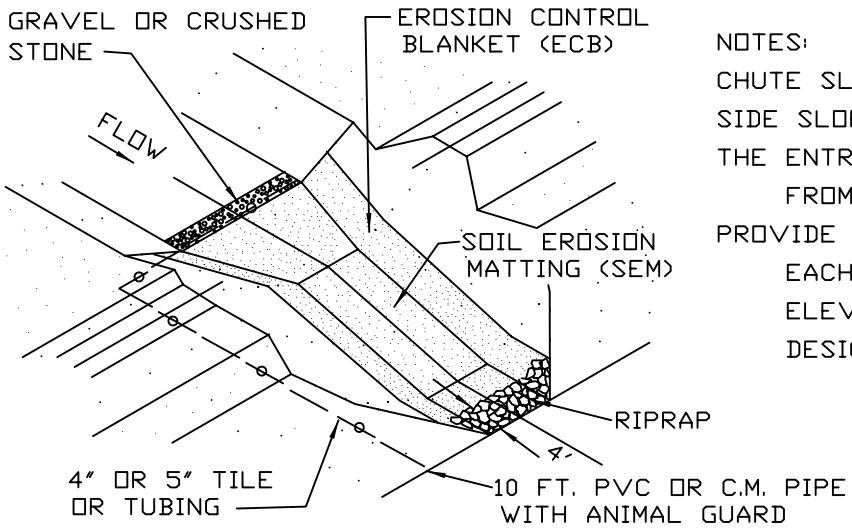


VEGETATED OVERFALL STRUCTURE

NOTES:

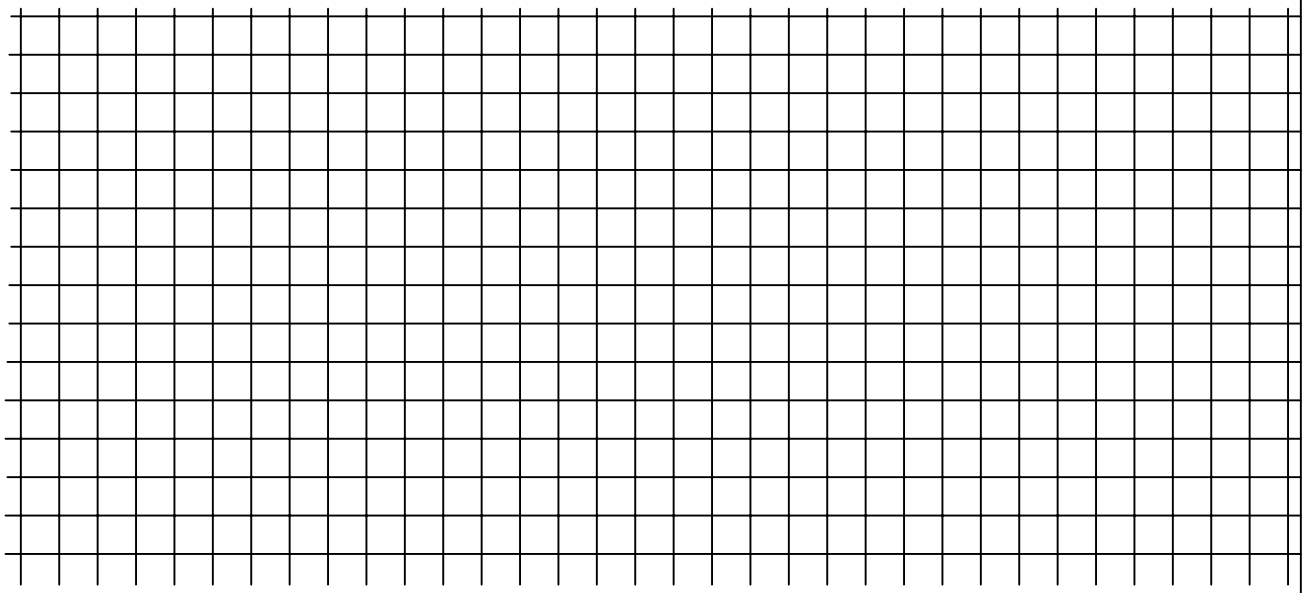
CHUTE SLOPE "S" NOT STEEPER THAN 5:1.

