Montana Department of Fish, Wildlife & Parks

April 29, 1996

1420 East Sixth Avenue
P.O. Box 200701
Helena, MT 59620-0701

Environmental Quality Council
Montana Historical Society, State Historical Preservation Office
Montana State Library
Jim Jensen, Montana Environmental Information Center
Big Blackfoot Chapter of Trout Unlimited
Janet Ellis, Montana Audubon Council
Powell County Conservation District
Montana Wildlife Federation
Fish, Wildlife and Parks
Missoula Headquarters
Fisheries Division
Resource Assessment - John Mundinger
Non-coordinator - Dennis Flath
George Ochenski
Environmental Protection Agency
Army Corps of Engineers
U.S. Fish and Wildlife Service

Dear Ladies and Gentlemen:

The enclosed Enviromental Assessment (EA) is submitted for your consideration. It was prepared for the proposed Future Fisheries Improvement project on Dry Creek (a tributary of the North Fork of the Blackfoot River). This project includes sloping streambanks, excavating instream pools, adding in-channel structures, riparian planting of grass and woody plant species and temporary riparian fencing.

Questions and comments will be accepted until 5 p.m., May 31, 1996. If you have questions, feel free to contact me at (406) 444-2432. All comments should be sent to the undersigned.

Thank you for your interest.

Sincerely,

Bruce J. Rehwinkel

Bruce J. Rehwinkel
Habitat Protection
Fisheries Division

Powell

DRY CREEK EA CHECKLIST

PART I. PROPOSED ACTION DESCRIPTION

1. Type of Proposed State Action Fish habitat and riparian restoration
2. Agency Authority for the Proposed Action Montana Fish, Wildlife and Parks
3. Name of Project Dry Creek Fish Restoration Project: State Lands Section

4. Name, Address and Phone Number of Project Sponsor (if other than the agency)
   Don Peters, Ron Pierce, 3201 Spurgin Rd. Missoula, MT. 59802 542-5506

5. If Applicable:

   Estimated Construction/Commencement Date September 1st 1996
   Estimated Completion Date October 1st 1996
   Current Status of Project Design (% complete) 100 %

6. Location Affected by Proposed Action (county, range and township)
   Powell County R10W T15N sec 24; stream mile 6.3-6.7

7. Project Size: Estimate the number of acres that would be directly affected that are currently:

   (a) Developed:
   residential...0 acres
   industrial....0 acres

   (b) Open Space/Woodlands/
   Recreation....0 acres

   (c) Wetlands/Riparian
   Areas.....0.5 acres

   (d) Floodplain...5 acres

   (e) Productive:
   irrigated cropland...0 acres
   dry cropland.....0 acres
   forestry.....0 acres
   rangeland.....0.5 acres
   other..... acres

8. Map/site plan: enclosed

9. Narrative Summary of the Proposed Action or Project including the Benefits and Purpose of the Proposed Action.

ENVIRONMENTAL ASSESSMENT: STATE LANDS SECTION
DRY\ROCK CREEK RIPARIAN HABITAT PROJECT

April 1996

Prepared by Don Peters and Ron Pierce
Montana Department of Fish, Wildlife and Parks

Dry Creek originates in Powell County on the Helena National Forest. It flows for approximately 12 miles in a westerly direction to it's confluence with Rock Creek. Rock Creek flows another approximately 1.3 miles to its confluence with the North Fork of the Blackfoot River. The project area covered under this Environmental Assessment is a 2,130 foot section of Montana State Lands property (stream mile 6.3-6.7) leased by Dave Mannix (see project location map).

The stream flows through a forested V-shaped valley in upper reaches. The middle and lower reaches flow through a nearly flat glacial outwash plain known as Klienschmidt Flats. The floodplain substrata are composed of outwash gravel and sands. Fine sediment accumulation was heavy in lower and middle reaches.

