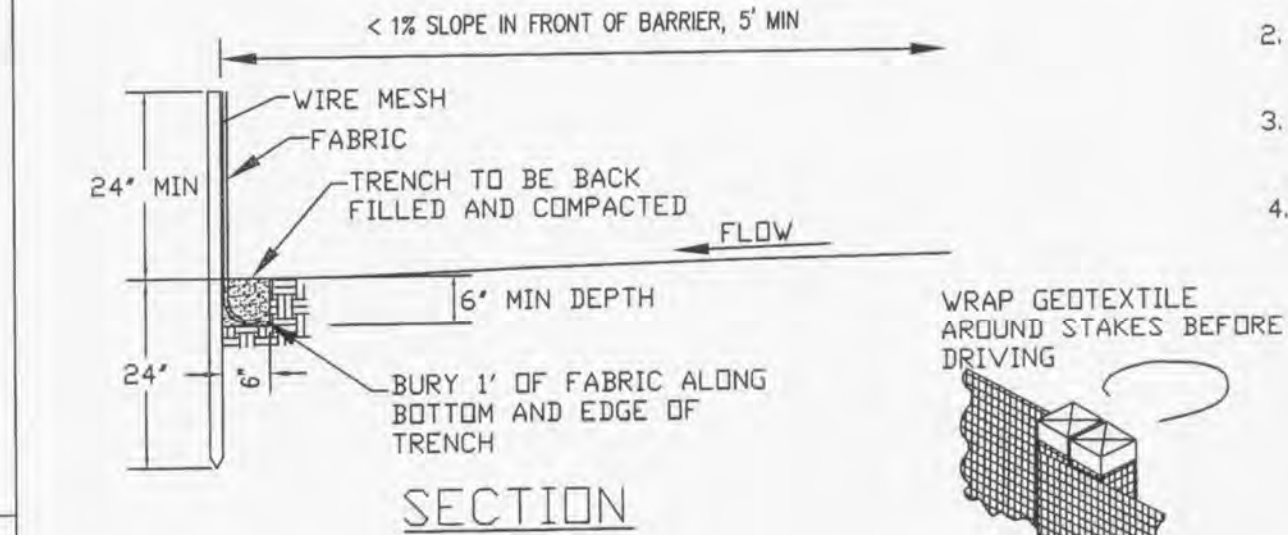
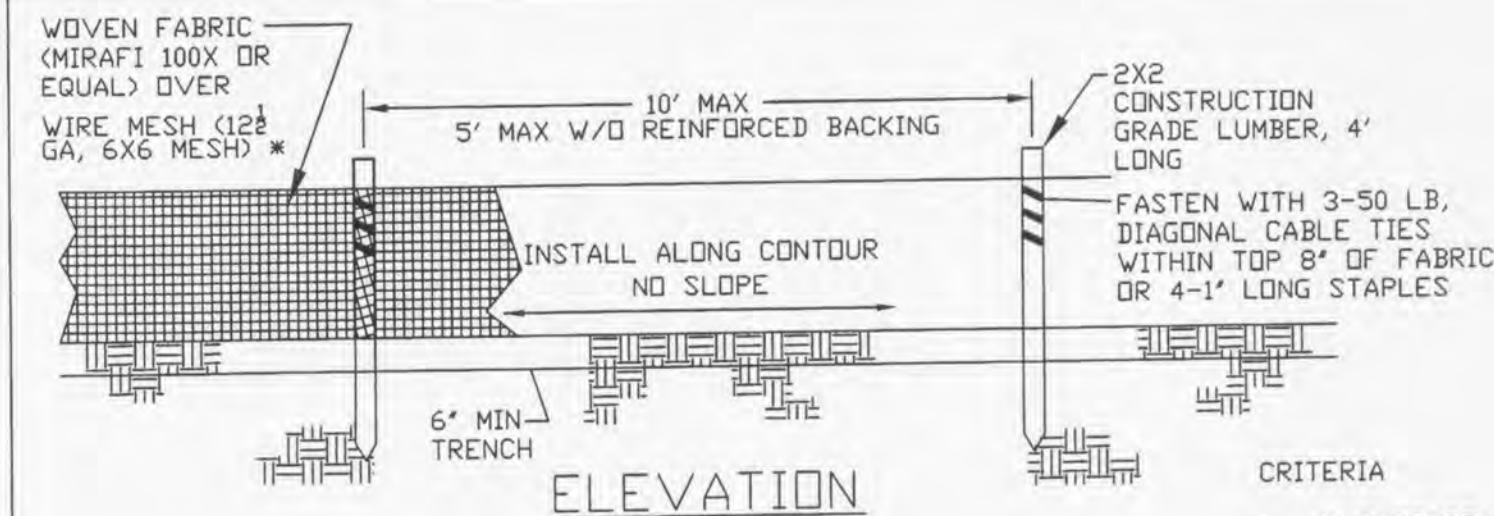


