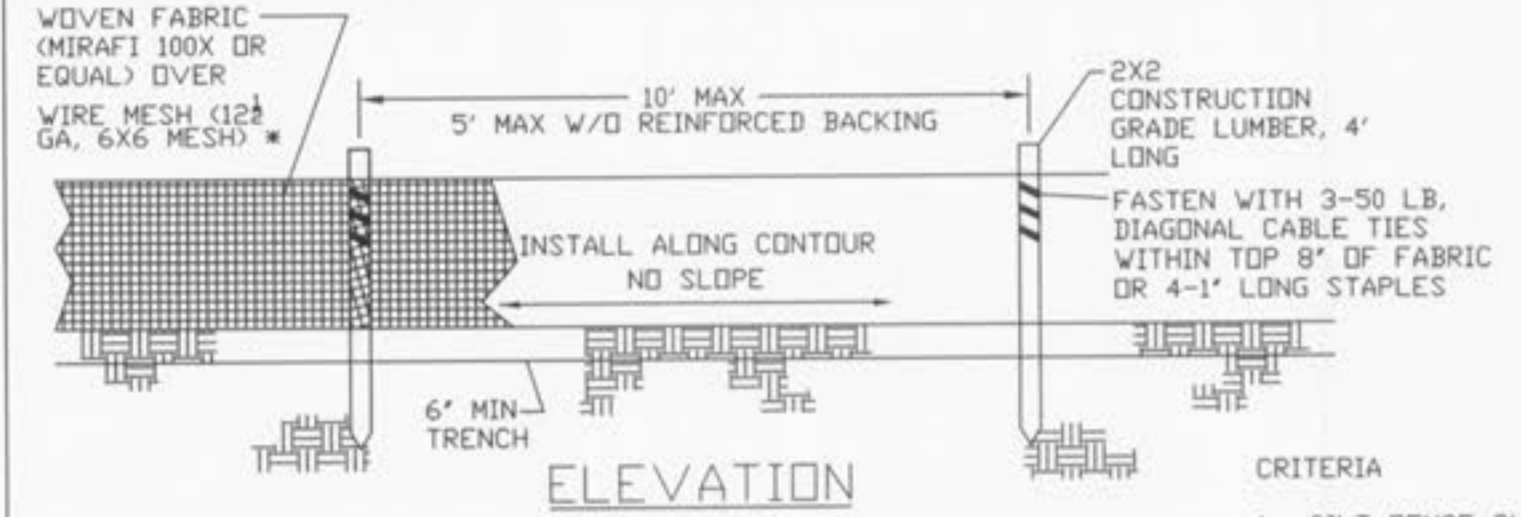


DESIGN CRITERIA

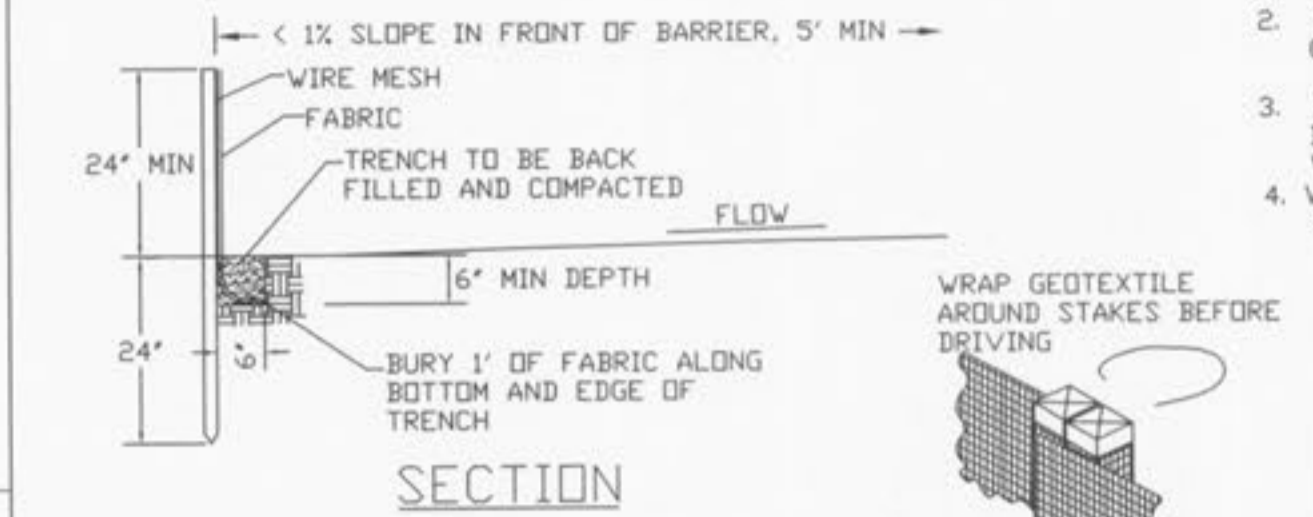
1. SILT FENCE FOR SHEET FLOW SHALL HAVE A MAXIMUM DRAINAGE AREA OF 1/4 ACRE PER 100 LF.
2. STRAW BALE BARRIERS FOR SHEET FLOW SHALL HAVE A MAXIMUM DRAINAGE AREA OF 1/4 ACRE PER 100 LF.
3. REFER TO INDIVIDUAL ESC FIGURE FOR INSTALLATION.
4. TERRACING INCLUDES LOGS, WATTLES & FILTER SOCKS.

