

## HYDROLOGICAL ANALYSIS

PRE DEV. RUNOFF COEFFICIENT: 0.20 POST DEV. WEIGHTED RUNOFF COEFFICIENT: 0.25

\*TO MANAGE RUNOFF IN THE POST CONSTRUCTION PHASE RUNOFF A VEGETATIVE MEASURES WILL REMAIN IN PLACE PERMANENTLY. SUCH MEASURES INCLUDE STONE CHECK DAMS, OUTLET PROTECTION, SLOPE DRAIN, AND PERMANENT SEEDING ON CUT/FILL SLOPES. BY MAINTAINING THESE MEASURES IN THE POST CONSTRUCTION PHASE RUNOFF VELOCITIES WILL BE REDUCED AND THEREFORE SUSCEPTIBILITY OF EROSION WILL DECREASE.

#### SEDIMENT TRAP DIMENSIONS AND SPECIFICATIONS

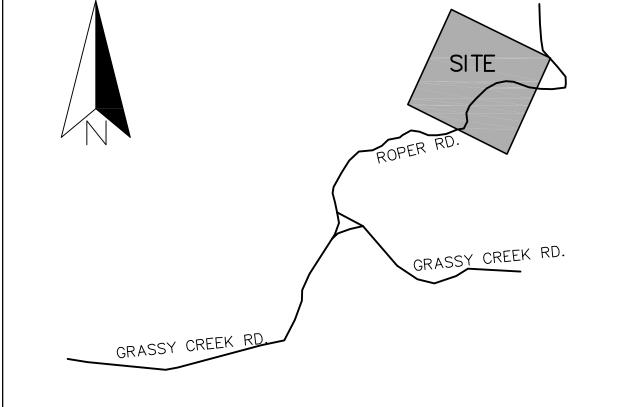
	DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
PEAK DISCHARGE 5-YR. (CFS)	0.57	0.60	0.76	0.73	0.67	1.12	1.19	0.89
MIN. SURFACE AREA (435 SF/CFS)	248	261	331	318	291	487	518	387
TOP SURFACE AREA PROVIDED (SF)	792	792	784	560	672	624	624	784
	ST-1	ST-2	ST-3	ST-4	ST-5	ST-6	ST-7	ST-8
BOT. LENGTH (FT.)	16	16	20	12	16	16	16	20
BOT. WIDTH (FT.)	25	25	20	20	20	18	18	20
DEPTH D_1 (FT.)	2	2	2	2	2	2	2	2
DEPTH D_2 (FT.)	2	2	2	2	2	2	2	2
SIDE SLOPE	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1
NO. OF BAFFLE ROWS	2	2	2	2	2	2	2	2
STORAGE VOLUME PROVIDED (CY)	88	88	88	59	73	68	68	88

## PIPE & OUTLET PROTECTION CHART

	DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
DRAINAGE AREA (ACRES)	0.63	0.32	1.36	1.14	0.56	0.62	0.68	0.87
RAINFALL (25 YR. 24 HR.)	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
RUNOFF CURVE #	60	60	60	60	60	60	60	60
AVERAGE SLOPE	8%	10%	8%	8%	17%	10%	9%	18%
PEAK DISCHARGE 25-YR. (cfs)	1.19	1.18	1.58	1.52	1.37	2.20	2.33	1.83
PIPE SIZE REQUIRED	18"	18"	18"	18"	18"	18"	18"	18"
VELOCITY (fps)	4.8	4.8	5.2	5.2	5.0	5.7	5.8	5.5
TAILWATER COND.	MIN.							
St APRON LENGTH (La)	9.0'	9.0'	9.0'	9.0'	9.0'	9.0'	9.0'	9.0'
St WIDTH AT HEADWALL (3xWc)	4.5'	4.5'	4.5'	4.5'	4.5'	4.5'	4.5'	4.5'
St DOWNSTREAM WIDTH (Wa)	10.5'	10.5'	10.5'	10.5'	10.5'	10.5'	10.5'	10.5'
St AVG. STONE DIAMETER (D50)	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"
St STONE DEPTH (Da)	8"	8"	8"	8"	8"	8"	8"	8"