- DESIGN CRITERIA**
- SILTFENCE FOR SHEET FLOW SHALL HAVE A MAXIMUM DRAINAGE AREA OF 1/4 ACRE PER 100 LF.
  - STRAW BALE BARRIERS FOR SHEET FLOW SHALL HAVE A MAXIMUM DRAINAGE AREA OF 1/4 ACRE PER 100 LF.
  - REFER TO INDIVIDUAL ESC FIGURE FOR INSTALLATION.
  - TERRACING INCLUDES LOGS, WATTLETS & FILTER SOCKS.

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**SPACING CHART  
FOR ESC DEVICES**



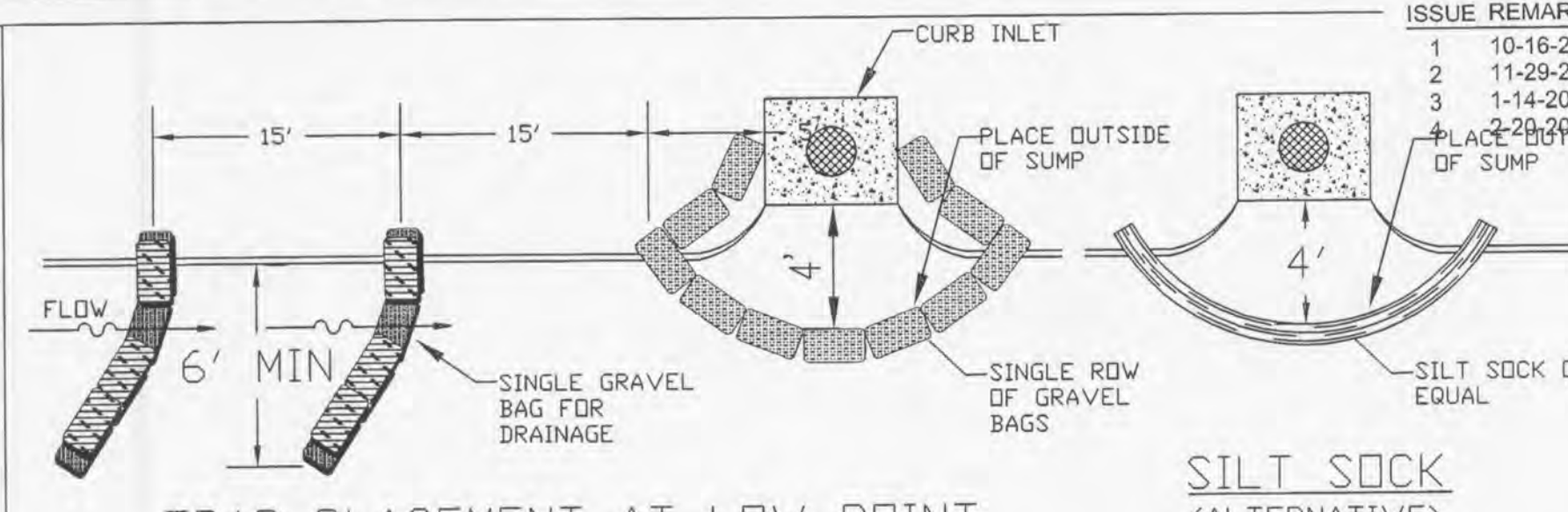
- CRITERIA**
- SILTFENCE SHALL BE 24 INCHES HIGH.
  - SILTFENCE SHALL NOT BE USED FOR CONCENTRATED FLOWS.
  - GEOSYNTHETIC REINFORCED SILTFENCE BACKING MAY BE USED IN LIEU OF WIRE MESH.
  - WIRE MESH WILL BE USED AT LOCATIONS SHOWN ON THE APPROVED SWPPP.

NOTE: IF FABRIC IS INSTALLED BY EQUIPMENT DESIGNED TO SLICE INTO THE GROUND, THE TRENCH IS NOT REQ'D.