SIDE SLOPES "Z" NOT STEEPER THAN 2:1.

THE ENTRANCE APRON WIDTH WILL VARY FROM "b_e" _____ TO "b" _____.

PROVIDE AN EMERGENCY SPILLWAY, ONE ON EACH SIDE IF FEASIBLE, WITH CREST ELEVATION ABOVE APPROACH CHANNEL DESIGN FLOW DEPTH.

ELEVATIONS



PROFILE ALONG CENTERLINE OF CHUTE
(SHOW SOIL BORINGS)

ESTIMATE OF QUANTITIES

CLEARING	_____	ACRES
EXCAVATION	_____	CU. YDS.
TILE OR TUBING, ___" DIAM.	_____	LIN. FT.
TILE OUTLET PIPE - _____ ___" DIAM. WITH COUPLER AND ANIMAL GUARD	10	LIN. FT.
GRAVEL OR STONE DRAIN	_____	TONS
RIPRAP - d_{50} = ___"	_____	TONS
SOIL EROSION MATTING	_____	ROLLS
EROSION CONTROL BLANKET	_____	ROLLS
STAPLES OR STAKES	_____	BOXES
REVEGETATION	_____	ACRES

COOPERATOR _____

_____ COUNTY SWCD, INDIANA

LOCATION _____

REINFORCED VEGETATED CHUTE
(SHEET 1 OF 4)

U. S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

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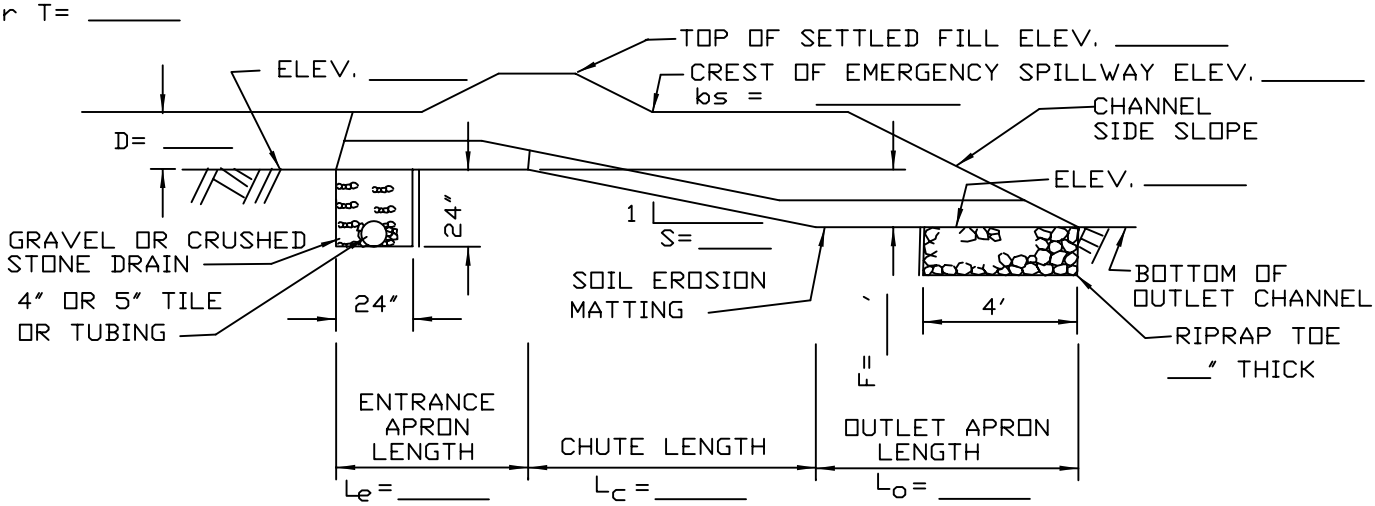
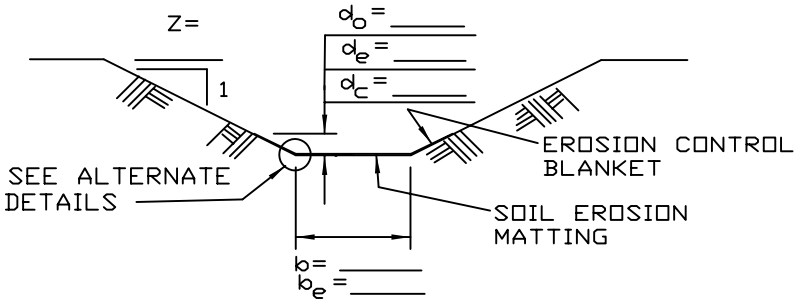
GRASSED WATERWAY
GRADE= _____%
bw= _____
or T= _____



