

# SADDLEHORN RANCH - FILING NO. 2

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

## PRE-DEVELOPMENT GRADING AND EROSION CONTROL PLANS

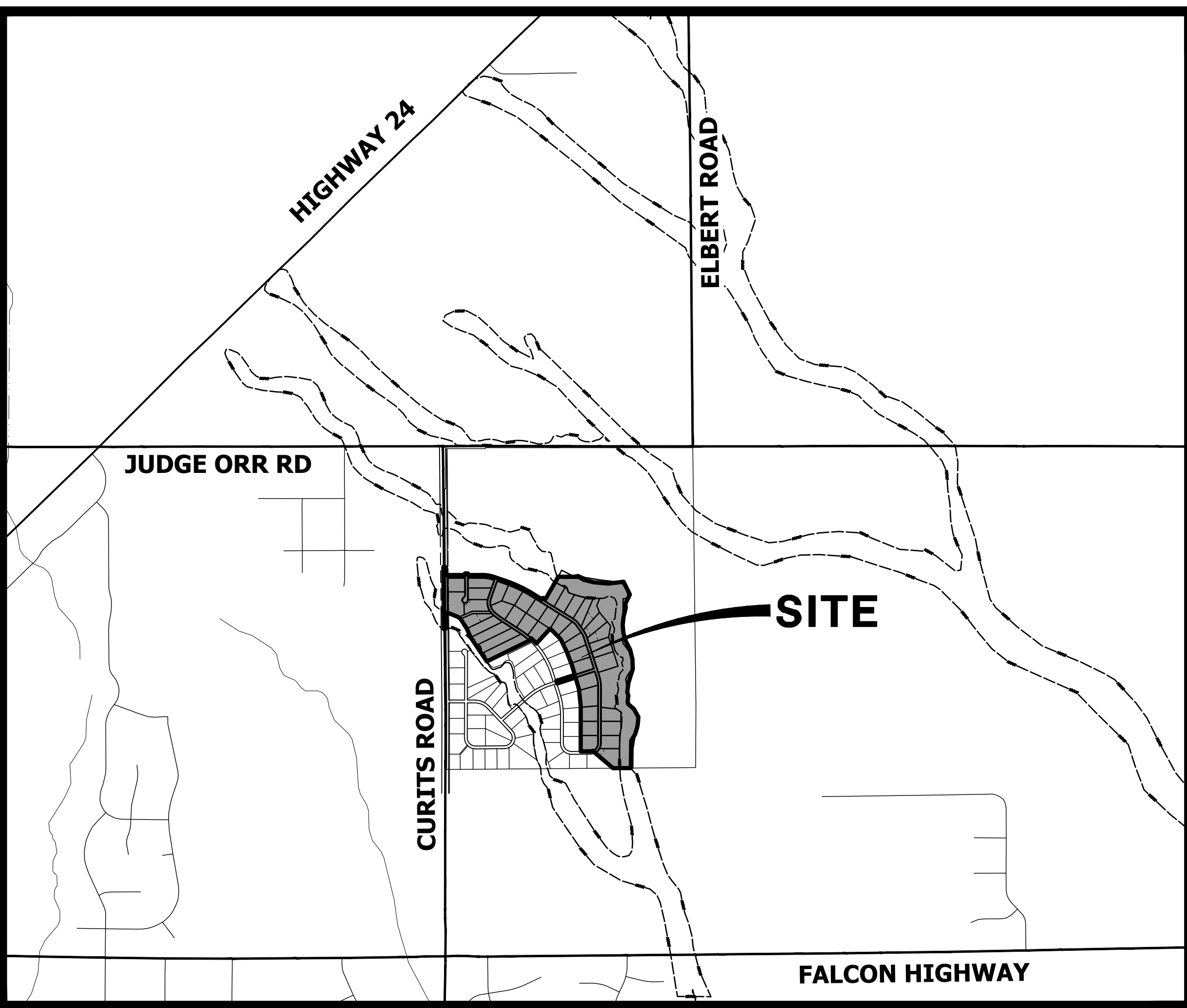


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UNTIL SUCH TIME AS  
THESE DRAWINGS ARE  
APPROVED BY THE  
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APPROVES THEIR USE,  
THESE DRAWINGS ARE  
DESIGNATED BY WRITTEN  
AUTHORIZATION.

**ABBREVIATIONS**

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



**CONTACTS:**

OWNER	GORILLA CAPITAL CO SADDLEHORN RANCH, LLC 1342 HIGH STREET EUGENE, OR 97401 P--541-393-9043
DEVELOPER	ROI PROPERTY GROUP, LLC 2495 RIDGON 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



**BENCHMARK:**  
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.

**BASIS OF BEARINGS:**  
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.

**EARTHWORK SUMMARY TABLE**

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

**VICINITY MAP**  
SCALE: 1" = 2000'

**SHEET INDEX**

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

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.

PCD FILE NO. EGP221

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

**EL PASO COUNTY STATEMENT**

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

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

IN ACCORDANCE WITH ECM 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 DIRECTORS DISCRETION.

JENNIFER IRVINE, P.E. \_\_\_\_\_ DATE \_\_\_\_\_  
COUNTY ENGINEER/ECM ADMINISTRATOR

**ENGINEER'S STATEMENT**

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENCE, ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLANS.

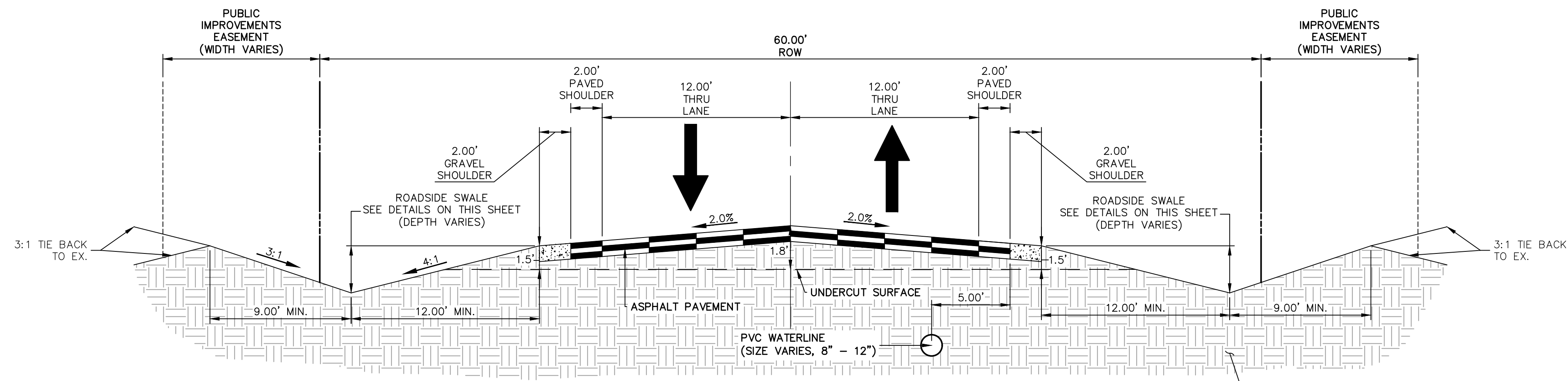
BRYAN T. LAW, P.E.  
 COLORADO P.E. 25043  
 FOR AND ON BEHALF OF JR ENGINEERING, LLC  
 7/14/22  
 DATE

H-SCALE	V-SCALE	DESIGNED BY		DRAWN BY		CHECKED BY
		DATE	N/Q/J	DATE	N/Q/J	
1"=2000'	N/A	7/14/22	N/Q/J			

PREPARED FOR  
**ROI PROPERTY GROUP, LLC**  
 2495 RIDGON STREET  
 NAPA, CALIFORNIA  
 (707) 365-6891  
 BRADY WILLIAMS

**J-R ENGINEERING**  
 A Westplan Company  
 Centennial 300-740-0888 • Colorado Springs 719-588-2583  
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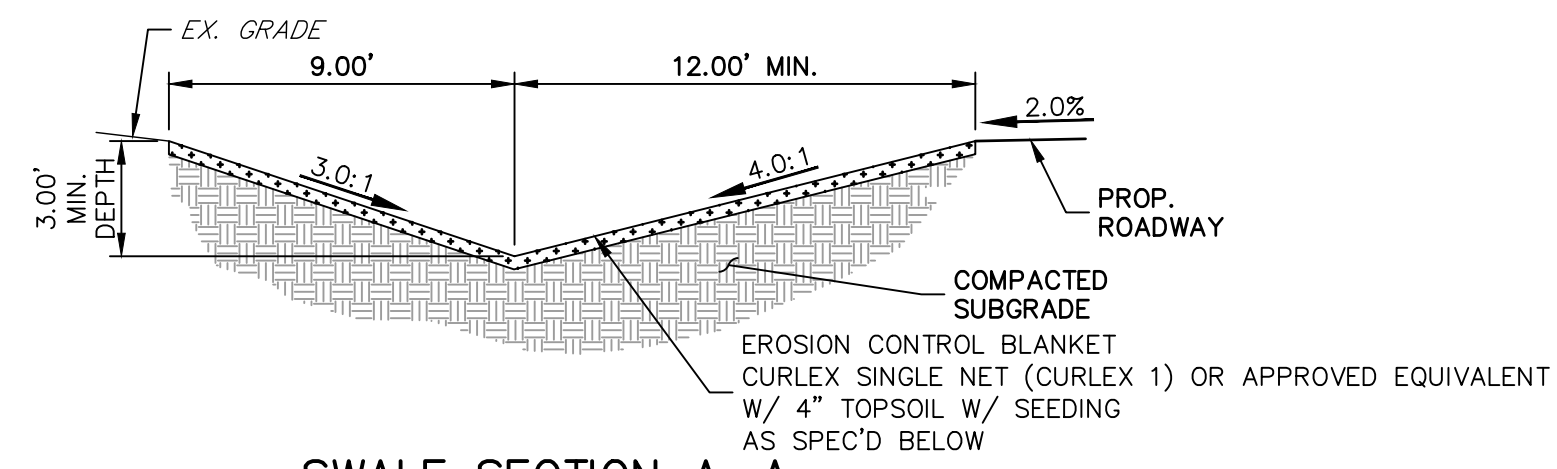




NOTE: SUBGRADE UNDERCUT GRADING ONLY IS PERMITTED WITH THIS PREDEVELOPMENT CONSTRUCTION PLANS. ASPHALT AND BASE COURSE SHALL NOT BE CONSTRUCTED WITH THIS PREDEVELOPMENT GRADING

**TYPICAL RURAL LOCAL**

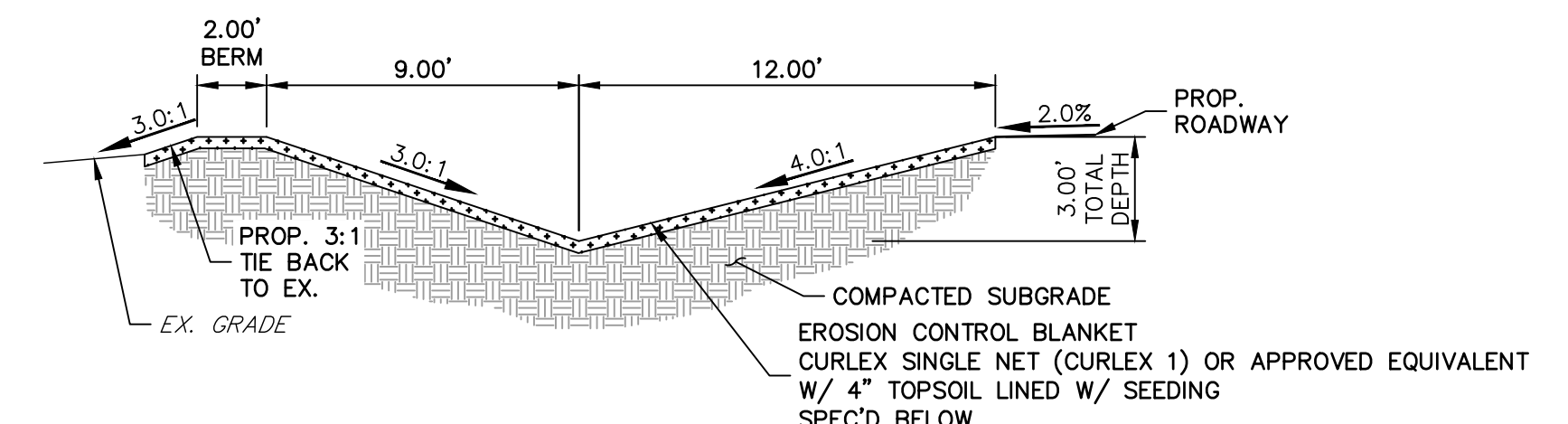
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SCALE: 1" = 5'



**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'

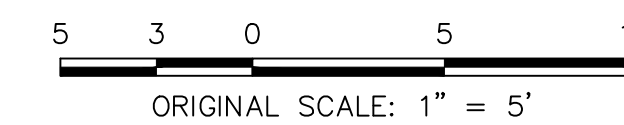
SWALE SEED MIX:  
EROSION CONTROL BLANKET WITH PAWNEE BUTTES SEED INC. - "LOW GROW NATIVE MIX"  
- IDAHO FESCUE  
- SANDBERG BLUEGRASS  
- ROCKY MOUNTAIN FESCUE  
- BIG BLUEGRASS