**JOINING SECTIONS OF  
SILTFENCE**

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**SILTFENCE INSTALLATION  
SHEET FLOW (ONLY)**

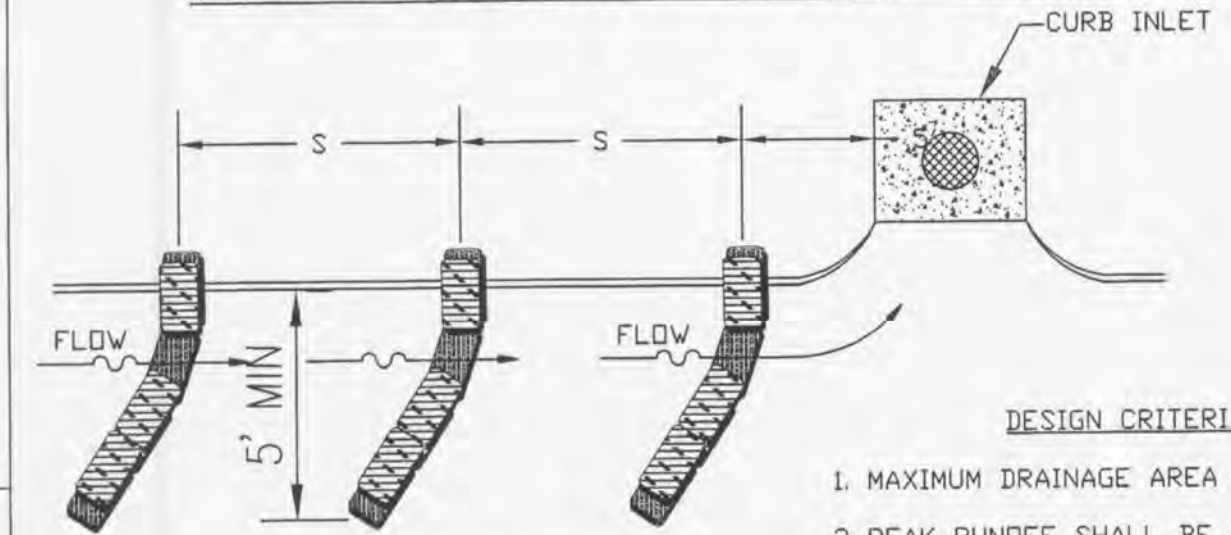


- ISSUE REMARKS/DATE**
- 10-16-2012, INITIAL SUBMITTAL
  - 11-29-2012, CITY COMMENTS
  - 1-14-2013, CITY & DCSD COMMENTS
  - 2-20-2013, CITY COMMENTS

**SILT SOCK  
(ALTERNATIVE)**

**SPACING OF TRAPS**

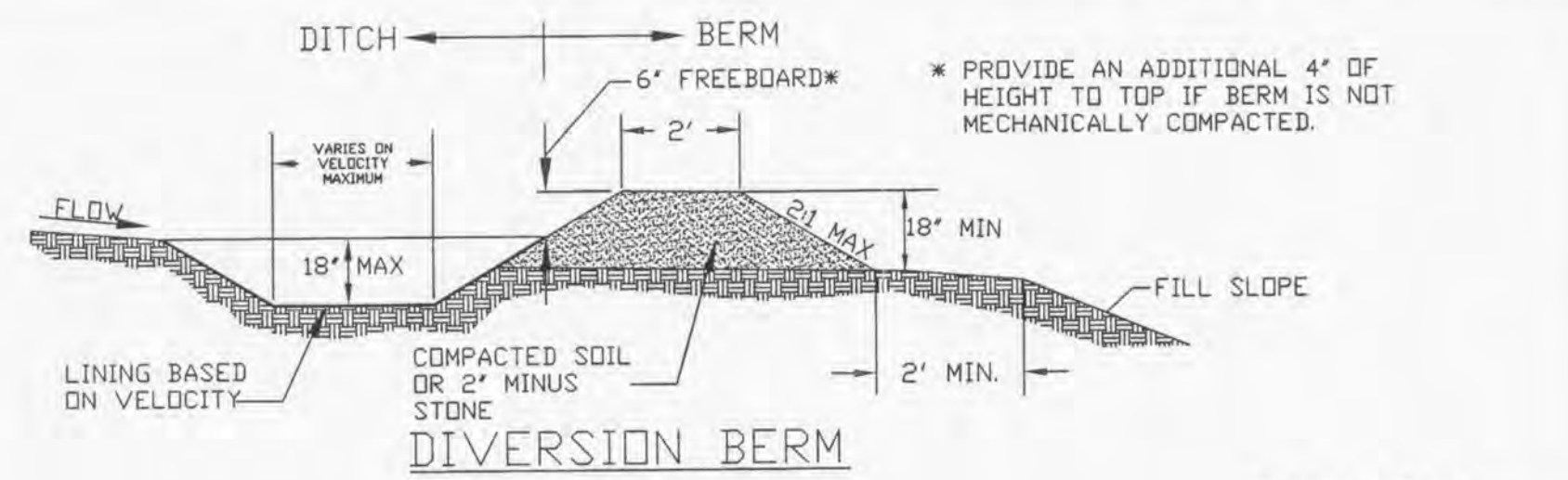
GUTTER SLOPE	S
LOW PT	15'
1%	20'
2%	15'
3% MAX.	10'



