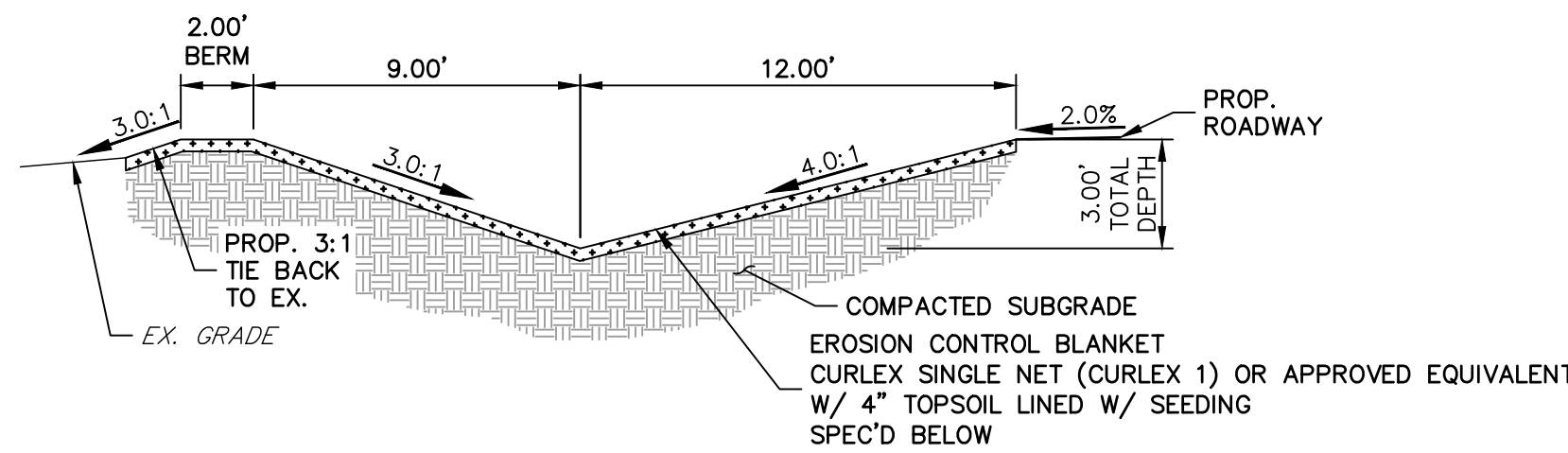
SCALE: 1" = 5'



SWALE SECTION A-A

SCALE: 1" = 5'

SWALE SEED MIX:
EROSION CONTROL BLANKET WITH PAWNEE BUTTES SEED INC. - "LOW GROW NATIVE MIX"
-IDAHO FESCUE
-SANDBERG BLUEGRASS
-ROCKY MOUNTAIN FESCUE
-BIG BLUEGRASS



SWALE SECTION B-B

SCALE: 1" = 5'

SWALE SEED MIX:
EROSION CONTROL BLANKET WITH PAWNEE BUTTES SEED INC. - "LOW GROW NATIVE MIX"
-IDAHO FESCUE
-SANDBERG BLUEGRASS
-ROCKY MOUNTAIN FESCUE
-BIG BLUEGRASS

ROADSIDE SWALE NOTES

- SWALE SECTION A-A PROVIDES MINIMUM SWALE DIMENSIONS. IN AREAS WHERE 3:1 TIE BACK TO EXISTING DOES NOT PROVIDE MINIMUM SWALE DEPTH, SWALE TO BE CUT DEEPER SUCH THAT 3' DEPTH IS PROVIDED RELATIVE TO EXISTING GRADE.
- SWALE SECTION B-B TO BE USED IN FILL AREAS OF ROADWAY WHERE CUTTING SWALE DEEPER TO ACHIEVE 3.0' DEPTH RELATIVE TO EXISTING GRADE CAN NOT BE ACHIEVED DUE TO DOWN STREAM GRADE REQUIREMENTS. 2.0' BERM MUST BE PROVIDED TO MITIGATE FUTURE EROSION.

EARLY GRADING NOTES

- NO PAVEMENT SHOWN IN THE ABOVE ROAD SECTION SHALL BE PROPOSED WITH ANY EARLY GRADING IMPROVEMENTS.
- ALL PROPOSED TEMPORARY CULVERTS SHALL BE 18" CMP. TEMPORARY CULVERT LOCATIONS CAN BE FOUND ON SHEET 4.1.
- ALL TEMPORARY SWALE CONNECTIONS SHALL MATCH FUTURE CULVERT GRADES. TEMPORARY SWALE CONNECTION LOCATIONS CAN BE FOUND ON SHEET 4.1.
- ALL INITIAL BMPS SHALL BE INSTALLED PRIOR TO ANY GRADING ONSITE.
- ALL CHECK DAMS AND INLET/OUTLET PROTECTIONS SHALL BE INSTALLED AND MAINTAINED UNTIL 70% VEGETATION HAS BEEN ACHIEVED AND REMOVAL IS APPROVED BY EPC.
- NO GRADING IMPROVEMENTS SHALL BE PERFORMED WITHIN THE CURTIS ROAD ROW AS PART OF THE EARLY GRADING IMPROVEMENTS FOR THIS SITE.



EPC 7/27/22

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

BRYAN T. LAW, P.E.
COLORADO P.E. 25043

FOR AND ON BEHALF OF JR ENGINEERING, LLC

7/14/22

DATE

SADDELEHORN RANCH -
FILING NO. 2

TYPICAL SECTIONS

SHEET 3 OF 14

JOB NO. 2514204

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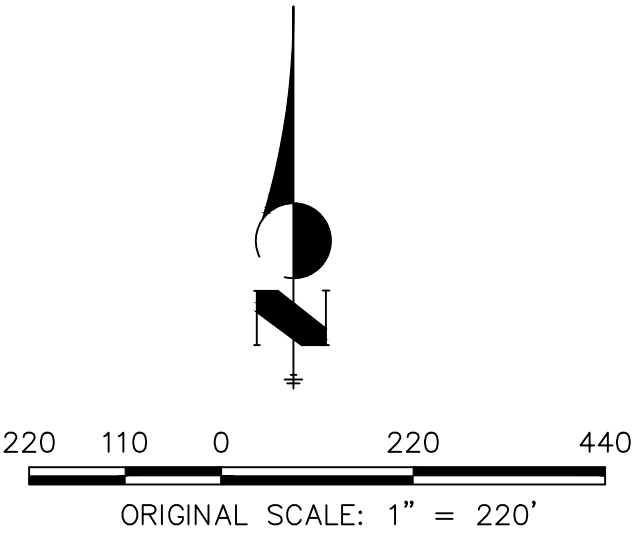
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LEGEND

OFF-SITE GRADING
(CANNOT BE COMPLETED WITH
EARLY GRADING PERMIT)

EPC 7/27/22

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Bryan T. Law



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

7/14/22
DATE



Know what's below.
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SADDLEHORN RANCH – FILING NO. 2		H-SCALE		1"=220'		REVISION		BY		DATE	
		V-SCALE		N/A							
GRADING & EROSION CONTROL SITE PLAN		DATE		7/14/22							
		DESIGNED BY		GVT							
		DRAWN BY		GVT							
		CHECKED BY									
SHEET 4 OF 14											
JOB NO. 2514204											

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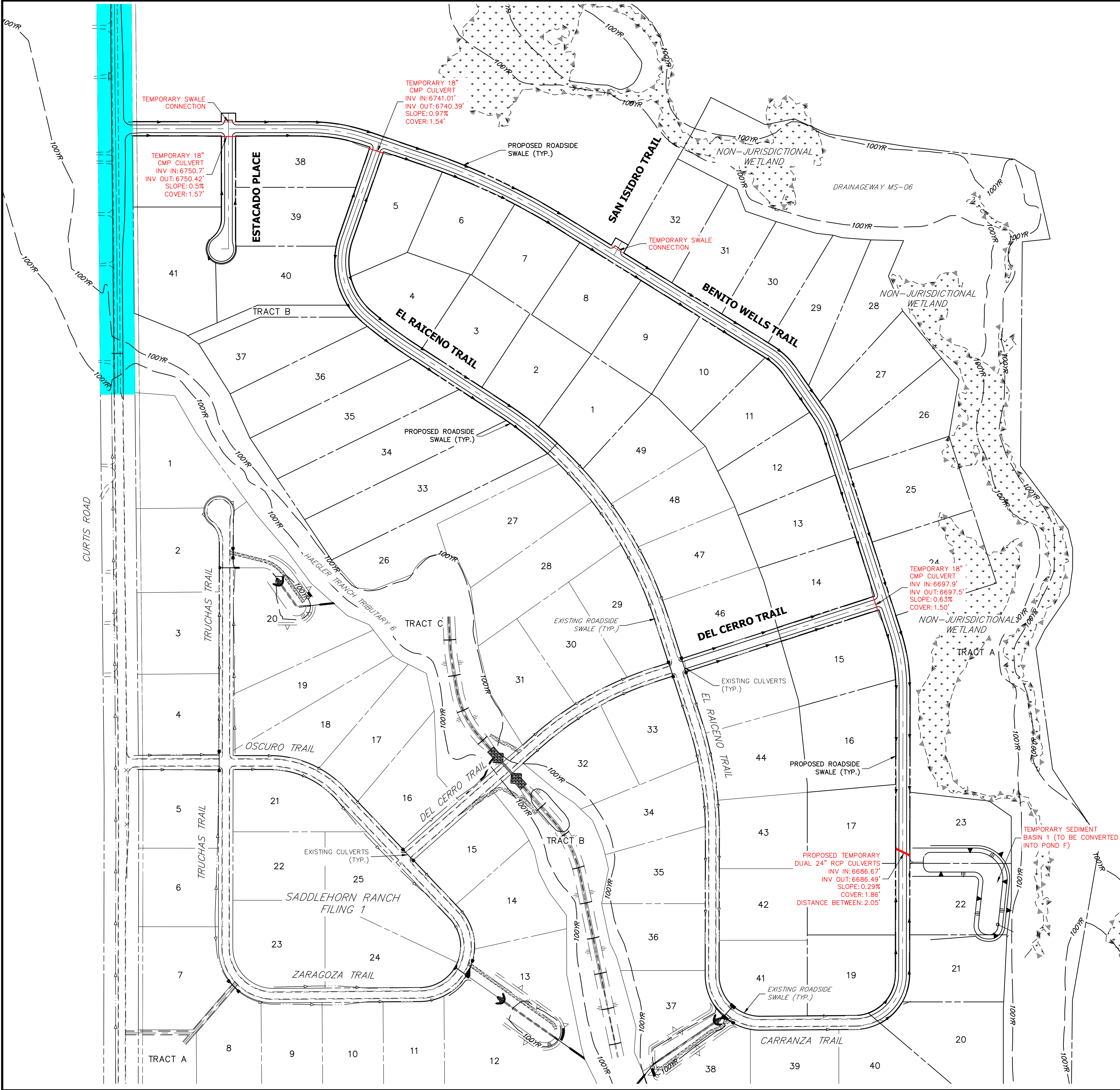
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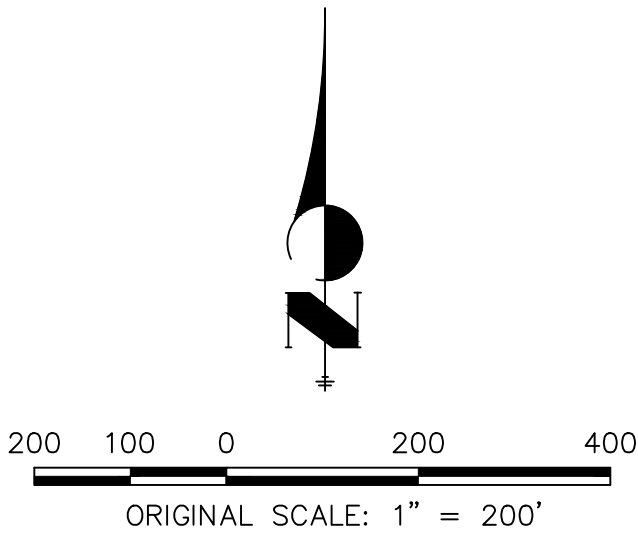
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LEGEND

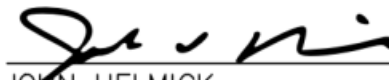
EARLY GRADING TEMPORARY IMPROVEMENTS

EARLY GRADING EXCLUDED AREAS



OWNER/DEVELOPER STATEMENT

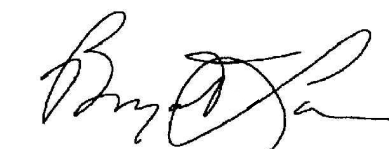
I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.


