

Landowner \_\_\_\_\_

Stream \_\_\_\_\_

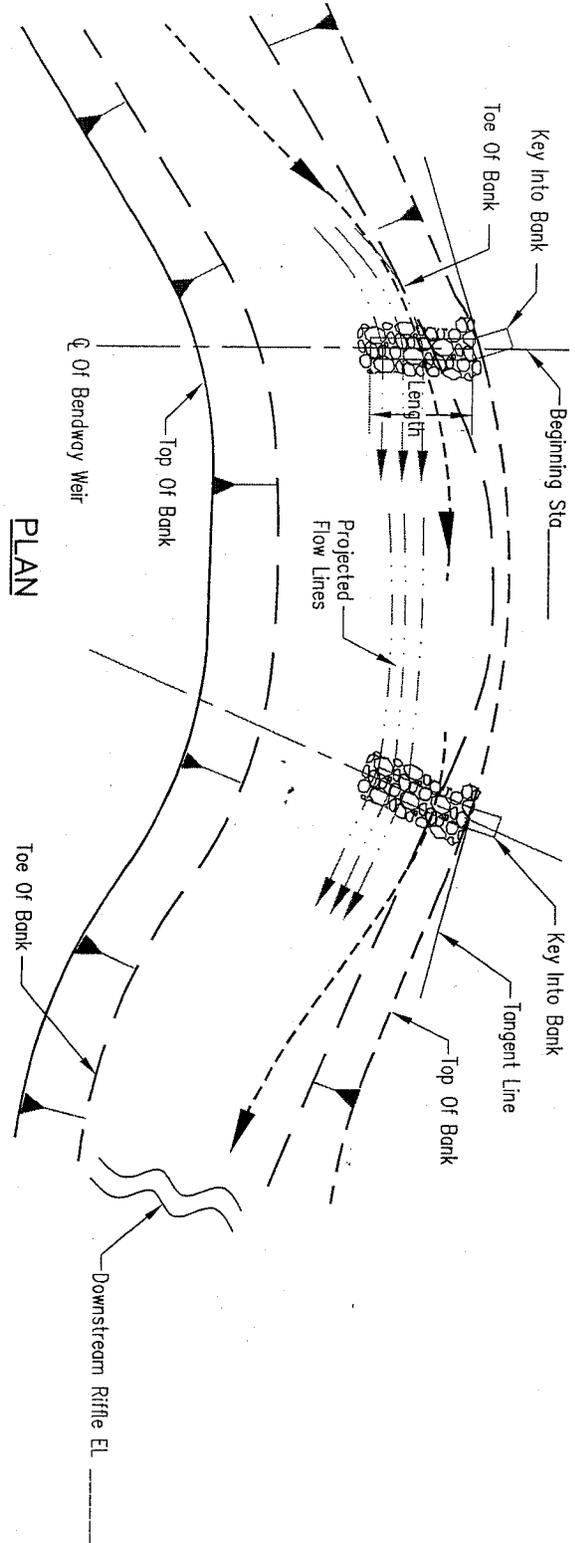
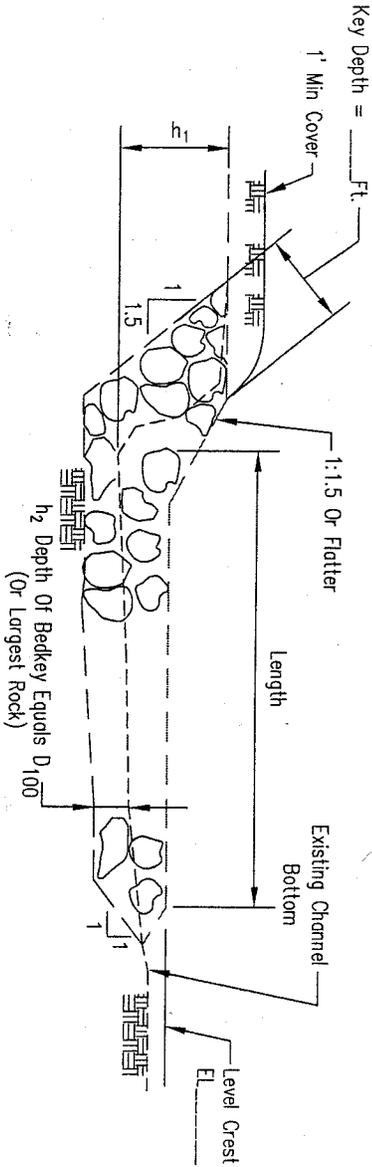
Location \_\_\_\_\_