### SEDIMENT STORAGE

SV-#	DISTURBED AREA (ACRES)	REQ. SEDIMENT STORAGE (134 CU. YDS. PER DISTURBED ACRE)		STORAGE TOTAL (CU. YDS.)
SV-1	2.83	379.2	33 CD X 1.5 CU. YDS. (50) ST #1 (88) ST #2 (88) 1,009 LF SF (161)	387
SV-2	0.51	68.3	4 Cds X 1.5 CU. YDS. (6) 423 LF SF (68) ST #8 (88)	168
SV-3	3.97	532.0	27 Cds X 1.5 CU. YDS. (40) ST #3 (88) ST #4 (59) ST #5 (73) 2,066 LF SF (330)	590
SV-4	2.15	288.1	46 CD X 1.0 CU. YDS. (46) 19 CD X 0.5 CU. YDS. (9) ST #6 (68) ST #7 (68) 900 LF SF (144)	335



IRON PIN FOUND (I.P.F.)
RIGHT-OF-WAY MARKER PROPERTY LINE -× - × - FENCE -··- DITCH
---- STREAM ----- HOLLOW ------ LAND LOT LINE (LLL)
------ CENTERLINE POWERLINE
TELEPHONE LINE
PAVED ROAD
TELEPHONE LINE
PAVED ROAD ₹==== GRAVEL ROAD ø TELE/POWER POLE TELÉ/ELEC BOX FENCE POST F.P. D.B. DEED BOOK
P.B. PLAT BOOK
LLC. LAND LOT CORNER N.T.S. NOT TO SCALE === DRAINAGE DITCH ----- CULVERT PIPE ---- STREAM FLOWLINE - — — - EDGE OF SLOPE — PROPOSED CONTOUR, 2-FT. PROPOSED CONTOUR, 10-FT. BLOCK WALL
----- EDGE OF GRAVEL ROAD LIMITS OF DISTURBED AREA