JOHN HELMICK

6/15/22
DATE

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

7/14/22
DATE



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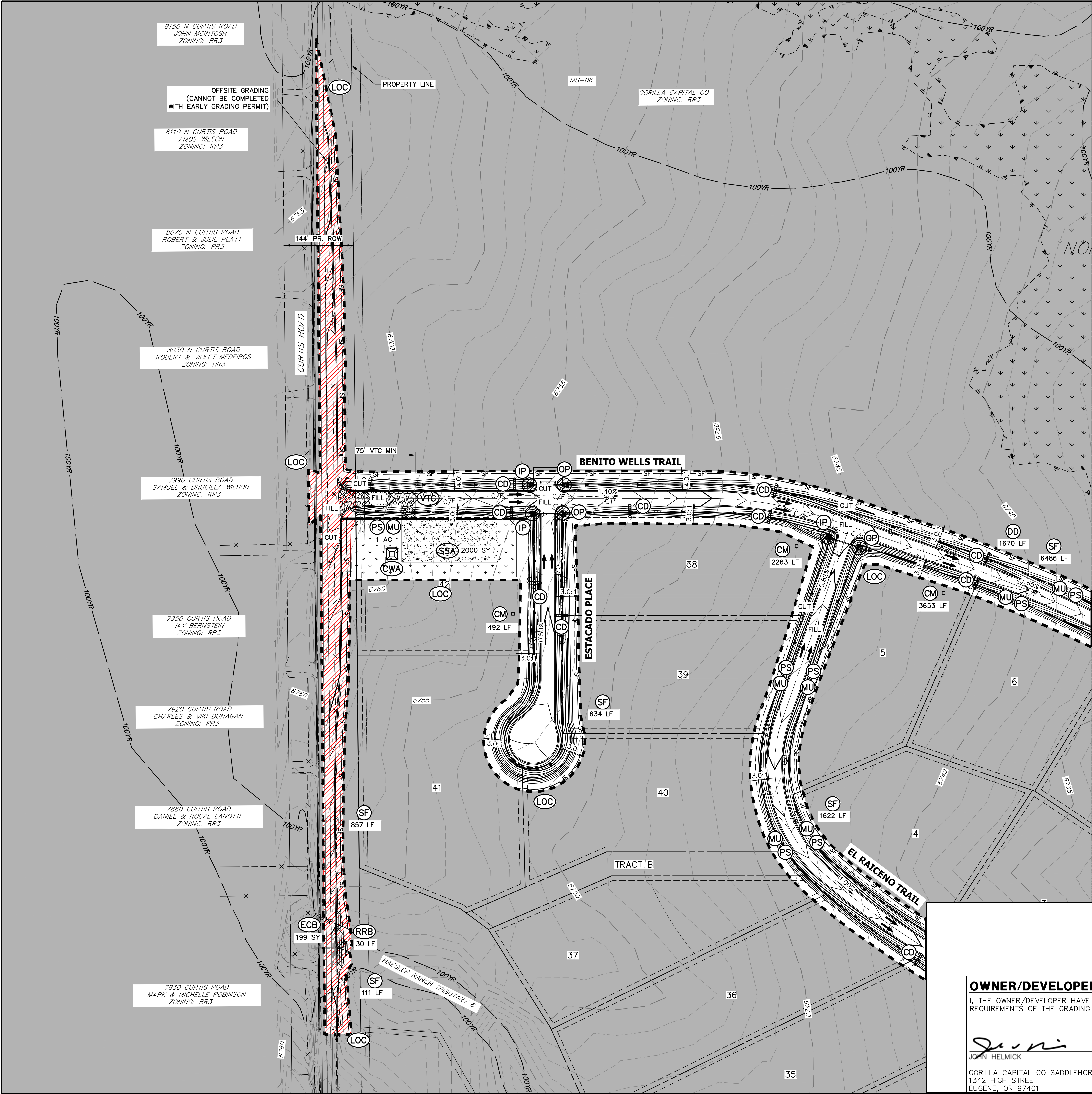
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SADDLEHORN RANCH
FILING NO. 2

EARLY GRADING
IMPROVEMENTS

SHEET 4.1 OF 14

JOB NO. 2514204



LEGEND

SEDIMENT BASIN

(SB)

SILT FENCE

(SF)

STABILIZED STAGING AREA

(SSA)

CONSTRUCTION MARKER

(CM)

VEHICLE TRACKING CONTROL

(VTC)

TEMPORARY STOCK PILE

(TSP)

EROSION CONTROL BLANKET

(ECB)

INLET PROTECTION

(IP)

OUTLET PROTECTION

(OP)

DIVERSION DITCH AND DIKE, TEMPORARY

(DD)

CUT AND FILL LINE

C/F

LIMITS OF CONSTRUCTION/DISTURBANCE

(LOC)

CONCRETE WASHOUT AREA

(CWA)

MULCHING & PERMANENT SEEDING

(MU) (PS)

TEMPORARY SLOPE DRAIN

(TSD)

REINFORCED ROCK BERM

(RRB)

CHECK DAM

(CD)

ROCK SOCK

(RS)

CONSTRUCTION MARKERS

(CM)

OFF-SITE GRADING (CANNOT BE COMPLETED WITH EARLY GRADING PERMIT)

KEY MAP
N.T.S.

100 50 0 100 200

ORIGINAL SCALE: 1" = 100'

NOTES

- REFER TO THE STORMWATER MANAGEMENT PLAN (SWMP) FOR A DETAILED DESCRIPTION OF THE MAINTENANCE PROGRAMS FOR EROSION CONTROL FACILITIES.
- SEE SHEET 3 FOR SWALE TYPICAL CROSS SECTIONS THAT INCLUDES SWALE LINING DETAIL.
- ALL DISTURBED AREAS NOT TO BE PAVED SHALL BE PERMANENTLY SEED PER THE PAWNEE BUTTES SEED INC. - "LOW GROW NATIVE MIX" OR APPROVED EQUAL. SEE SHEET 3 FOR SEED MIX DETAILS. 12.7 TOTAL ACRES OF SEEDING ESTIMATED.
- P.I.E = PUBLIC IMPROVEMENTS EASEMENT
- EXISTING VEGETATION CONSISTS OF NATIVE MEADOW GRASSES (APPROX. 70% COVERAGE) DETERMINED THROUGH A COMBINATION OF FIELD VERIFICATION AND AERIAL INSPECTION.
- NO BATCH PLANTS WILL BE UTILIZED ON SITE.
- NO OFF-SITE GRADING SHALL BE CONDUCTED WITH THE EARLY GRADING PERMIT.
- SILT FENCES THAT ARE NOT PARALLEL TO CONTOURS MUST BE INSTALLED WITH J-HOOKS.

BMP PHASING

INITIAL (06/2022 - 7/2022):

- 1) INSTALL VTC
- 2) INSTALL CWA
- 3) ESTABLISH SSA
- 4) INSTALL CONSTRUCTION MARKERS
- 5) INSTALL SILT FENCE
- 6) INSTALL SEDIMENT BASINS
- 7) INSTALL DIVERSION DITCHES

INTERIM (7/2022 - 10/2022):

- 1) LOCATE/INSTALL TEMPORARY STOCKPILE
- 2) MAINTAIN ALL BMPS
- 3) INSTALL RRBs
- 4) INSTALL INLET AND OUTLET PROTECTION
- 5) INSTALL EROSION CONTROL BLANKETS

FINAL (10/2022 - 12/2022):

- 1) INSTALL MULCH AND PERMANENT SEEDING IN ALL DISTURBED AREAS
- 2) REMOVE SILT FENCE AFTER STABILIZED, INLET & OUTLET PROTECTION, RRBs, EROSION CONTROL BLANKETS, VTC, CWA, CONSTRUCTION MARKERS, SEDIMENT BASINS, DIVERSION DITCHES, SSA, AND TEMPORARY STOCKPILES

FINAL STABILIZATION ANTICIPATED 05/2023.

Know what's below.
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OWNER/DEVELOPER STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

6/15/22
DATE

JOHN HELMICK

GORILLA CAPITAL CO SADDLEHORN RANCH, LLC
1342 HIGH STREET
EUGENE, OR 97401

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7/14/22
DATE

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

BY

DATE

No.

REVISION

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1"=100'

V-SCALE
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DATE
7/14/22

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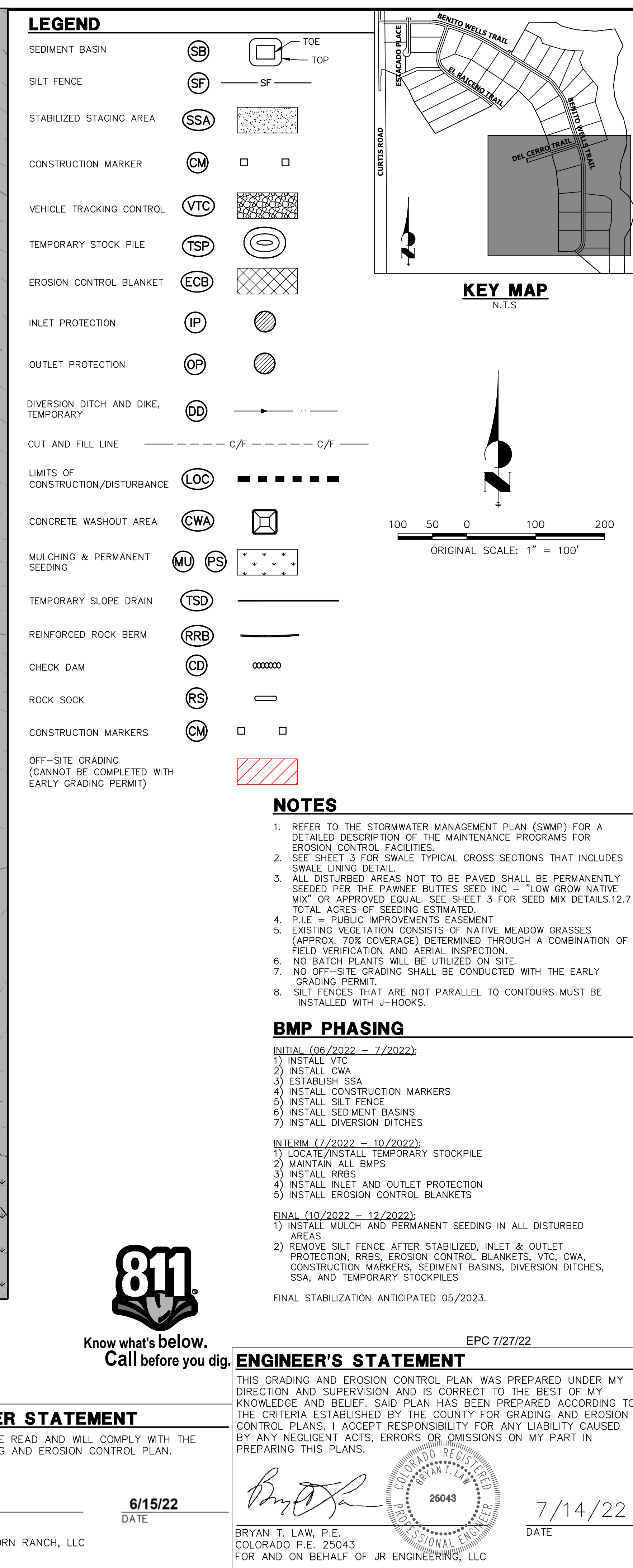
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FILING NO. 2


GRADING & EROSION
CONTROL PLANS

SHEET 5 OF 14

JOB NO. 2514204



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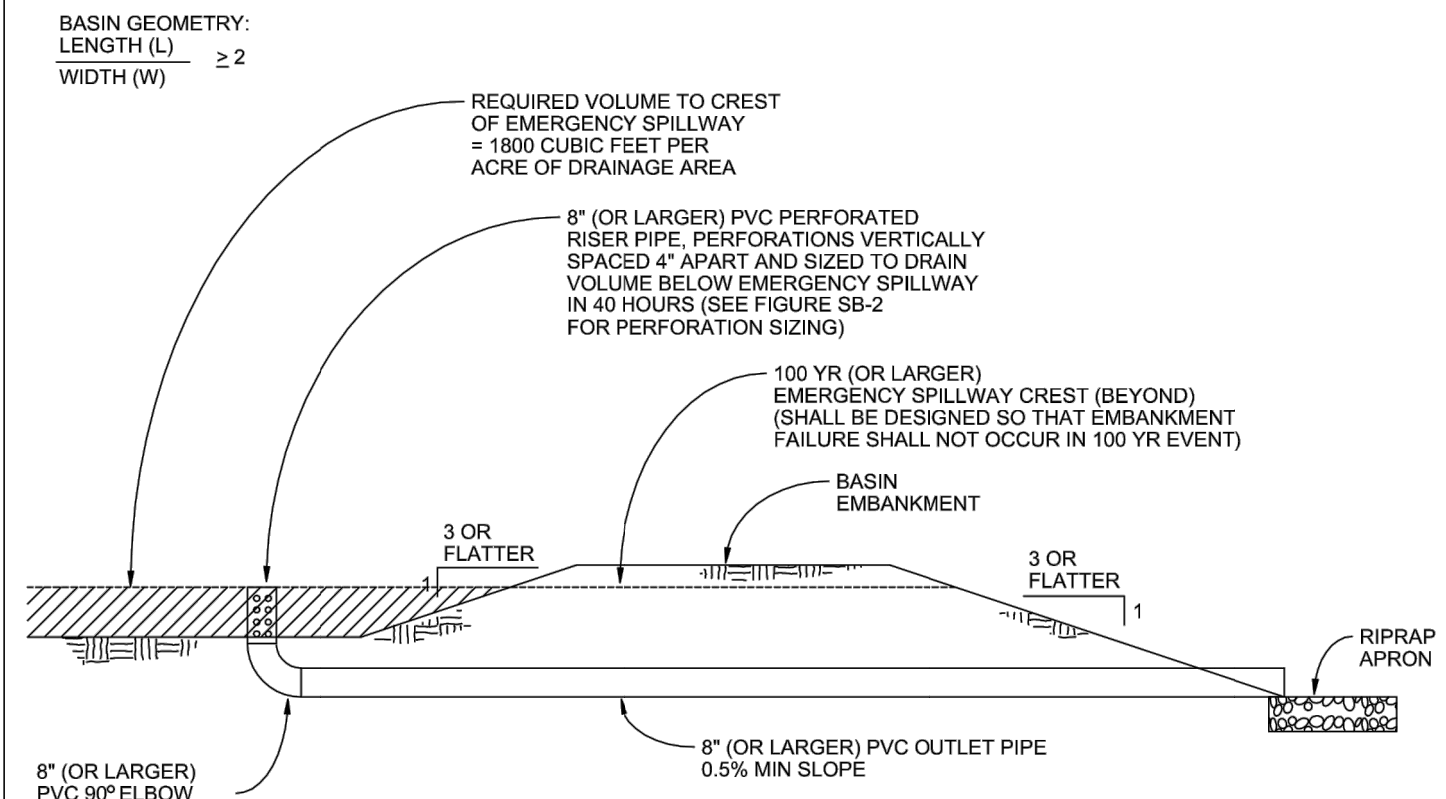
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SHEET 7 OF 14

JOB NO. 2514204



SEDIMENT BASIN
NTS

SEDIMENT BASIN NOTES

INSTALLATION REQUIREMENTS

- SEDIMENT BASINS SHALL BE INSTALLED BEFORE ANY CLEARING AND/OR GRADING IS UNDERTAKEN.
- THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.
- THE OUTLET OF THE BASIN SHALL BE DESIGNED TO DRAIN ITS VOLUME IN 40 HOURS.
- THE OUTLET IS TO BE LOCATED AT THE FURTHEST DISTANCE FROM THE INLET OF THE BASIN. Baffles MAY BE NEEDED TO INCREASE THE FLOW LENGTH AND SETTLING TIME.
- EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.
- EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.
- WHEN A BASIN IS INSTALLED NEAR A RESIDENTIAL AREA, FOR SAFETY REASONS, A SIGN SHALL BE POSTED AND THE AREA SECURED WITH A FENCE.