SPACING CHART FOR ESC DEVICES

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ENGINEERING DEPARTMENT
OTTAWON, MISSOURI



ELEVATION



SECTION

JOINING SECTIONS OF SILT FENCE

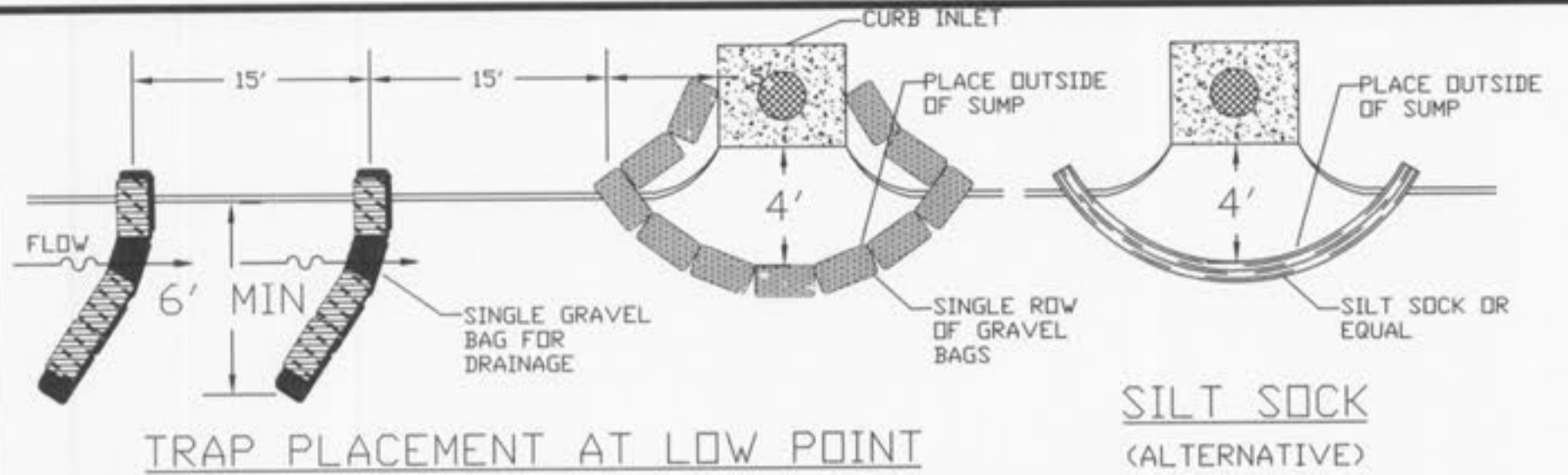
NOTE: IF FABRIC IS INSTALLED BY EQUIPMENT DESIGNED TO SLICE INTO THE GROUND, THE TRENCH IS NOT REQ'D.

CRITERIA

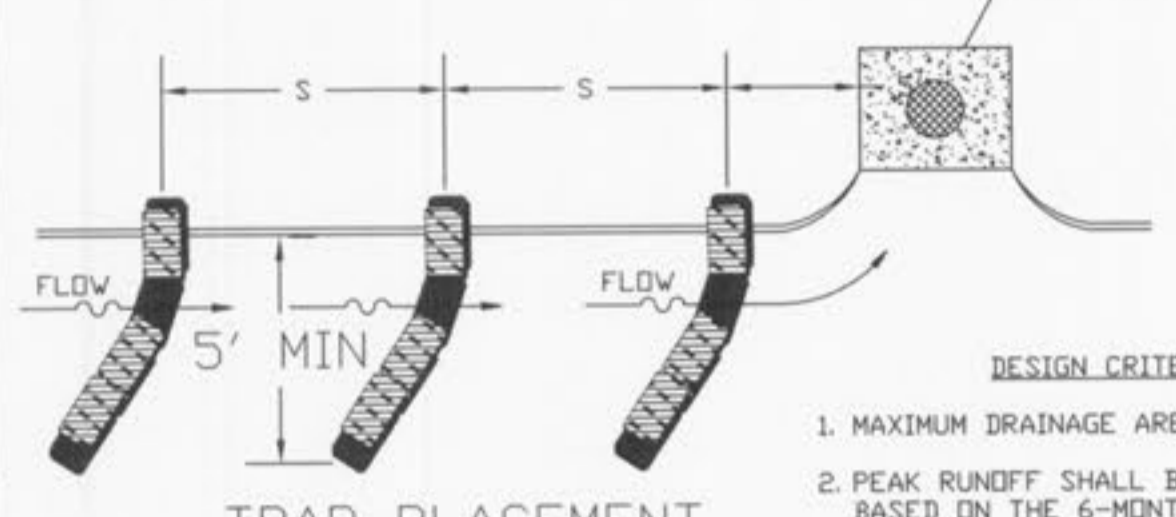
1. SILT FENCE SHALL BE 24 INCHES HIGH.
2. SILT FENCE SHALL NOT BE USED FOR CONCENTRATED FLOWS.
3. GEOSYNTHETIC REINFORCED SILT FENCE BACKING MAY BE USED IN LIEU OF WIRE MESH.
4. WIRE MESH WILL BE USED AT LOCATIONS SHOWN ON THE APPROVED SWPPP.