NOT TO SCALE

Sheet 1 of 2

Benchmark El. \_\_\_\_\_  
 Description \_\_\_\_\_  
 Beginning Sta. Description \_\_\_\_\_

**TYPICAL PROFILE, CENTERLINE OF BENDWAY WEIR**



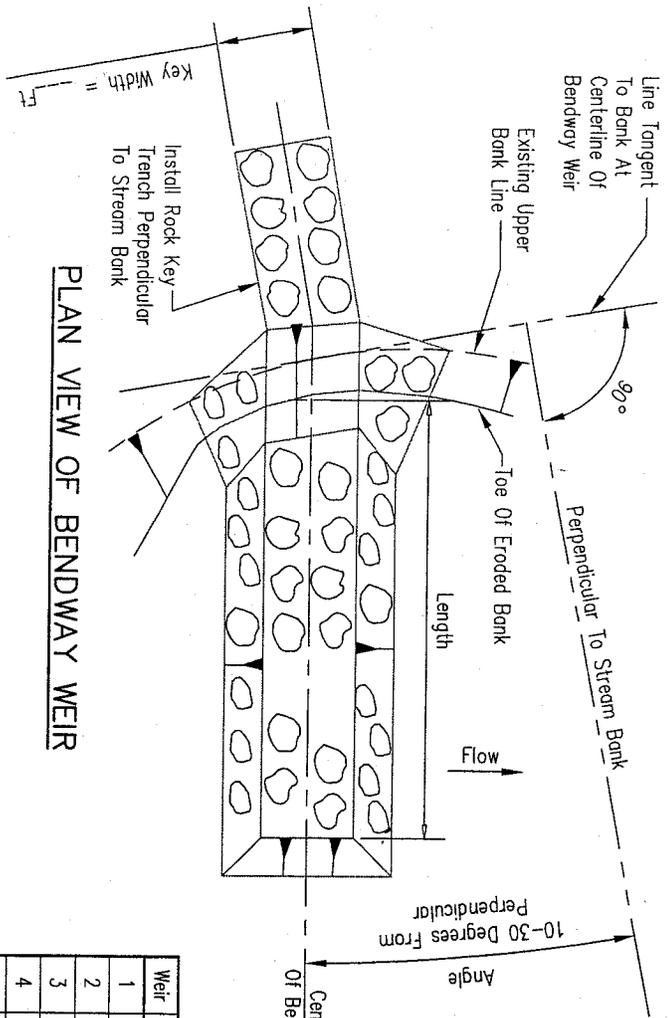
FOR INFORMATION ONLY.



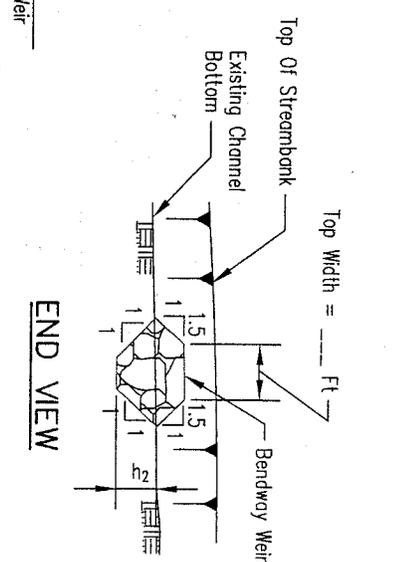
Natural Resources Conservation Service  
 United States Department of Agriculture

**BENDWAY WEIRS**

Date	
Designed _____	11/02
Drawn N. QUINONES	
Checked _____	
Approved _____	



PLAN VIEW OF BENDWAY WEIR



END VIEW

- Notes:
1. Azimuth is the compass reading from magnetic north along the centerline of weir.
  2. \*Bank-left side or right side.