- DESIGN CRITERIA**
- MAXIMUM DRAINAGE AREA - 1 ACRE.
  - PEAK RUNOFF SHALL BE ≤ 2 CFS BASED ON THE 6-MONTH STORM.
  - STACK GRAVEL BAGS DOUBLE HIGH. PROVIDE GAP FOR DRAINAGE.

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**CURB INLET  
PROTECTION**

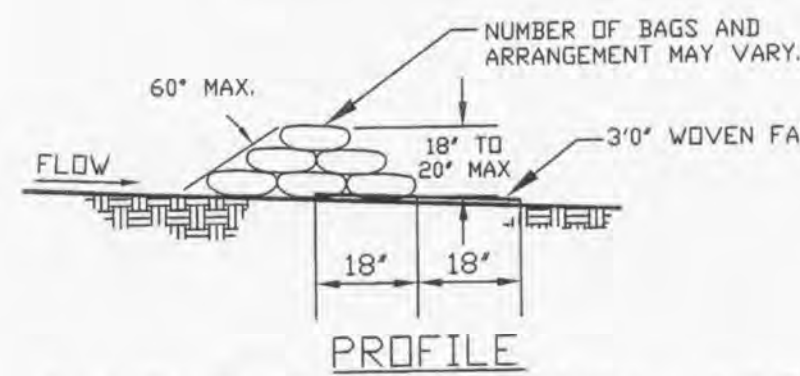
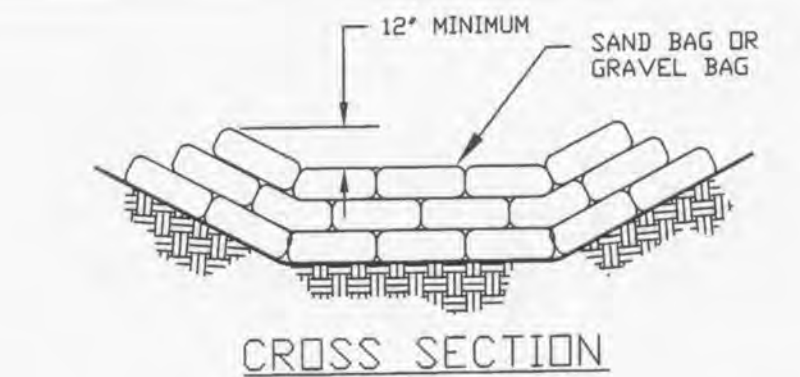


