



# Montana Fish, Wildlife & Parks

February 25, 2000

1420 East 6th Ave.  
P.O. Box 200701  
Helena, MT 59620-0701

Environmental Quality Council  
Montana Department of Environmental Quality  
Montana Department of Fish, Wildlife and Parks  
Fisheries Division  
Endangered Species Coordinator  
Nongame Coordinator  
Bozeman Office

Montana State Library, Helena  
MT Environmental Information Center  
Montana Audubon Council  
Madison County Conservation District  
U.S. Army Corp of Engineers, Helena  
U.S. Fish and Wildlife Service, Helena  
State Historic Preservation Office, Helena  
Ms. Julie Sacks, NRCS, 3 Whitetail Road, Whitehall, MT 59759-9635  
Mr. Dave Maichel, P.O. Box 154, Harrison, MT 59735

Ladies and Gentlemen:

Please find enclosed an Environmental Assessment prepared for a Future Fisheries Project tentatively planned to restore a 1.25 mile reach of South Willow Creek by stabilizing eroding stream banks and by protecting the riparian corridor from livestock over-grazing with riparian fencing. This proposed project is on property owned by the Maichel Ranch located approximately 0.5 miles south of the town of Harrison in Madison County.

Please submit any comments that you have by 5 P.M., March 27, 2000 to the Department of Fish, Wildlife and Parks in Helena at the address listed above. Completion of this project is contingent upon approval being granted by the Fish, Wildlife and Parks Commission. If you have any questions, feel free to contact me at (406) 444-2432.

Sincerely,

Mark Lere, Program Officer  
Habitat Protection Bureau  
Fisheries Division

## ENVIRONMENTAL ASSESSMENT

Fisheries Division

Montana Fish, Wildlife and Parks

### South Willow Creek Channel Restoration and Fish Habitat Improvement Project

General Purpose: The 1995 Montana Legislature enacted statute 87-1-272 through 273 which directs the Department to administer a Future Fisheries Improvement Program. The program involves physical projects to restore degraded fish habitat in rivers and lakes for the purposes of improving wild fisheries. The legislature established an earmarked funding account to help accomplish this goal. This project is being proposed on a 1.25 mile reach of South Willow Creek to stabilize eroding stream banks utilizing bio-engineering techniques and to protect the riparian corridor from over-grazing through the installation of riparian fencing. The intent of this project is to decrease bank erosion and to enhance and protect the riparian vegetative community. The project, involving oversight by personnel from the Natural Resources and Conservation Service is on property owned by the Maichel Ranch located approximately 0.5 miles south of the town of Harrison in Madison County (Figure 1).

I. Location of Project: This project will be conducted on South Willow Creek, a tributary to Harrison Reservoir. The project area is located approximately 0.5 miles south of the town of Harrison within Township 2 South, Range 2 West, Section 1 in Madison County.

II. Need for the Project: Department Goal C indicates that a Fisheries Division objective is to "provide and support programs to conserve and enhance high quality aquatic habitat and protect native aquatic species." The Future Fisheries Improvement Program is a tool to help achieve that objective.

South Willow Creek been degraded in the past by livestock over-grazing within the riparian corridor and by improper banks stabilization efforts. These activities have resulted in reduced erosion resistance, accelerated bank erosion, increased sediment loads and associated adjustments in the dimension, pattern and profile of the channel (primarily over-widening). Ongoing channel adjustments have resulted the loss of fish and wildlife habitat and a decline in water quality.

III. Scope of the Project:

The proposal calls for stabilizing eroding stream banks on approximately 1.25 miles of South Willow Creek utilizing bio-engineering techniques and installing riparian fencing to protect the riparian corridor from livestock over-grazing (Figures 2, 3 and 4). On stream banks exhibiting major erosion problems, proposed work primarily would involve the installation of tree revetments and rootwads, sloping of vertical banks, re-vegetation with seed and the planting of riparian shrubs and trees. On stream banks exhibiting minor erosion problems, proposed work primarily would involve the sloping of vertical banks, re-vegetation with seed and the planting of riparian shrubs and trees. A total of 17 sites, primarily involving outside meander bends, have been identified as displaying minor to major erosion problems. Overall, the project calls for the