**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.



**ENGINEER'S STATEMENT**

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

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

7/14/22  
DATE

FOR AND ON BEHALF OF JR ENGINEERING, LLC

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

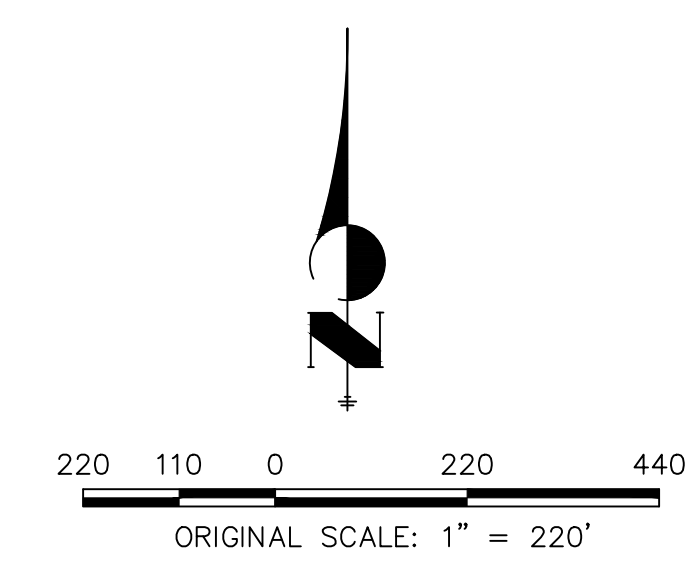
PREPARED FOR  
**ROI PROPERTY GROUP, LLC**  
2495 RIGDON STREET  
NAPA, CALIFORNIA  
(707) 365-6891  
BRADY WILLIAMS

**J.R. ENGINEERING**  
A Westman Company  
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BY	DATE	REVISION

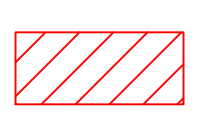
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1"=5'	N/A	7/14/22	NQJ	NQJ	

SADDLEHORN RANCH - FILING NO. 2  
TYPICAL SECTIONS  
SHEET 3 OF 14  
JOB NO. 2514204



**LEGEND**


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



**ENGINEER'S STATEMENT**


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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

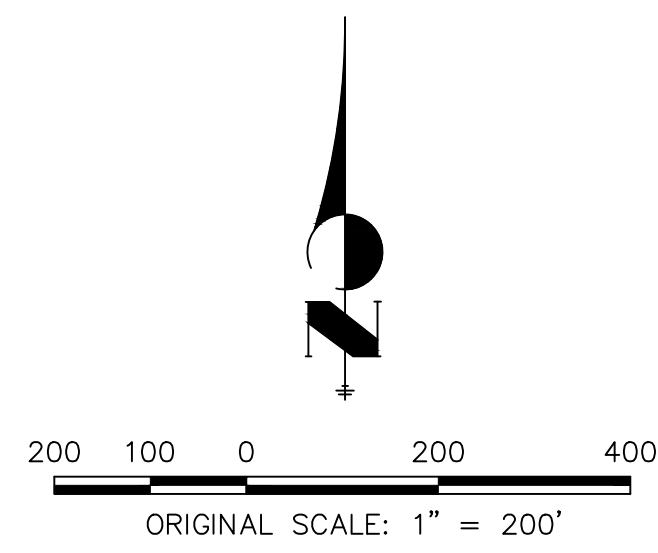
**811**  
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PREPARED FOR	ROI PROPERTY GROUP, LLC 2495 RIGDON STREET NAPA, CALIFORNIA (707) 365-6891 BRADY WILLIAMS
 <b>J.R. ENGINEERING</b> A Westman Company Central 303-740-9888 • Colorado Springs 719-588-2583 Fort Collins 970-491-9888 • www.jrengineering.com	
No.	REVISION
H-SCALE	1"=220'
V-SCALE	N/A
DATE	7/14/22
DESIGNED BY	GVT
DRAWN BY	GVT
CHECKED BY	
BY	DATE
SADDLEHORN RANCH - FILING NO. 2	
GRADING & EROSION CONTROL SITE PLAN	
SHEET	4 OF 14
JOB NO.	2514204



**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

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

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




7/14/22  
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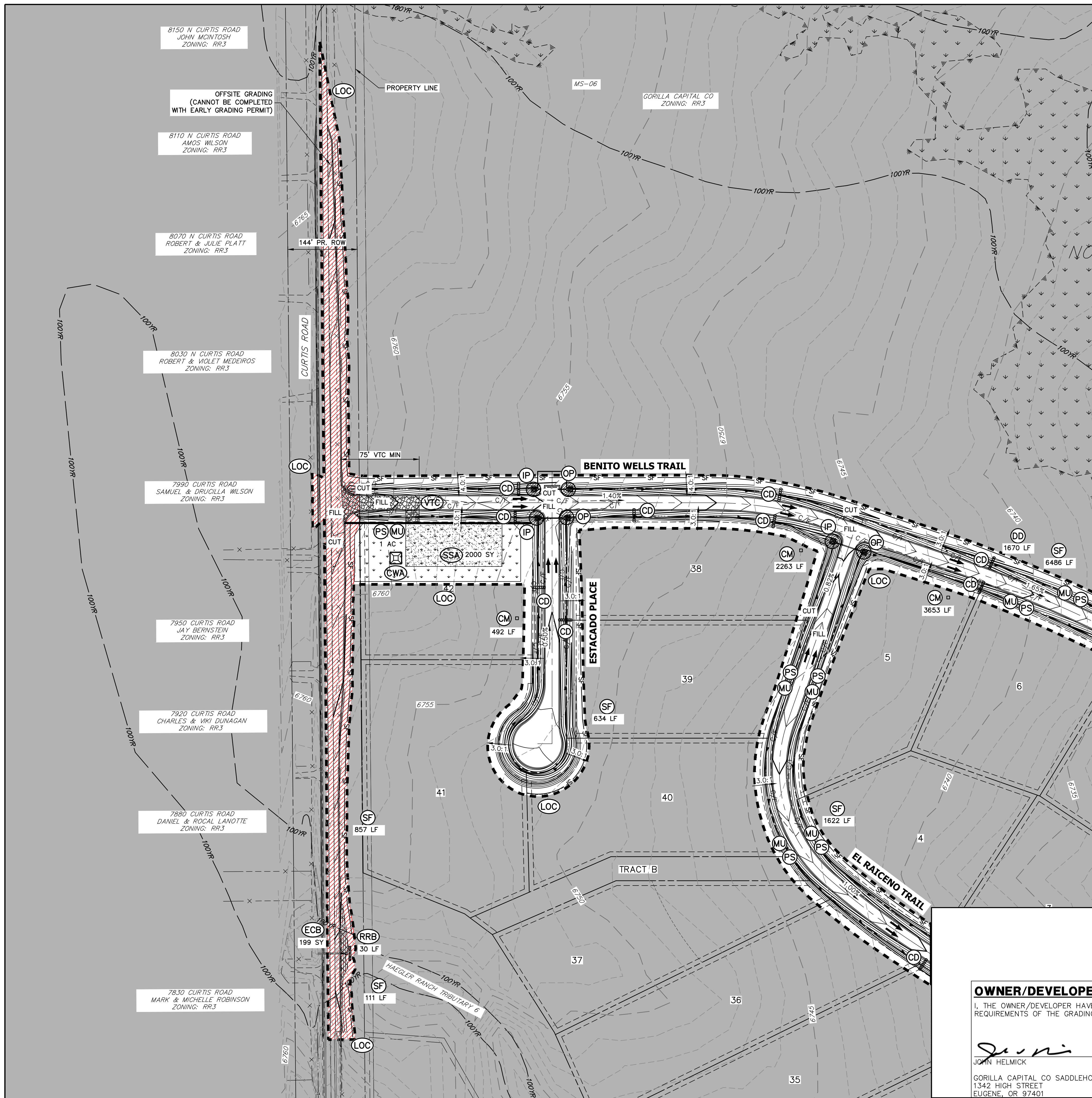
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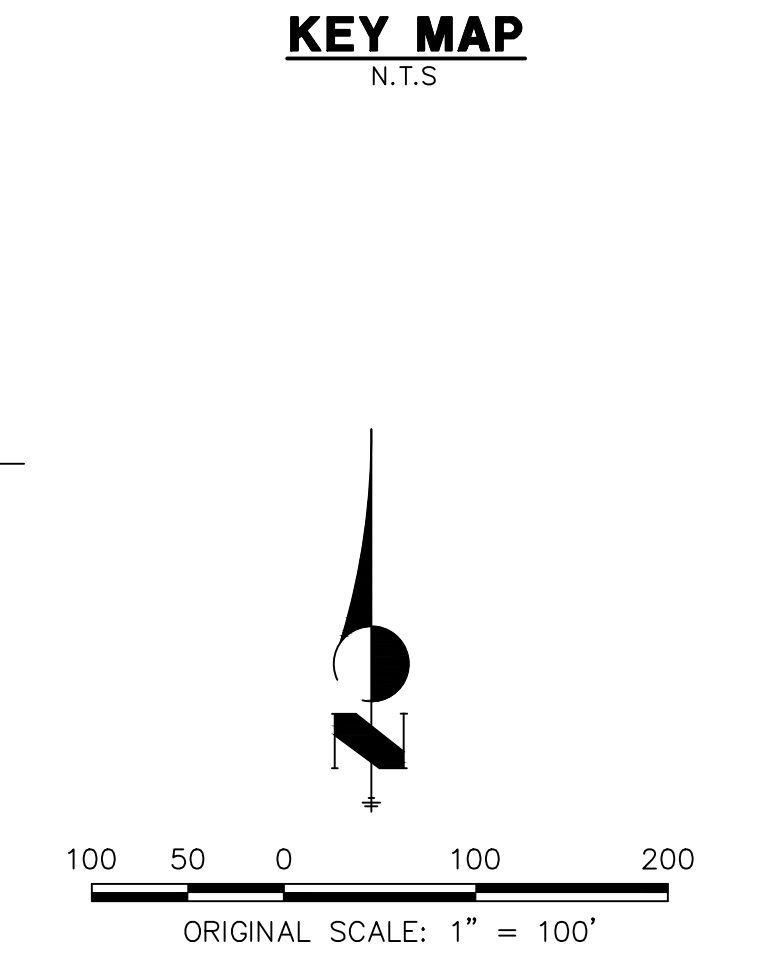
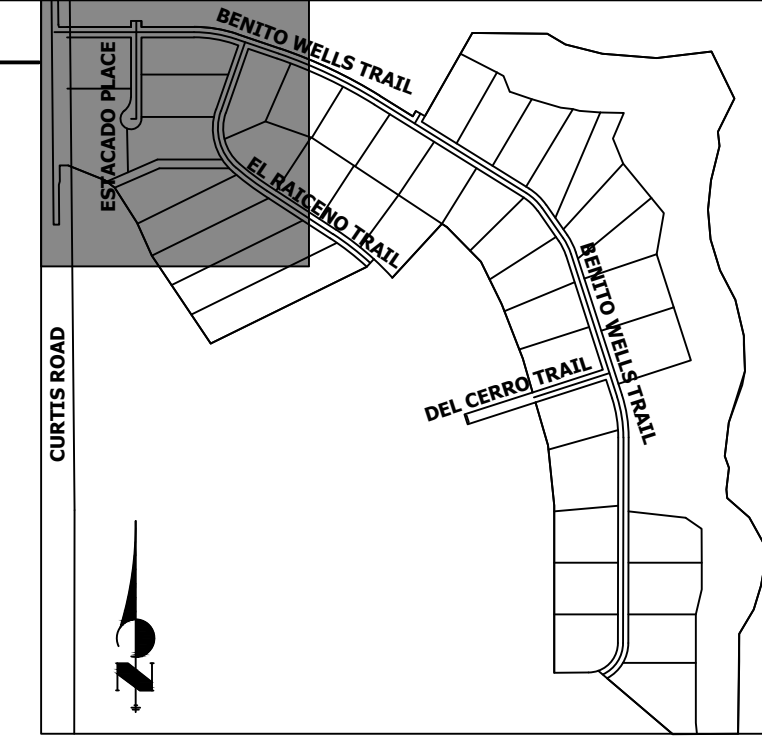
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**SADDLEHORN RANCH - FILING NO. 2**  
**EARLY GRADING IMPROVEMENTS**  
 SHEET 4.1 OF 14  
 JOB NO. 2514204



**LEGEND**

SEDIMENT BASIN	(SB)		TOE
SILT FENCE	(SF)		TOP
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)			



**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 SEEDED 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. Call before you dig.