**DIVERSION DIKE**

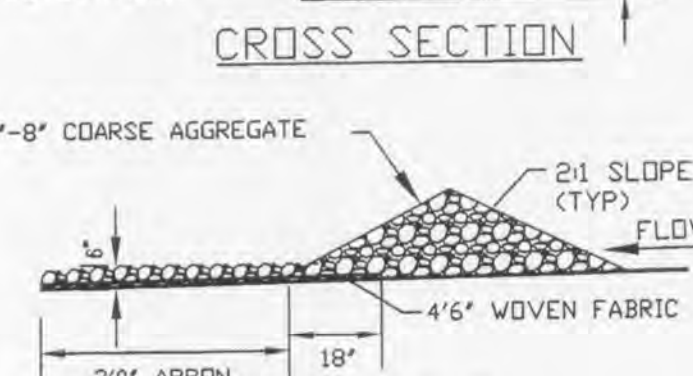
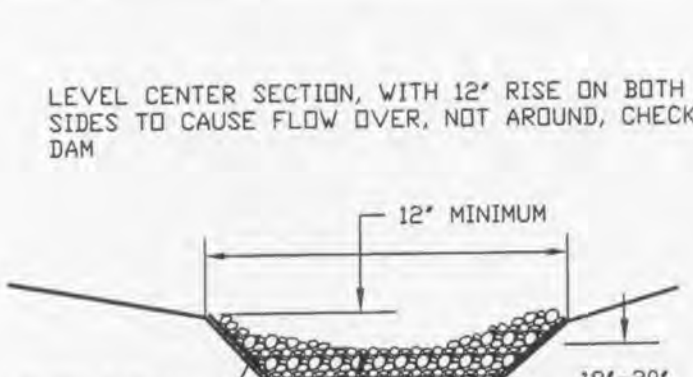
- DESIGN CRITERIA**
- DIVERSIONS SHALL BE USED FOR DRAINAGE AREAS ≤ 3 ACRES.
  - DIVERSION CHANNELS SHALL BE DESIGNED TO CONVEY THE 6-MO STORM AT NON-EROSIVE VELOCITIES.
  - CRITICAL LOCATIONS SHALL BE DESIGNED FOR THE 15YR / 20min. STORM.
  - MAXIMUM CHANNEL SLOPE OF 3% WITHOUT CHECK DAMS.
  - SWALE SEDIMENT TRAPS ARE TO BE USED IN HIGHLY ERODITIVE AREAS.
  - CHANNELS SHALL BE PROTECTED USING APPROPRIATE CHANNEL LINERS.
  - CHANNEL OUTLETS MUST BE STABILIZED.
  - STORM SEWERS MAY BE USED IN LIEU OF OPEN CHANNELS.

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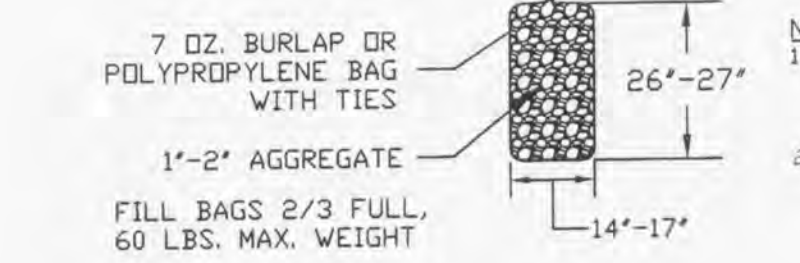
**DIVERSION BERMS  
+ DIKES**



**SAND BAG OR GRAVEL BAG  
CHECK DAM**



**ROCK CHECK DAM**

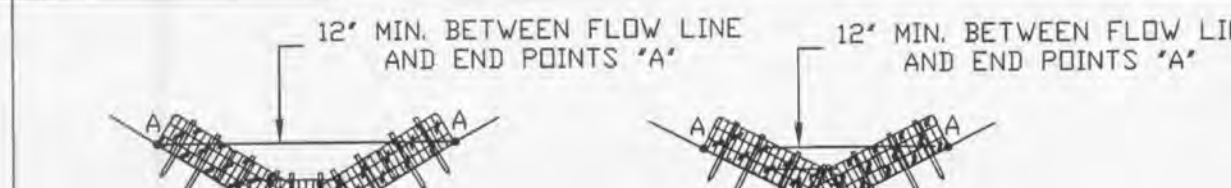


**GRAVEL BAG  
CHECK DAM**

- NOTE:**
- CHECK DAMS MAY BE CONSTRUCTED OF SEVERAL ESC CHECK DAM PRODUCTS.
  - SEE TABLE 60-12 AND ESC 1 FOR CHECK DAM SPACING.

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**CHECK DAMS**



- CRITERIA FOR LOW CONCENTRATED FLOWS**
- DRAINAGE AREAS SHALL BE LESS THAN 1 ACRE.
  - INSTALL TWO STAKES PER BALE.
  - BALES WILL BE TRENCHED 4" DEEP INTO EARTH.
  - MAXIMUM CHANNEL SLOPE OF 3%.
  - SEDIMENTATION TRAPS TO BE USED IN HIGHLY ERODITIVE AREAS.