Weir	*Bank	Sta	Length	Crest Elev.	$h_1$	$h_2$	Angle	Azim	Tons
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

REFERENCE TABLE

IDOT CLASS	$h_2$ (ft)	$D_{50}$ (in.)
A-4	1.3	7.4
A-5	1.7	9.8
A-6	2.0	12.1
A-7	2.5	14.6

Landowner

Stream

Location

Total Stone  
IDOT Riprap Class

NOT TO SCALE



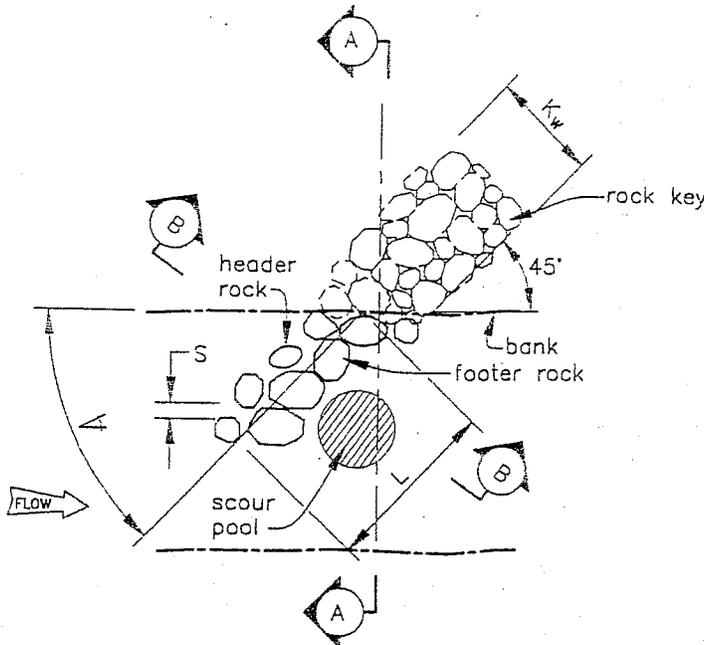
Natural Resources Conservation Service  
United States Department of Agriculture

BENDWAY WEIRS

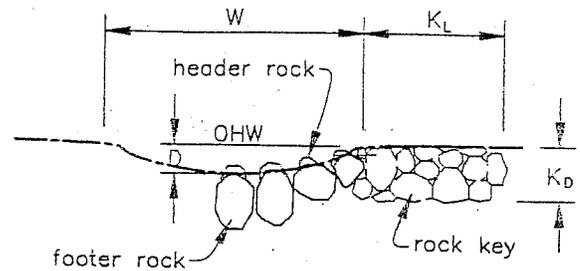
Date	
Designed _____	11/02
Drawn M. QUINONES	
Checked _____	
Approved _____	

File No. IL-ENG-151B  
Drawing No.

ROCK VANE



PLAN VIEW

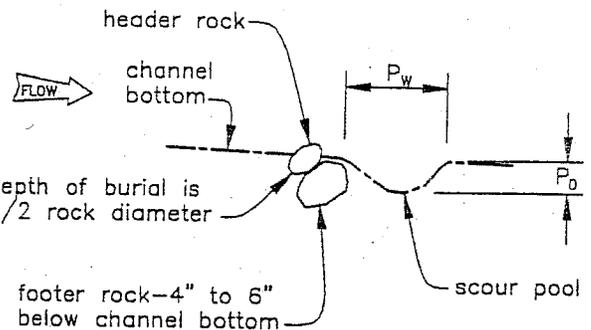


Note: Scour pool is not shown in this view.