**OWNER/DEVELOPER STATEMENT**

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

*John Helmick*  
 JOHN HELMICK  
 GORILLA CAPITAL CO SADDLEHORN RANCH, LLC  
 1342 HIGH STREET  
 EUGENE, OR 97401

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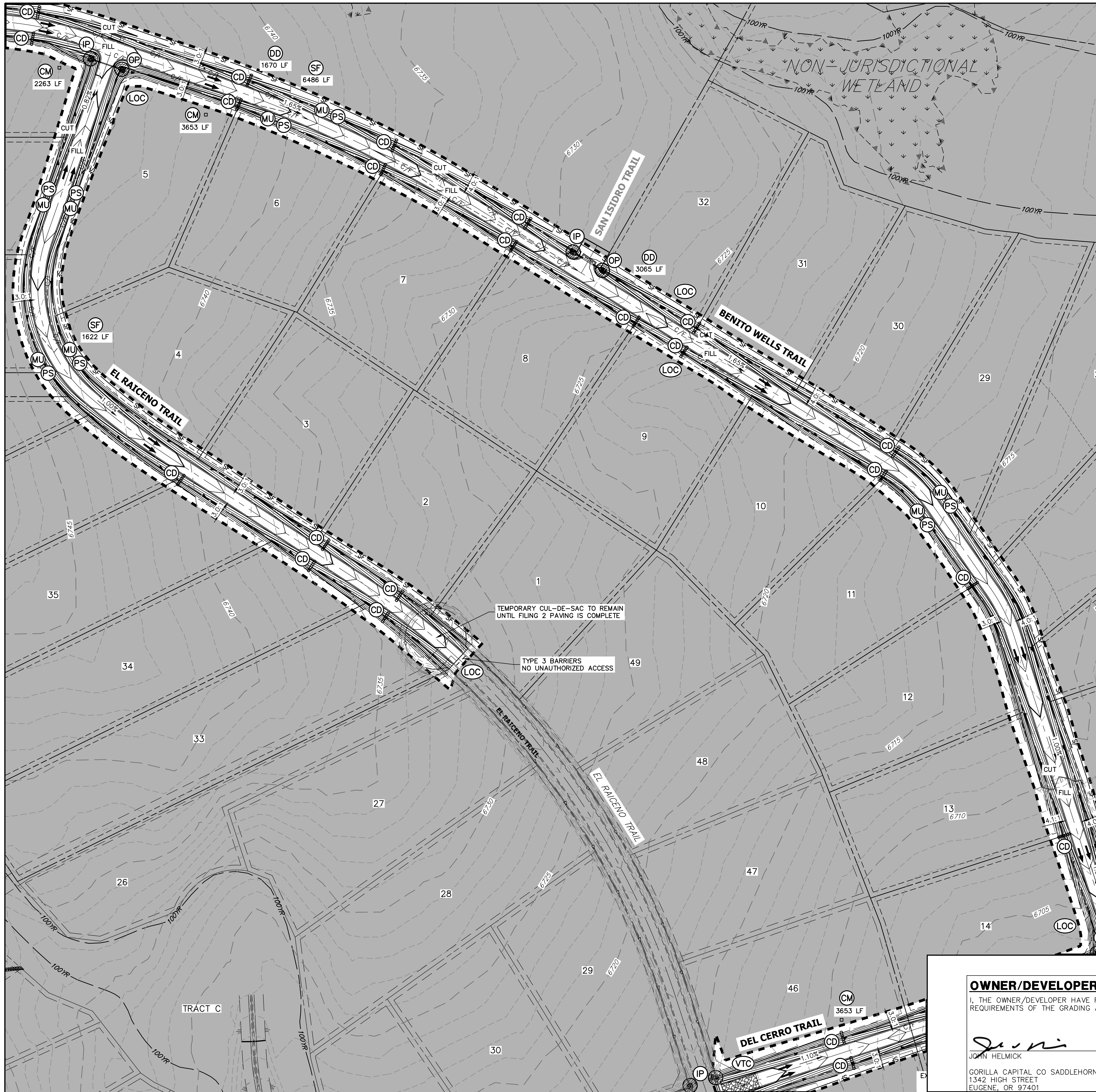
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BY	DATE	NO.	REVISION

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 V-SCALE: N/A  
 DATE: 7/14/22  
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 DRAWN BY: GVT  
 CHECKED BY: GVT

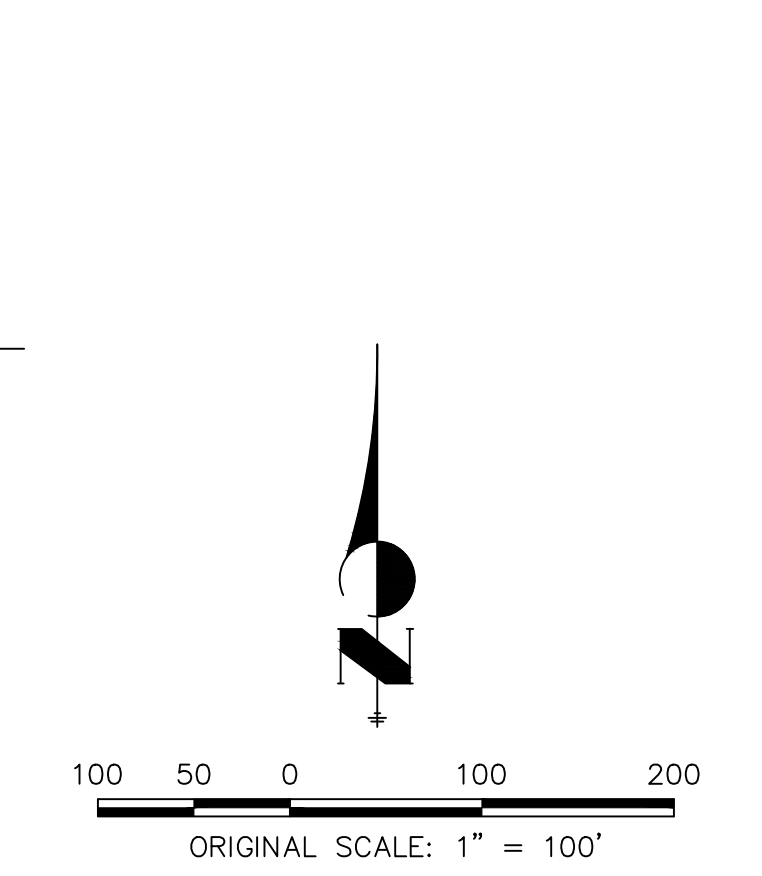
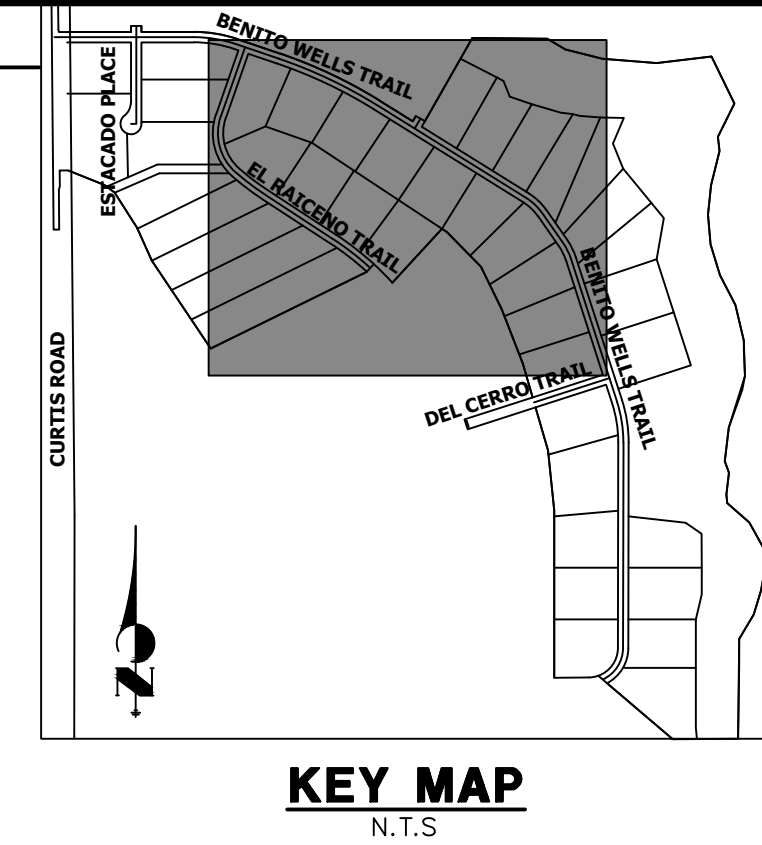
**SADDLEHORN RANCH - FILING NO. 2 GRADING & EROSION CONTROL PLANS**

SHEET 5 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)



**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):

- INSTALL VTC
- INSTALL CWA
- ESTABLISH SSA
- INSTALL CONSTRUCTION MARKERS
- INSTALL SILT FENCE
- INSTALL SEDIMENT BASINS
- INSTALL DIVERSION DITCHES

INTERIM (7/2022 - 10/2022):

- LOCATE/INSTALL TEMPORARY STOCKPILE
- MAINTAIN ALL BMPS
- INSTALL RRBs
- INSTALL INLET AND OUTLET PROTECTION
- INSTALL EROSION CONTROL BLANKETS

FINAL (10/2022 - 12/2022):

- INSTALL MULCH AND PERMANENT SEEDING IN ALL DISTURBED AREAS
- 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.  
Call before you dig.

**OWNER/DEVELOPER STATEMENT**

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

**ENGINEER'S STATEMENT**

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

*Bryan T. Law*  
BRYAN T. LAW, P.E.  
COLORADO P.E. 25043  
FOR AND ON BEHALF OF JR ENGINEERING, LLC  
7/14/22 DATE



UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.  
PREPARED FOR  
**ROI PROPERTY GROUP, LLC**  
2495 RIDGON STREET  
NAPA, CALIFORNIA  
(707) 365-6891  
BRADY WILLIAMS

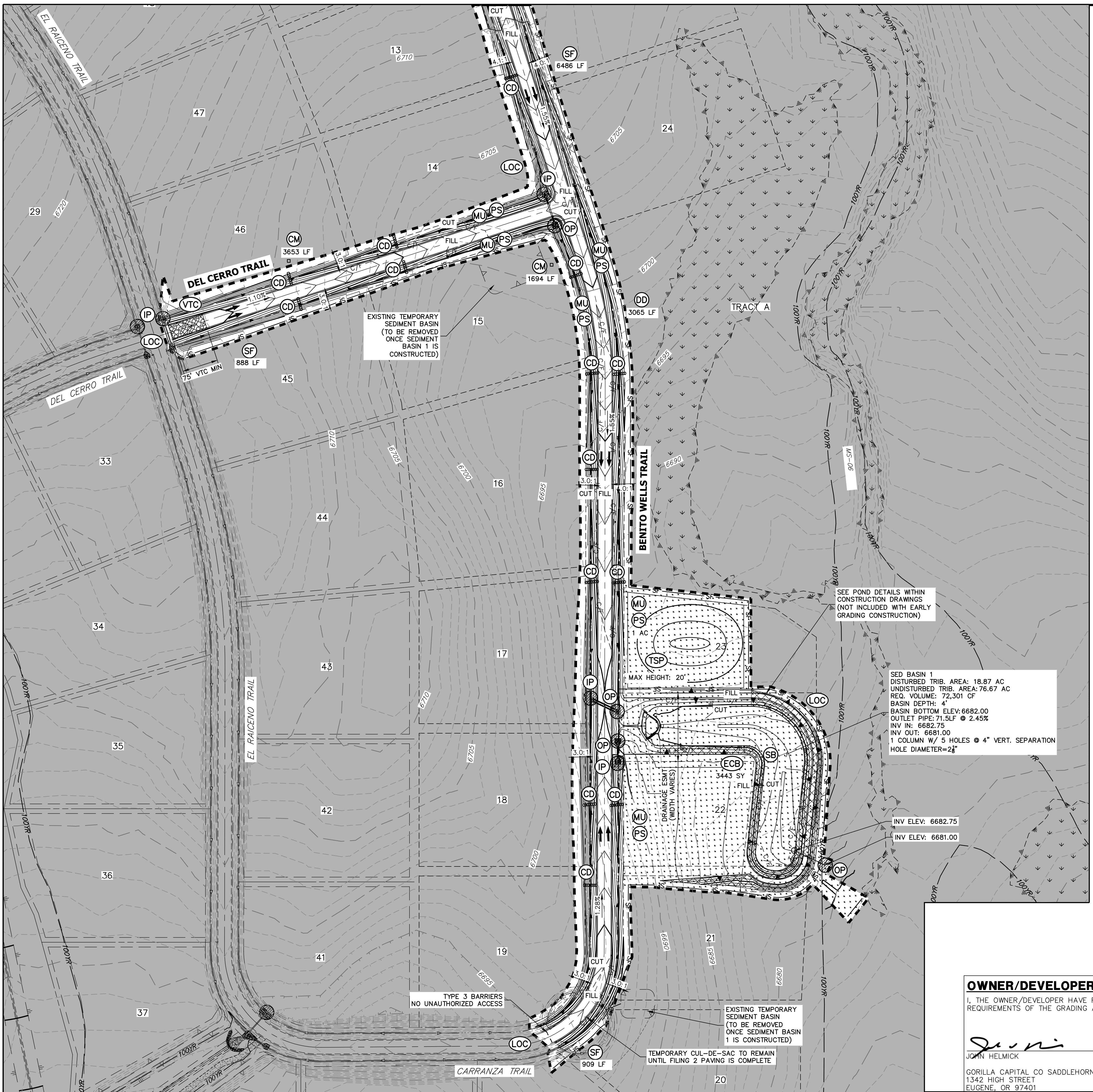
**J.R. ENGINEERING**  
A Westman Company  
Central 303-740-9888 • Colorado Springs 719-588-2583  
Fort Collins 970-491-9888 • www.jrengineering.com

BY	DATE

No.	REVISION

H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
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SADDLEHORN RANCH - FILING NO. 2  
GRADING & EROSION CONTROL PLANS  
SHEET 6 OF 14  
JOB NO. 2514204



### LEGEND

- SEDIMENT BASIN (SB)
- SILT FENCE (SF)
- STABILIZED STAGING AREA (SSA)
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### KEY MAP

N.T.S.