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SILT FENCE INSTALLATION SHEET FLOW (ONLY)



TRAP PLACEMENT AT LOW POINT



TRAP PLACEMENT AT INTERMEDIATE INLET

SILT SOCK (ALTERNATIVE)

SPACING OF TRAPS

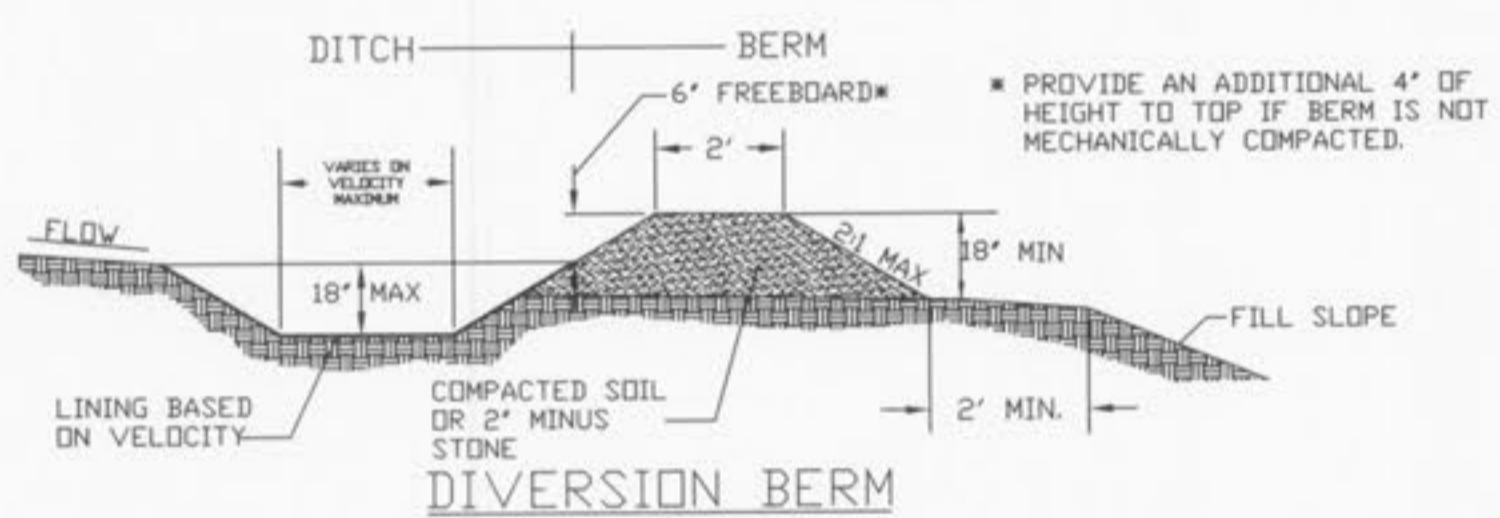
GUTTER SLOPE	S
LOW PT	15'
1%	20'
2%	15'
3% MAX.	10'

DESIGN CRITERIA

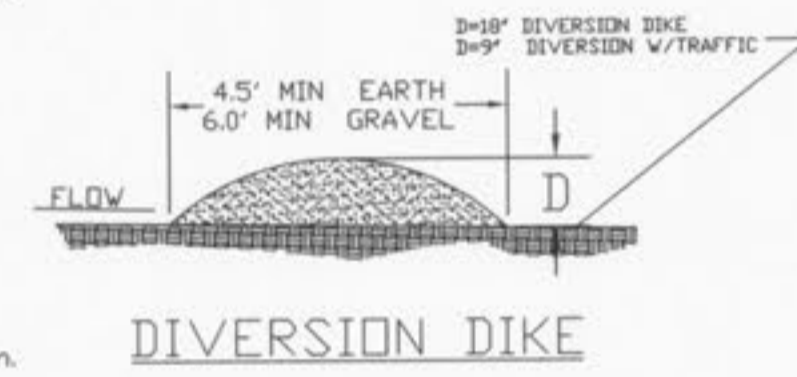
1. MAXIMUM DRAINAGE AREA - 1 ACRE.
2. PEAK RUNOFF SHALL BE ≤ 2 CFS BASED ON THE 6-MONTH STORM.
3. STACK GRAVEL BAGS DOUBLE HIGH. PROVIDE GAP FOR DRAINAGE.