SECTION (A)

GENERAL NOTES

1. Vane will extend into the channel a total of 1/3 of the bank full width flow and will be angled from the streambank between 20° to 30°.
2. The top of the vane shall have a slope between 4" to 7".
3. This standard drawing requires supporting technical documentation prior to use and must be adapted to the specific site.



SECTION (B)

DIMENSIONS

- $\angle$  = \_\_\_\_\_ (deg)
- L = \_\_\_\_\_ (ft)
- W = \_\_\_\_\_ (ft)
- D = \_\_\_\_\_ (ft)
- $K_L$  = \_\_\_\_\_ (ft)
- $K_W$  = \_\_\_\_\_ (ft)
- $K_D$  = \_\_\_\_\_ (ft)
- S = \_\_\_\_\_ (ft)
- $P_W$  = \_\_\_\_\_ (ft)
- $P_D$  = \_\_\_\_\_ (ft)

ROCK KEY GRADATION

- $D_{100}$  = \_\_\_\_\_ min (in) \_\_\_\_\_ max (in)
- $D_{75}$  = \_\_\_\_\_ min (in) \_\_\_\_\_ max (in)
- $D_{50}$  = \_\_\_\_\_ min (in) \_\_\_\_\_ max (in)
- $D_{min}$  = \_\_\_\_\_ min (in) \_\_\_\_\_ max (in)

VORTEX WEIR ROCK DIAMETER

HEADER ROCK:

- Dia = \_\_\_\_\_ min (in) \_\_\_\_\_ max (in)

FOOTER ROCK:

- Dia = \_\_\_\_\_ min (in) \_\_\_\_\_ max (in)

drawing not to scale

JOB CLASS	Date
CAD FILE NO. BIO-0060.DWG	Designed _____
SHEET OF	Drawn _____
	Checked _____
	Approved _____