SECTION ON CENTERLINE



TYPICAL CROSS SECTION

LEGEND

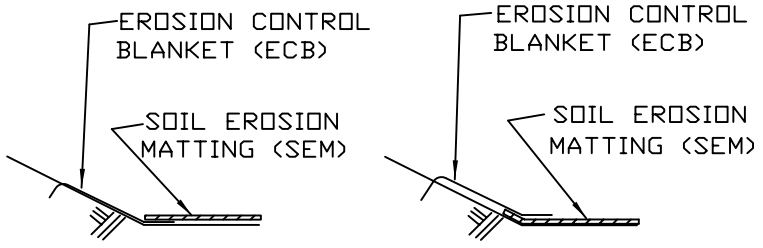
F — CONTROLLED DROP
b — BOTTOM WIDTH OF CHUTE
b_e — WIDTH AT ENTRANCE UPSTREAM
d_e — ENTRANCE APRON DEPTH
d_c — CHUTE DEPTH
d_o — OUTLET DEPTH
SEM — SOIL EROSION MATTING
ECB — EROSION CONTROL BLANKET

APPROACH CHANNEL

bw — BOTTOM WIDTH
T — TOP WIDTH
D — FLOW DEPTH

EMERGENCY SPILLWAY

bs — BOTTOM WIDTH



ALTERNATE DETAILS

COOPERATOR _____
_____ COUNTY SWCD, INDIANA
LOCATION _____

REINFORCED VEGETATED CHUTE
(SHEET 2 OF 4)

U. S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION DATA

LAYOUT BY _____ DATE _____
CONTRACTOR _____ COMPLETED DATE _____

PRACTICE (DOES)(DOES NOT) MEET STANDARDS AND SPECIFICATIONS
CHECKED BY _____ DATE _____

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GENERAL

1. Construction operations shall be carried out in such a manner and sequence that erosion and air and water pollution will be minimized and held within acceptable limits. Construction methods that enhance wildlife habitat will be used where practical.

2. The completed job shall present an appearance of good workmanship and shall conform to the lines, grades, and elevations shown on the drawings or as staked in the field.

3. All operations shall be carried out in a safe and skillful manner. Safety and health regulations shall be observed and appropriate safety measures used.

SITE PREPARATION

1. All trees, stumps, brush, and similar materials are to be removed from the construction area and disposed of in a manner consistent with environmental concerns and proper functioning of the structure.

2. Excavate and/or place compacted fill to finished grade of required section and slope. Compacted fill shall be denser than adjacent undisturbed material. Finished grade should be free of any clods, clumps, rocks or depressions that would prevent the soil erosion matting (SEM) or erosion control blanket (ECB) from lying flush to the surface.

3. To the extent needed, all suitable materials removed from the specified excavation shall be used in the construction of the earth fill areas of the structure. All spoil deposited in the area adjacent to the structure shall have a positive grade to drain toward the structure.

4. Place drain tile outside chute area, including outlet pipe section with animal guard. Leave upstream end of drain tile or tubing exposed for later attachment or placement in trench.

VEGETATIVE ESTABLISHMENT

1. Prepare a seedbed.

2. Excess water shall be directed away until vegetation is established, if possible. Any protective works shall be removed and the disturbed areas shall be seeded for permanent grass.

3. Apply lime to raise the ph to _____ at rate of _____ tons per acre.

4. Fertilize according to soil tests or at a minimum rate of 500 pounds of 12-12-12 fertilizer (or its equivalent) per acre.

5. Work the fertilizer and lime into the soil to a depth of 2 - 3 inches with a harrow or disk. Seeding will be done at the following rates:

Seed:_____Rate: _____lbs./acre
_____Rate: _____lbs./acre

6. When construction is performed between May 11 and August 9, a temporary cover crop should be established using the following seeding:

Seed: _____Rate: _____lbs./acre

7. Dormant seeding may be done between December 10 and February 28. Liming, fertilizing, seedbed preparation and mulching may be done ahead of the dormant seeding, with the seed being broadcast on top of the mulch.