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CURB INLET PROTECTION



DIVERSION BERM



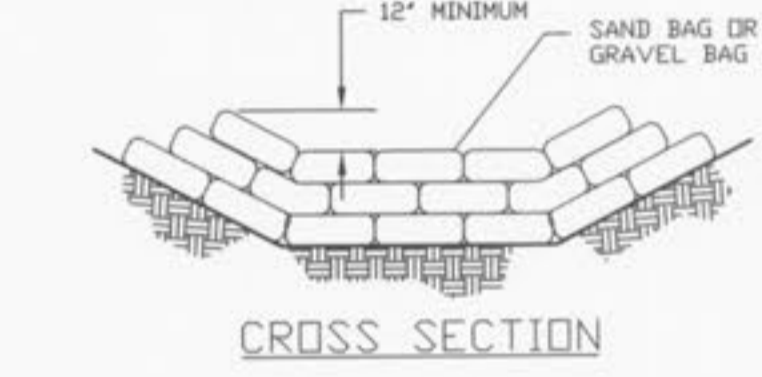
DIVERSION DIKE

DESIGN CRITERIA

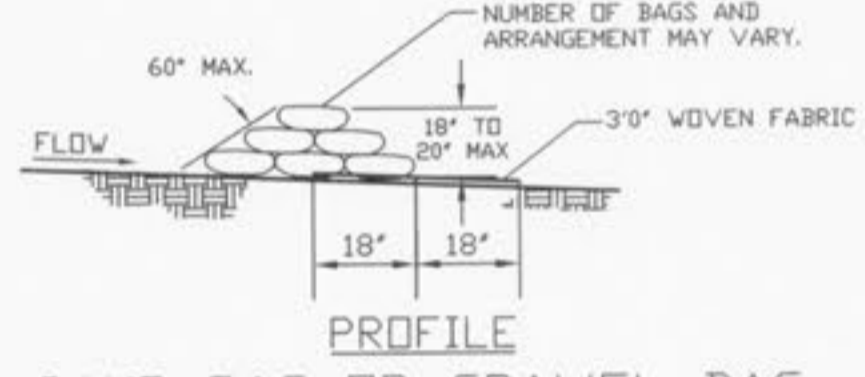
1. DIVERSIONS SHALL BE USED FOR DRAINAGE AREAS ≤ 3 ACRES.
2. DIVERSION CHANNELS SHALL BE DESIGNED TO CONVEY THE 6-MO STORM AT NON-EROSIVE VELOCITIES.
3. CRITICAL LOCATIONS SHALL BE DESIGNED FOR THE 15YR / 20MIN. STORM.
4. MAXIMUM CHANNEL SLOPE OF 3% WITHOUT CHECK DAMS.
5. SWALE SEDIMENT TRAPS ARE TO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

DIVERSION BERMS + DIKES

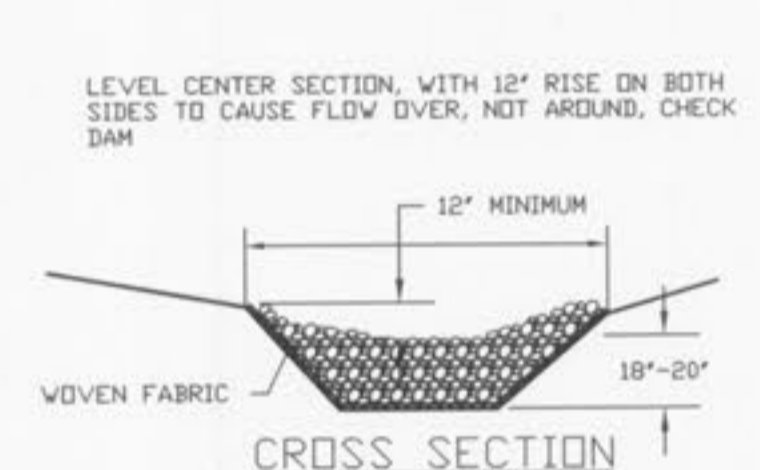
CITY OF OTTAWON
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OTTAWON, MISSOURI



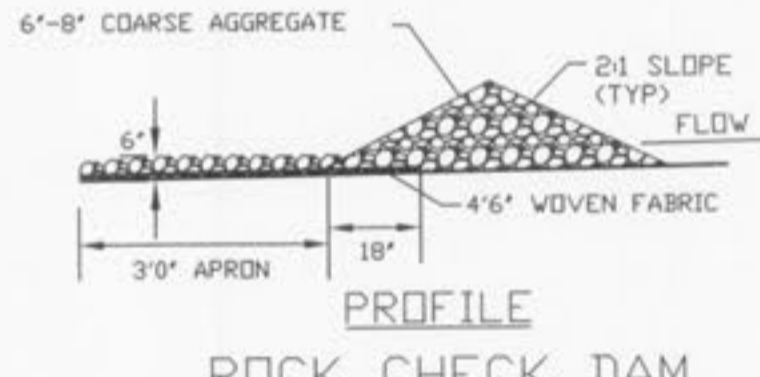
CROSS SECTION



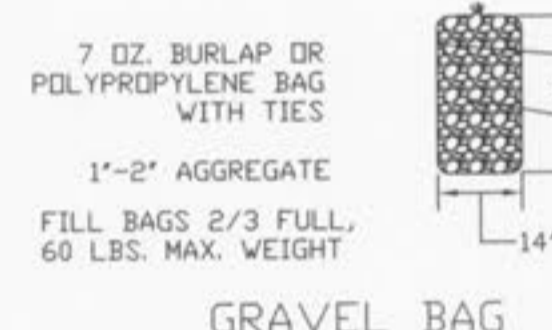
PROFILE SAND BAG OR GRAVEL BAG CHECK DAM