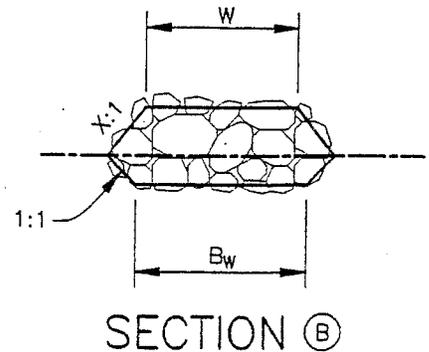
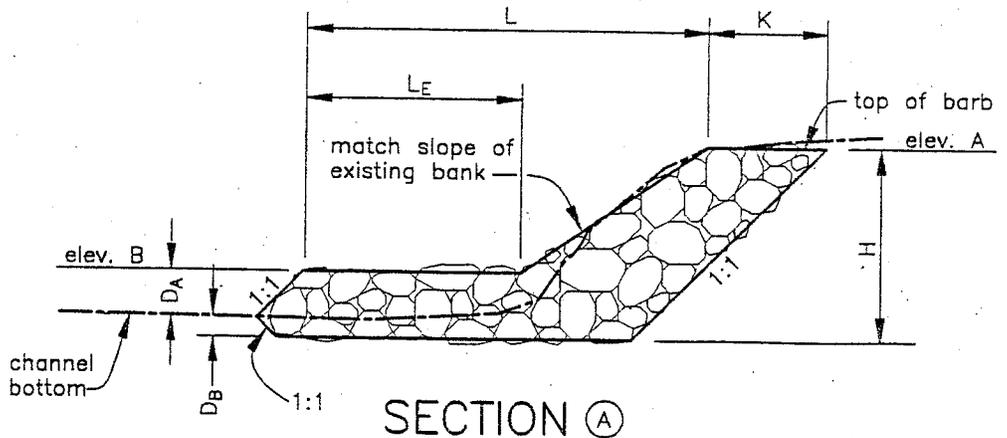
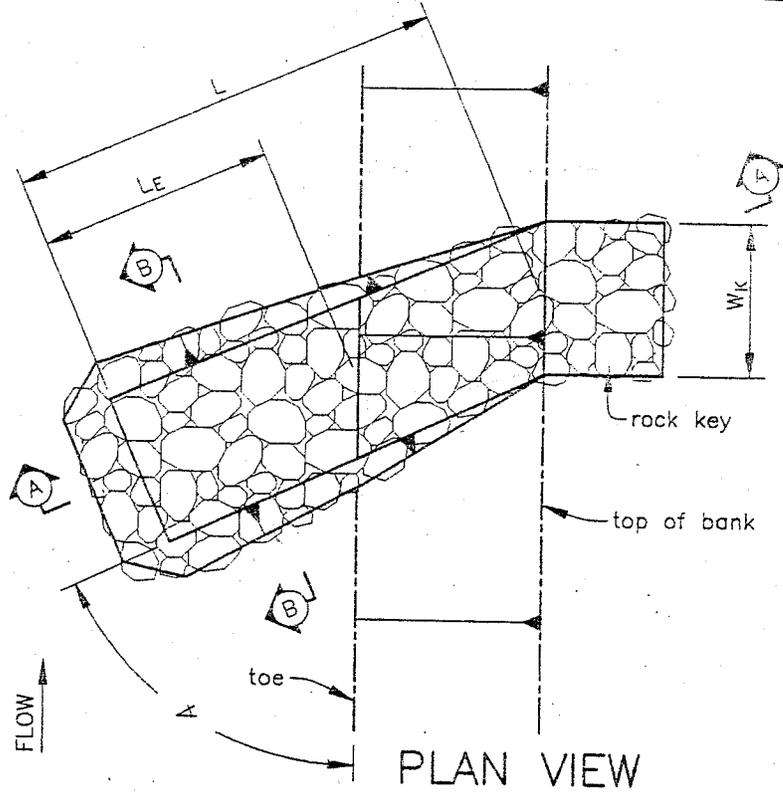
# ROCK WEIR

ROCK GRADATION

$D_{100}$  = \_\_\_\_\_ min (in) \_\_\_\_\_ max (in)  
 $D_{75}$  = \_\_\_\_\_ min (in) \_\_\_\_\_ max (in)  
 $D_{50}$  = \_\_\_\_\_ min (in) \_\_\_\_\_ max (in)  
 $D_{min}$  = \_\_\_\_\_ min (in) \_\_\_\_\_ max (in)

DIMENSIONS

$\angle$  = \_\_\_\_\_ (deg)  
 $L$  = \_\_\_\_\_ (ft)  
 $L_E$  = \_\_\_\_\_ (ft)  
 $K$  (key) = \_\_\_\_\_ (ft)  
 $W_K$  = \_\_\_\_\_ (ft)  
 $W$  = \_\_\_\_\_ (ft)  
 $B_W$  = \_\_\_\_\_ (ft)  
 $H$  = \_\_\_\_\_ (ft)  
 $D_A$  = \_\_\_\_\_ (ft)  
 $D_B$  = \_\_\_\_\_ (ft)  
 $X$  = \_\_\_\_\_  
 elev. A = \_\_\_\_\_  
 elev. B = \_\_\_\_\_



GENERAL NOTES

1. This standard drawing requires supporting technical documentation prior to use and must be adapted to the specific site.