**CHECK DAM SPACING**

Ditch Slope	Maximum Spacing
3%	50%
2%	75%

**TRAPEZOIDAL DITCH V-DITCH**

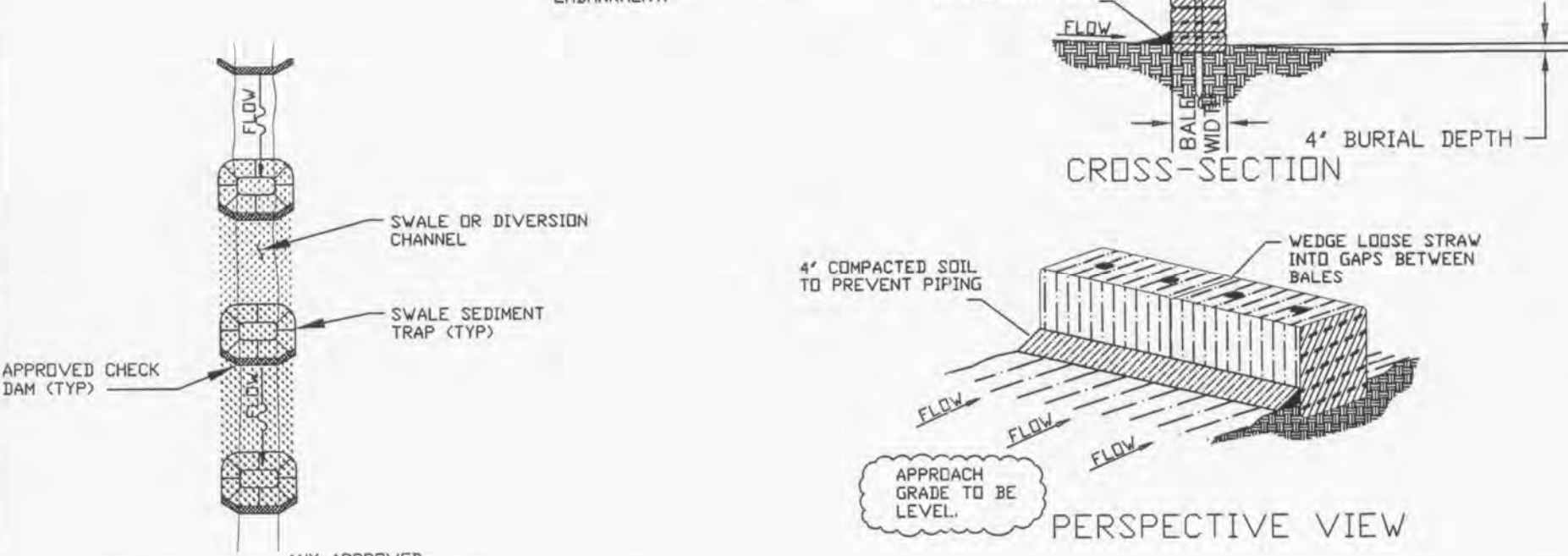


**DITCH PROFILE**

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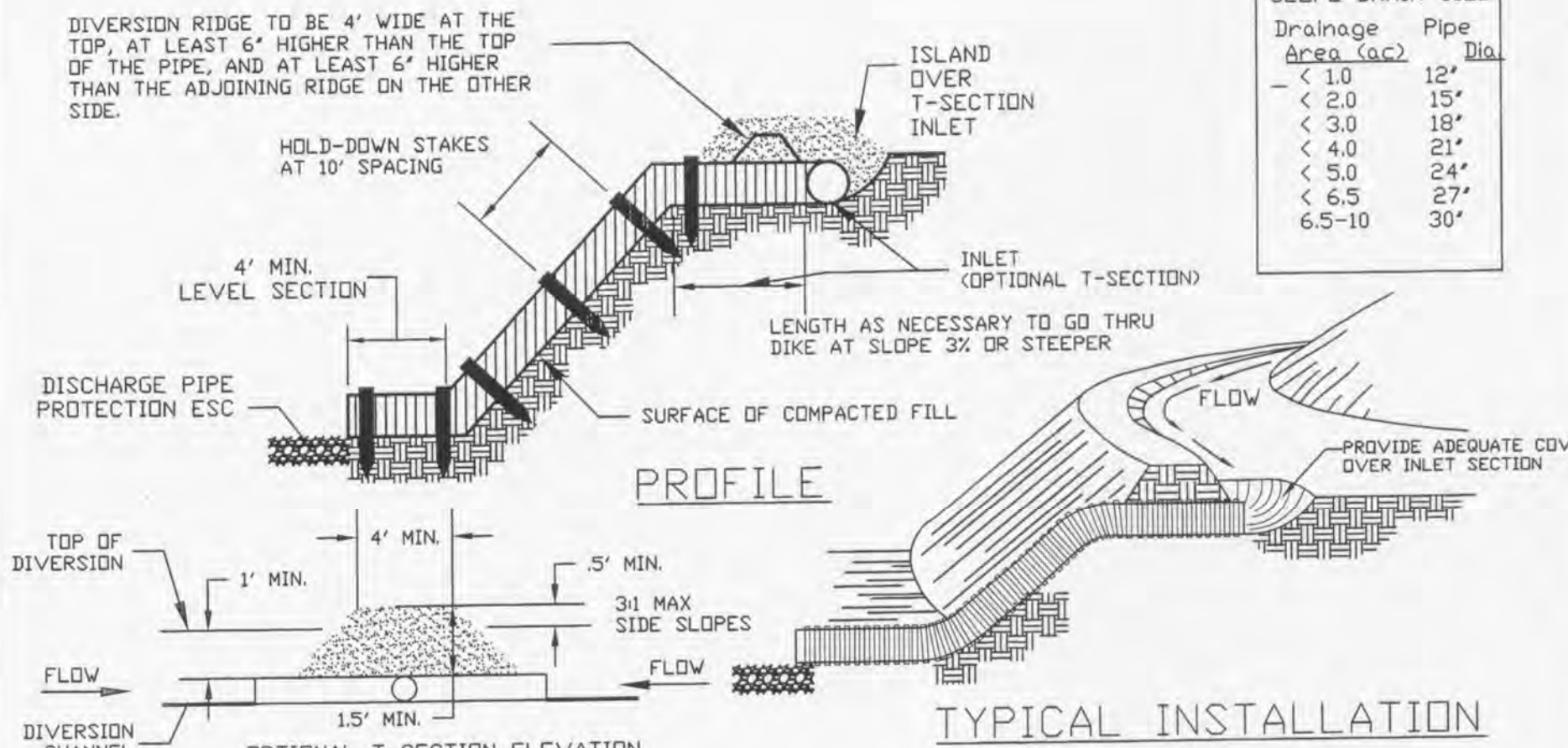
**STRAW BALE  
CHECK DAM**

- CRITERIA**
- EXCAVATE TRENCH THE WIDTH OF THE BALE AT LEAST 4 INCHES DEEP AND LONG ENOUGH THAT THE END BALES ARE SOMEWHAT UPSLOPE.
  - REFER TO STRAW BALE CHECK DAM DETAIL FOR SPACING AND STRAW BALE USES AS DITCH CHECKS.