The successional stages of the riparian plant communities range from a pole dominated woodland in the early successional stages mixed with uneven aged ponderosa communities in the headwaters and middle reaches to grassland prairie in the lower reaches. Regeneration of woody species is very poor in middle and lower reaches.

A fish habitat inventory was completed on Dry Creek in 1994 by walking and photographing the riparian area. Riffles comprised the bulk of the stream surface area. Glides and pools comprised an estimated 10 % of the stream habitat. Riffles were by far the longest habitat type in Dry Creek.

The stream section flowing through the State section is in extremely degraded condition. The majority of the streamside or riparian area along Dry Creek is in a moderate to severely deteriorated condition. Most of the larger trees have been removed from the riparian corridor. The shrub component to the riparian corridor has been eliminated. Forty to fifty percent of stream banks area severely eroding banks in the project area.

The Dry Creek fish species assemblage includes: brook, cutthroat, rainbow, brown trout and sculpin. Bull trout have been sampled up and downstream of the project area. Fish Population sampling in a 510 foot stream section in the project area show low fish densities and low species diversity. Brook trout and brown trout were the only species reported in the sample. Electrofishing catch-rates for a single pass sample were 1.4 fish per 100 feet of stream. No native trout were found in the section. A sample 3/4 mile upstream with better stream bank and riparian condition showed catch-rates of 4.3 fish per 100 feet of stream. Cutthroat trout were the dominant species above the project area.

Banks recently fenced upstream of the project area are showing signs of recovery. A section of Dry Creek downstream of the State section shows good riparian conditions. This downstream site provides a fair bench mark as to the vegetative site potential along the forested sections of Dry Creek on the valley floor. Domestic