ORIGINAL SCALE: 1" = 100'

- ### NOTES
- REFER TO THE STORMWATER MANAGEMENT PLAN (SWMP) FOR A DETAILED DESCRIPTION OF THE MAINTENANCE PROGRAMS FOR EROSION CONTROL FACILITIES.
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JOHN HELMICK  
6/15/22  
DATE

GORILLA CAPITAL CO SADDLEHORN RANCH, LLC  
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*Bryan T. Law, P.E.*  
BRYAN T. LAW, P.E.  
25043  
COLORADO REGISTERED PROFESSIONAL ENGINEER  
FOR AND ON BEHALF OF JR ENGINEERING, LLC

7/14/22  
DATE

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

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BRADY WILLIAMS

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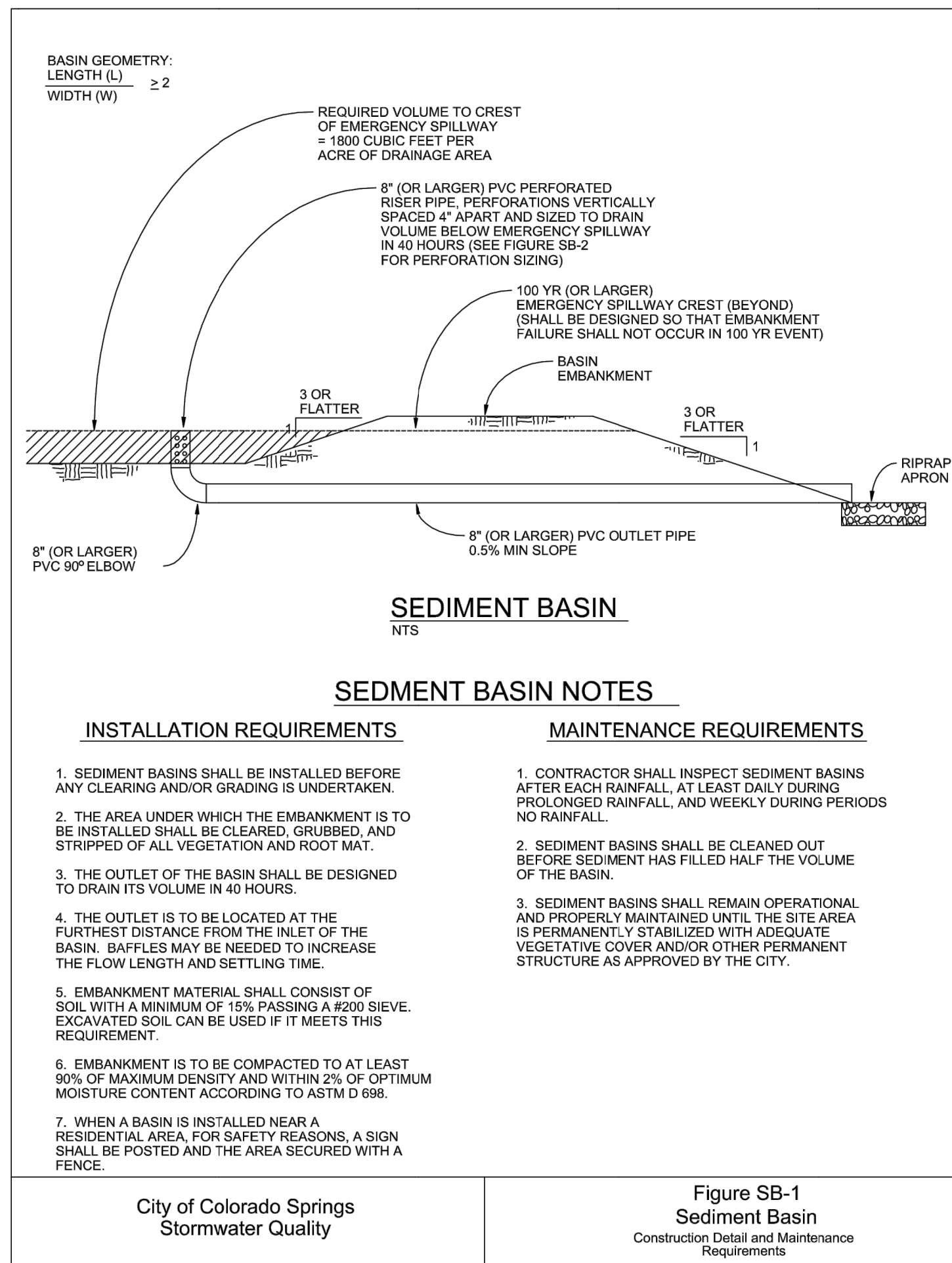
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SADDLEHORN RANCH - FILING NO. 2  
GRADING & EROSION CONTROL PLANS

SHEET 7 OF 14  
JOB NO. 2514204





**Required Area per Row (in<sup>2</sup>)**

Design Volume (acre-ft)	Depth at Outlet (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	1.73
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**

Hole Diameter (in)	Hole Diameter (in)	Area per Row (in <sup>2</sup> )		
		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	2.76	5.52	8.28
2	2.000	3.14	6.28	9.42

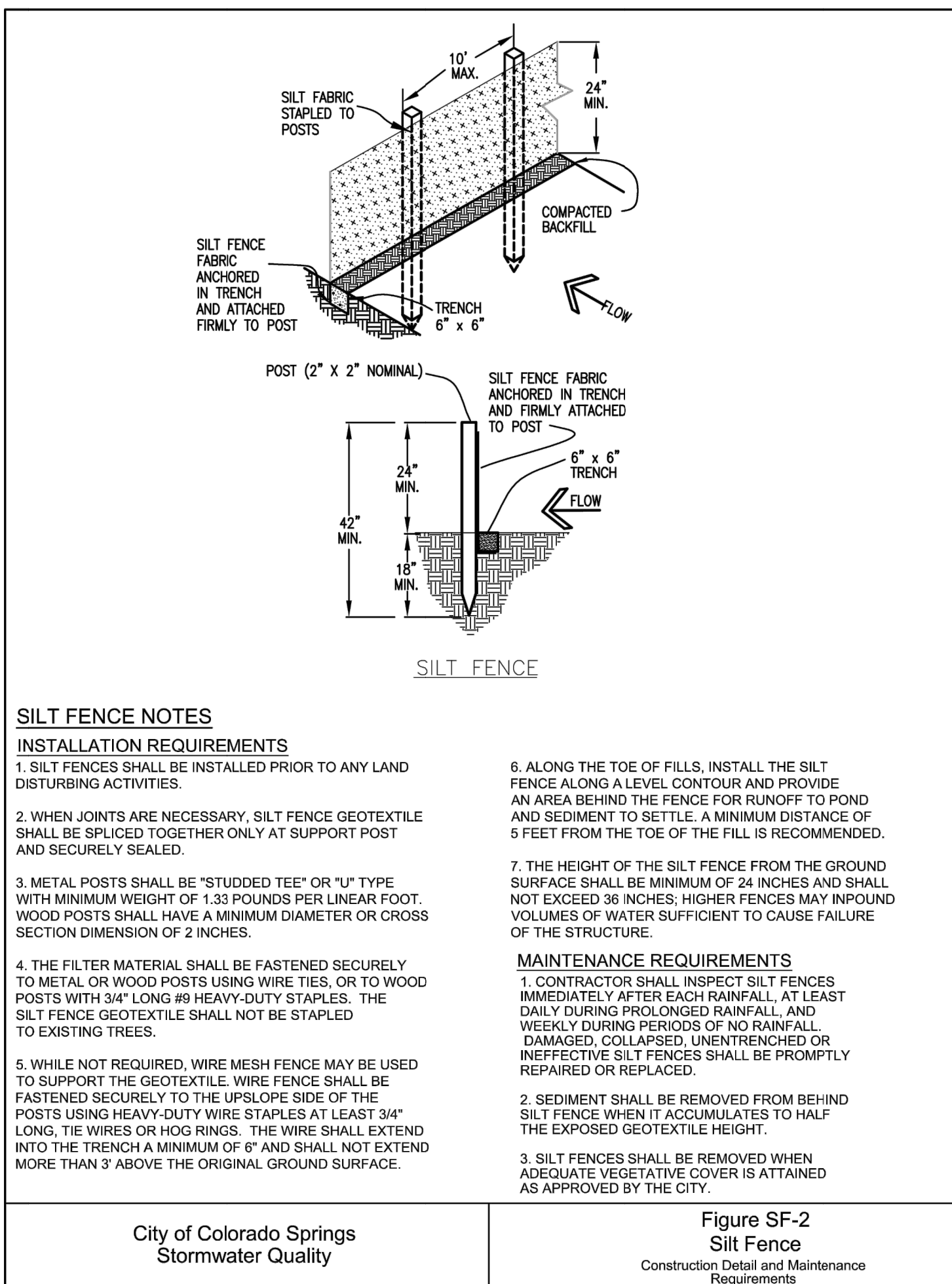
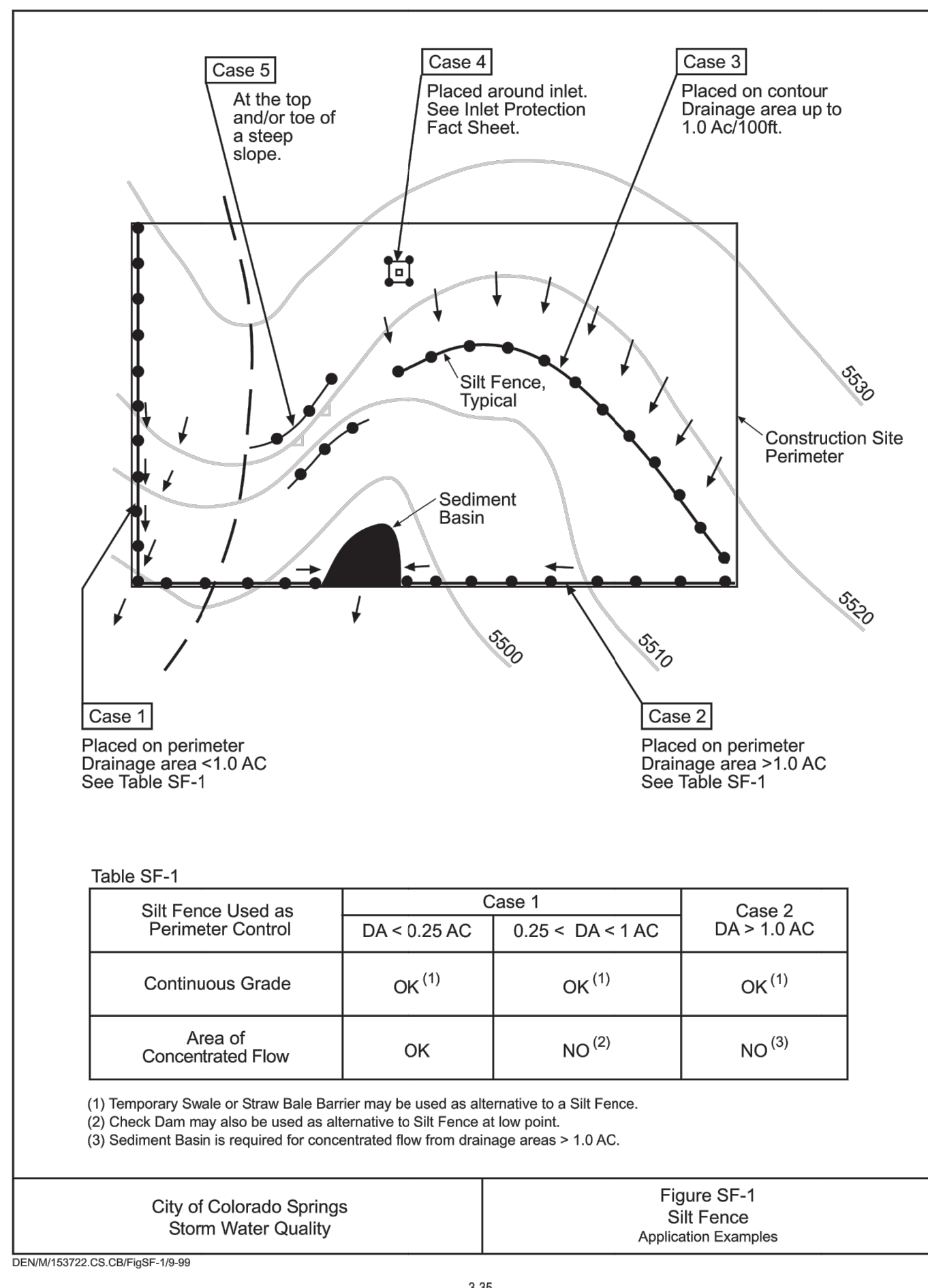
n = Number of columns of perforations

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



**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

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PREPARED FOR  
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2495 RIGDON STREET  
NAPA, CALIFORNIA  
(707) 365-6891  
BRADY WILLIAMS