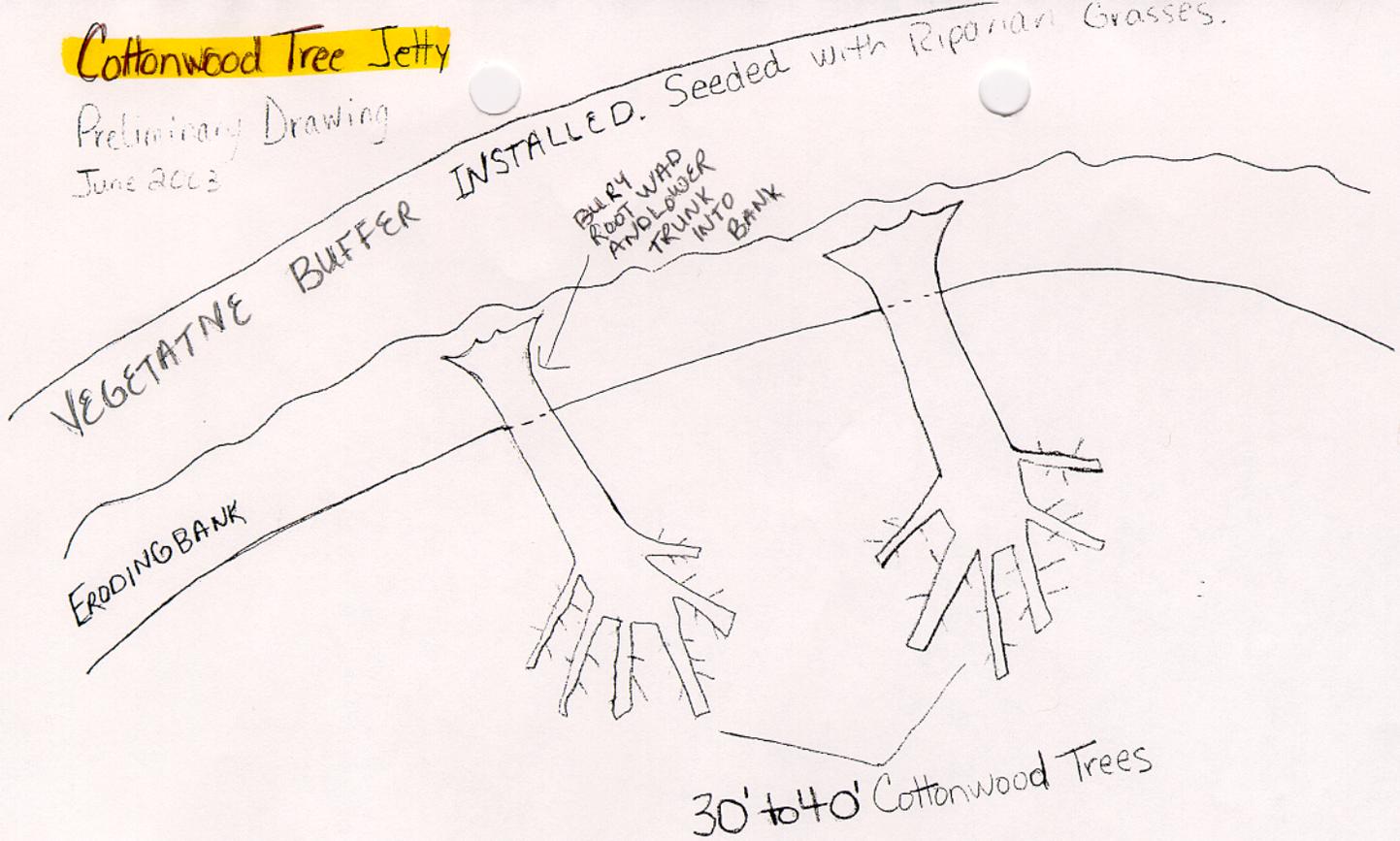
drawing not to scale

JOB CLASS	Date
CAD FILE NO. BIO-0010.DWG	Designed _____
SHEET OF	Drawn _____
	Checked _____
	Approved _____