MAINTENANCE REQUIREMENTS

- CONTRACTOR SHALL INSPECT SEDIMENT BASINS AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL.
- SEDIMENT BASINS SHALL BE CLEANED OUT BEFORE SEDIMENT HAS FILLED HALF THE VOLUME OF THE BASIN.
- SEDIMENT BASINS SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADEQUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY THE CITY.

City of Colorado Springs
Stormwater Quality

Figure SB-1
Sediment Basin
Construction Detail and Maintenance
Requirements

3-32

Required Area per Row (in ²)		Depth at Outlet (ft)							
Design Volume (acre-ft)		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
		2	15.04	7.71	5.10	3.76	2.95	2.41	2.02
1	7.52	3.86	2.55	1.88	1.48	1.21	1.01	0.87	
0.6	4.51	2.31	1.53	1.13	0.89	0.72	0.61	0.52	
0.4	3.01	1.54	1.02	0.75	0.59	0.48	0.40	0.35	
0.2	1.50	0.77	0.51	0.38	0.30	0.24	0.20	0.17	
0.1	0.75	0.39	0.26	0.19	0.15	0.12	0.10	0.09	
0.08	0.45	0.23	0.15	0.11	0.09	0.07	0.06	0.05	
0.04	0.20	0.10	0.06	0.04	0.03	0.02	0.02	0.02	
0.02	0.15	0.08	0.05	0.04	0.03	0.02	0.02	0.02	
0.01	0.08	0.04	0.03	0.02	0.01	0.01	0.01	0.01	

TABLE SB-1

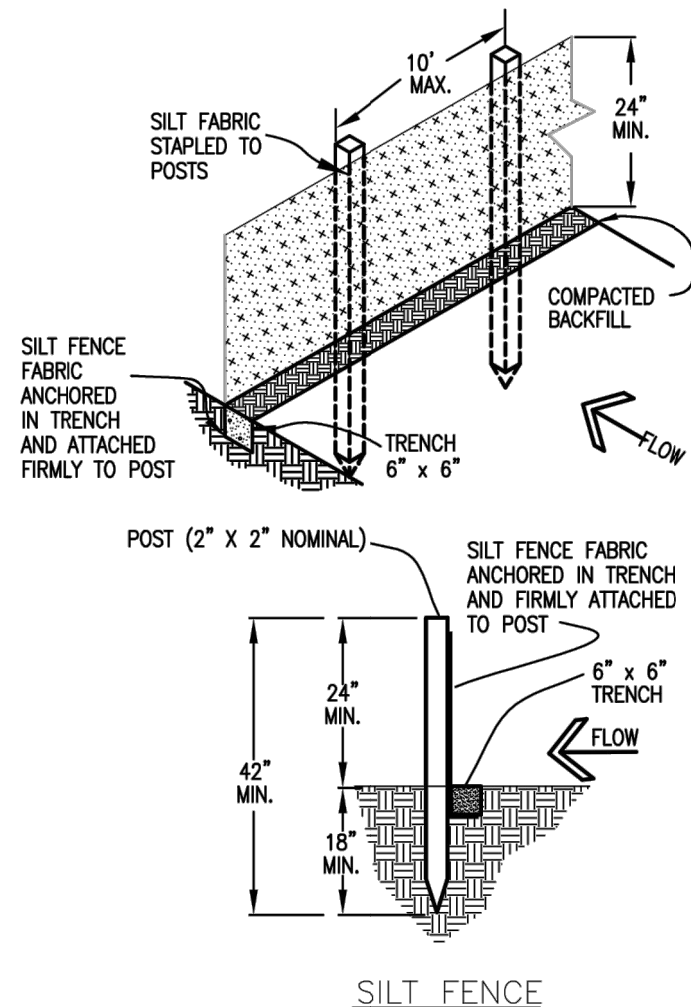
Circular Perforation Sizing		Area per Row (in ²)		
Hole Diameter (in)	Hole Diameter (in)	n = 1	n = 2	n = 3
1/4	0.250	0.05	0.10	0.15
5/16	0.313	0.08	0.15	0.23
3/8	0.375	0.11	0.22	0.33
7/16	0.438	0.15	0.30	0.45
1/2	0.500	0.20	0.39	0.59
9/16	0.563	0.25	0.50	0.75
5/8	0.625	0.31	0.61	0.92
11/16	0.688	0.37	0.74	1.11
3/4	0.750	0.44	0.88	1.33
7/8	0.875	0.60	1.20	1.80
1	1.000	0.79	1.57	2.36
1 1/8	1.125	0.99	1.99	2.98
1 1/4	1.250	1.23	2.45	3.68
1 3/8	1.375	1.48	2.97	4.45
1 1/2	1.500	1.77	3.53	5.30
1 5/8	1.625	2.07	4.15	6.22
1 3/4	1.750	2.41	4.81	7.22
1 7/8	1.875	2.78	5.52	8.28
2	2.000	3.14	6.28	9.42
n = Number of columns of perforations				
Minimum steel plate thickness		1/4"	5/16"	3/8"

TABLE SB-2

City of Colorado Springs
Stormwater Quality

Figure SB-2
Outlet Sizing
Application Techniques and Maintenance
Requirements

3-33



SILT FENCE NOTES

INSTALLATION REQUIREMENTS

- SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE SHALL BE SPliced TOGETHER ONLY AT SUPPORT POST AND SECURELY SEALED.
- METAL POSTS SHALL BE "STUDDED TEE" OR "U" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION DIMENSION OF 2 INCHES.
- THE FILTER MATERIAL SHALL BE FASTENED SECURELY TO METAL OR WOOD POSTS USING WIRE TIES, OR TO WOOD POSTS WITH 3/4" LONG #8 HEAVY-DUTY STAPLES. THE SILT FENCE GEOTEXTILE SHALL NOT BE STAPLED TO EXISTING TREES.
- WHILE NOT REQUIRED, WIRE MESH FENCE MAY BE USED TO SUPPORT THE GEOTEXTILE. WIRE FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 3/4" LONG. THE WIRES OR HOG RINGS, THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 6" AND SHALL NOT EXCEED MORE THAN 3" ABOVE THE ORIGINAL GROUND SURFACE.
- ALONG THE TOE OF FILLS, INSTALL THE SILT FENCE ALONG A LEVEL CONTOUR AND PROVIDE AN AREA BEHIND THE FENCE FOR RUNOFF TO POND AND SEDIMENT TO SETTLE. A MINIMUM DISTANCE OF 5 FEET FROM THE TOE OF THE FILL IS RECOMMENDED.
- THE HEIGHT OF THE SILT FENCE FROM THE GROUND SURFACE SHALL BE MINIMUM OF 24 INCHES AND SHALL NOT EXCEED 36 INCHES. HIGHER FENCES MAY INPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.

MAINTENANCE REQUIREMENTS

- CONTRACTOR SHALL INSPECT SILT FENCES IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL. DAMAGED, COLLAPSED, UNINTRENCHED OR INEFFECTIVE SILT FENCES SHALL BE PROMPTLY REPAIRED OR REPLACED.
- SEDIMENT SHALL BE REMOVED FROM BEHIND SILT FENCE WHEN IT ACCUMULATES TO HALF THE EXPOSED GEOTEXTILE HEIGHT.
- SILT FENCES SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED AS APPROVED BY THE CITY.

City of Colorado Springs
Stormwater Quality

Figure SF-2
Silt Fence
Construction Detail and Maintenance
Requirements

3-36

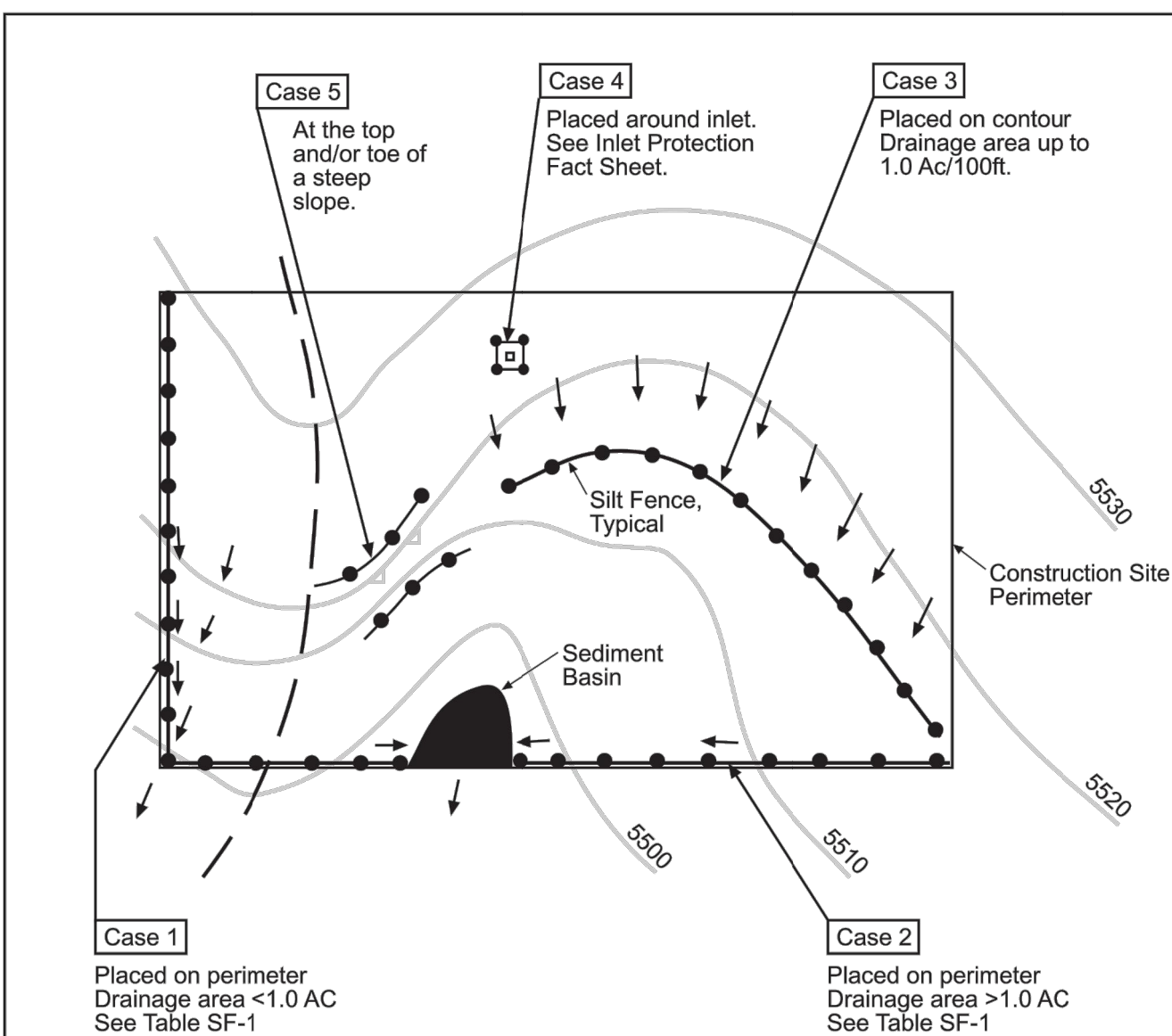


Table SF-1

Silt Fence Used as Perimeter Control	Case 1		Case 2
	DA < 0.25 AC	0.25 < DA < 1 AC	DA > 1.0 AC
Continuous Grade	OK ⁽¹⁾	OK ⁽¹⁾	OK ⁽¹⁾
Area of Concentrated Flow	OK	NO ⁽²⁾	NO ⁽³⁾

- (1) Temporary Swale or Straw Bale Barrier may be used as alternative to a Silt Fence.
(2) Check Dam may also be used as alternative to Silt Fence at low point.
(3) Sediment Basin is required for concentrated flow from drainage areas > 1.0 AC.