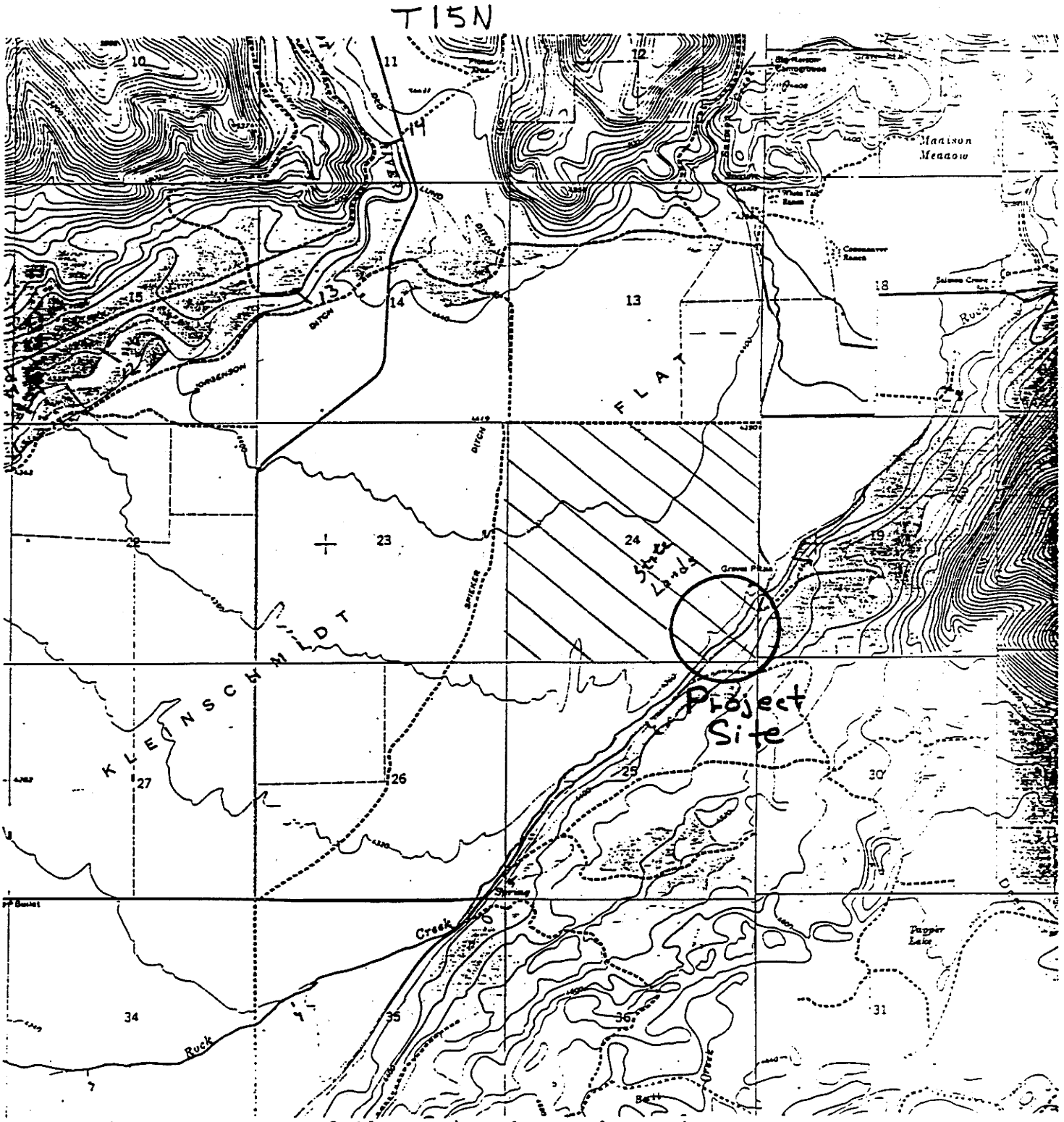

Figure 1. Map of the Dry\Rock Creek project area.

livestock management practices is the primary cause of bank instability and poor stream habitat conditions. However nearly all conifers have been harvested along the stream corridor. The lack of woody debris in the channel and lack of future woody debris sources for recruitment to the channel in the forested areas show that timber harvest has also negatively impacted this stream channel.

Project Benefits

The high potential for developing a cutthroat trout spawning run in Dry Creek from the middle reach of the Blackfoot River is especially important because of poor survival of juvenile rainbow and brown trout identified in the middle river. Cutthroat are better adapted to the harsh winter conditions in this reach of the Blackfoot River and greatly improve fish densities. The project has potential to improve bull trout status in the drainage.

Riparian and fish habitat restoration of Dry Creek would have both on-site and off-site benefits. On-site benefits would include: (1) improvement of fish and wildlife species in the riparian zone; 2)greatly improved fish habitat which would improve fishing opportunities for more and larger fish; 3)improve diversity and productivity of riparian vegetation; 4)improvement of riparian vegetation management to reduce streambank erosion and long-term streambank stability. Off-site benefits to the public would include: (1) improved recruitment of native fish species to the Blackfoot River; (2) increased opportunity to catch native fish like cutthroat in the Blackfoot River; (3) increase in the biodiversity of the Blackfoot River fish populations; (4) increased number of cutthroat would benefit less skilled anglers because of greater catchability; (5) insure that tributary water quality would not further degrade Blackfoot River water quality; (6) may reduce the need for more extreme native fish species management measures for their maintenance in the future and maintenance of angling opportunity; (7) improved availability of pools will increase over-wintering survival of rearing fish especially cutthroat trout (necessary component of their winter habitat).

Project Elements

The first step to restore this system back to it's potential would be to contour and revegetate eroding banks, restore fish habitat in the stream channel, and install riparian livestock management measures.

All project elements will be constructed to blend with the natural surroundings and in cooperation with the lessee. Our goal in this restoration project is to make our intrusion in this riparian area undetectable after a short recovery period.

Supervision and planning of the project will be completed by the MT. Dept. of Fish, Wildlife and Parks fisheries project biologist Don Peters.

This project plan was developed in consultation with Dave Mannix, North Powell Conservation District, MT. Dept. of State Lands, and Greg Neudecker USFWS.