> 9-18-23 DRAWN BY 9-18-23 CHECKED BY

CONTROL

GE AREAS

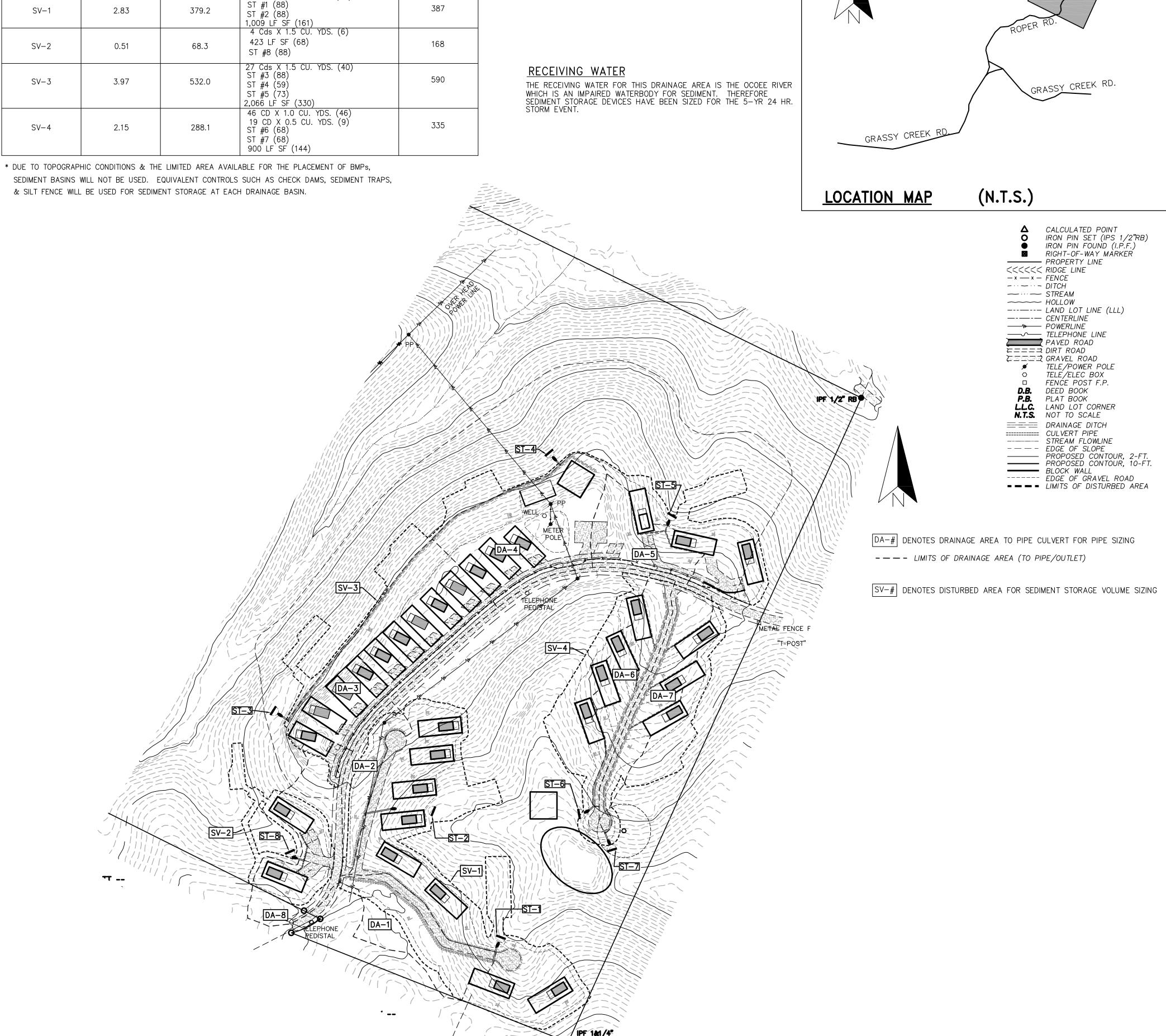
DRA SEDIMENT

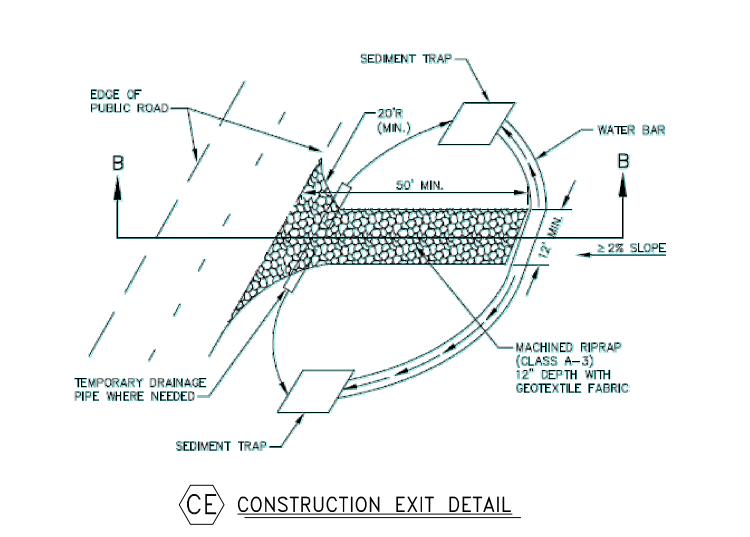
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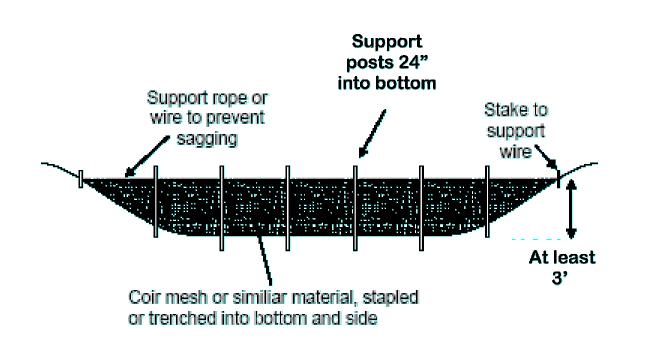
SION



SHEET







OP POROUS BAFFLE DETAIL NOTE: POROUS BAFFLES TO BE PLACE IN SEDIMENT TRAP PERPENDICULAR TO FLOW

2 black-eyed susan

45 Red fescue\*

45 hard fescue\*

25 chewing fescue\*

0.5 monarda (bergamot)