City of Colorado Springs
Storm Water Quality

Figure SF-1
Silt Fence
Application Examples

DEM1163722 CS CBPfigSF-19-99

3-35

EPC 7/27/22



ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

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

7/14/22

DATE

SADDLEHORN RANCH
FILING NO. 2

GRADING AND EROSION
CONTROL DETAILS

SHEET 8 OF 14

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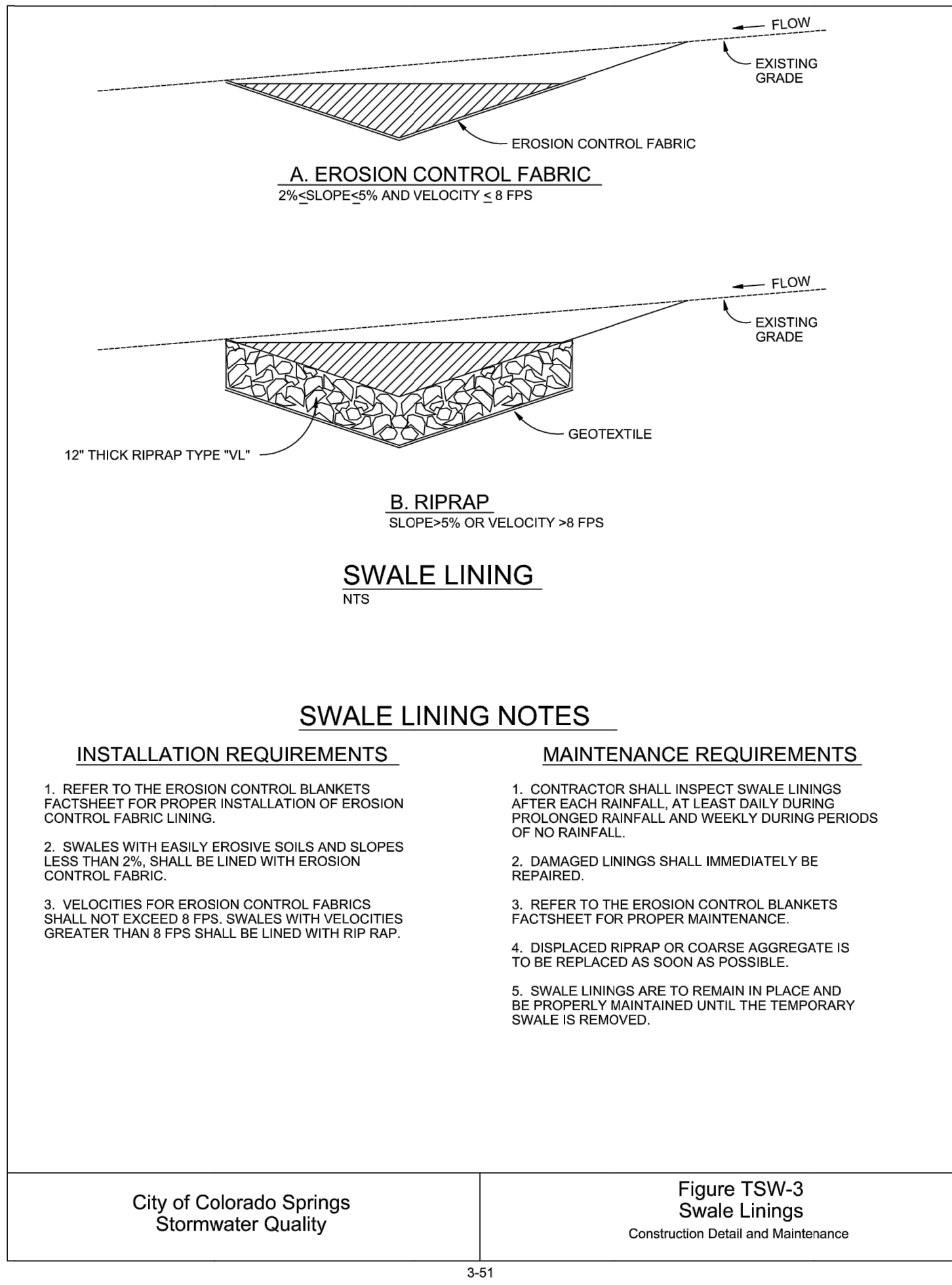
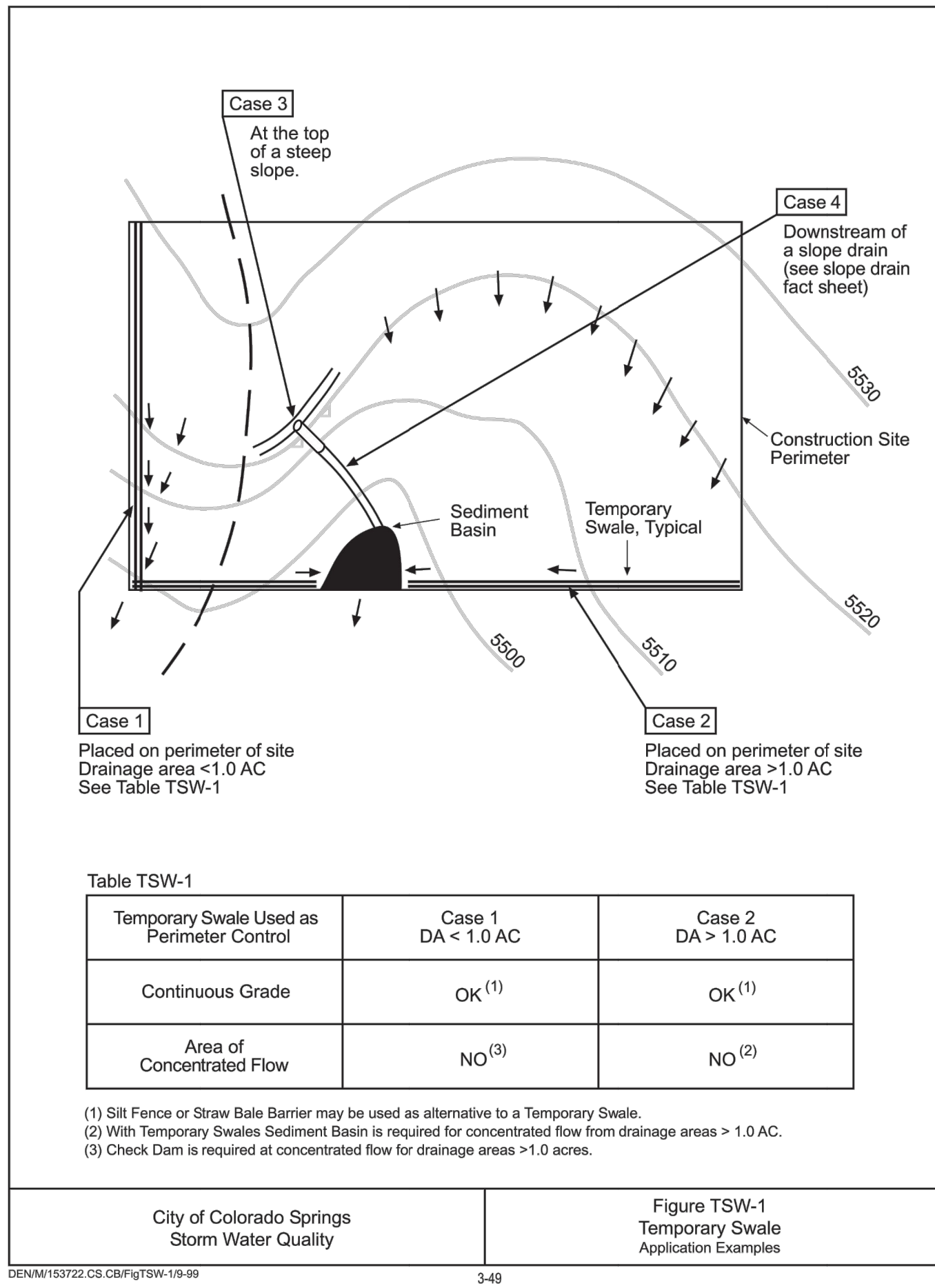
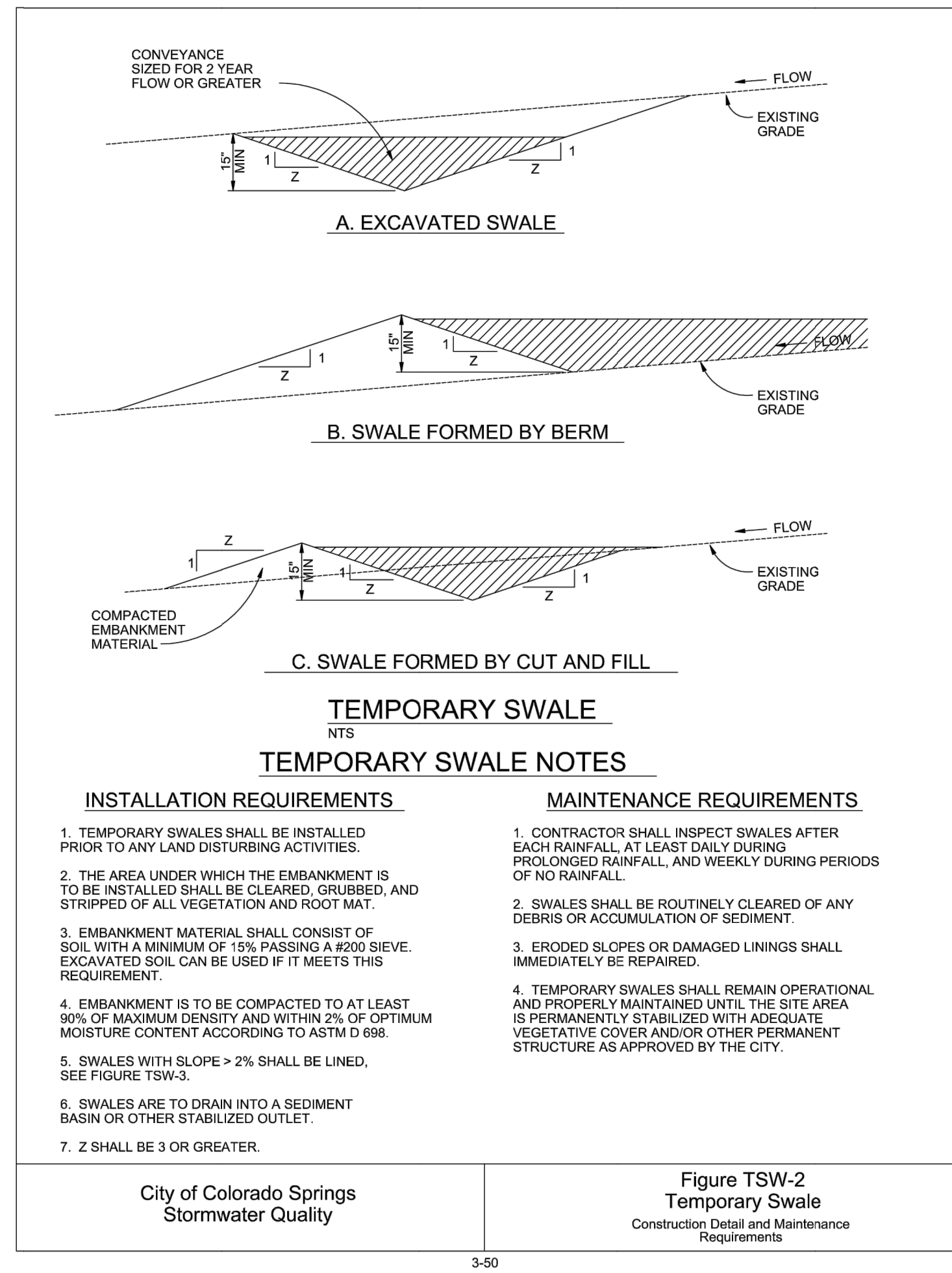
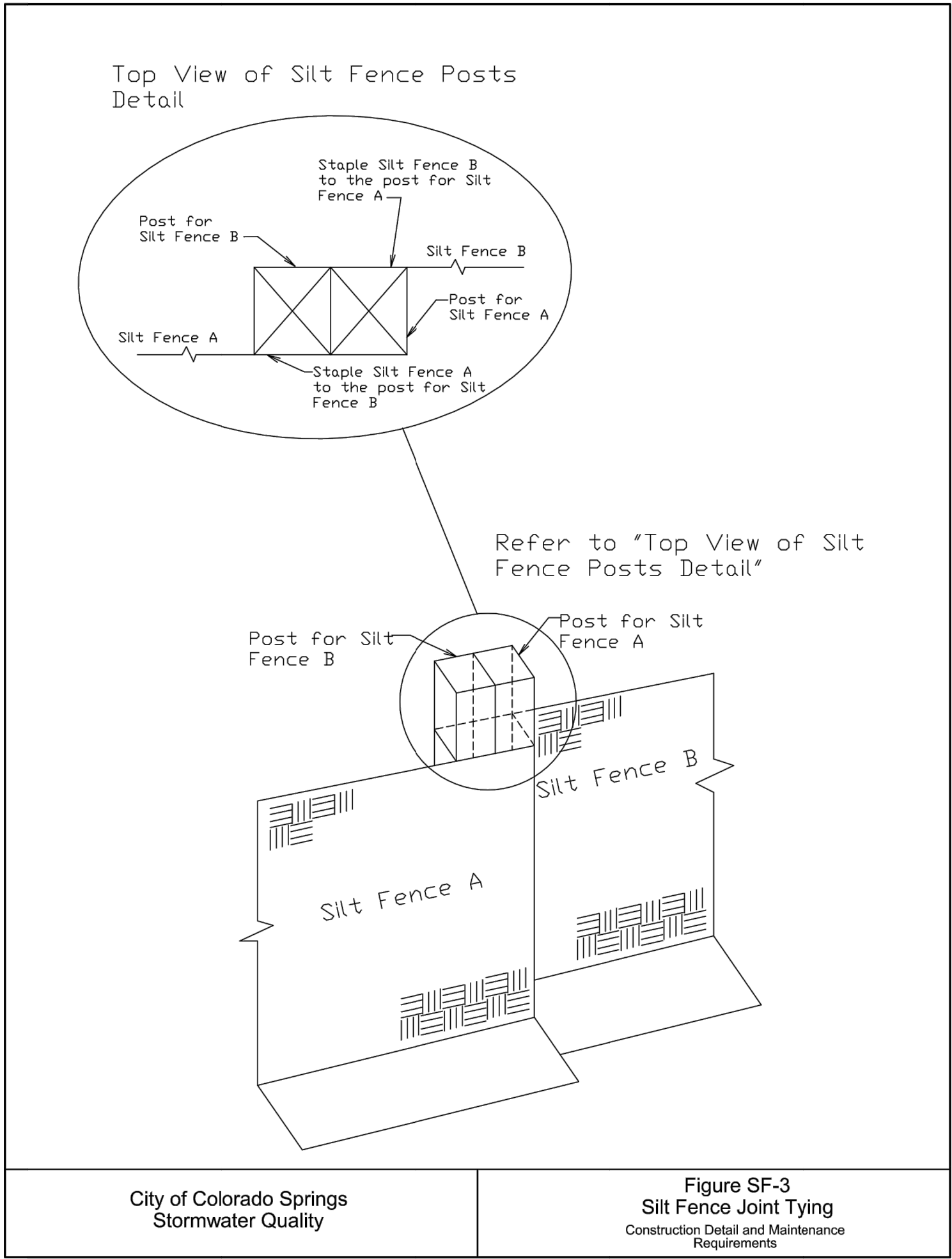
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EPC 7/27/22