Contour and Re-vegetate Eroding Banks

This job is necessary to re-establish stream channel stability and reduce erosion of banks. Banks that have been broken down and are currently in an over-steepened condition need to be contoured and re-seeded to a stable slope angle. Vegetative

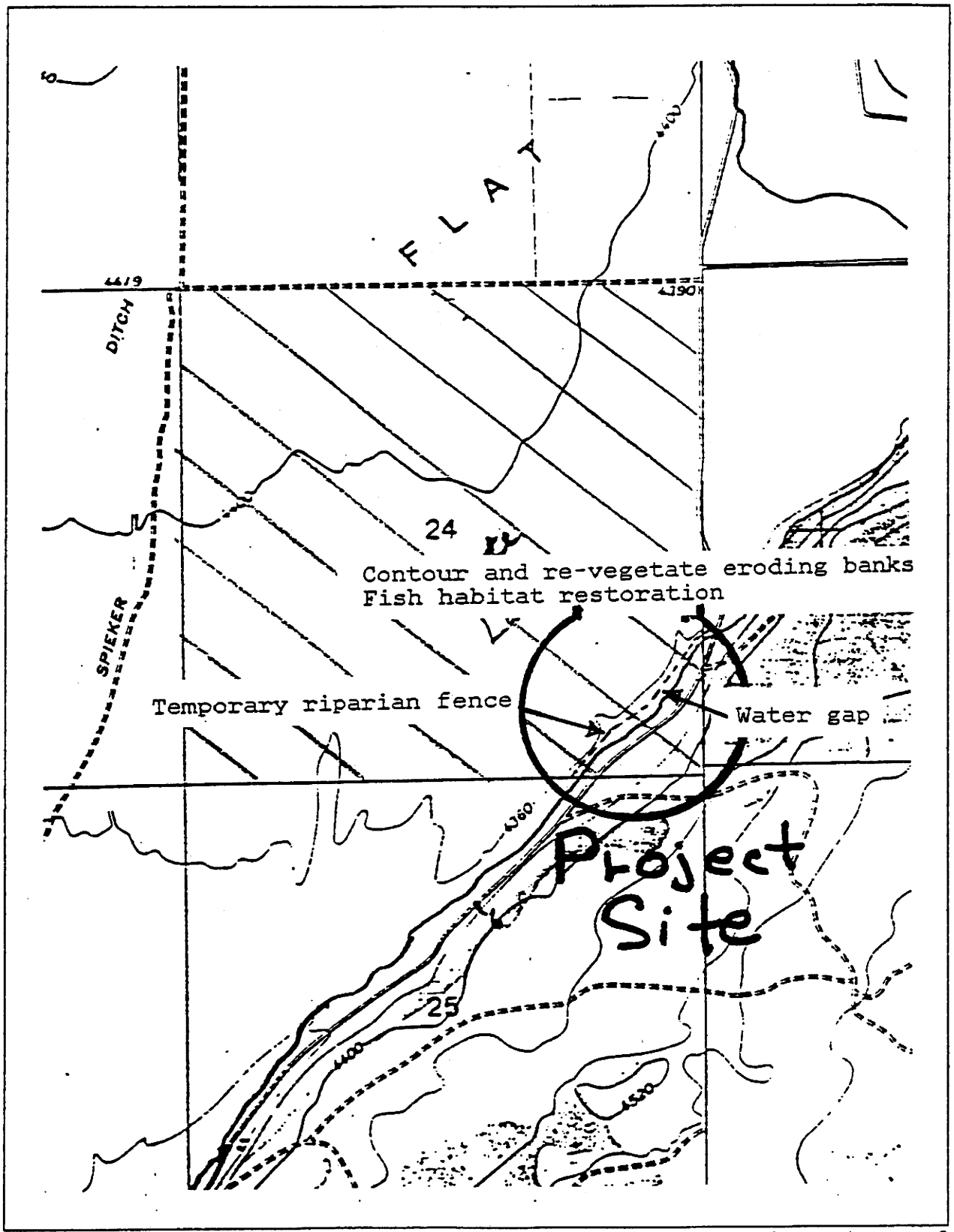

Figure 2. Project site map of Dry\Rock Creek with locations of major activities.

plantings of both native woody and grassland plants on the contoured slopes will facilitate stabilization.