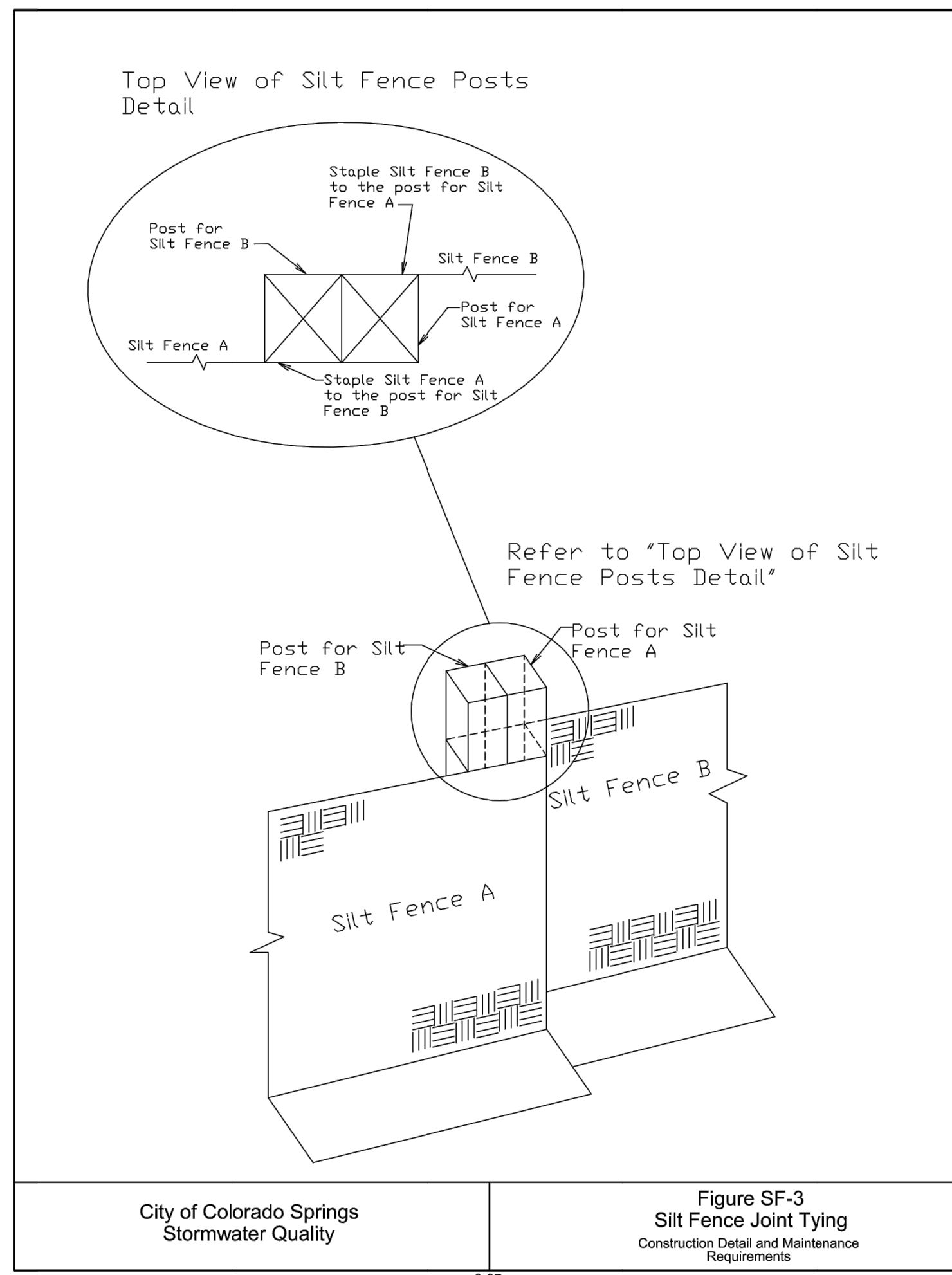
**J.R. ENGINEERING**  
A Westman Company  
Centennial 303-740-9989 • Colorado Springs 719-588-2583  
Fort Collins 970-491-9888 • www.jrengineering.com

BY	DATE	REVISION

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V-SCALE N/A  
DATE 7/14/22  
DESIGNED BY NQJ  
DRAWN BY NQJ  
CHECKED BY

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

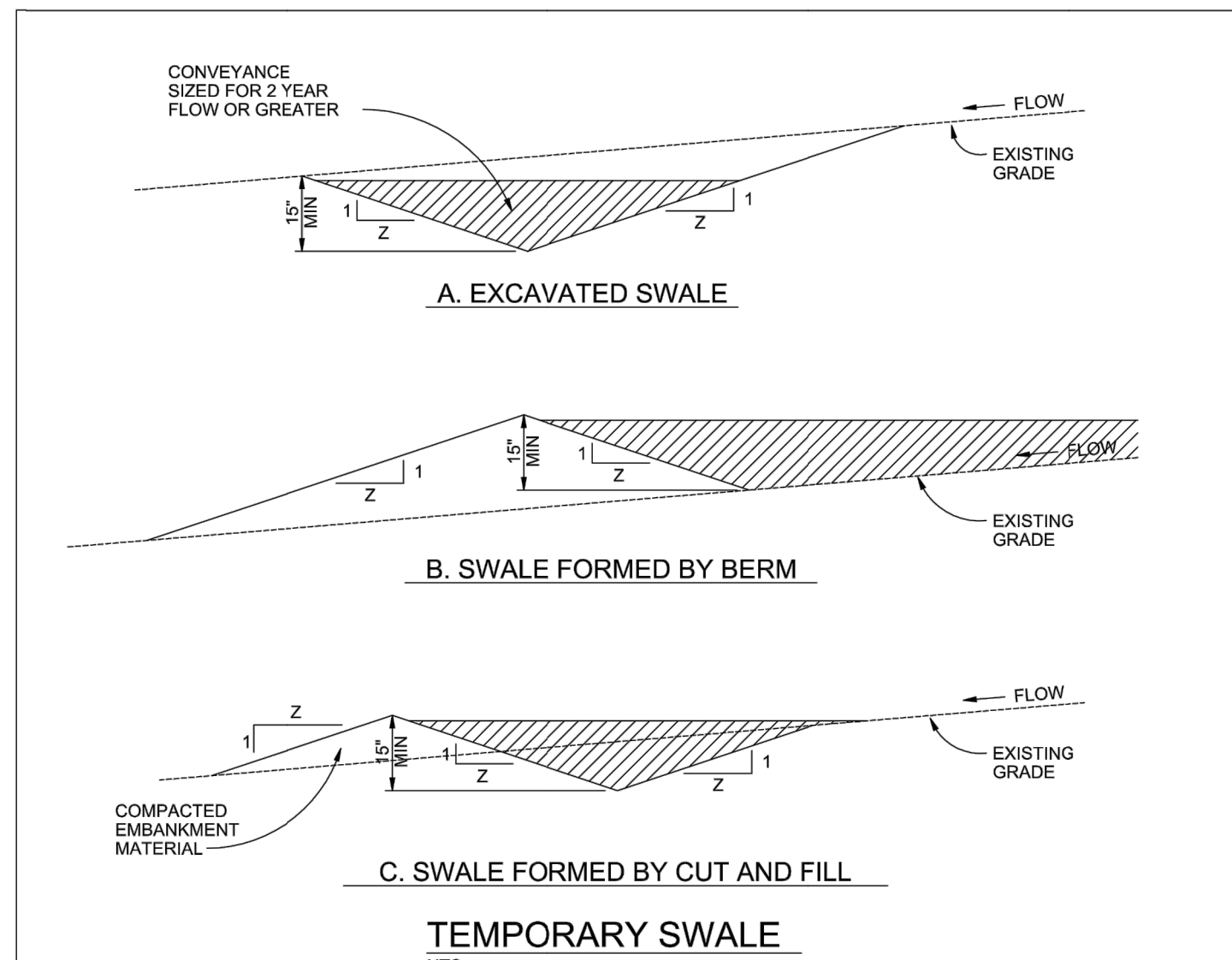
SHEET 8 OF 14  
JOB NO. 2514204



City of Colorado Springs  
Stormwater Quality

Figure SF-3  
Silt Fence Joint Tying  
Construction Detail and Maintenance  
Requirements

3-37



**TEMPORARY SWALE**  
NTS

**INSTALLATION REQUIREMENTS**

- TEMPORARY SWALES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.
- 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.
- SWALES WITH SLOPE > 2% SHALL BE LINED. SEE FIGURE TSW-3.
- SWALES ARE TO DRAIN INTO A SEDIMENT BASIN OR OTHER STABILIZED OUTLET.
- Z SHALL BE 3 OR GREATER.

**MAINTENANCE REQUIREMENTS**

- CONTRACTOR SHALL INSPECT SWALES AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL.
- SWALES SHALL BE ROUTINELY CLEARED OF ANY DEBRIS OR ACCUMULATION OF SEDIMENT.
- ERODED SLOPES OR DAMAGED LININGS SHALL IMMEDIATELY BE REPAIRED.
- TEMPORARY SWALES 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 TSW-2  
Temporary Swale  
Construction Detail and Maintenance  
Requirements

3-50

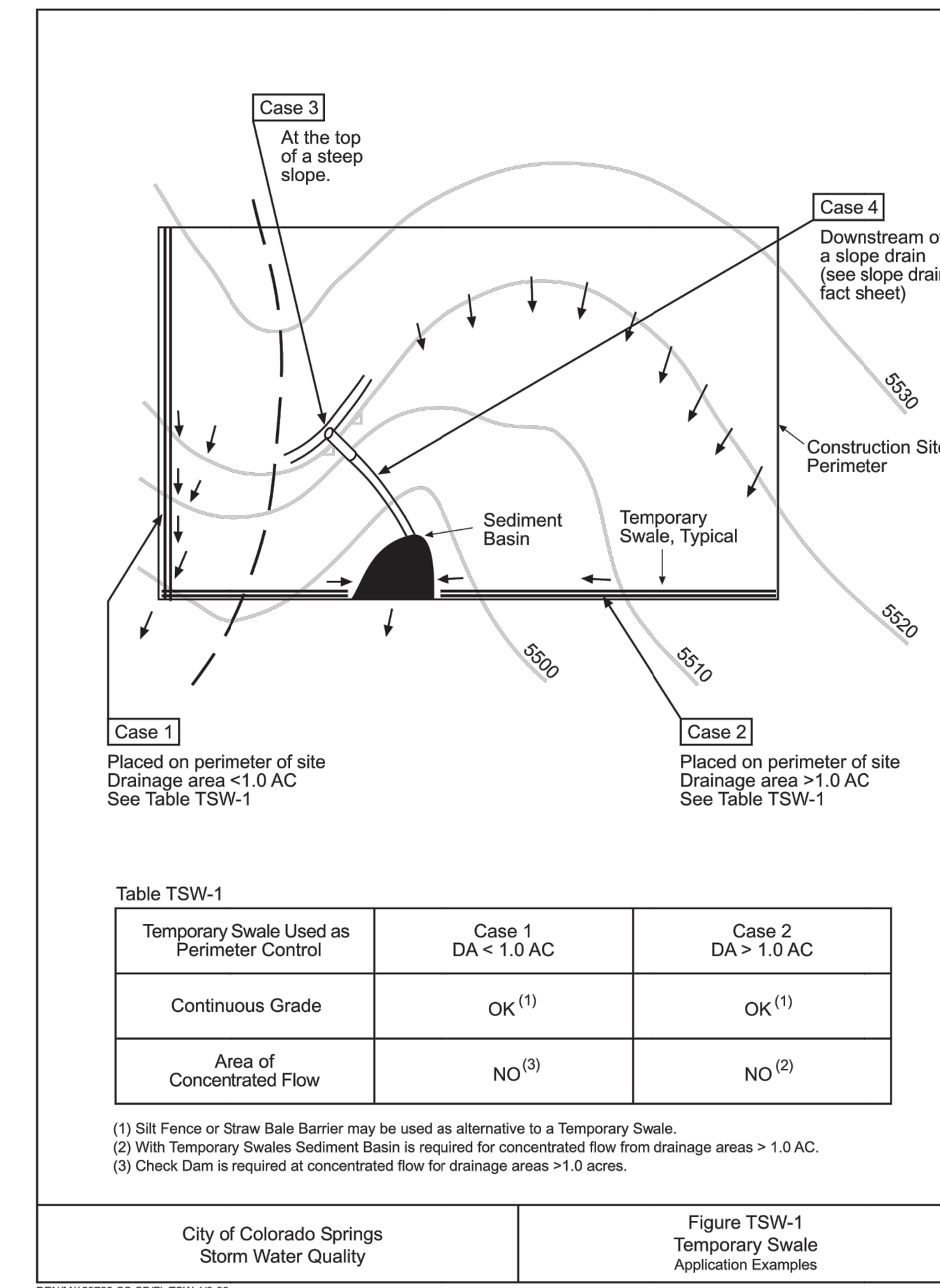


Table TSW-1

Temporary Swale Used as Perimeter Control	Case 1 DA < 1.0 AC	Case 2 DA > 1.0 AC
Continuous Grade	OK <sup>(1)</sup>	OK <sup>(1)</sup>
Area of Concentrated Flow	NO <sup>(3)</sup>	NO <sup>(2)</sup>

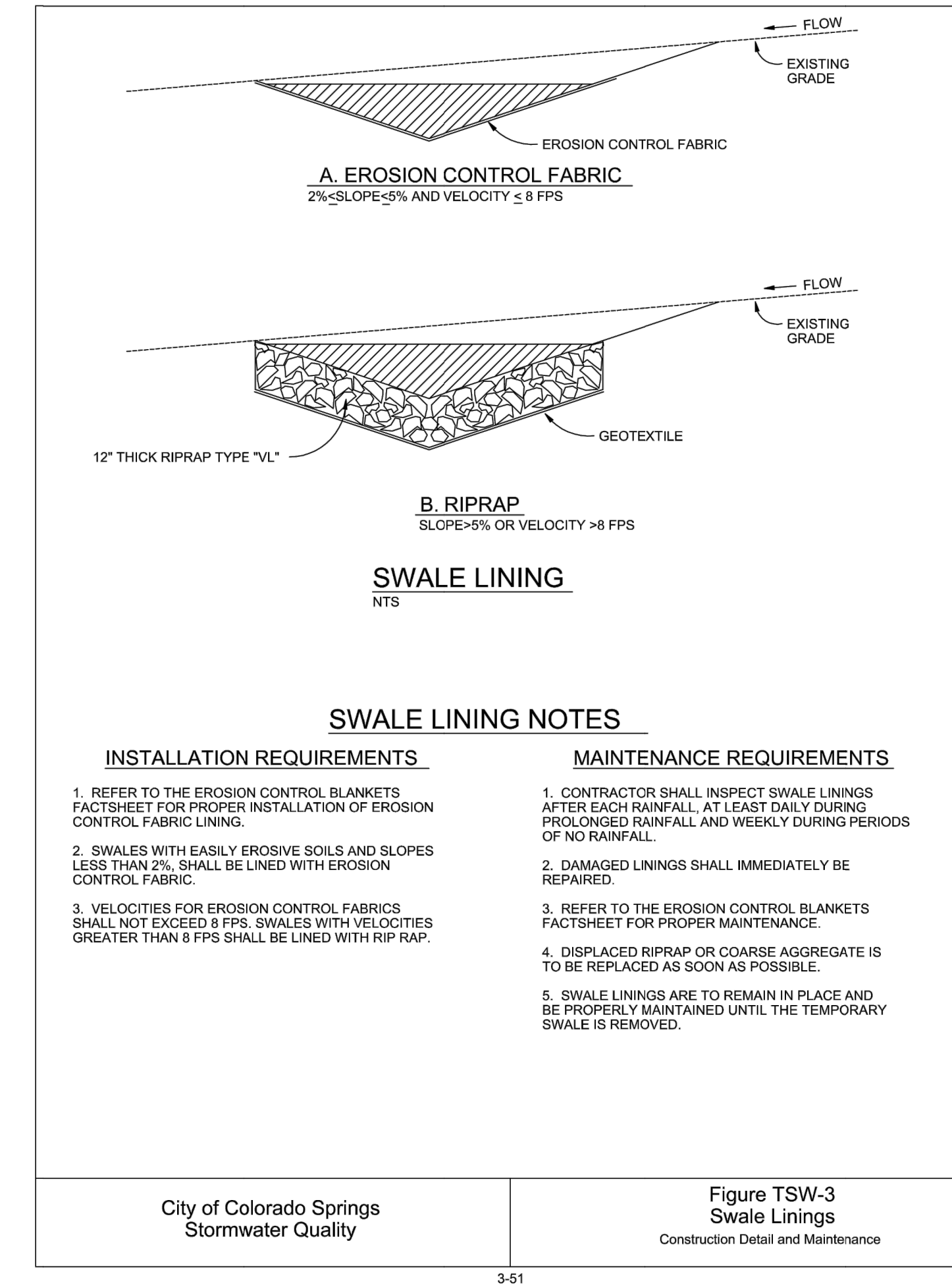
- (1) Silt Fence or Straw Bale Barrier may be used as alternative to a Temporary Swale.  
 (2) With Temporary Swales Sediment Basin is required for concentrated flow from drainage areas > 1.0 AC.  
 (3) Check Dam is required at concentrated flow for drainage areas > 1.0 acres.