  - UPSLOPE FACE OF BALE MUST BE AT LEAST 5' FROM A DISTURBED ENHANCEMENT.
  - 4" COMPACTED SOIL TO PREVENT PIPING.



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**SWALE SEDIMENT  
TRAP  
STRAW BALE  
BARRIER INSTALLATION**



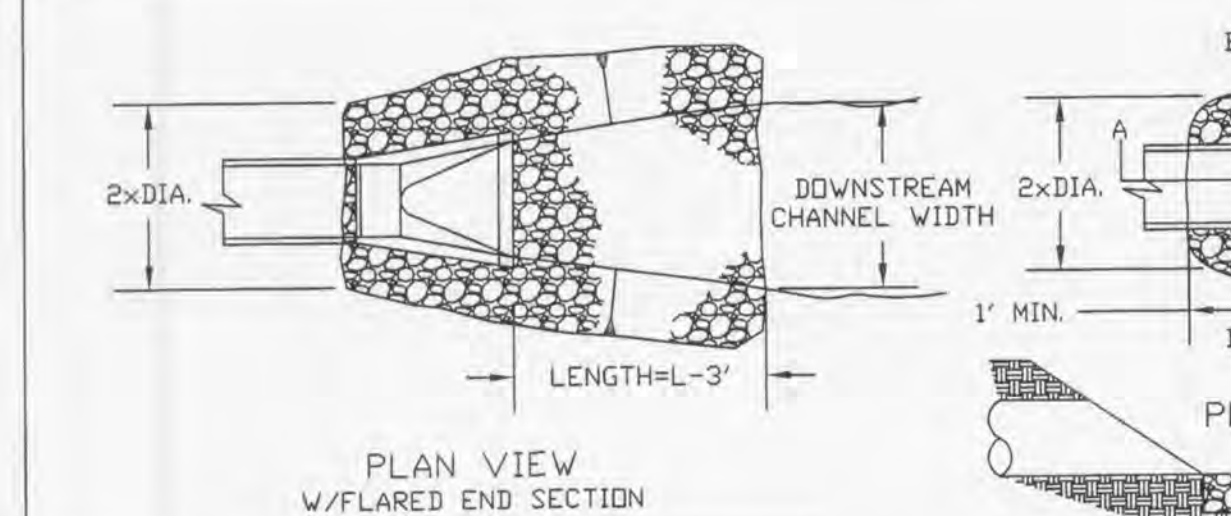
- NOTE:**
- PIPE CAN BE CMP, PVC, FLEXIBLE TUBING, OR SIMILAR.
  - THIS METHOD MUST BE USED IN CONJUNCTION WITH OTHER ESC DEVICES. THIS IS NOT A STAND ALONE CONTROL DEVICE.