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COLORADO P.E. 25043
FOR AND ON BEHALF OF JR ENGINEERING, LLC

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SADDLEHORN RANCH -
FILING NO. 2

GRADING AND EROSION
CONTROL DETAILS

SHEET 9 OF 14

JOB NO. 2514204

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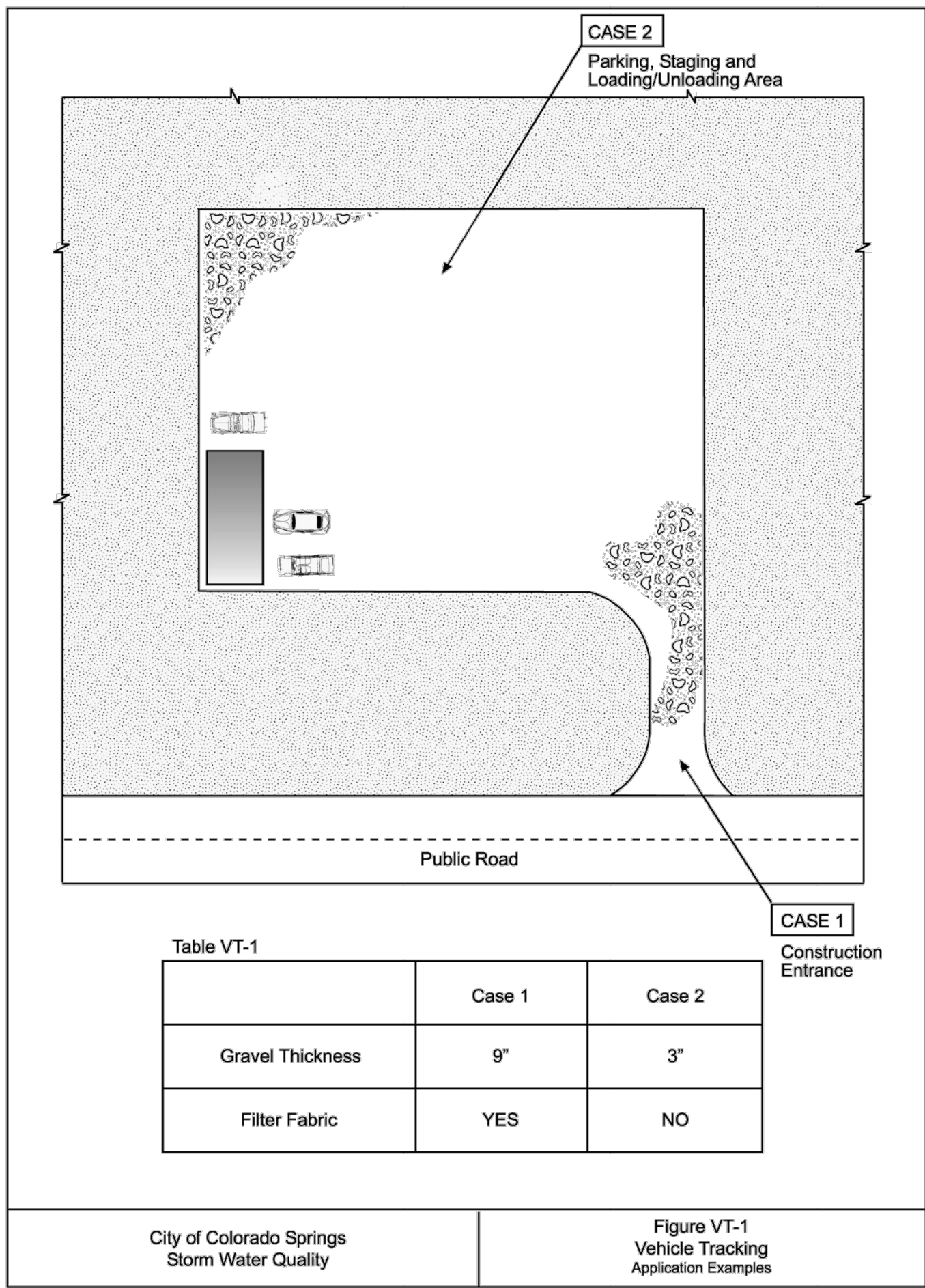
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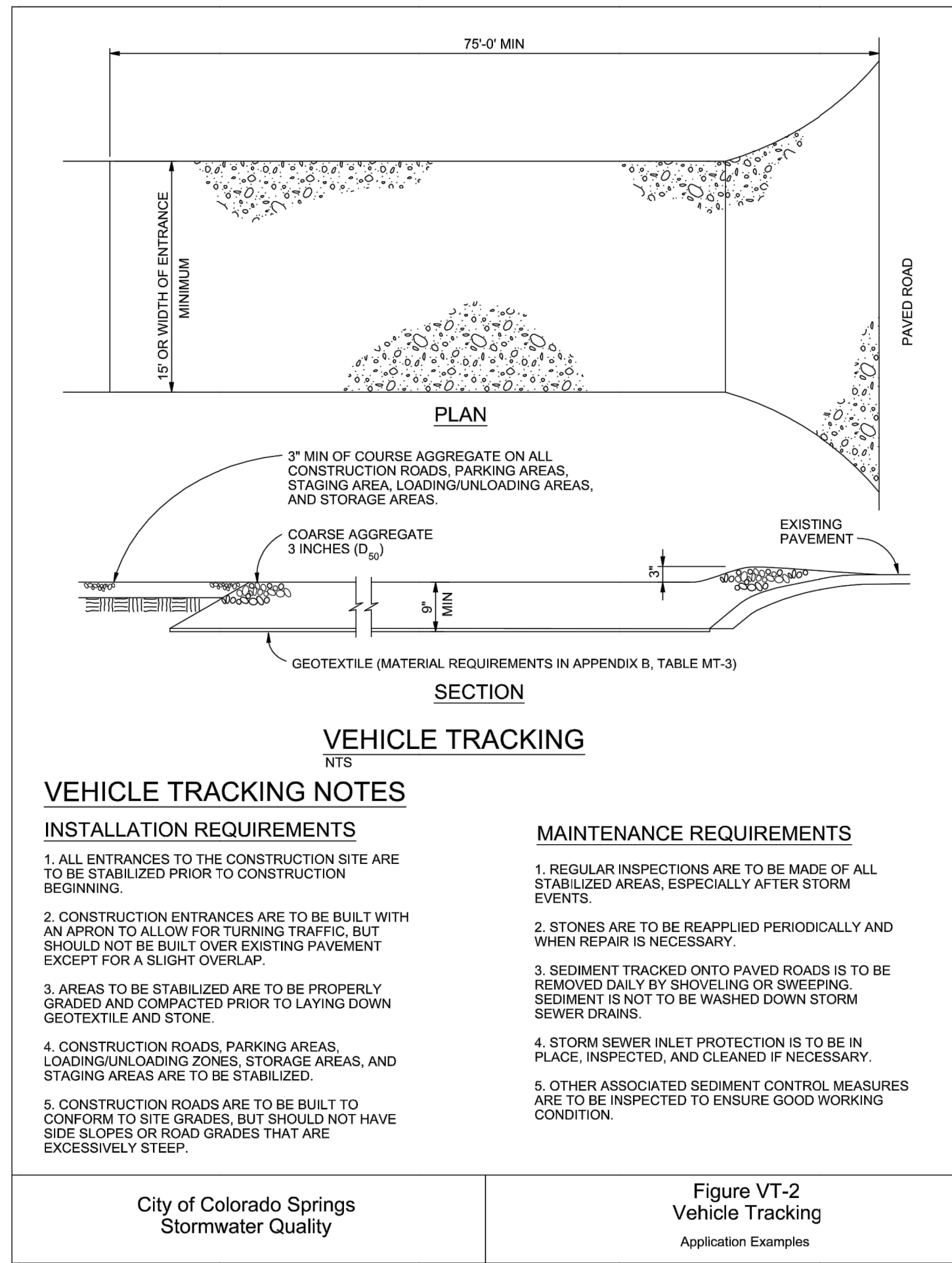
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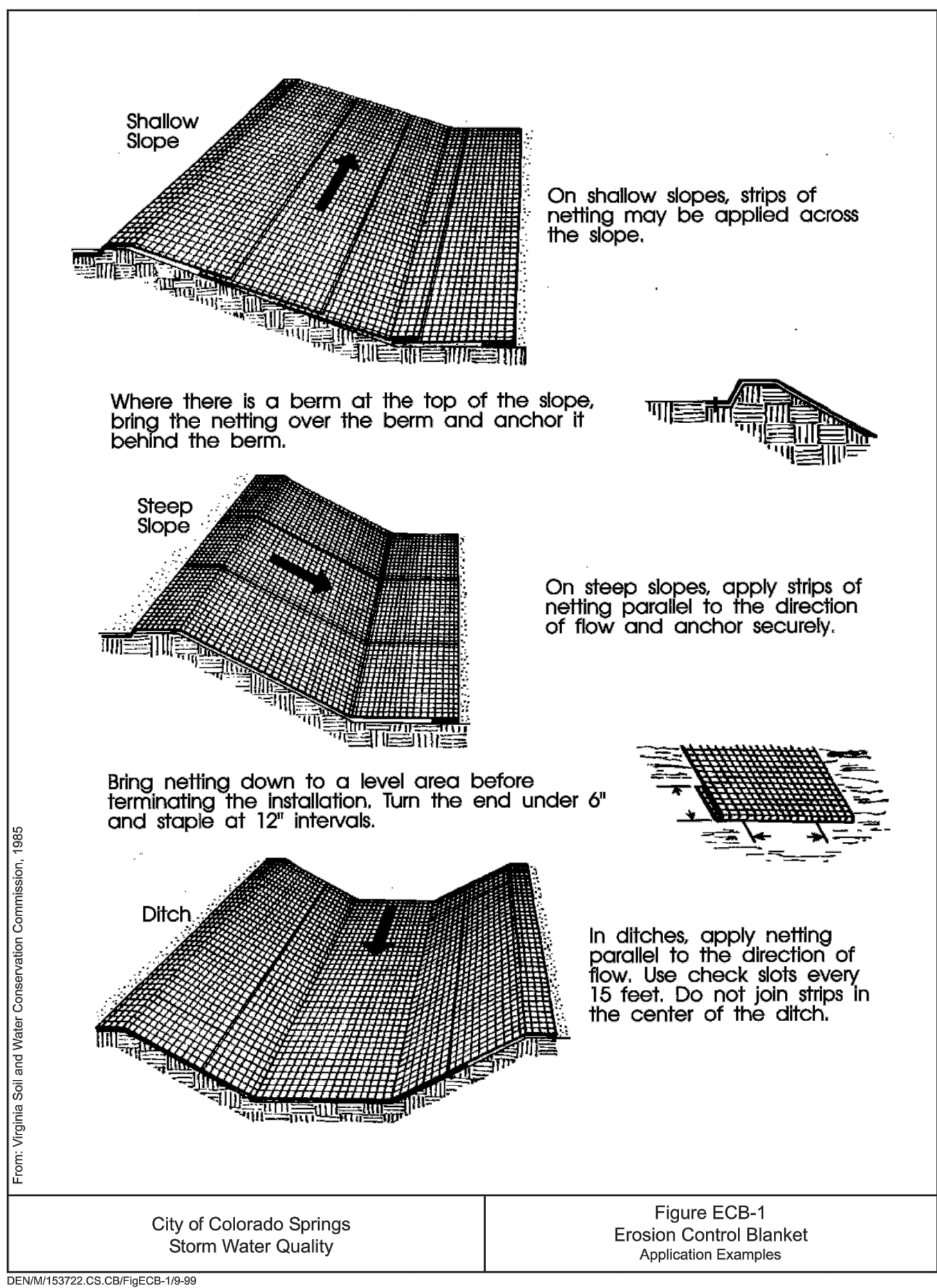