City of Colorado Springs  
Storm Water Quality

Figure TSW-1  
Temporary Swale  
Application Examples

DENM153722.CS CB/Fig/TSW-19-99

3-48



**SWALE LINING NOTES**

**INSTALLATION REQUIREMENTS**

- REFER TO THE EROSION CONTROL BLANKETS FACTSHEET FOR PROPER INSTALLATION OF EROSION CONTROL FABRIC LINING.
- SWALES WITH EASILY ERODIBLE SOILS AND SLOPES LESS THAN 2% SHALL BE LINED WITH EROSION CONTROL FABRIC.
- VELOCITIES FOR EROSION CONTROL FABRICS SHALL NOT EXCEED 8 FPS. SWALES WITH VELOCITIES GREATER THAN 8 FPS SHALL BE LINED WITH RIP RAP.

**MAINTENANCE REQUIREMENTS**

- CONTRACTOR SHALL INSPECT SWALE LININGS AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL AND WEEKLY DURING PERIODS OF NO RAINFALL.
- DAMAGED LININGS SHALL IMMEDIATELY BE REPAIRED.
- REFER TO THE EROSION CONTROL BLANKETS FACTSHEET FOR PROPER MAINTENANCE.
- DISPLACED RIP RAP OR COARSE AGGREGATE IS TO BE REPLACED AS SOON AS POSSIBLE.
- SWALE LININGS ARE TO REMAIN IN PLACE AND BE PROPERLY MAINTAINED UNTIL THE TEMPORARY SWALE IS REMOVED.

City of Colorado Springs  
Stormwater Quality

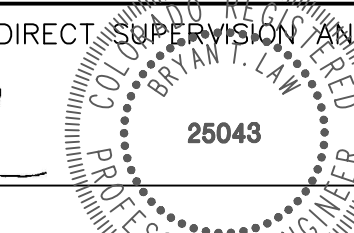
Figure TSW-3  
Swale Linings  
Construction Detail and Maintenance  
Requirements

3-51

**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 9 OF 14

JOB NO. 2514204

BY DATE

No.	REVISION	BY	DATE

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				7/14/22	NQJ	NQJ	NQJ

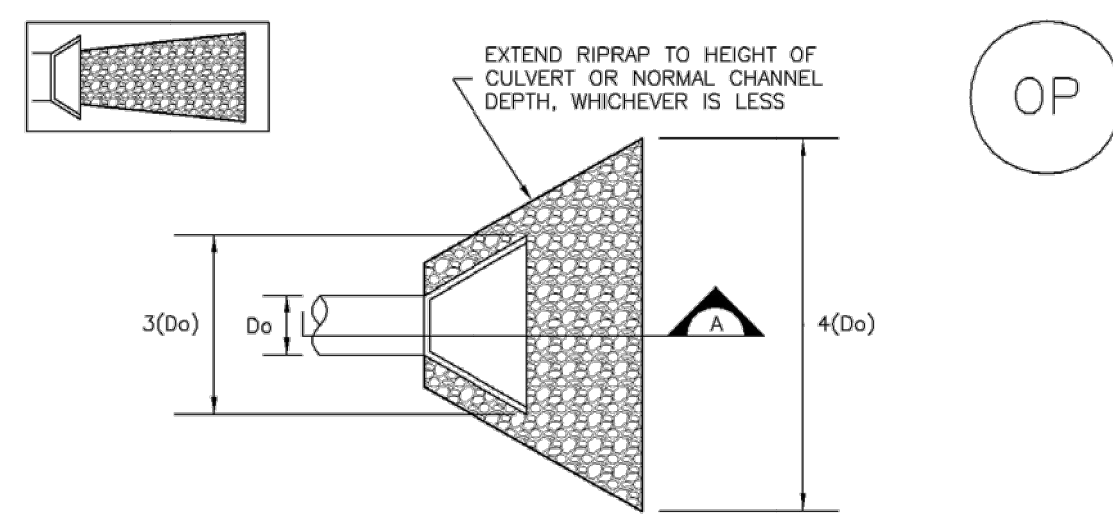
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**EC-8 Temporary Outlet Protection (TOP)**



TEMPORARY OUTLET PROTECTION PLAN

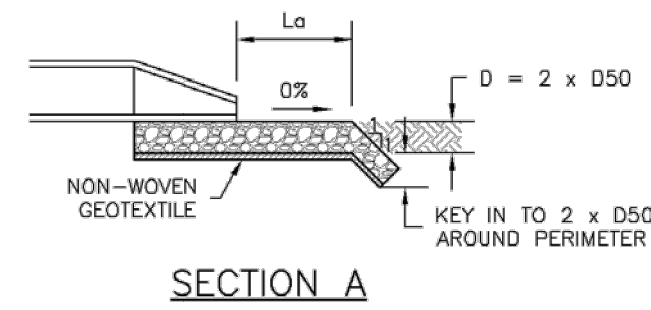


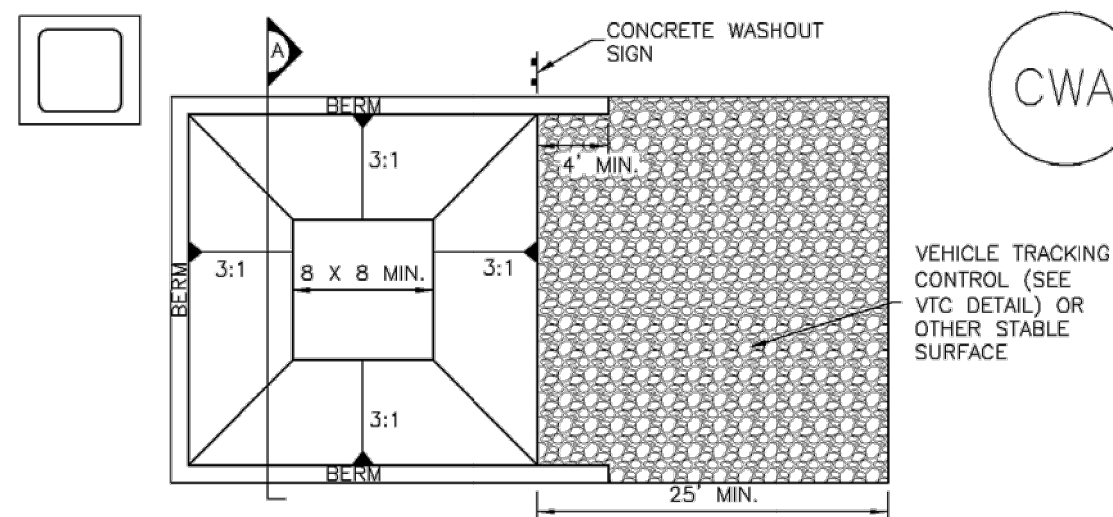
TABLE OP-1. TEMPORARY OUTLET PROTECTION SIZING TABLE

PIPE DIAMETER, Do (INCHES)	DISCHARGE, Q (CFS)	APRON LENGTH, La (FT)	RIPRAP D50 MIN (INCHES)
8	2.5	5	4
	5	10	6
12	5	10	4
	10	13	6
	10	10	6
	20	16	9
18	30	23	12
	40	26	16
	30	16	9
24	40	26	9
	50	26	12
	60	30	16

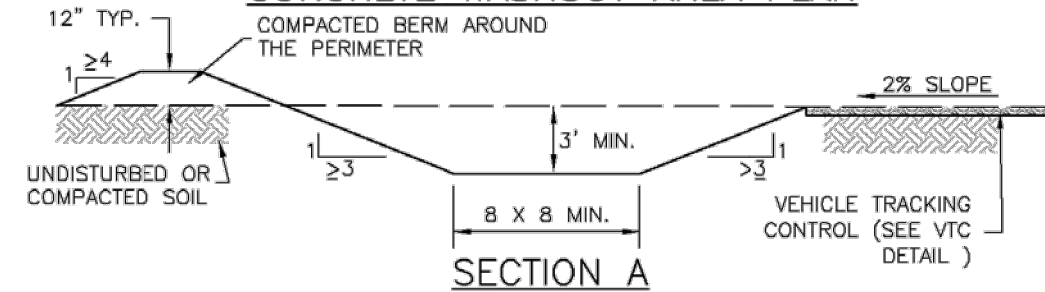
OP-1. TEMPORARY OUTLET PROTECTION

TOP-2 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

**Concrete Washout Area (CWA) MM-1**



CONCRETE WASHOUT AREA PLAN



CWA-1. CONCRETE WASHOUT AREA

**CWA INSTALLATION NOTES**

- SEE PLAN VIEW FOR: -CWA INSTALLATION LOCATION.
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (1/8 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

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

**Temporary Outlet Protection (TOP) EC-8**

**TEMPORARY OUTLET PROTECTION INSTALLATION NOTES**

- SEE PLAN VIEW FOR: -LOCATION OF OUTLET PROTECTION. -DIMENSIONS OF OUTLET PROTECTION.
- DETAIL IS INTENDED FOR PIPES WITH SLOPE  $\leq$  10%. ADDITIONAL EVALUATION OF RIPRAP SIZING AND OUTLET PROTECTION DIMENSIONS REQUIRED FOR STEEPER SLOPES.
- TEMPORARY OUTLET PROTECTION INFORMATION IS FOR OUTLETS INTENDED TO BE UTILIZED LESS THAN 2 YEARS.

**TEMPORARY OUTLET PROTECTION INSPECTION AND 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.

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.

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

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

**MM-1 Concrete Washout Area (CWA)**

**CWA 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.
- THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.
- CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
- THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
- WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(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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**ENGINEER'S STATEMENT**

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

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7/14/22 DATE

FOR AND ON BEHALF OF JR ENGINEERING, LLC

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

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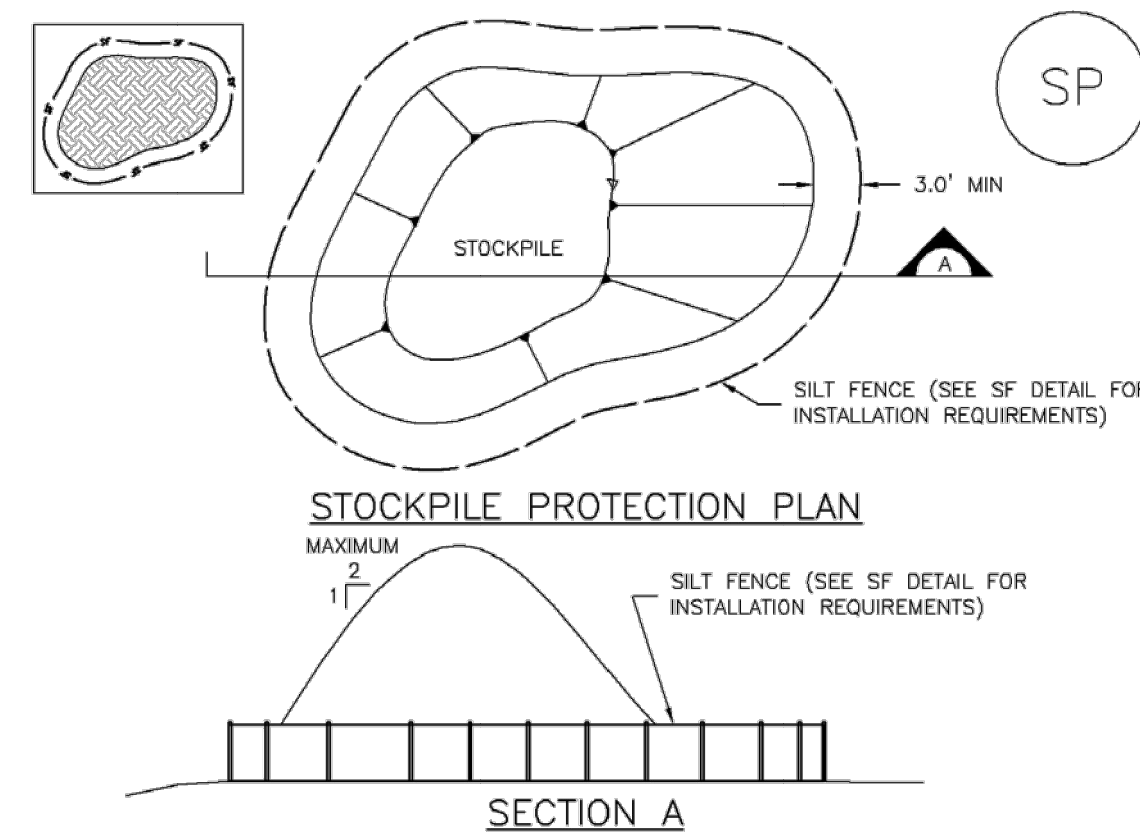
BY	DATE	No.	REVISION	H-SCALE	N/A	V-SCALE	N/A	DATE	DESIGNED BY	NQJ	DRAWN BY	NQJ	CHECKED BY
								7/14/22					