# Cottonwood Tree Jetty

Preliminary Drawing

June 2003

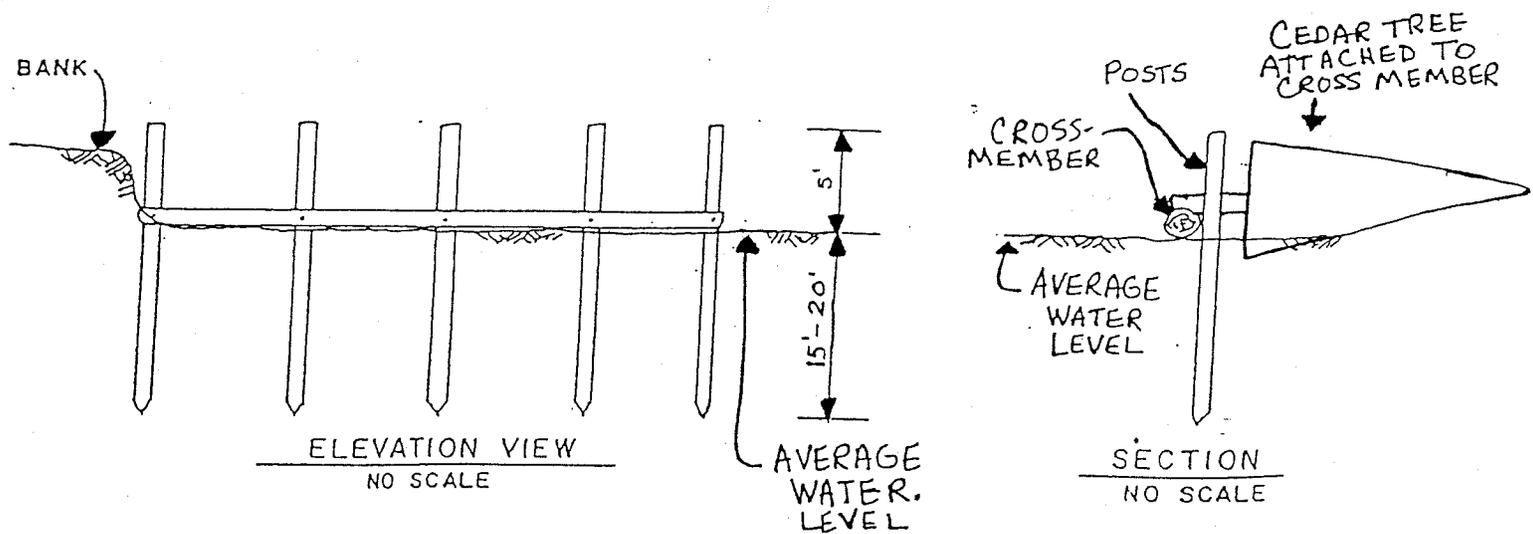


DRAWING NOT SITE SPECIFIC

## TREE JETTIES

- 1) Spacing for tree jetties will be 50 to 100 feet, depending on the curvature of the banks to be protected.
- 2) Rootwads and lower trunks will be buried 12 to 15 feet into the stream bank.
- 3) Desirable trees are 30 to 40 feet in length.
- 4) Tree retards will not extend over 1/3 of channel width.
- 5) A minimum 35 foot (measured from the streams edge) vegetative buffer is required to be planted along the project area. The buffer will consist of riparian grasses and shrubs.

# WOODEN JETTIES



*For Information.  
Not Site Specific.*

## Wooden Jetties

1. Wooden Jetties will not extend over 1/3 of channel cross section.
2. Wooden Jetties should be constructed with posts 6 to 15 inch diameter and approximately 20 to 25 feet in length
3. Posts should be installed uniformly in depth with no more than five feet exposed.
4. Spacing of posts should be no more than 10 feet between posts.
5. The first post should be installed into the streambank.
6. Spacing between jetties should be 50 to 150 feet depending on bank height and tightness of meander.
7. The cross member should be securely attached to the posts on the upstream side with heavy gauge wire. The cross member should be placed one foot above average water level.
8. Enough trees should be used to fill the space between the first and last posts. The base of the trees should be attached to the wooden jetties cross member with the top of the tree pointing downstream.