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3-53

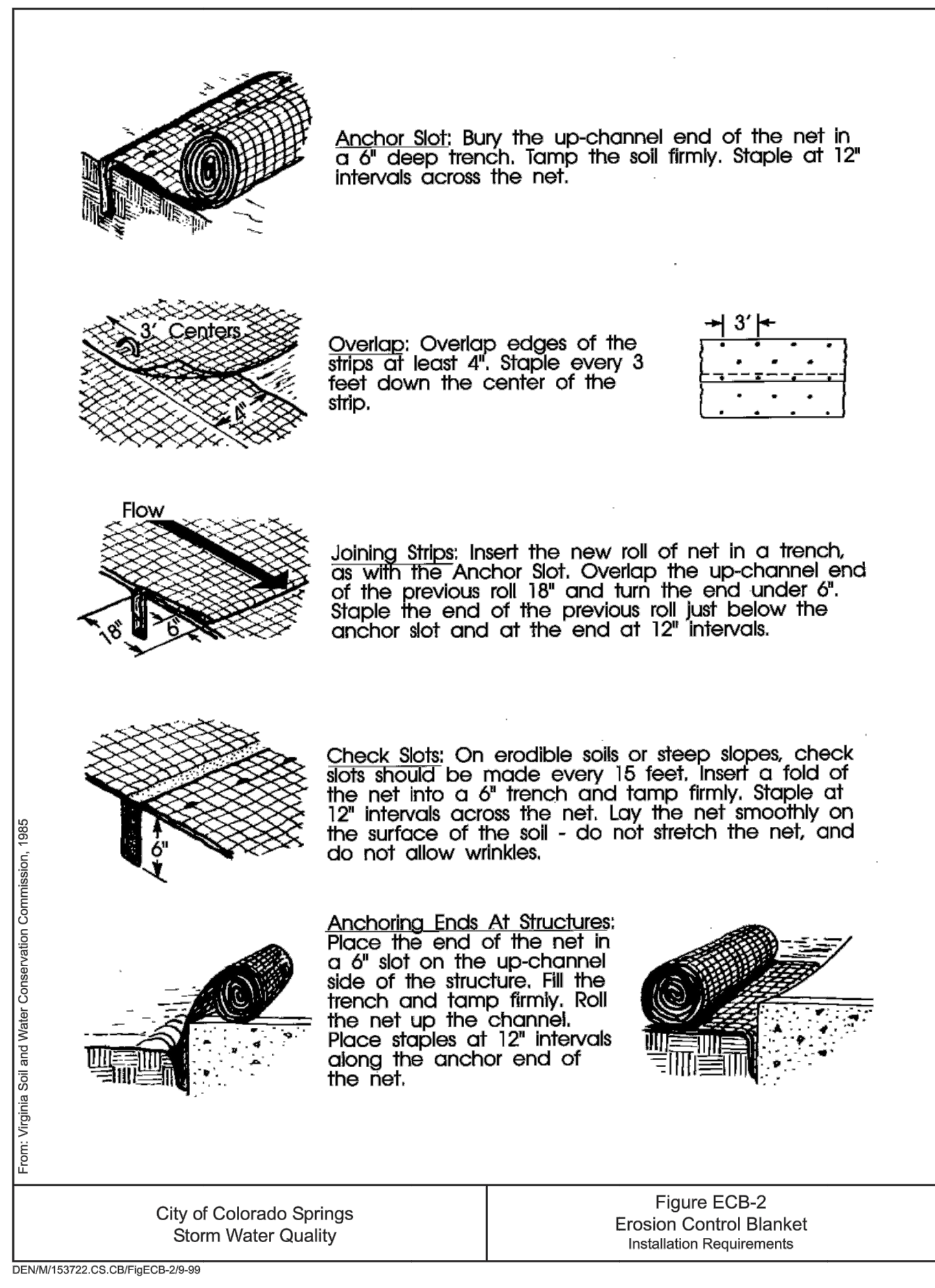


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DEN/M/153722.CB.CB/PgECB-2/8-99

3-23

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ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

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

7/14/22
DATE



SADDLEHORN RANCH -
FILING NO. 2
GRADING AND EROSION
CONTROL DETAILS

SHEET 10 OF 14

JOB NO. 2514204

BY DATE

REVISION

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TEMPORARY OUTLET PROTECTION PLAN

SECTION A

PIPE DIAMETER, Do (INCHES)	DISCHARGE, Q (CFS)	APRON LENGTH, La (FT)	RIPRAP D50 DIAMETER MIN (INCHES)
8	2.5 5	5 10	4 6
12	5 10	10 13	4 6
18	10 20	10 16	6 9
	30 40	23 26	12 16
	30 40	16 26	9 9
	50 60	26 30	12 16

TOP-2	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	November 2010
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The drawing consists of two parts: a plan view and a cross-section labeled 'SECTION A'.

Plan View: Shows a rectangular area with a central square labeled '8 x 8 MIN.'. This square is surrounded by a concrete washout area with a width of '4' MIN.' on the right side. The entire area is enclosed by a 'CONCRETE WASHOUT SIGN' and a 'COMPACTED BERM AROUND THE PERIMETER'. The berm is shown with a '3:1' slope on all sides. A 'VEHICLE TRACKING CONTROL (SEE VTC DETAIL) OR OTHER STABLE SURFACE' is indicated on the right side of the plan.

SECTION A: A cross-section showing the '12" TYP.' height of the concrete washout area. The base is labeled 'UNDISTURBED OR COMPACTED SOIL'. The concrete washout area has a '3' MIN.' depth. The berm is shown with a '3:1' slope. The ground surface on the right is labeled '2% SLOPE'. The central square is labeled '8 x 8 MIN.' and the area below it is labeled 'VEHICLE TRACKING CONTROL (SEE VTC DETAIL)'. The section is labeled 'SECTION A' at the bottom.

CWA INSTALLATION NOTES

- November 2010 Urban Drainage and Flood Control District CWA-3
 Urban Storm Drainage Criteria Manual Volume 3

TEMPORARY OUTLET PROTECTION INSTALLATION NOTES

- ### TEMPORARY OUTLET PROTECTION INSPECTION AND MAINTENANCE NOTES

- (DETAILS ADAPTED FROM AURORA, COLORADO AND PREVIOUS VERSION OF VOLUME 3, NOT AVAILABLE IN AUTOCAD)

November 2010 Urban Drainage and Flood Control District TOP-3
Urban Storm Drainage Criteria Manual Volume 3

CWA MAINTENANCE NOTES


- (DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).

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

CWA-4
Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3
November 2010



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SHEET 11 OF 14

JOB NO. 2514204

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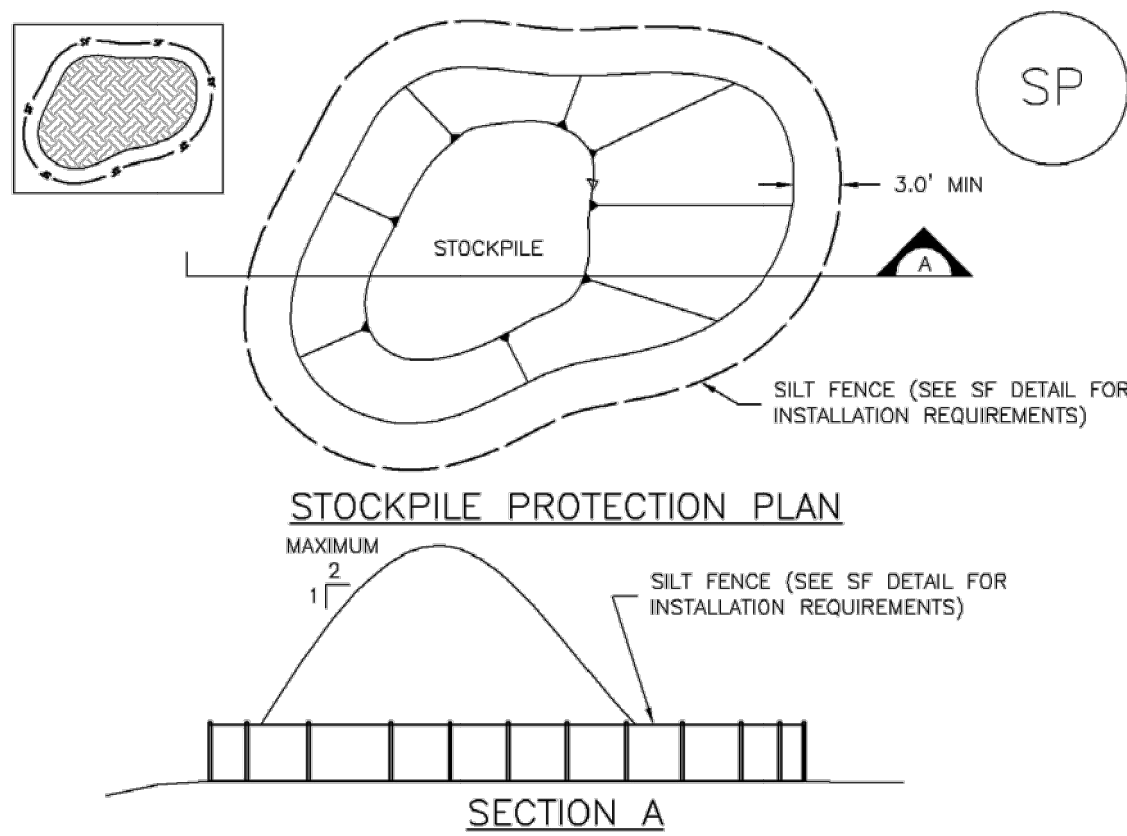
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Stockpile Management (SP)MM-2



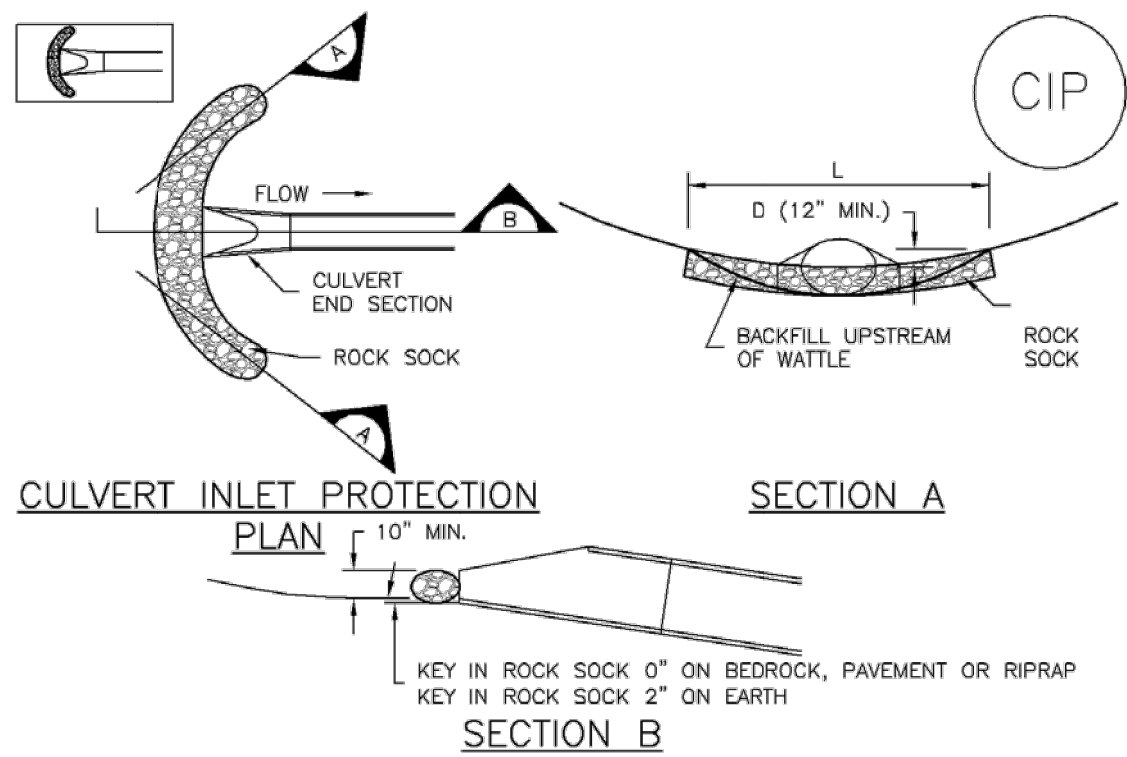
SP-1. STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF STOCKPILES.
 - TYPE OF STOCKPILE PROTECTION.
2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.
3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDD AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30-60 DAYS).
4. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADEMENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

November 2010Urban Drainage and Flood Control DistrictUrban Storm Drainage Criteria Manual Volume 3SP-3

Inlet Protection (IP)SC-6



CIP-1. CULVERT INLET PROTECTION

CULVERT INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF CULVERT INLET PROTECTION.
2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

CULVERT INLET PROTECTION MAINTENANCE NOTES

1. 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.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS $\frac{1}{4}$ THE HEIGHT OF THE ROCK SOCK.
5. CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

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

August 2013Urban Drainage and Flood Control DistrictUrban Storm Drainage Criteria Manual Volume 3IP-7

MM-2Stockpile Management (SM)

STOCKPILE PROTECTION MAINTENANCE NOTES

1. 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.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