Fish Habitat Restoration

Fish habitat improvements in Dry Creek will focus in areas lacking in pool development as a result of past bank failure. A combination modified Rosgen habitat improvement techniques using woody debris, habitat rocks, and upstream "V" checkdams will be used (see enclosed diagram). Disturbed sites will be seeded with grasses and shrubs planted upon completion of excavation to stabilize the sites.

Riparian Livestock Management

Approximately 900 yards of temporary livestock exclusion fence is proposed on the Dry Creek State Lands lease. The implementation of a rest rotation pasturing system on the lease ground which includes this riparian area will provide the future means of maintaining a healthy plant community in the riparian area. The rest-rotation grazing system and offstream watering is currently being developed. The temporary exclusion is expected to require a number of years (3 -7) to allow woody plants to acquire sufficient height and vigor to withstand grazing pressure. Plant growth will be the key to the time frame needed for the exclosure fence.

Permitting

The Montana Dept. of Fish, Wildlife and Parks will obtain the following permits prior to proceeding with the project: Stream Protection Act and MEPA - EA.

Project Scheduling

The project is expected to require 4 weeks for completion of construction. All project construction related to the stream channel work will be completed under the direct supervision of a fisheries biologist. Late summer of 1996 is the most likely starting time for construction.

10. Listing of any other Local, State or Federal agency that has overlapping or additional jurisdiction.

(a) Permits:

Agency Name	Permit	Date Filed/#
Montana Fish, Wildlife and Parks	SPA 124	Expected July 1, 1996

(b) Funding:

Agency Name	Funding Amount
Montana Fish, Wildlife and Parks	$15,000

(c) Other Overlapping or Additional Jurisdictional Responsibilities:

Agency Name	Type of Responsibility
Department of State Lands	

11. List of Agencies Consulted During Preparation of the EA:
Department of State Lands

Revised 1994

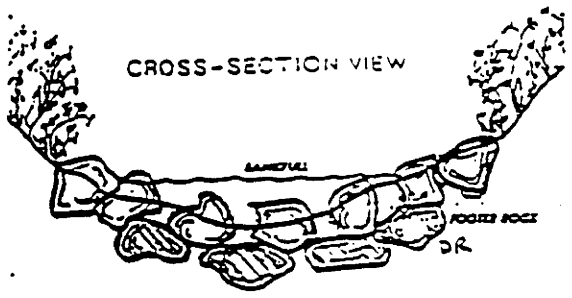

Figure 14. Vortex rock weir (Rosgen, 1993).

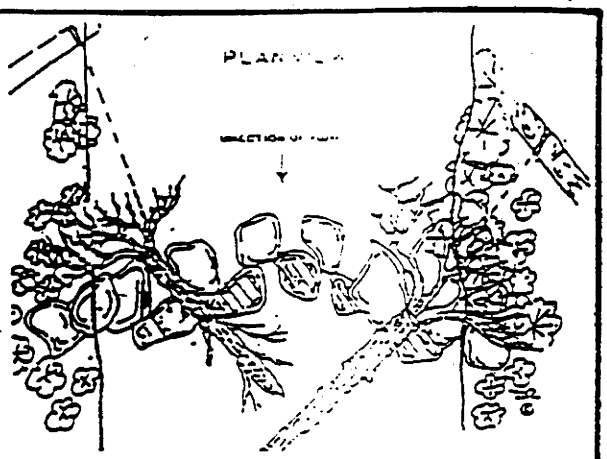

Figure 15. Modification of vortex rock weir to include "floating" log covers with bank anchors. (Rosgen 1993)