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

SHEET 11 OF 14

JOB NO. 2514204

**Stockpile Management (SP) MM-2**

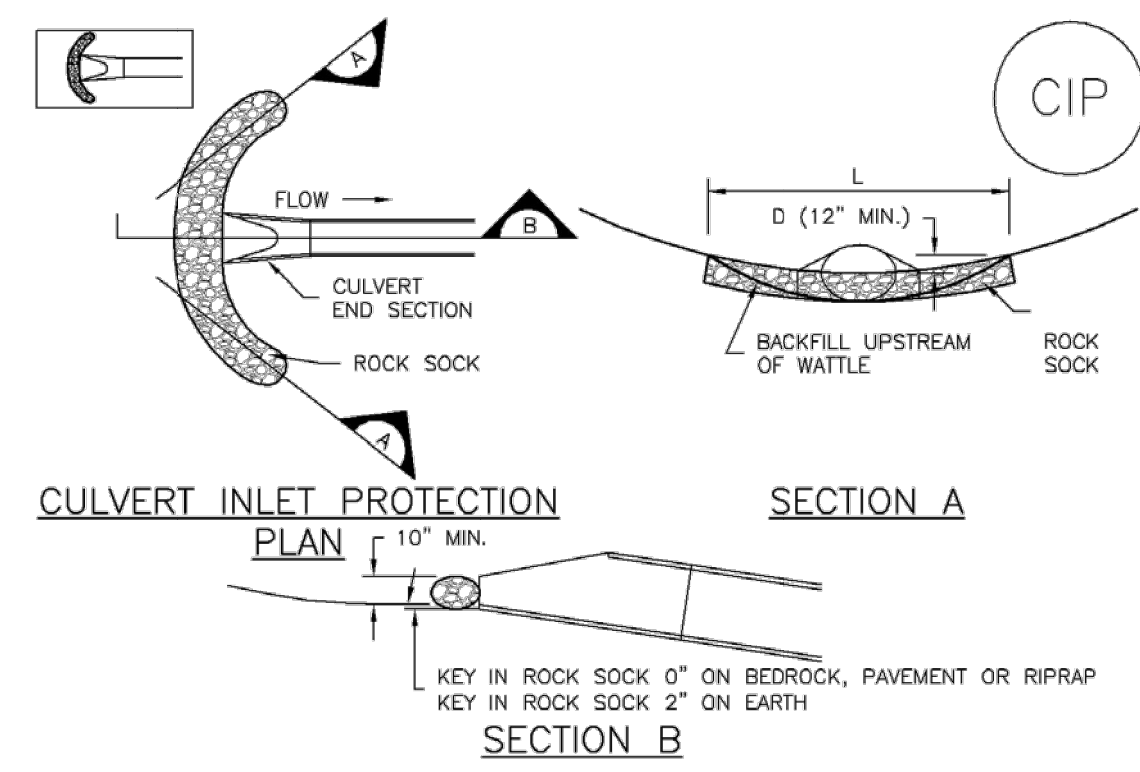


**SP-1. STOCKPILE PROTECTION**

- STOCKPILE PROTECTION INSTALLATION NOTES**
- SEE PLAN VIEW FOR:
    - LOCATION OF STOCKPILES.
    - TYPE OF STOCKPILE PROTECTION.
  - 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.
  - 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 SEEDED 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).
  - FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

November 2010 Urban Drainage and Flood Control District SP-3  
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**Inlet Protection (IP) SC-6**



**CIP-1. CULVERT INLET PROTECTION**

- CULVERT INLET PROTECTION INSTALLATION NOTES**
- SEE PLAN VIEW FOR:
    - LOCATION OF CULVERT INLET PROTECTION.
  - SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.
- CULVERT INLET PROTECTION 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.
  - SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS  $\frac{1}{2}$  THE HEIGHT OF THE ROCK SOCK.
  - 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 UFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

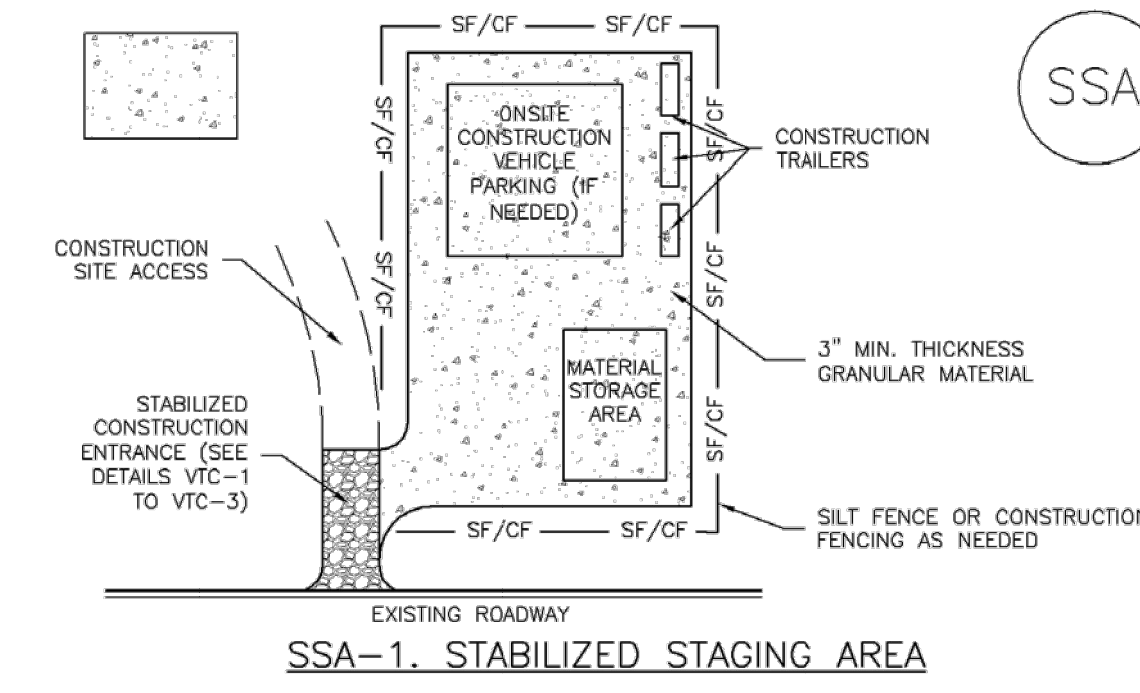
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Urban Storm Drainage Criteria Manual Volume 3

**MM-2 Stockpile Management (SM)**

- STOCKPILE PROTECTION 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.
- STOCKPILE PROTECTION MAINTENANCE NOTES**
- IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.
  - 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 UFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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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 SSA-3  
Urban Storm Drainage Criteria Manual Volume 3

**ENGINEER'S STATEMENT**  
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SADDLEHORN RANCH - FILING NO. 2  
GRADING AND EROSION CONTROL DETAILS

SHEET 12 OF 14  
JOB NO. 2514204

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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.

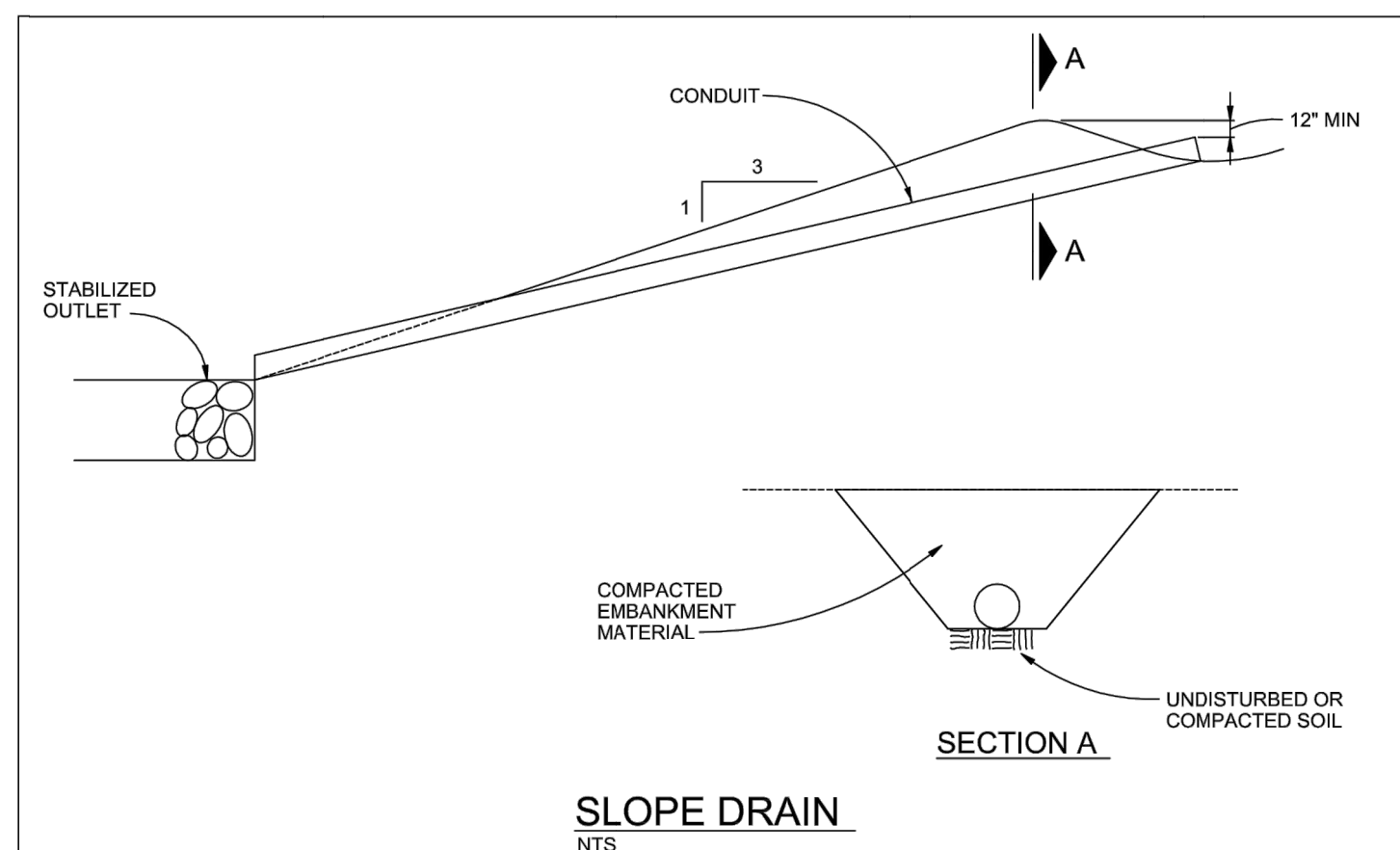
6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

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 UDFCD 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 November 2010  
Urban Storm Drainage Criteria Manual Volume 3



**SLOPE DRAIN**  
NTS

SLOPE DRAIN NOTES

INSTALLATION REQUIREMENTS

1. THE SLOPE DRAIN IS TO BE DESIGNED TO CONVEY THE PEAK RUNOFF FOR THE 2-YEAR STORM.
2. PIPE MATERIAL MAY INCLUDE CORRUGATED METAL, OR RIGID OR FLEXIBLE PLASTIC.
3. 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.
4. EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.
5. SLOPE DRAIN SECTIONS ARE TO BE SECURELY FASTENED TOGETHER AND HAVE WATERTIGHT FITTINGS.
6. THE OUTLET IS TO BE STABILIZED AND, UNLESS THE DRAIN DISCHARGES DIRECTLY TO A SEDIMENT BASIN, A TEMPORARY SURFACE IS TO BE PROVIDED TO CONVEY FLOWS DOWN STREAM.
7. IMMEDIATELY STABILIZE ALL AREAS DISTURBED BY INSTALLATION OR REMOVAL OF THE PIPE SLOPE DRAIN.

MAINTENANCE REQUIREMENTS

1. INLET AND OUTLET POINTS ARE TO BE CHECKED REGULARLY, AND AFTER HEAVY STORMS FOR CLOGGING AND OVERCHARGING. ANY BREAKS IN THE PIPE ARE TO BE PROMPTLY REPAIRED, AND CLOGS REMOVED AS NEEDED.
2. WATER IS NOT TO BYPASS OR UNDERCUT THE INLET OR PIPE. IF THESE PROBLEMS DO EXIST, THE HEADWALL NEEDS TO BE REINFORCED WITH COMPACT EARTH OR SANDBAGS.
3. THE OUTLET POINT IS TO BE FREE OF EROSION, AND, IF NECESSARY, ADDITIONAL OUTLET PROTECTION SHOULD BE INSTALLED.
4. CONSTRUCTION TRAFFIC IS NOT TO CROSS THE SLOPE DRAIN AND MATERIALS ARE NOT TO BE PLACED ON IT.
5. THE SLOPE DRAIN IS TO REMAIN IN PLACE UNTIL THE SLOPE HAS BEEN COMPLETELY STABILIZED OR UP TO 30 DAYS AFTER PERMANENT SLOPE STABILIZATION.