STOCKPILE PROTECTION MAINTENANCE NOTES

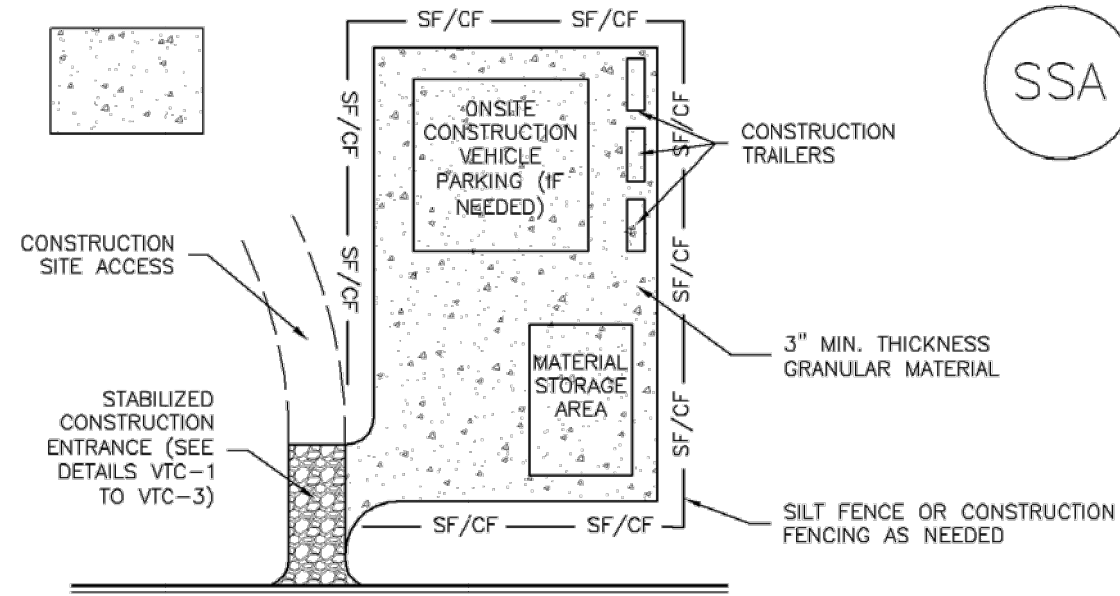
4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.
5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

(DETAILS ADAPTED FROM PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

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

SP-4Urban Drainage and Flood Control DistrictUrban Storm Drainage Criteria Manual Volume 3November 2010

Stabilized Staging Area (SSA)SM-6



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF STAGING AREA(S).
 - CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.

3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.

4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.

5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

1. 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.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

November 2010Urban Drainage and Flood Control DistrictUrban Storm Drainage Criteria Manual Volume 3SSA-3

EPC 7/27/22



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7/14/22

DATE

SADDLEHORN RANCH - FILING NO. 2

GRADING AND EROSION CONTROL DETAILS

SHEET 12 OF 14

JOB NO. 2514204

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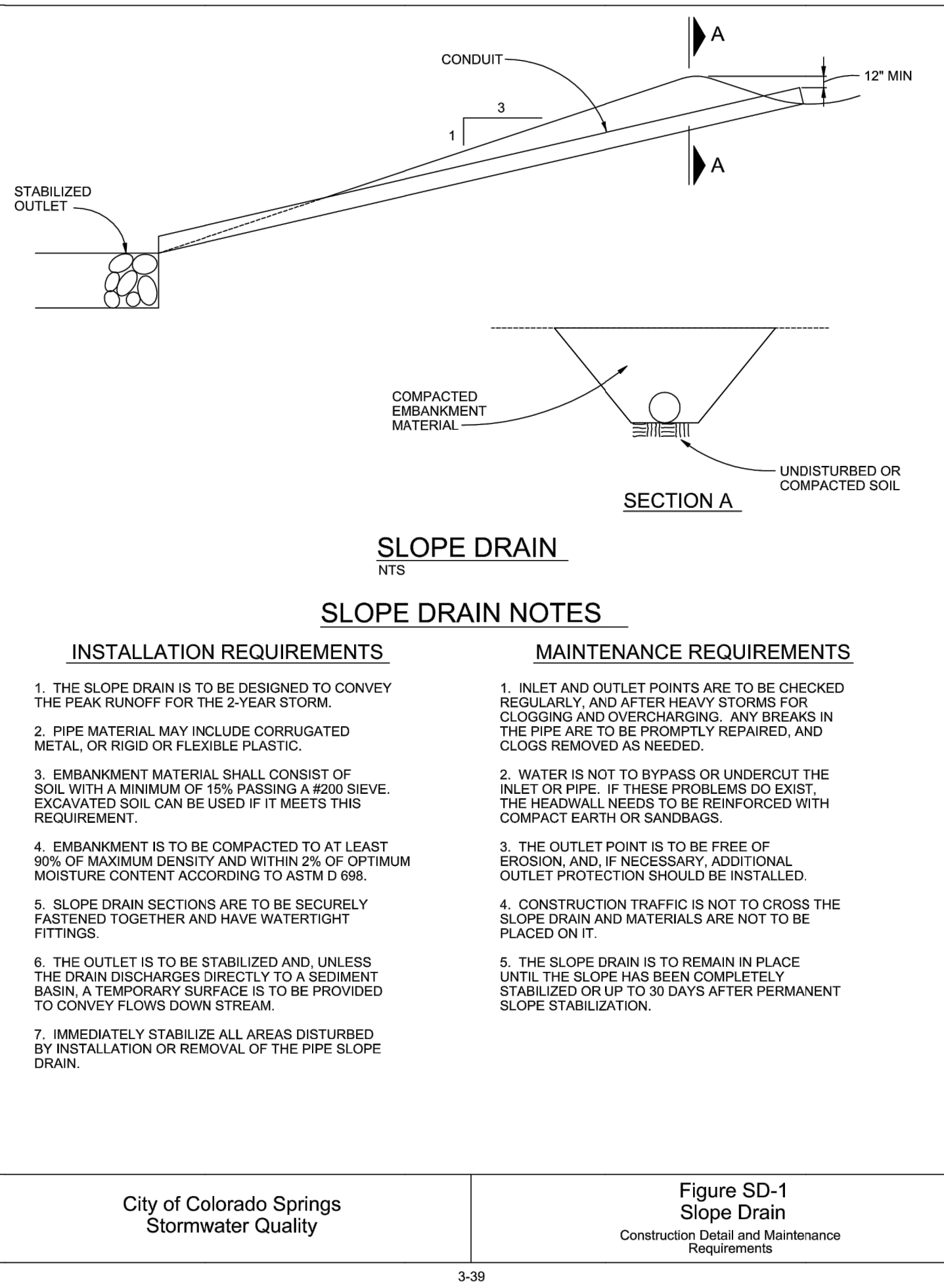
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SM-6 Stabilized Staging Area (SSA)

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 UDPCD 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)



MULCHING NOTES

INSTALLATION REQUIREMENTS

1. ALL DISTURBED AREAS MUST BE MULCHED WITHIN 21 DAYS AFTER FINAL GRADE AND SEEDED AREAS ARE TO BE MULCHED WITHIN 24 HOURS AFTER SEEDING.
2. MATERIAL USED FOR MULCH CAN BE CERTIFIED CLEAN, WEED- AND SEED-FREE LONG STEMMED FIELD OR MARSH HAY, OR STRAW OF OATS, BARLEY, WHEAT, RYE, OR TRITICALE CERTIFIED BY THE COLORADO DEPARTMENT OF AGRICULTURE WEED-FREE FORAGE CERTIFICATION PROGRAM.
3. HYDRAULIC MULCHING MATERIAL SHALL CONSIST OF VIRGIN WOOD FIBER MANUFACTURED FROM CLEAN WHOLE WOOD CHIPS. WOOD CHIPS CANNOT CONTAIN ANY GROWTH OR GERMINATION INHIBITORS OR BE PRODUCED FROM RECYCLED MATERIAL. GRAVEL CAN ALSO BE USED.
4. MULCH IS TO BE APPLIED EVENLY AT A RATE OF 2 TONS PER ACRE.
5. MULCH IS TO BE ANCHORED EITHER BY CRIMPING (TUCKING MULCH FIBERS 4 INCHES INTO THE SOIL) USING NETTING (USED ON SMALL AREAS WITH STEEP SLOPES), OR WITH A TACKIFIER.
6. HYDRAULIC MULCHING AND TACKIFIERS ARE NOT TO BE USED IN THE PRESENCE OF FREE SURFACE WATER.

MAINTENANCE REQUIREMENTS

1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL MULCHED AREAS.
2. MULCH IS TO BE REPLACED IMMEDIATELY IN THOSE AREAS IT HAS BEEN REMOVED, AND IF NECESSARY THE AREA SHOULD BE RESEDED.

3-30

Check Dams (CD)

EC-12

Description

Check dams are temporary grade control structures placed in drainage channels to limit the erosivity of stormwater by reducing flow velocity. Check dams are typically constructed from rock, gravel bags, sand bags, or sometimes, proprietary devices. Reinforced check dams are typically constructed from rock and wire gabion. Although the primary function of check dams is to reduce the velocity of concentrated flows, a secondary benefit is sediment trapping upstream of the structure.



Photograph CD-1. Rock check dams in a roadside ditch. Photo courtesy of WWE.

Appropriate Uses

Use as a grade control for temporary drainage ditches or swales until final soil stabilization measures are established upstream and downstream. Check dams can be used on mild or moderately steep slopes. Check dams may be used under the following conditions:

- As temporary grade control facilities along waterways until final stabilization is established.
- Along permanent swales that need protection prior to installation of a non-erodible lining.
- Along temporary channels, ditches or swales that need protection where construction of a non-erodible lining is not practicable.
- Reinforced check dams should be used in areas subject to high flow velocities.

Design and Installation

Place check dams at regularly spaced intervals along the drainage swale or ditch. Check dams heights should allow for pools to develop upstream of each check dam, extending to the downstream toe of the check dam immediately upstream.

When rock is used for the check dam, place rock mechanically or by hand. Do not dump rocks into the drainage channel. Where multiple check dams are used, the top of the lower dam should be at the same elevation as the toe of the upper dam.

When reinforced check dams are used, install erosion control fabric under and around the check dam to prevent erosion on the upstream and downstream sides. Each section of the dam should be keyed in to reduce the potential for washout or undermining. A rock apron upstream and downstream of the dam may be necessary to further control erosion.

Check Dams	
Functions	
Erosion Control	Yes
Sediment Control	Moderate
Site/Material Management	No