installation of 800 feet of tree revetment and 370 rootwads. The project also calls for the planting of 2,000 riparian trees and shrubs and the live-staking of an additional 100 plants. In conjunction with bank stabilization and re-vegetation, the project also would involve the installation of 6,000 feet of riparian fencing. This fencing would tie into existing fencing and would act to exclude livestock from approximately 1.25 miles of riparian corridor, except for brief periods as called for in an approved grazing management plan. This project is expected to cost \$24,106.00. Of this total, the Future Fisheries Improvement Program would be contributing up to \$12,000.00. The remainder of the required funding would come from the landowner and the Natural Resource and Conservation Service's (NRCS) Environmental Quality Incentives Program.

#### IV. Environmental Impact Checklist:

Please see attached checklist.

#### V. Explanation of Impacts to the Physical Environment

##### 1. Terrestrial and aquatic life and habitats.

Stabilizing eroding stream banks and restoring the riparian vegetative community is expected to create a more diverse and healthy habitat for aquatic life by reducing sediment loads and by enhancing overhead cover. Expected improvements in the aquatic habitat should enhance resident trout populations in the stream, as well as migrant spawners from Harrison Reservoir. Habitat for riparian dependent wildlife would also be improved by re-establishing a healthy riparian vegetative community through the creation of a livestock grazing exclosure along 1.25 miles of stream corridor.

##### 2. Water quantity, quality and distribution.

Short term increases in turbidity will occur during project construction. To minimize turbidity, construction will occur during a low flow period and operation of equipment in the stream channel will be minimized to the extent practicable. The Department of Environmental Quality will be contacted to determine narrative conditions required to meet short-term water quality standards and protect aquatic biota. A 310 permit will be obtained from the local Conservation District and the U.S. Army Corp of Engineers will be contacted for requirements needed to meet the federal Clean Water Act (404 permit). In the long term, stabilizing eroding stream banks and restoring the riparian vegetative community would act to reduce the sediment contribution to downstream areas, thereby improving the overall quality of downstream waters.

##### 3. Geology and soil quality, stability and moisture.

Soils in the project area would be disturbed during construction. However, disturbed soils would be stabilized following proposed bank work, re-vegetation efforts and the implementation of a livestock grazing exclosure along 1.25 miles of stream corridor.

4. Vegetation cover, quantity and quality.

Riparian vegetation and cover would be disturbed during the period of construction. However, proposed channel stabilization and re-vegetation efforts, in conjunction with implementing a livestock grazing enclosure and management plan, would result in an overall improvement to the riparian vegetative community.

5. Aesthetics.

Aesthetics would be enhanced by restoring an unstable reach of stream to a more healthy and natural stream environment. Aesthetics would be further enhanced by the restoration and protection of the riparian vegetative community and the removal of old car bodies used in past bank stabilization efforts.

9. Historic and archaeological sites

The proposed project may require an individual Army Corp of Engineers (COE) 404 permit. Therefore, the State Historic Preservation Office has been contacted to determine the need for compliance with the federal historic preservation regulations. The project will not begin until a cultural clearance is granted.

VI. Explanation of Impacts on the Human Environment.

7. Access to & quality of recreational activities.

It is anticipated that the restoration of 1.25 miles of South Willow Creek would improve overall aquatic habitat and, as a result, would enhance trout populations residing in the stream and may enhance spawning and recruitment of fish residing in Harrison Reservoir. Consequently, the recreational fishery in the stream, and possibly Harrison Reservoir, would be expected to be improved. This reach of South Willow Creek contains populations of rainbow trout, brown trout, brook trout and mountain whitefish. The landowner, with prior permission, currently allows public access for fishing.

VII. Discussion and Evaluation of Reasonable Alternatives.

1. No Action Alternative

If no action is taken, this segment of South Willow Creek will continue to be unstable. This ongoing instability will result in continued bank erosion, excessive sediment loading, channel down-cutting or aggradation and the loss of aquatic habitat. In addition, habitat for riparian dependent wildlife will remain in a degraded condition. Recreational opportunities associated with fish and wildlife resources will remain reduced and aesthetics will continue to be impaired.