City of Colorado Springs  
Stormwater Quality

**Figure SD-1**  
Slope Drain  
Construction Detail and Maintenance  
Requirements

3-39

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 RESEEDED.

City of Colorado Springs  
Stormwater Quality

**Figure MU-1**  
Mulching  
Construction Detail and Maintenance  
Requirements

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 WWF.

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 dam 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

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CD-1

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BY DATE

No. REVISION

N/A

H-SCALE V-SCALE

DATE

DESIGNED BY

DRAWN BY

CHECKED BY

NO. DATE

SHEET 13 OF 14

JOB NO. 2514204

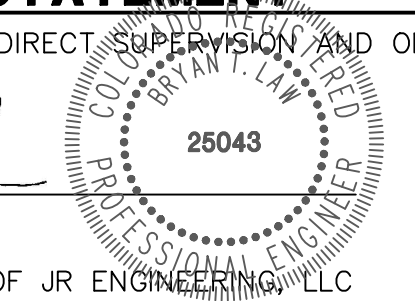


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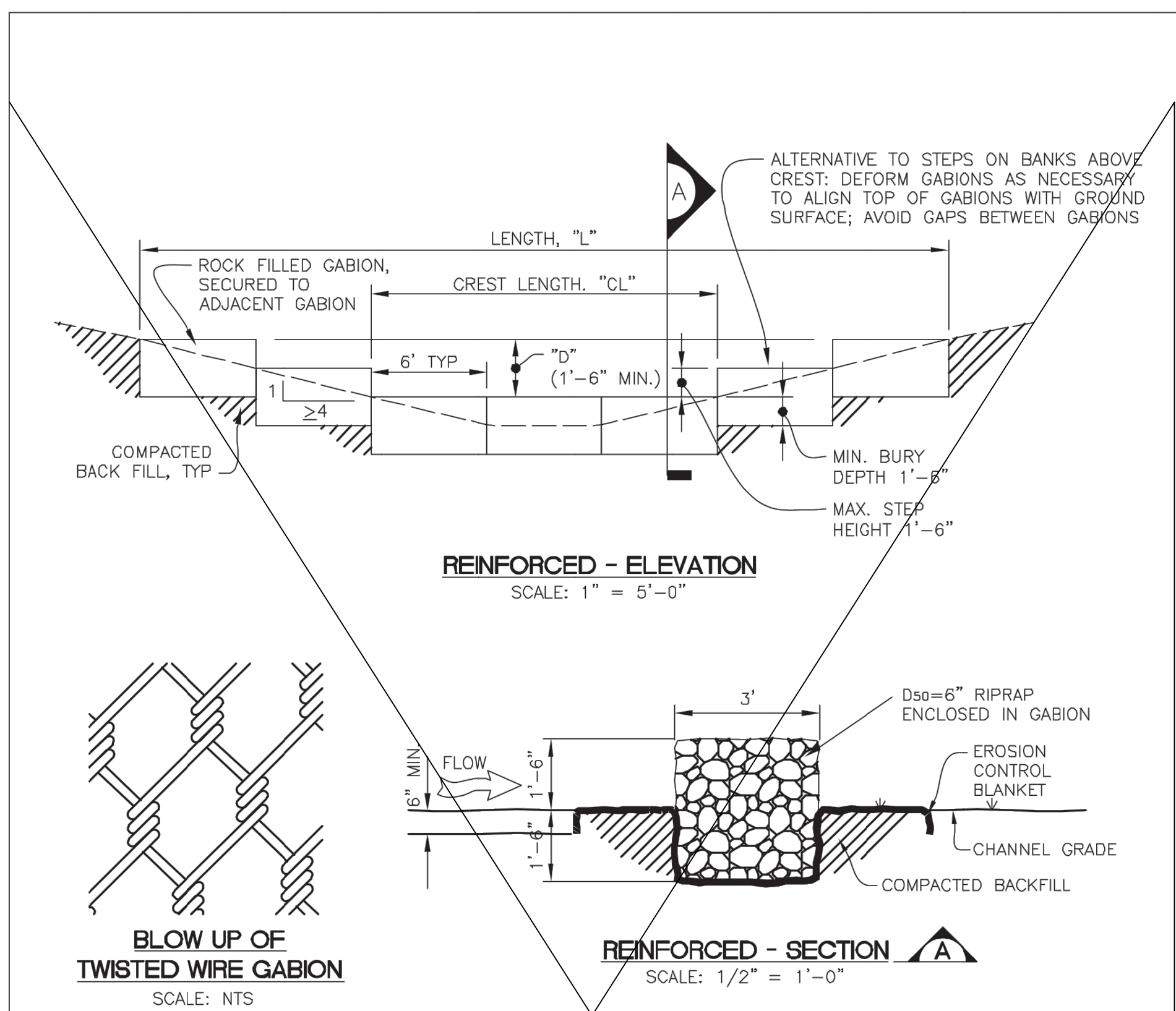


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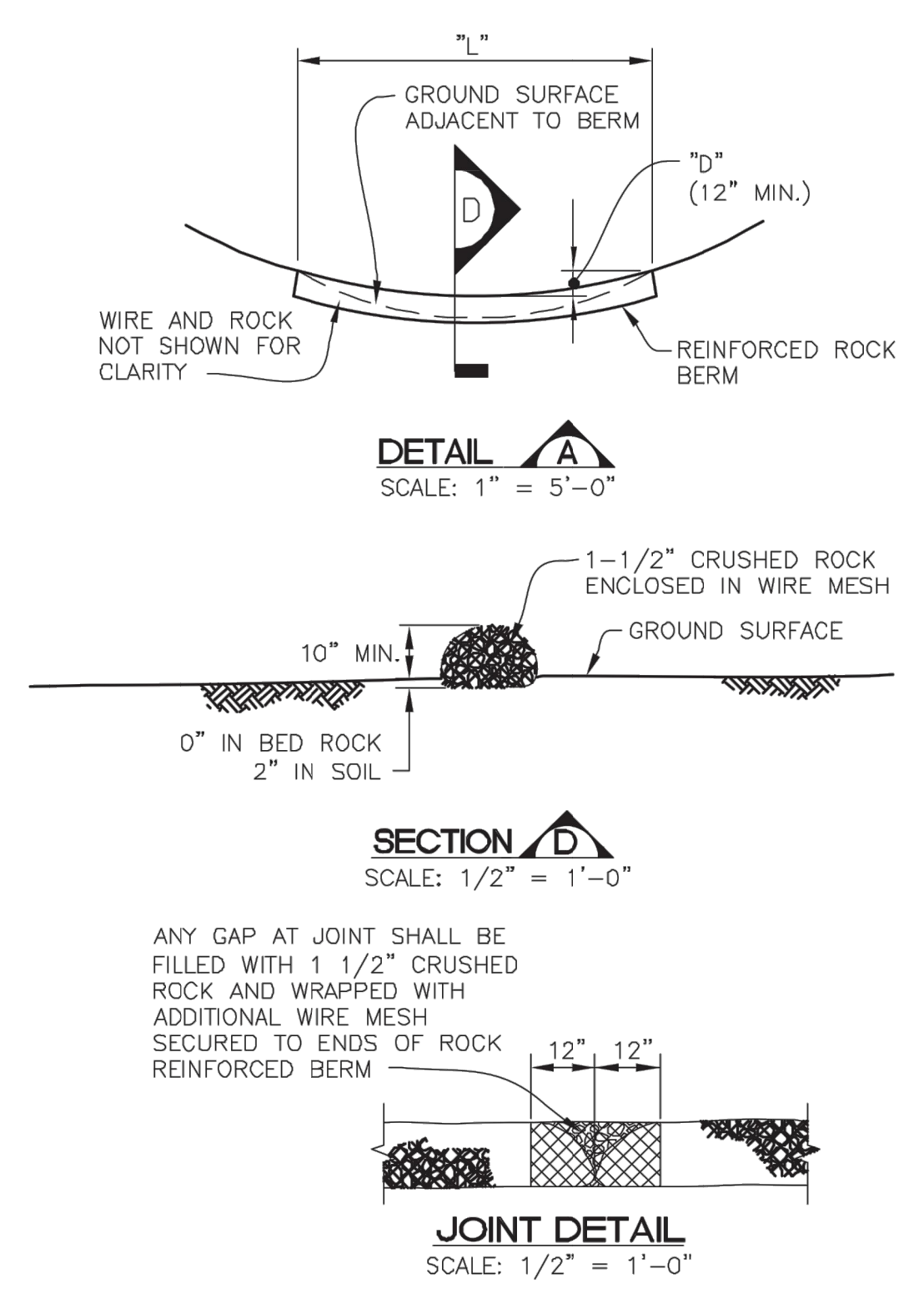
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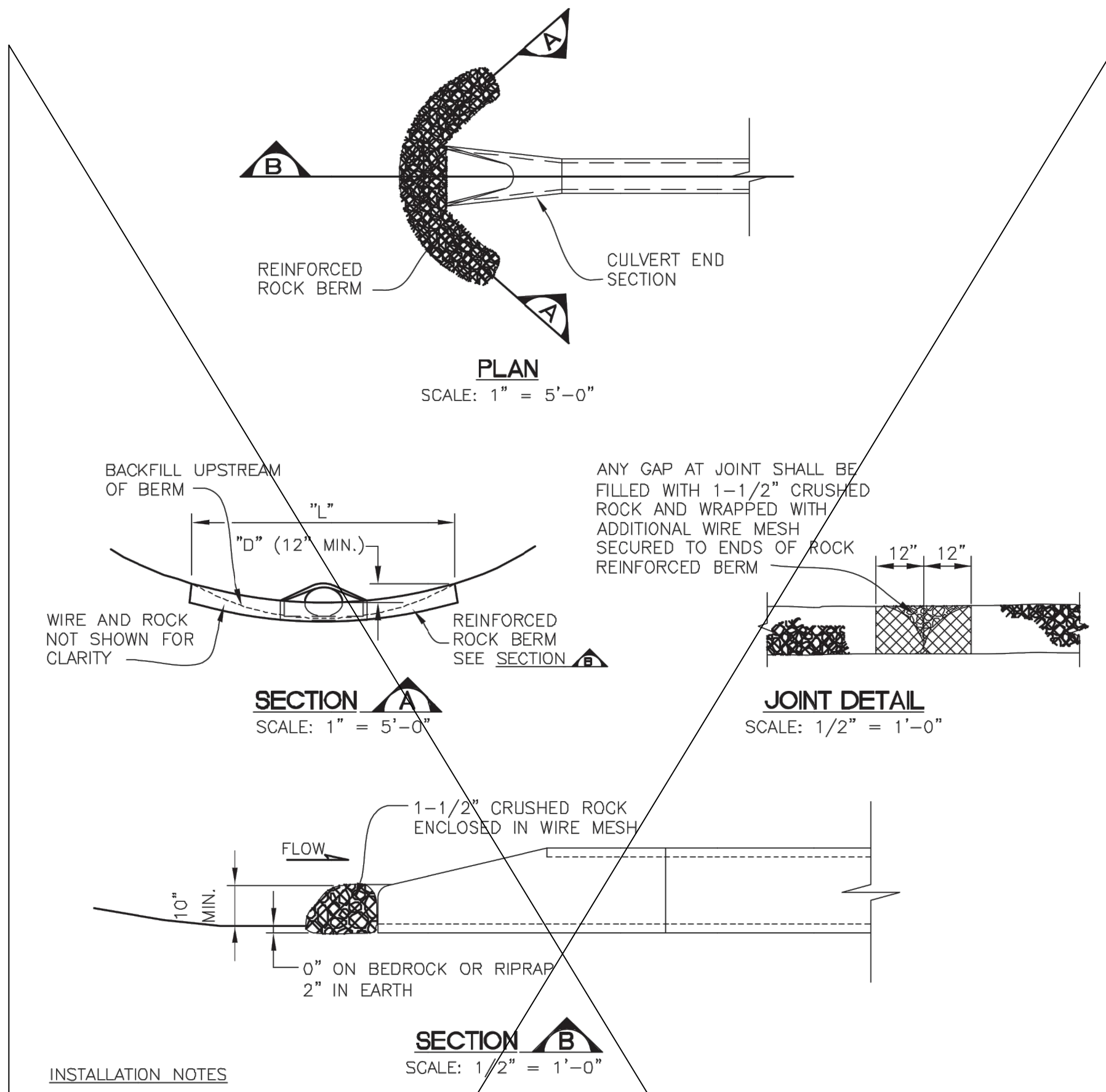
- REINFORCED CHECK DAM INSTALLATION NOTES**
- SEE PLAN VIEW FOR:
    - CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM).
    - LENGTH, "L", CREST LENGTH, "CL", AND DEPTH, "D".
  - CHECK DAMS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED AFTER CONSTRUCTION FENCE, BUT PRIOR TO ANY UPSTREAM LAND-DISTURBING 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 D<sub>50</sub> 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.

<b>RCD</b> REINFORCED CHECK DAM		11
<b>RRB</b> REINFORCED ROCK BERM		12
<b>RRC</b> RRB FOR CULVERT PROTECTION		13

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

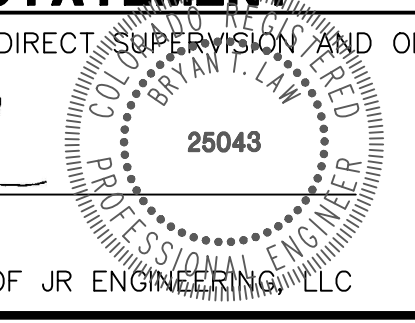
GESC PLAN STANDARD NOTES AND DETAILS

SHEET 7 OF 14



Know what's below.  
Call before you dig.

**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

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

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

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

SHEET 14 OF 14  
JOB NO. 2514204