CROSS SECTION



PROFILE ROCK CHECK DAM

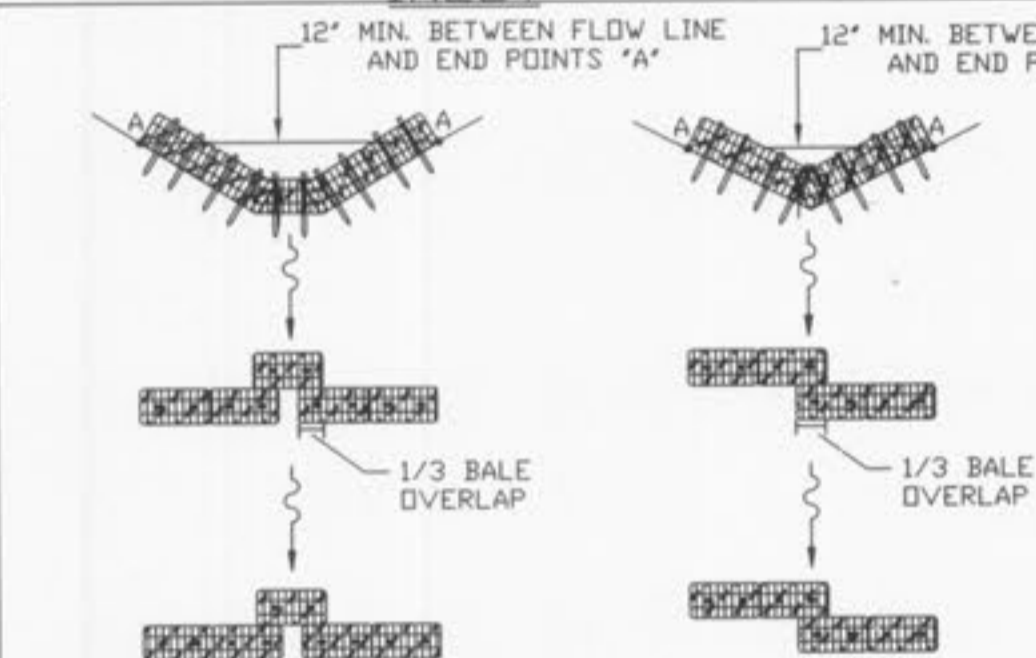


GRAVEL BAG

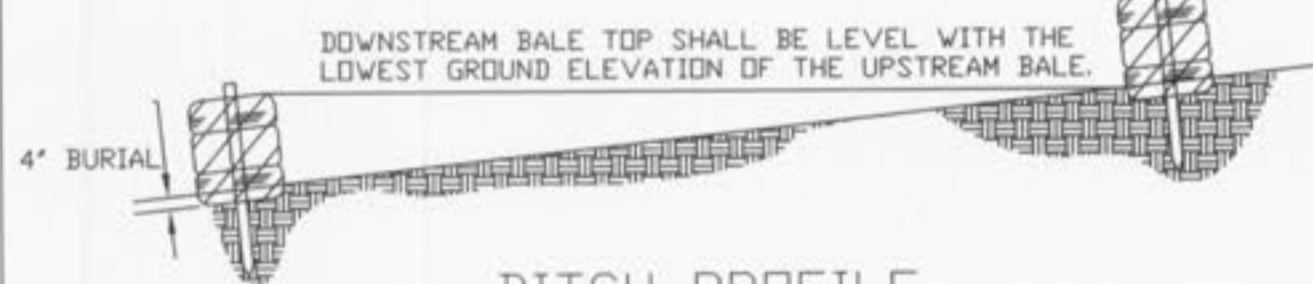
NOTE: CHECK DAMS MAY BE CONSTRUCTED OF SEVERAL ESC CHECK DAM PRODUCTS.