2. The Proposed Alternative

The proposed alternative is designed to stabilize eroding stream banks along a 1.25 mile reach of South Willow Creek. Additionally, the project is designed to restore and protect the riparian vegetative community within this 1.25 mile corridor. The intent of the project is to stabilize eroding stream banks utilizing bio-engineering techniques; protect the riparian vegetative community with fencing; and enhance fish and wildlife habitat, aesthetics and water quality within the project area.

VIII. Environmental Assessment Conclusion Section

1. Is an EIS required? No.

We conclude from this review that the proposed activities will have a positive impact on the physical and human environment.

2. Level of public involvement.

The proposed project was reviewed and supported by the public review panel of the Future Fisheries Improvement Program. The proposed project also will be reviewed by the Fish, Wildlife and Parks Commission and will be contingent upon their approval. The Environmental Assessment (EA) is being distributed to all individuals and groups listed on the cover letter. The EA will be published on the Montana Electronic Bulletin Board.

3. Duration of comment period?

Public comment will be accepted through 5 P.M. on March 27, 2000.

4. Person responsible for preparing the EA.

Mark Lere, Program Officer  
Habitat Protection Bureau  
Fisheries Division  
Montana Department of Fish, Wildlife and Parks  
1420 East 6th Avenue  
Helena, MT 59620

Telephone: (406) 444-2432

**MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS**  
 1420 E 6th Ave, PO BOX 200701, Helena, MT 59620-0701  
 (406) 444-2535

**ENVIRONMENTAL ASSESSMENT**

Project Title South Willow Creek Channel Restoration and Fish Habitat Improvement Project

Division/Bureau Fisheries Division -Future Fisheries Improvement

Description of Project The project is being proposed on a 1.25 mile reach of South Willow Creek to stabilize eroding stream banks utilizing bio-engineering techniques. The proposed project also would restore and protect the riparian vegetative community through re-vegetation and the installation of fencing. The intent of this project is to provide for a greater diversity in fish habitat and to enhance and protect the riparian vegetative community. The project, involving the Maichel Ranch and oversight by personnel from NRCS, is located approximately 0.5 miles south of the town of Harrison in Madison County.

POTENTIAL IMPACT ON PHYSICAL ENVIRONMENT

	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Terrestrial & aquatic life and habitats		X				X
2. Water quality, quantity & distribution			X			X
3. Geology & soil quality, stability & moisture			X			X
4. Vegetation cover, quantity & quality		X				X
5. Aesthetics			X			X
6. Air quality				X		
7. Unique, endangered, fragile, or limited environmental resources				X		
8. Demands on environmental resources of land, water, air & energy				X		
9. Historical & archaeological sites				X		X

POTENTIAL IMPACTS ON THE HUMAN ENVIRONMENT

	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Social structures & mores				X		
2. Cultural uniqueness & diversity				X		
3. Local & state tax base & tax revenue				X		
4. Agricultural or industrial production				X		
5. Human health				X		
6. Quantity & distribution of community & personal income				X		
7. Access to & quality of recreational and wilderness activities			X			X
8. Quantity & distribution of employment				X		
9. Distribution & density of population & housing				X		
10. Demands for government services				X		
11. Industrial & commercial activity				X		
12. Demands for energy				X		
13. Locally adopted environmental plans & goals				X		
14. Transportation networks & traffic flows				X		

Other groups or agencies contacted or which may have overlapping jurisdiction Madison County Conservation District, NRCS, US Fish and Wildlife Service, US Army Corp of Engineers, Montana Department of Environmental Quality, State Historic Preservation Office