5 Browntop millet\* (nurse crop)

PREFERRED SEEDING SCHEDULE

<2500 ft. elev.;

<2500 ft elev.;

Moderate slopes

Aug 15 – Sept 1

Mar 1 – Apr 1

Aug 15 – Sept 1

High maintenance | Mar 1 – Apr 1 | Apr 1 – June 10

Sept 1 – Sept 15

Mar 5 – Mar 20

Sept 1 – Sept 15

# $-D_A = 1.5 \times 1.5 \times D_{50}$ fabrie, anchored Tailwater > 0.5 H<sub>C</sub> and Assuming Full Culvert Flow (High Tailwater Conditions = height of culvert = width of culvert = length of riprap apron NOT TO SCALE = width of riprap apron at end = median riprap size = maximum size of riprap = 1.5 D<sub>50</sub> = depth of riprap apron = 1.5 D<sub>MAX</sub> Riprap Aprons for Low Tailwater (downstream flow depth < 0.5 x pipe diameter) Intermediate values to interpolate from 36" | 56 | 20 | 7 | 100 | 32 | 13 | 140 | 40 | 18 | 180 | 45 | 23 | 220 | 50 | 28 48" | 120 | 26 | 10 | 170 | 37 | 14 | 220 | 46 | 19 | 270 | 54 | 23 | 320 | 64 | 37 (OP) OUTLET PROTECTION DETAIL NOTE: SEE SHEET 2 FOR DIMENSIONS AND SPECIFICATIONS OF DRAINAGE OUTLETS

\_\_\_\_ End section (typical)

Tailwater < 0.5 H<sub>C</sub> and Assuming Full Culvert Flow (Low Tailwater Conditions)