**SLOPE DRAIN SIZE**

Drainage Area (Ac)	Pipe Dia
< 1.0	12"
< 2.0	15"
< 3.0	18"
< 4.0	21"
< 5.0	24"
< 6.5	27"
6.5-10	30"

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**TEMPORARY  
SLOPE DRAIN**

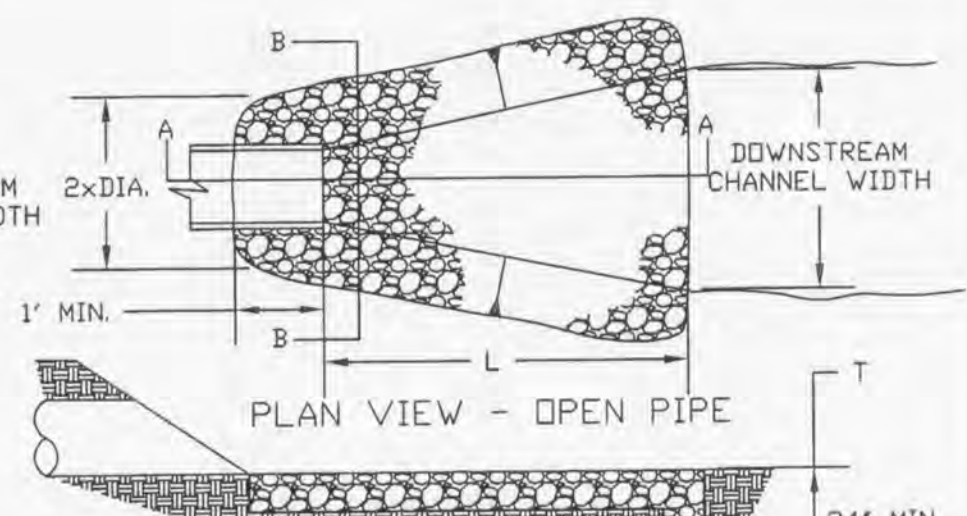


**PLAN VIEW  
W/FLARED END SECTION**

**RIPRAP SIZE & APRON DIMENSION**

PIPE SIZE	VELOCITY < 5 FPS				VELOCITY < 10 FPS			
	ROCK SIZE	APRON DIM	ROCK SIZE	APRON DIM	ROCK SIZE	APRON DIM	ROCK SIZE	APRON DIM
(inch)	(inch)	(inch)	(ft)	(inch)	(inch)	(inch)	(ft)	
12	5	9	15	12	5	9	15	16
15	5	9	15	14	5	9	15	18
18-24	5	9	15	16	9	14	24	20
27-30	5	9	15	18	9	14	24	22
36-42	5	9	15	22	12	18	27	26
48-54	5	9	15	24	12	18	27	30
60-66	12	18	27	34	15	24	30	38
72-84	15	24	30	42	15	24	30	46
96	18	27	30	50	18	27	30	54

OD - NOMINAL DIAMETER  
ODMAX - MAXIMUM DIAMETER  
THICKNESS  
L - LENGTH



- DESIGN CRITERIA**
- FROUDE NUMBER MUST BE ≤ 2.50.
  - USE 3 TIMES PIPE DIAMETER FOR DOWNSTREAM CHANNEL WIDTH IF THERE IS NO DEFINED CHANNEL.
  - BANK PROTECTION HEIGHT TO BE 2/3 TIMES PIPE DIAMETER.
  - ROCK SLOPES SHALL BE NO STEEPER THAN 3:1.

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**TEMPORARY OUTLET  
PIPE DISCHARGE  
PROTECTION**

**PROJECT TITLE**

**BOARDWALK  
GARDENS**

O'FALLON, MISSOURI

**THE STERLING CO.**  
ENGINEERS & SURVEYORS

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City No.  
Date: OCT.16, 2012  
Job No. 12-05-128  
Page No.

**DTL-1**

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