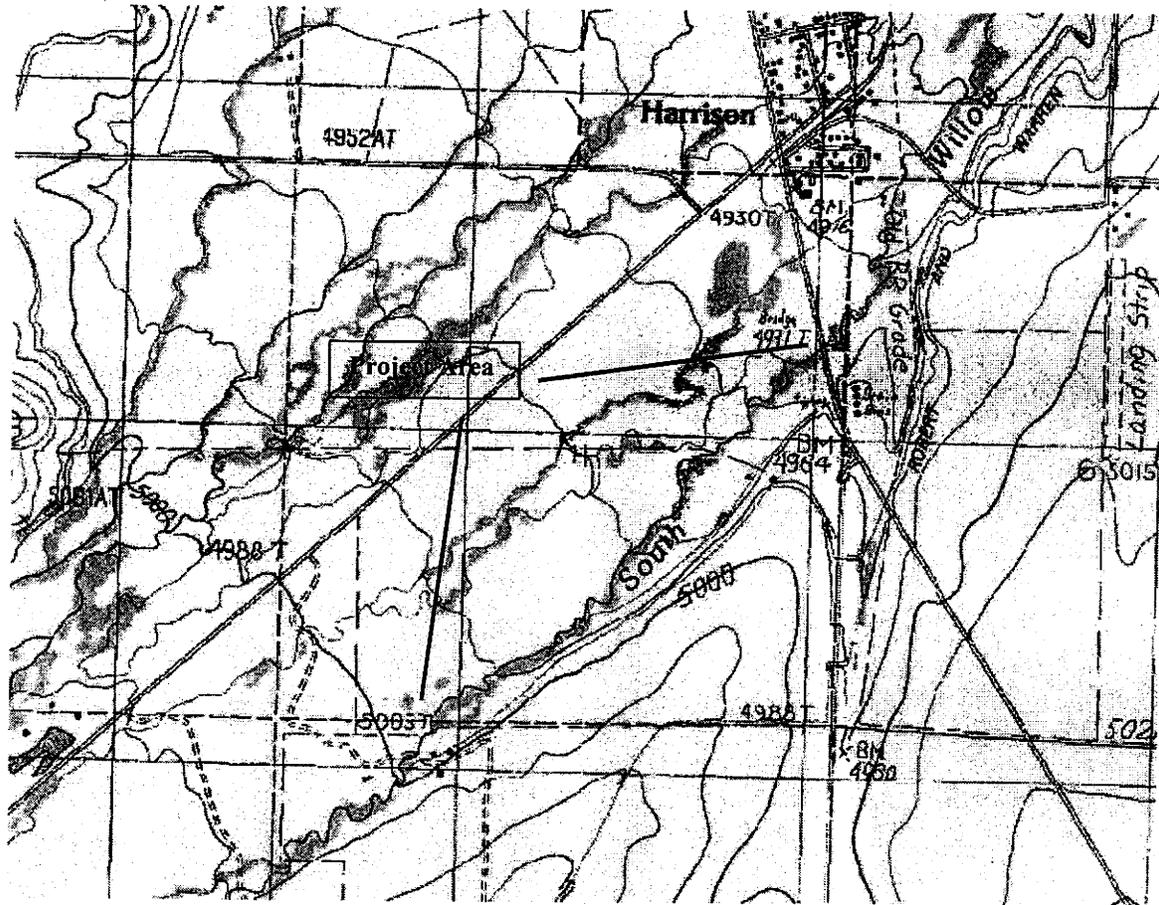
Individuals or groups contributing to this EA Ms. Julie Sacks and Mr. L. Ovitt, NRCS; Mr. Dave Maichel, Maichel Ranch

Recommendation concerning preparation of EIS No EIS required.

EA prepared by : Mark Lere

Date: February 14, 2000

Figure 1. Map Showing Location of Project Area.