Minimum apro

 $W_A = W_C + L_A$ 

 $I_A = W_C + 0.4 L_A$ 

D<sub>A</sub> = 1.5 x 1.5 x D<sub>50</sub>

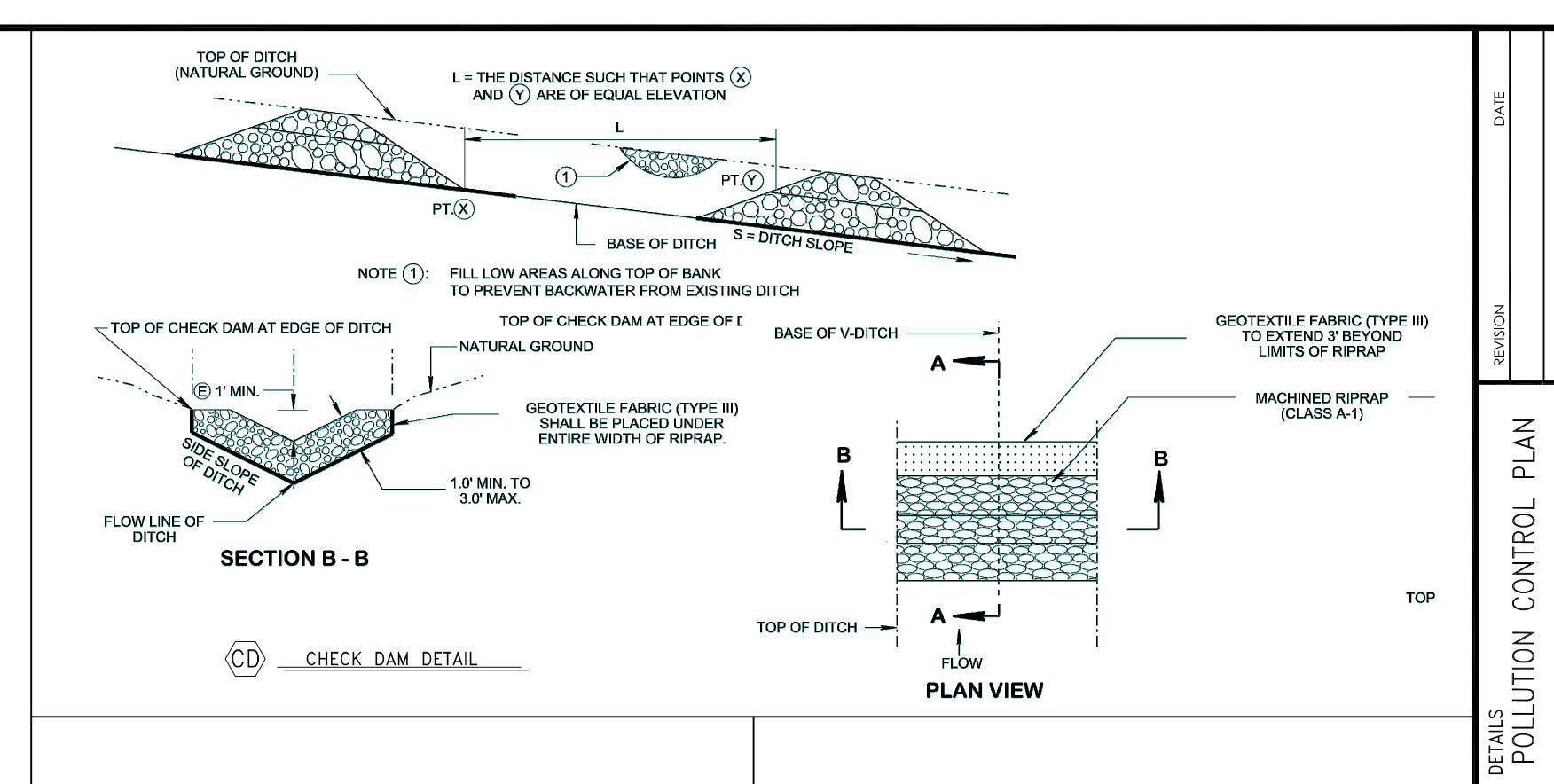
Heavy geotextile fabric, anchored

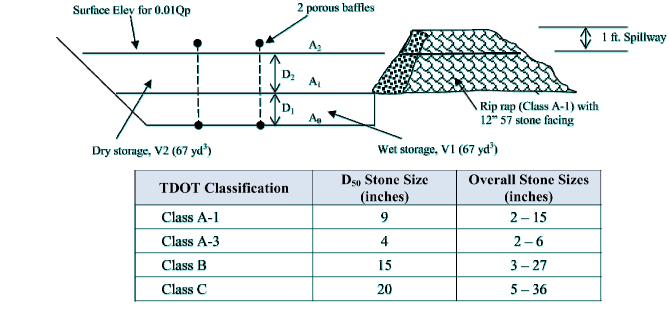
This portion may be an end section, concrete floor or riprap.