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CHECK DAMS



TRAPEZOIDAL DITCH V-DITCH



DITCH PROFILE

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

CHECK DAM SPACING

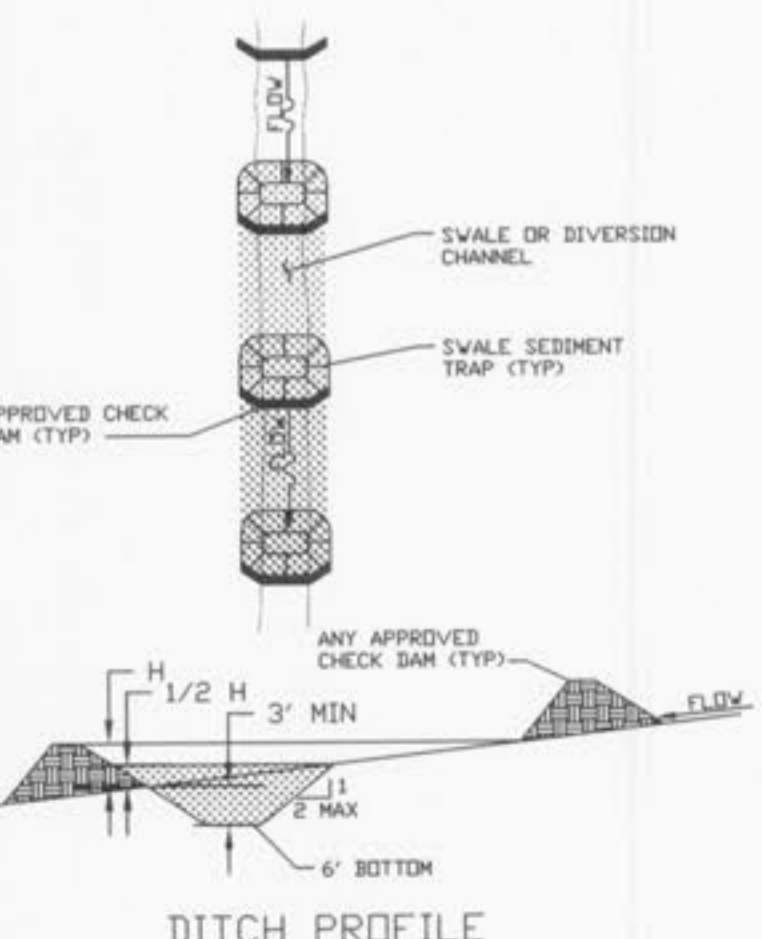
Ditch Slope	Maximum Spacing
3%	50'
2%	75'

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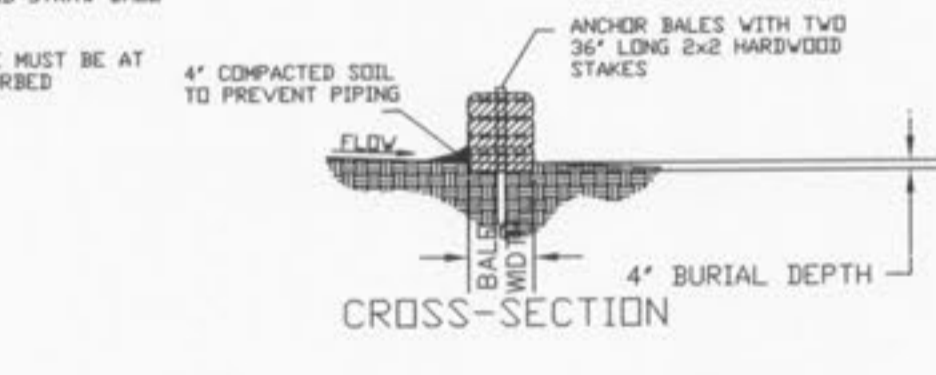
STRAW BALE CHECK DAM

CRITERIA

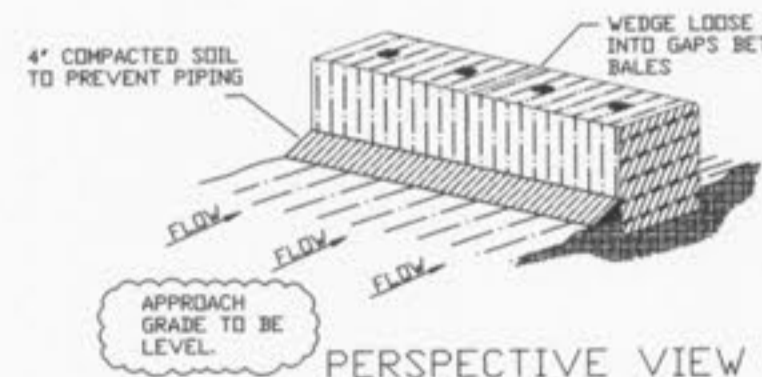
1. EXCAVATE TRENCH THE WIDTH OF THE BALE AT LEAST 4 INCHES DEEP AND LONG ENOUGH THAT THE END BALES ARE SOMEWHAT UPSLOPE.
2. REFER TO STRAW BALE CHECK DAM DETAIL FOR SPACING AND STRAW BALE USES AS DITCH CHECKS.
3. UPSLOPE FACE OF BALE MUST BE AT LEAST 2' FROM A DISTURBED EMBANKMENT.