8. On disturbed areas not covered with soil erosion matting (SEM) or erosion control blanket (ECB) apply mulch at the rate of _____ tons of straw per acre or use erosion control blanket (ECB).

MAINTENANCE RECOMMENDATIONS:

A maintenance program shall be established by the land user to maintain capacity and vegetative cover. Items to consider are as follows:

1-Do not graze seeded areas during establishment and when soil conditions are to wet.

2- Protect structure from damage by farm equipment and vehicles.

3-Maintain structure inlet and outlet areas free of any obstructions.

4-Repair structure as soon as possible after damage is noted.

5- Reestablish vegetative cover immediately where erosion has removed established seeding.

6-Maintain effective erosion control of the contributing watershed to prevent siltation and the resulting loss of capacity.

COOPERATOR _____
_____ COUNTY SWCD, INDIANA
LOCATION _____
_____

REINFORCED
VEGETATED CHUTE
(SHEET 3 OF 4)
SPECIFICATIONS

U. S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

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PLACE SEM & ECB

1. Materials

Soil Erosion Matting (SEM) -

A flexible, non-woven, geotextile fabric made from randomly oriented polymer monofilaments thermally welded together into a three-dimensional matrix or porous web and specifically designed for erosion control and earth reinforcement applications. Acceptable materials include, but are not limited to, "ENKAMAT" as manufactured b Akzo Industrial Systems Company, "TENSAR MAT" as manufactured by The Tensar Corporation, "EROLIAN 2010" as distributed by Hydro-Turf & Associates, and "GREENSTREAK PEC-MAT" as manufactured by Greenstreak Plastic Products Company, Inc.

Erosion Control Blanket (ECB)

A flexible non-structural, interwoven layer of biogradable material (straw, excelsior, etc.) or photodegradable material (such as nylon fibers) sewn to or between photodegradable netting, designed to reduce rainfall impact, reduce soil loss, increase moisture retention, and enhance grass plant growth. Acceptable materials include, but not limited to, "EROSION CONTROL BLANKETS" as manufactured by North American Green, "CURLEX BLANKETS" as manufactured by American Excelsior Company, and "ERO-MAT" as distributed by Contech Construction Products, Inc. The specific style or type must be selected to fit the site conditions.

2. Cut trenches for gravel drain on upstream end and riprap toe at downstream end. Cut slots to anchor SEM and CEB in accordance with manufacturer's recommendations.

3. Place SEM in bottom of chute, including entrance and outlet aprons. Extend SEM into trenches for gravel drain and riprap toe. Place ECB on side slopes to at least 6 inches higher than design depth of flow. Overlap adjacent strips of SEM and ECB and stake in accordance with manufacturer's recommendation's. Fill slots with compacted earth fill and complete installation of SEM and ECB.

4. Extend perforated drain tile or tubing in trench across inlet and place gravel or stone drain around drain tile or tubing.

5. Install riprap toe in trench at outlet.

RIPRAP GRADATION

d_{50} = _____ inches

SIZE	% PASSING BY WEIGHT
_____	100%
_____	_____
_____	_____
_____	_____
_____	_____

MOISTURE CONTROL

The minimum moisture content of the fill material and foundation shall be such that when kneaded in the hand the fill material will form a ball which does not readily separate. The maximum moisture content is when conditions are to wet for efficient use of the hauling and compacting equipment.

CONSTRUCTION TOLERANCES

Depth at centerline: Grade to 0.1 foot below
Width: 10% wider not to exceed 1.0 foot
Top of levee: Grade or above.
Side slopes: +0.1 ft./ft.

FINISH AND CLEANUP

The structure area and the designated spoil areas will be finished in a relatively smooth condition ready for seeding. All rocks 3 inches in diameter or larger and roots shall be removed from the surface areas.

COOPERATOR _____
_____ COUNTY SWCD, INDIANA
LOCATION _____
_____

REINFORCED
VEGETATED CHUTE
(SHEET 4 OF 4)
SPECIFICATIONS - CONTINUED

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