#### ALLOWADIE SEEDING SCHEDIILE

	Zone	Best	Marginal	Rate/Mix (lb/ac PLS)
	Poorly drained soils	Feb 1 – Mar 20 Sept 1 – Sept 30	Mar 20 – Apr 30 Sept 30 – Oct 31	80 Pensacola bahiagrass 30 Bermudagrass (hulled) 20 Korean lespedeza** 10 Kobe lespedeza**
Region I	Well drained soils	Apr 1 – July 15		50 Pensacola bahiagrass 15 Bermudagrass (hulled) 30 Korean lespedeza** 15 Foxtail millet**
	High maintenance	Apr 1 – July 15		40 Bermudagrass (hulled)
Region	Low maintenance; Slopes and Poor, shallow soils	Aug 25 – Sept 15 Feb 15 – Mar 21	Sept 15 – Oct 25 Mar 21 – Apr 15	100 Pensacola bahiagrass 40 Bermudagrass (hulled) 20 Korean lespedeza** 10 Kobe lespedeza**
II	Low maintenance; Moderate slopes; soils >6 in. depth	Aug 25 – Sept 15 Feb 15 – Mar 21	Sept 15 – Oct 25 Mar 21 – Apr 15	80 Pensacola bahiagrass 30 Bermudagrass (hulled) 20 Korean lespedeza** 10 Kobe lespedeza**
	High maintenance	Aug 15 – Oct 15	Feb 15 – Apr 15	200 KY 31 fescue**
	>2500 ft elevation; steep slopes	July 25 - Aug 15 Mar 20 – Apr 20	July 15 – July 25 Aug 15 – Aug 30 Mar 1- Mar 20 Apr 20 – May 15	100 KY 31 fescue** 20 Kobe lespedeza**  10 Korean lespedeza**
	<2500 ft elevation; steep slopes	Aug 15 – Sept 1 Mar 1 – Apr 1	July 25 – Aug 15 Sept 1 – Sept 15 Apr 1 – May 10	5 Redtop
	>2500 ft elev.; Shallow soils	July 25 - Aug 15 Mar 20 – Apr 20	July 15 — July 25 Aug 15 — Aug 30 Mar 5 — Mar 20 Apr 20 — May 15	40 KY 31 Fescue** 10 Korean lespedeza** 10 Redtop
Region III	<2500 ft elev.; Shallow soils	Aug 15 – Sept 1 Mar 1 – Apr 1	July 25 – Aug 15 Sept 1 – Sept 15 Apr 1 – May 10	10 Crown vetch**
	>2500 ft. elev.; Moderate slopes	July 25- Aug 15 <b>Mar 20 – Apr 20</b>	July 15 – July 25 Aug 15 – Aug 30 Mar 5 – Mar 20 Apr 20 – May 15	60 KY 31 fescue** 15 Korean lespedeza**
	<2500 ft. elev.; Moderate slopes	Aug 15 – Sept 1 Mar 1 – Apr 1	July 25 – Aug 15 Sept 1 – Sept 15 Apr 1 – May 10	15 Kobe lespedeza**
	>2500 ft elev.; High maintenance	July 25 - Aug 15 <b>Mar 20 – Apr 20</b>	July 15 — July 25 Aug 15 — Aug 30 Mar 5 — Mar 20 Apr 20 — May 15	200 KY 31 fescue**
	<2500 ft elev.; High maintenance	Aug 15 – Sept 1 Mar 1 – Apr 1	July 25 – Aug 15 Sept 1 – Sept 15 Apr 1 – May 10	

<ul> <li>Fertilizer: Grasses: 800-1200 lb/ac</li> </ul>	re of 10-10-10 (or the equivalent	2)
	800-1200 lb/acre of 5-10-10 (or	*
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DC DEDVANIENT	OFFRING BETAIL	
$\langle P \rangle \rangle PFRMANFNI$	SEEDING DETAIL	





SEDIMENT TRAP DETAIL

NOTE: SEE SHEET 2 FOR DIMENSIONS AND SPECIFICATIONS OF SEDIMENT TRAPS

9-18-23 DRAWN BY DATE 9-18-23 CHECKED BY DATE

PLAN

CONTROL

ES&F SEDIMENT

OSION

\_\_ 2" MIN. USE MIN. OF 18 POSTS PER 100 FT. OF LENGTH WOOD POST (TYP.) **EXISTING BOTTOM OF** GROUND **TRENCH** SILT FENCE FABRIC TOTAL WIDTH 36"