STATE	MT	PROJECT			
BY	L. OVITT	DATE	CHECKED BY	DATE	JOB NO.
SUBJECT	TREE REVETMENT EXAMPLE				SHEET 1 OF 2

FOR MAJOR BANK RENOVATION AND STABILIZATION

\* NOT INTENDED  
AS FINAL  
DESIGN

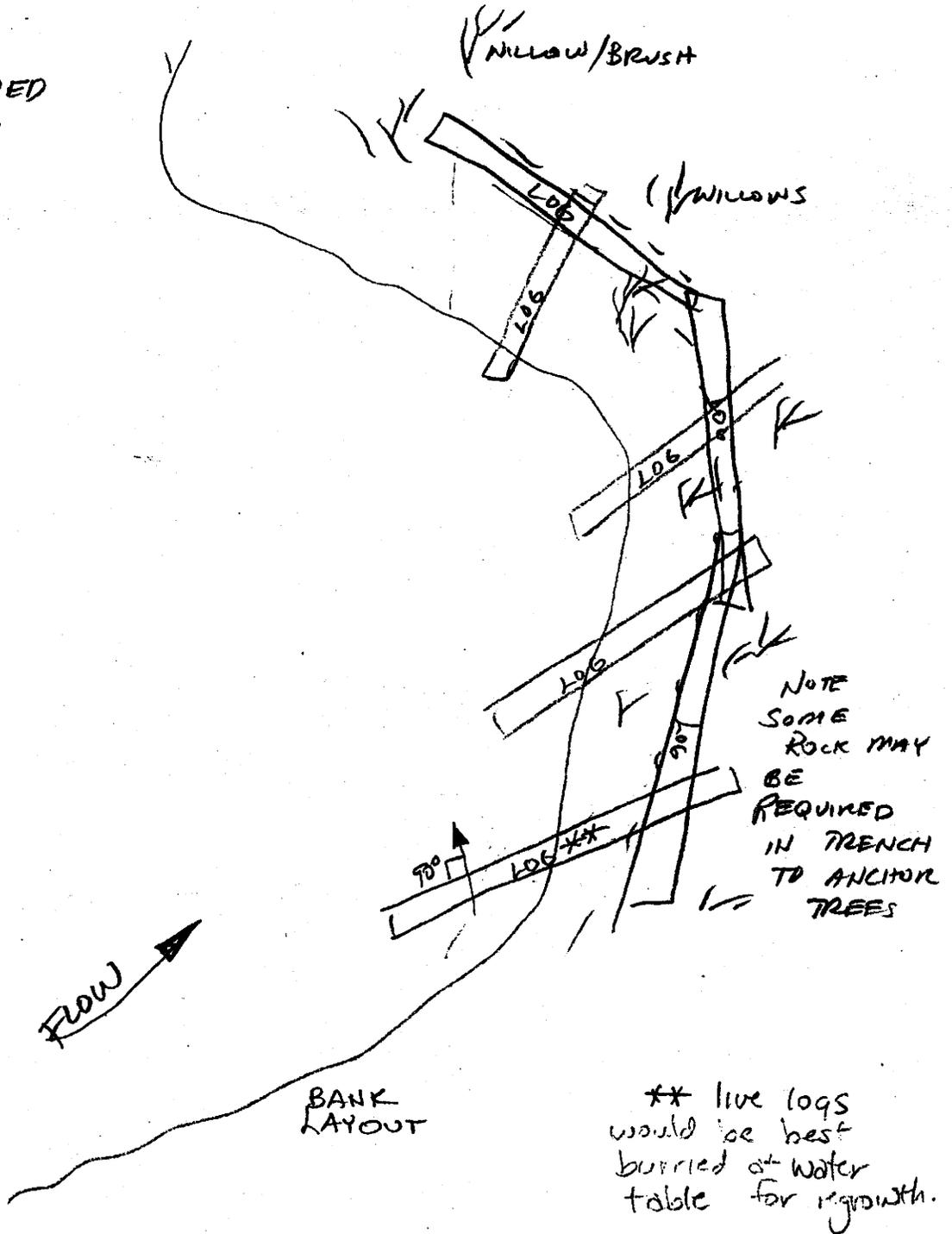
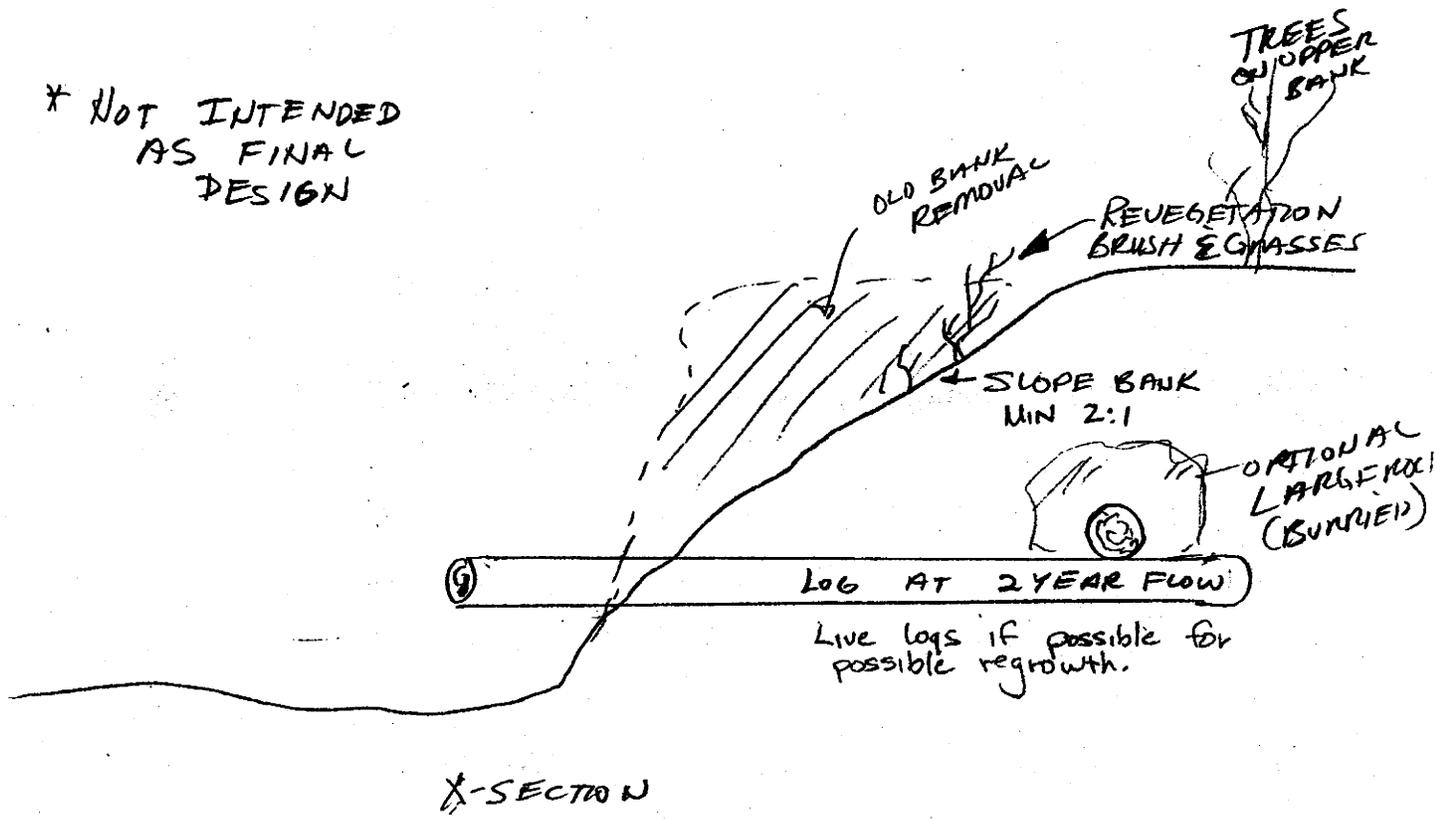


Figure 2. Preliminary Design for Installation of Tree Revetment (plan view).

STATE <b>MT</b>		PROJECT		
BY <b>L. OUVITT</b>	DATE	CHECKED BY	DATE	JOB NO.
SUBJECT <b>TREE REVETMENT EXAMPLE</b>				SHEET <b>2</b> OF <b>2</b>



ACTUAL DESIGN MAY VARY DEPENDING ON BANK STABILIZATION NEEDED AND STREAM FLOWS AT THIS POINT

Figure 3. Preliminary Design for Installation of Tree Revetment (cross-section view).