CD-1



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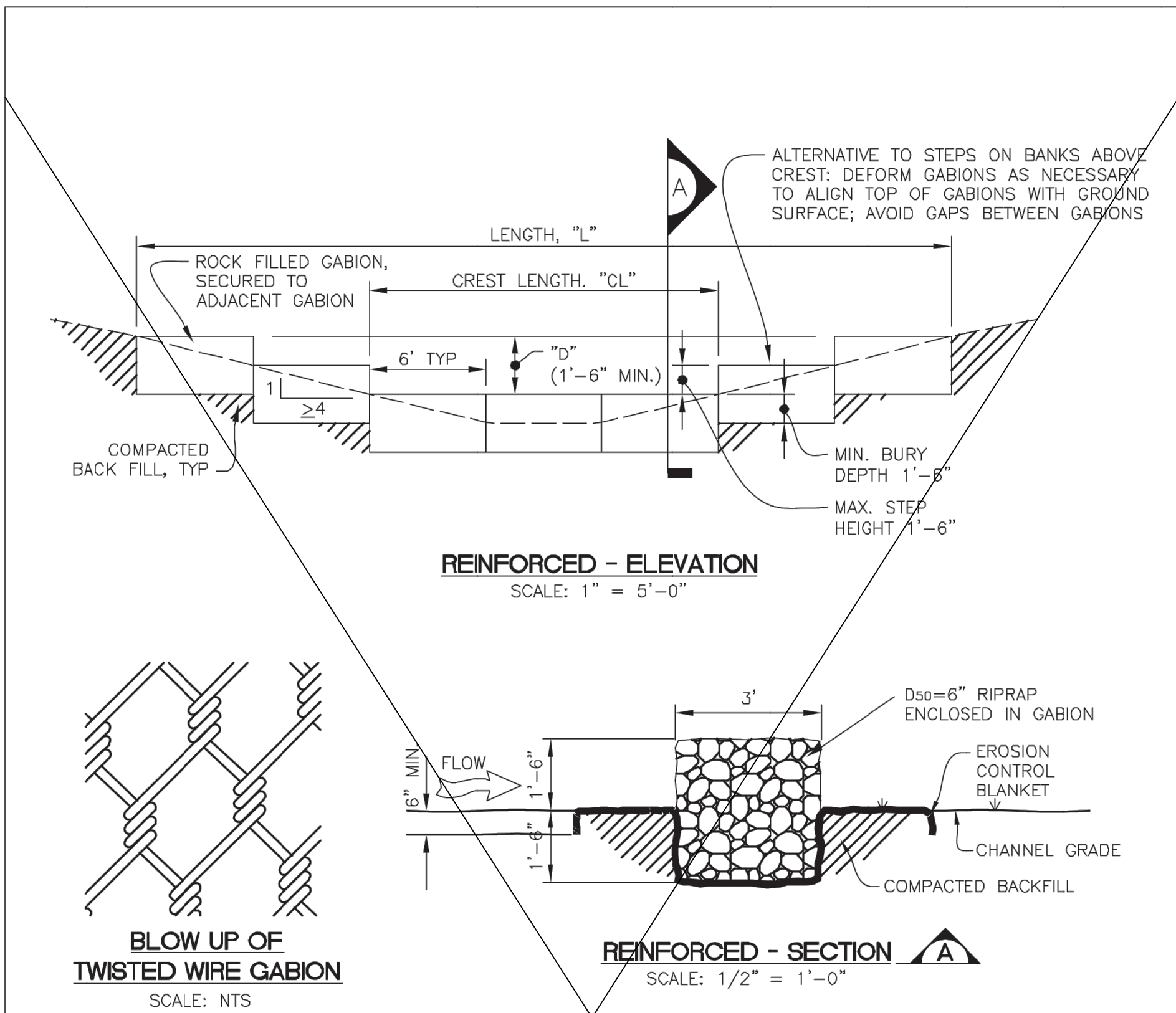
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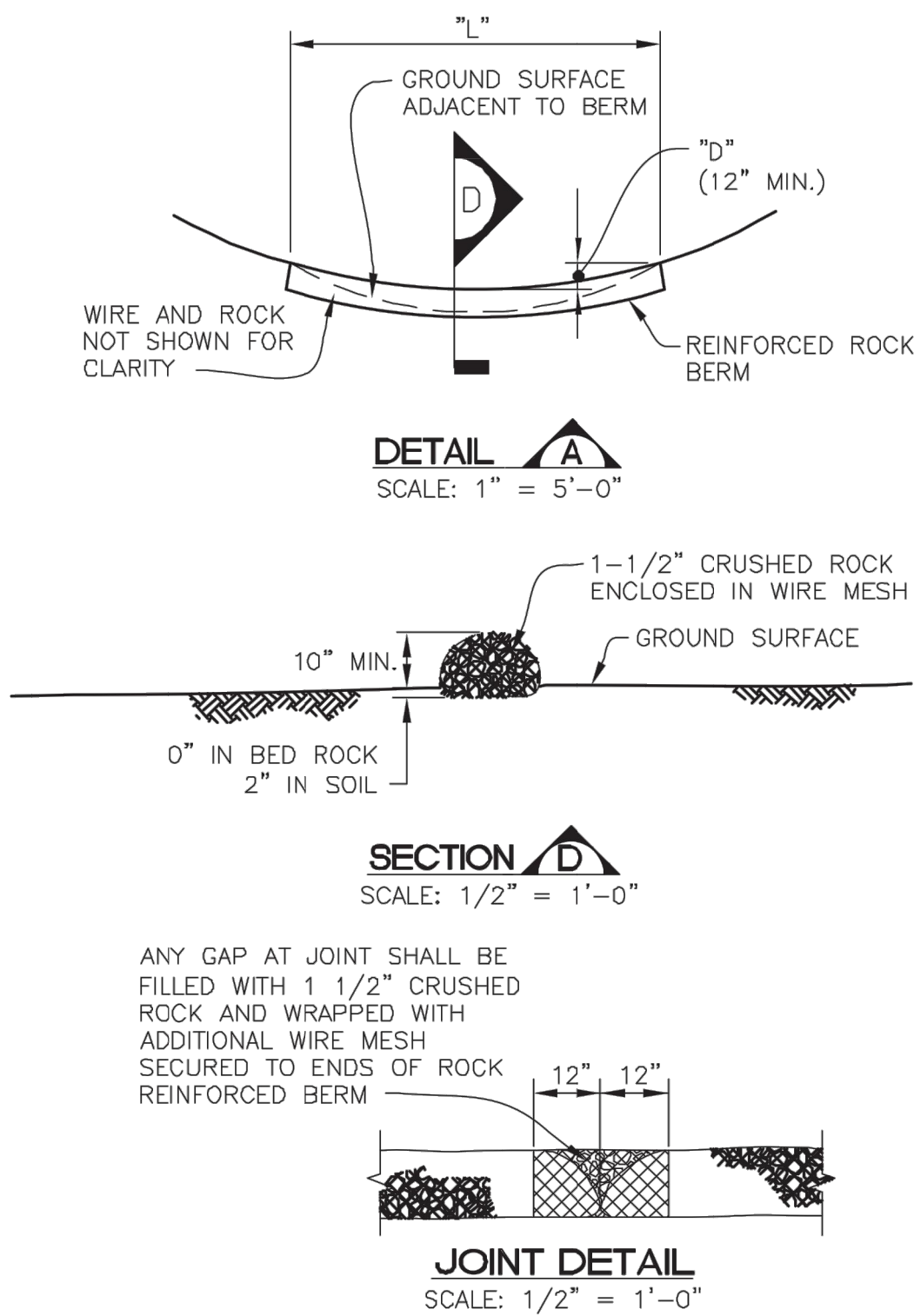


REINFORCED CHECK DAM INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATIONS OF CHECK DAMS.
 - CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM).
 - LENGTH, "L", CREST LENGTH, "CL", AND DEPTH, "D".
- CHECK DAMS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED AFTER CONSTRUCTION FENCE, BUT PRIOR TO ANY UPSTREAM LAND-DISTURBING ACTIVITIES.
- REINFORCED CHECK DAMS, GABIONS SHALL HAVE GALVANIZED TWISTED WIRE NETTING WITH A MAXIMUM OPENING DIMENSION OF 4-1/2" AND A MINIMUM WIRE THICKNESS OF 0.10". WIRE "HOG RINGS" AT 4" SPACING OR OTHER APPROVED MEANS SHALL BE USED AT ALL GABION SEAMS AND TO SECURE THE GABION TO THE ADJACENT GABION.
- RIPRAP UTILIZED FOR CHECK DAMS SHALL HAVE A D₅₀ MEDIAN STONE SIZE OF 6".
- THE CHECK DAM SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1'-6".
- EROSION BLANKET SHALL BE PLACED IN THE REINFORCED CHECK DAM TRENCH EXTENDING A MINIMUM OF 1'-6" ON BOTH THE UPSTREAM AND DOWNSTREAM SIDES OF THE REINFORCED CHECK DAM.

REINFORCED CHECK DAM MAINTENANCE NOTES

- THE GESC MANAGER SHALL INSPECT CHECK DAMS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY.
- SEDIMENT ACCUMULATED UPSTREAM OF CHECK DAMS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH UPSTREAM OF CHECK DAM IS WITHIN 1/2 OF THE HEIGHT OF THE CREST.
- CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED BY THE TOWN.
- WHEN CHECK DAMS ARE REMOVED, EXCAVATIONS SHALL BE FILLED WITH SUITABLE COMPACTED BACK FILL. ANY DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED AND COVERED WITH EROSION CONTROL BLANKET OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE TOWN.

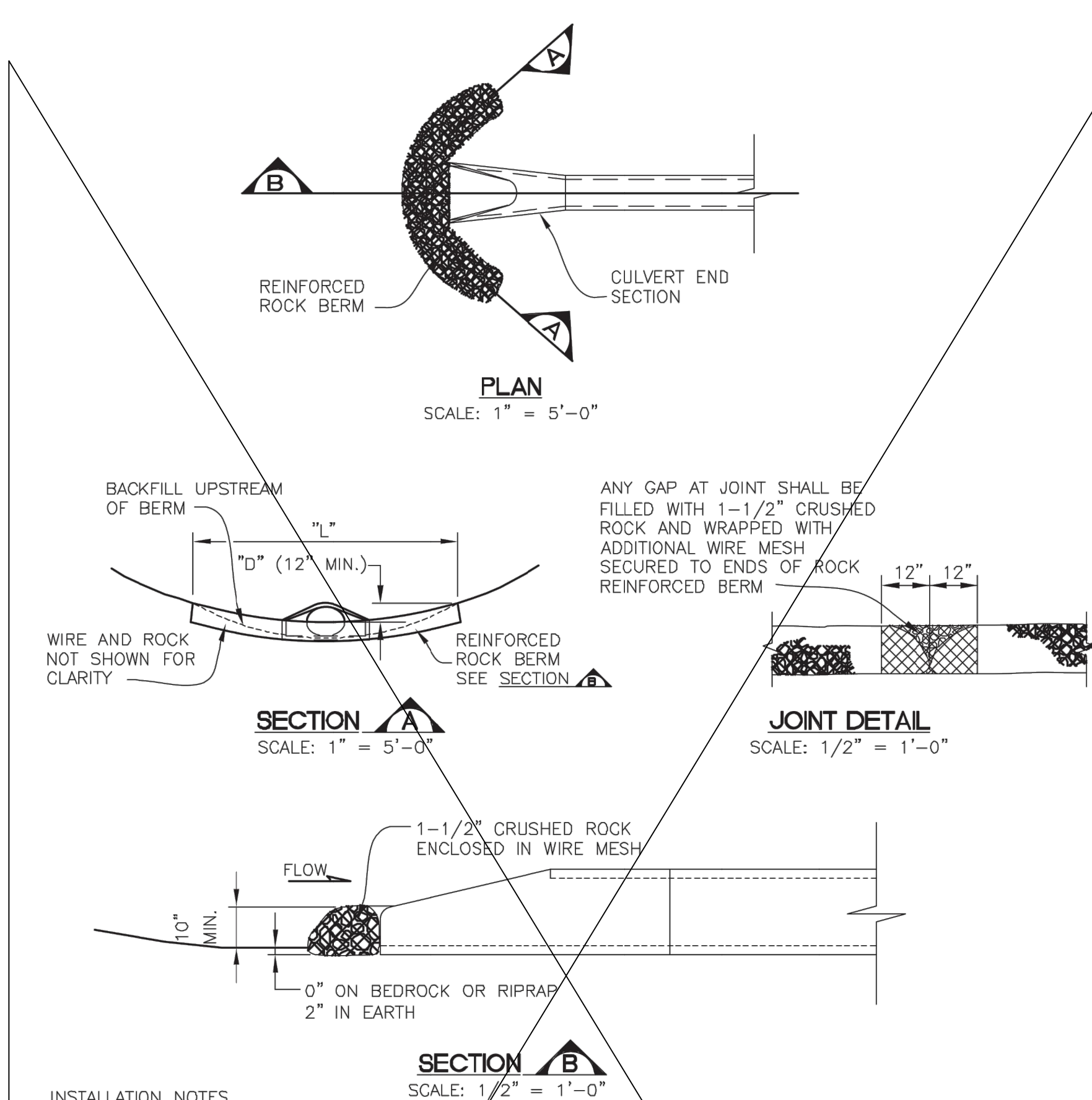


REINFORCED ROCK BERM INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATIONS OF REINFORCED ROCK BERMS.
 - LENGTH, "L", AND DEPTH, "D" DIMENSIONS.
- REINFORCED ROCK BERM SECTION APPLIES TO CULVERT INLET FILTER AND INLET PROTECTION.
- CRUSHED ROCK SHALL BE FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON SHEET 14 (1-1/2" MINUS). RECYCLED CONCRETE MEETING THIS GRADATION MAY BE USED.
- WIRE MESH SHALL BE FABRICATED OF 10 GAUGE WIRE TWISTED INTO A MESH WITH A MAXIMUM OPENING OF 1.0 INCH (COMMONLY TERMED "CHICKEN WIRE"). ROLL WIDTH SHALL BE 48-INCHES.
- WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6-INCH CENTERS ALONG ALL JOINTS AND AT 2-INCH CENTERS ON ENDS OF BERM.
- FOR CONCENTRATED FLOW AREAS THE ENDS OF THE REINFORCED ROCK BERM SHALL BE 12" HIGHER THAN THE CENTER OF THE BERM.

REINFORCED ROCK BERM MAINTENANCE NOTES

- THE GESC MANAGER SHALL INSPECT REINFORCED ROCK BERM WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY.
- SEDIMENT ACCUMULATED UPSTREAM OF REINFORCED ROCK BERM SHALL BE REMOVED WHEN THE SEDIMENT DEPTH UPSTREAM OF FILTER IS WITHIN 5 INCHES OF THE CREST.
- REINFORCED ROCK BERMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED.
- WHEN REINFORCED ROCK BERMS ARE REMOVED, ANY DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE TOWN.



INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATIONS OF CULVERT INLET FILTERS.
 - LENGTH, "L", AND DEPTH, "D".
- CRUSHED ROCK SHALL BE FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON SHEET 14 (1-1/2" MINUS). RECYCLED CONCRETE MEETING THIS GRADATION MAY BE USED.
- WIRE MESH SHALL BE FABRICATED OF 10 GAUGE WIRE TWISTED INTO A MESH WITH A MAXIMUM OPENING OF 1.0 INCH (COMMONLY TERMED "CHICKEN WIRE").
- WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6-INCH CENTERS ALONG ALL JOINTS AND AT 2-INCH CENTERS ON ENDS OF BERM.
- THE ENDS OF THE REINFORCED ROCK BERM SHALL BE 12" HIGHER THAN THE CENTER OF THE BERM.

MAINTENANCE NOTES

- THE GESC MANAGER SHALL INSPECT CULVERT INLET FILTER WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY.
- SEDIMENT ACCUMULATED UPSTREAM OF CULVERT INLET FILTER SHALL BE REMOVED WHEN THE SEDIMENT DEPTH UPSTREAM OF FILTER IS 1/2 THE HEIGHT OF THE REINFORCED ROCK BERM.
- RRB FOR CULVERT PROTECTION ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED BY THE TOWN.
- WHEN CULVERT INLET FILTERS ARE REMOVED, ANY DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE TOWN.



Sheet Revisions			
R1	3/11	GESC MANUAL UPDATES	DVD
R2	5/15	GESC MANUAL UPDATES	DVD

NOTE: SCALES SHOWN ARE FOR 22"x34" SHEETS; ADJUST ACCORDINGLY FOR 11"x17" SHEETS.



UTILITIES DEPARTMENT
Stormwater Engineering Division

GESC GRADING, EROSION, AND
SEDIMENT CONTROL

GESC PLAN
STANDARD NOTES
AND DETAILS

SHEET
7 OF 14



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