DITCH PROFILE



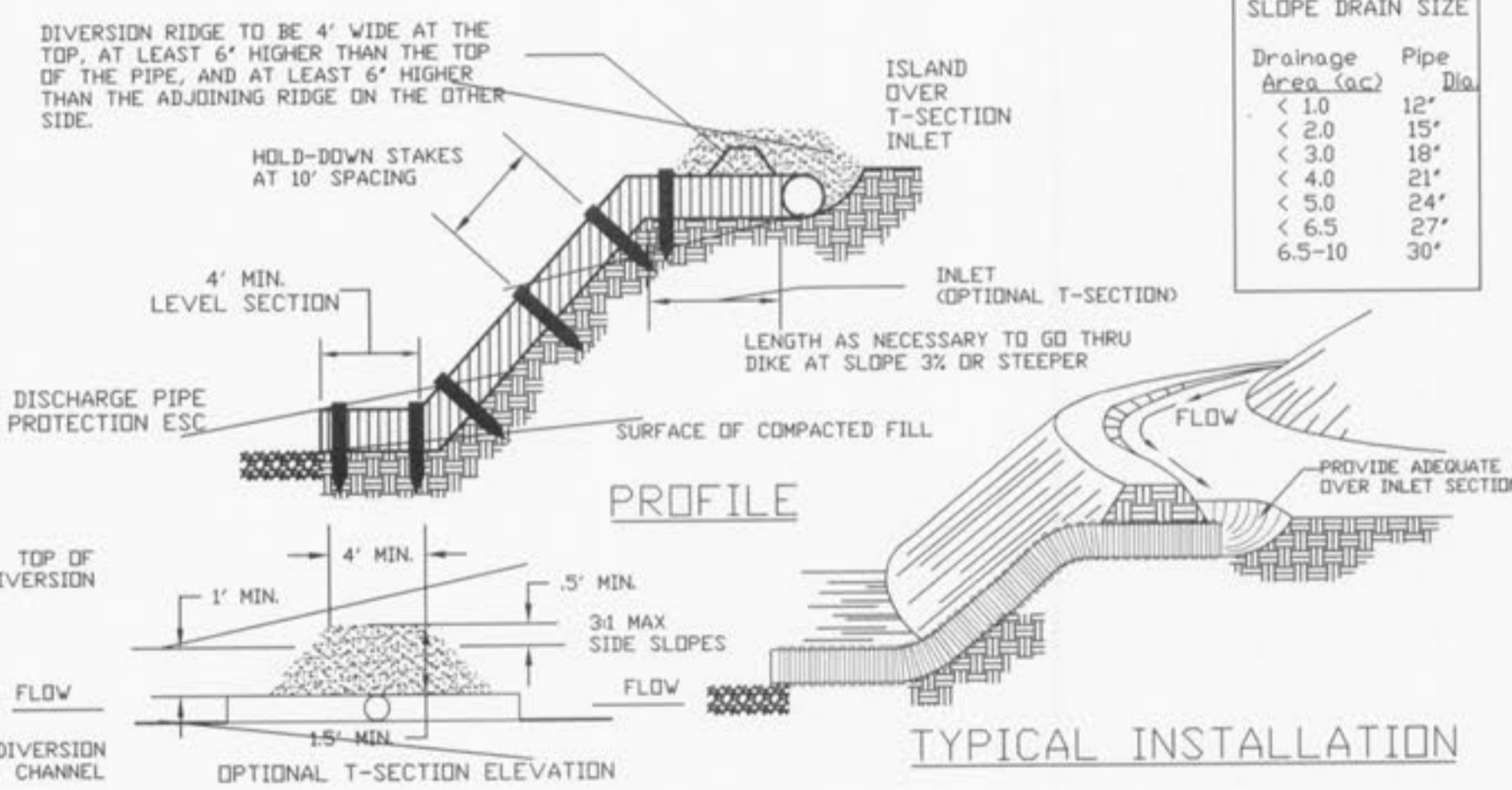
CROSS-SECTION



PERSPECTIVE VIEW

CITY OF OTTAWON
ENGINEERING DEPARTMENT
OTTAWON, MISSOURI

SWALE SEDIMENT TRAP STRAW BALE BARRIER INSTALLATION



TYPICAL INSTALLATION

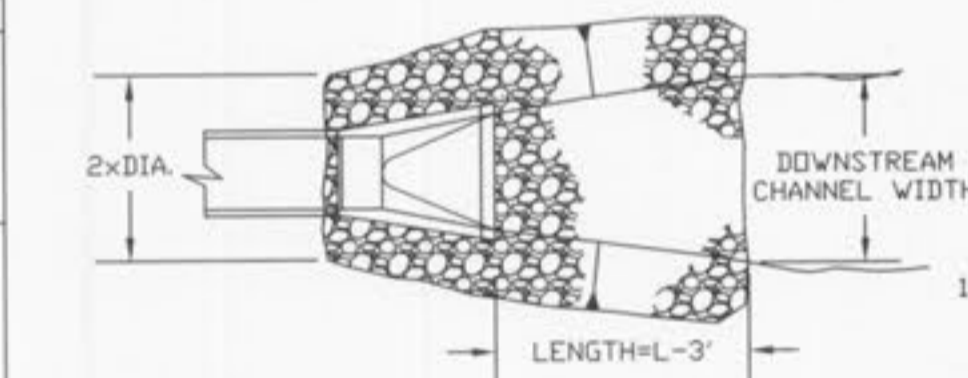
- NOTE:
1. PIPE CAN BE CMP, PVC, FLEXIBLE TUBING, OR SIMILAR.
 2. THIS METHOD MUST BE USED IN CONJUNCTION WITH OTHER ESC DEVICES. THIS IS NOT A STAND ALONE CONTROL DEVICE.