> **ELEVATION VIEW** SD <u>SILT FENCE DETAIL</u>

MAX. 6' POST SPACING

DEVELOPMENT LLC

SHEET

	Zone	Best	Marginal	Preferred Rate/Mix (lb/ac PLS)	<u>.</u>		Δ	LLOWABLE SEE	DING SCHEDULE	
				15 Browntop millet* (nurse crop)			Zone	Best	Marginal	
_	Poorly drained soils	Feb 1 – Mar 20 Sept 1 – Sept 30	Mar 20 – Apr 30 Sept 30 – Oct 31	2 switch grass 4 little bluestem 4 Virginia wild rye 4 purpletop 2 partridge pea			Poorly drained soils	Feb 1 – Mar 20 Sept 1 – Sept 30	Mar 20 – Apr 30 Sept 30 – Oct 31	80 Pensacol 30 Bermuda 20 Korean le 10 Kobe les
	Well drained soils	Apr 1 – July 15		2 black-eyed susan 15 Browntop millet* (nurse crop) 4 little blue stem 4 purpletop		Region I	Well drained soils	Apr 1 – July 15		50 Pensacol 15 Bermuda 30 Korean l 15 Foxtail n
	wen dramed sons	24pi 1 – July 15		2 sideoats gramma 2 partridge pea		High maintenance	Apr 1 – July 15		40 Bermuda	
	High maintenance	Apr 1 – July 15		2 black-eyed susan 15 Browntop millet* (nurse crop) 2 partridge pea 45 Red fescue*			Low maintenance; Slopes and Poor, shallow soils	Aug 25 – Sept 15 Feb 15 – Mar 21	Sept 15 – Oct 25 Mar 21 – Apr 15	100 Pensaco 40 Bermuda 20 Korean le 10 Kobe les
				45 hard fescue* 25 chewing fescue*  15 Browntop millet* (nurse crop) 5 little bluestem		ĬI	Low maintenance; Moderate slopes; soils >6 in. depth	Aug 25 – Sept 15 Feb 15 – Mar 21	Sept 15 – Oct 25 Mar 21 – Apr 15	80 Pensacol 30 Bermuda 20 Korean l 10 Kobe les
	Low maintenance; Slopes and Poor, shallow soils	Aug 25 – Sept 15 Feb 15 – May 30	Sept 15 – Oct 25 Mar 21 – May 30	2 switch grass 2 tall dropseed 5 sideoats gramma 2 black-eyed susan 2 partridge pea 1 greyheaded coneflower 15 Browntop millet* (nurse crop) 5 purpletop 5 little bluestem 5 Virginia wild rye 2 black-eyed susan 2 partridge pea 1 greyheaded coneflower			High maintenance	Aug 15 – Oct 15	Feb 15 – Apr 15	200 KY 31
							>2500 ft elevation; steep slopes	July 25 - Aug 15 <b>Mar 20 - Apr 20</b>	July 15 – July 25 Aug 15 – Aug 30 Mar 1- Mar 20 Apr 20 – May 15	100 KY 31 : 20 Kobe les — 10 Korean I
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	>2500 ft elevation;	Mar 20 – Apr 30	Aug 15 – Aug 30	45 hard fescue* 25 chewing fescue* 15 Browntop millet* (nurse crop)			>2500 ft. elev.; Moderate slopes	July 25- Aug 15 Mar 20 – Apr 20	July 15 – July 25 Aug 15 – Aug 30 Mar 5 – Mar 20 Apr 20 – May 15	60 KY 31 fc
<b>,</b>	steep slopes	Aug 15 – Sept 1	Mar 1 – Mar 20 Apr 20 – June 15 Sept 1 – Sept 15	5 purpletop 10 little bluestem 10 Indian grass 2 black-eyed susan			<2500 ft. elev.; Moderate slopes	Aug 15 – Sept 1 Mar 1 – Apr 1	July 25 – Aug 15 Sept 1 – Sept 15 Apr 1 – May 10	15 Kobe les
	steep slopes	Mar 1 – Apr 1	Apr 1 – June 10	0.5 monarda (bergamot) 4 Maryland senna			>2500 ft elev.; High maintenance	July 25 - Aug 15 Mar 20 – Apr 20	July 15 – July 25 Aug 15 – Aug 30 Mar 5 – Mar 20	200 KY 31
-	>2500 ft elev.; Shallow soils	Mar 20 – Apr 20	Aug 15 – Aug 30 Mar 5 – Mar 20 April 20 – June 15	15 Browntop millet* (nurse crop) 4 purpletop 10 little bluestem 10 broomsedge			<2500 ft elev.; High maintenance	Aug 15 – Sept 1 Mar 1 – Apr 1	Apr 20 – May 15 July 25 – Aug 15 Sept 1 – Sept 15 Apr 1 – May 10	
	<2500 ft elev.; Shallow soils	Aug 15 – Sept 1 Mar 1 – Apr 1	Sept 1 – Sept 15 Apr 1 – June 10	2 partridge pea 2 black-eyed susan 0.5 monarda (bergamot)	L				- The second sec	1
	>2500 ft. elev.; Moderate slopes	Mar 20 – Apr 20	Aug 15 – Aug 30 Mar 5 – Mar 20 Apr 20 – June 15	15 Browntop millet* (nurse crop) 4 purpletop 10 little bluestem		•			0-10 (or the equivaler	*
				10 Indian grass			Grass-legume	mixtures: 800_1200	lb/acre of 5-10-10 (o	r the equivaler