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TEMPORARY SLOPE DRAIN

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"

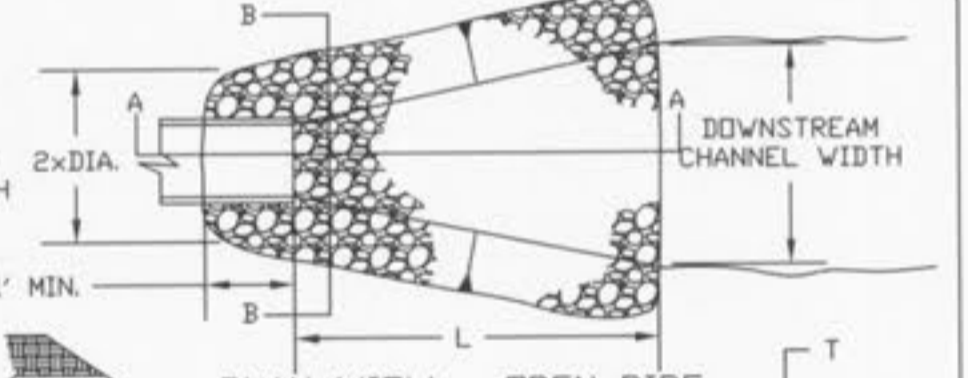


PLAN VIEW W/FLARED END SECTION

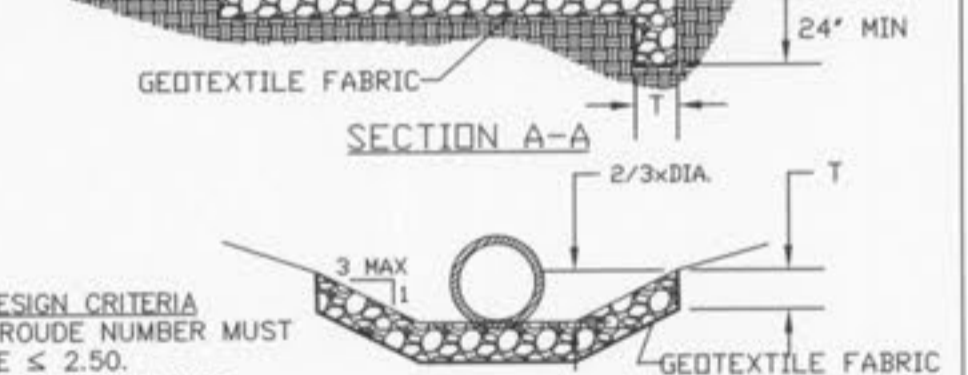
RIPRAP SIZE & APRON DIMENSION

PIPE SIZE (inch)	VELOCITY < 5 FPS				VELOCITY < 10 FPS			
	ROCK SIZE (inch)	APRON DIM (inch)	ROCK SIZE (inch)	APRON DIM (inch)	ROCK SIZE (inch)	APRON DIM (inch)	ROCK SIZE (inch)	APRON DIM (inch)
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	9	14	24	22	12	18	27	26
48-54	9	14	24	26	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

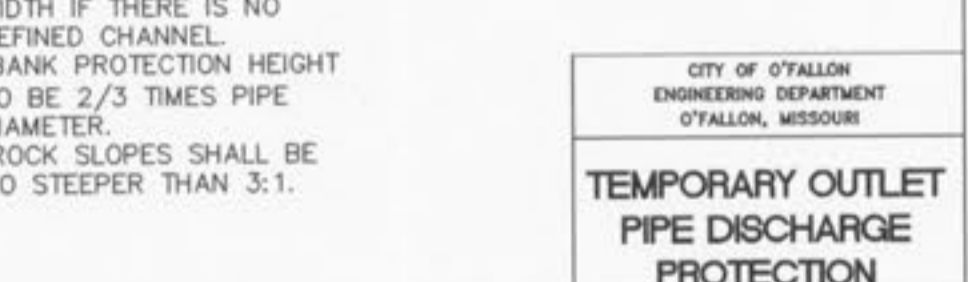
dia - NOMINAL DIAMETER
chax - MAXIMUM DIAMETER
T - THICKNESS
L - LENGTH



PLAN VIEW - OPEN PIPE



SECTION A-A



SECTION B-B

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

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TEMPORARY OUTLET PIPE DISCHARGE PROTECTION

- △ CITY APPROVAL 02/01/11
- △ CITY COMMENTS 01/26/11
- △ CITY COMMENTS 01/13/11

THE CROSSING AT RIVERSIDE CENTRE CITY SWPPP DETAILS

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e-mail: general@stockassoc.com
Web: www.stockassoc.com

02/01/11
GEORGE M. STOCK
REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI
E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

DRAWN BY: P.R.G.	DATE: 12/21/10	CHECKED BY: G.M.S.	DATE: 12/21/10	JOB NUMBER: 210-4626	SHEET: C6
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