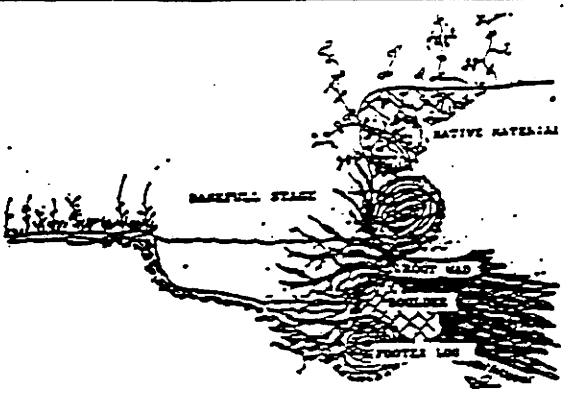

Figure 16. Native material bank revetment. (Rosgen, 1993)

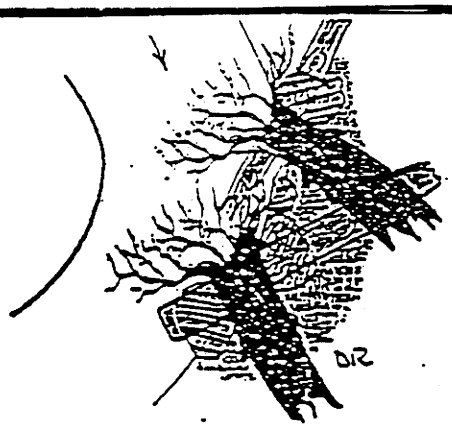

Figure 17. Native material bank revetment. (Rosgen, 1993)

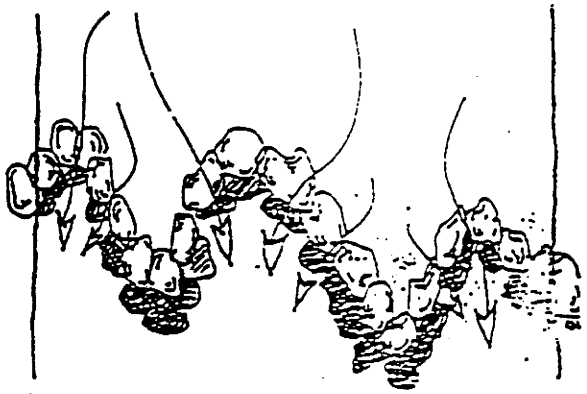

Figure 18 "W" rock weir. (Rosgen, 1993).

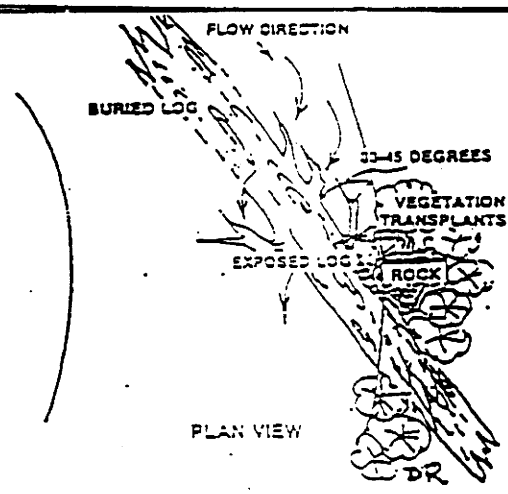

Figure 19. Log spur bank feature (Rosgen, 1993).

PART II. ENVIRONMENTAL REVIEW

1. Evaluation of the Impacts of the Proposed Action Including Secondary and Cumulative Impacts on the Physical and Human Environment. Complete the following checklist, adding comments or narrative as necessary.

IMPACTS

PHYSICAL ENVIRONMENT	UNKNOWN*	NO IMPACTS	IMPACTS:* MINOR	POTENTIALLY SIGNIFICANT	CAN IMPACTS BE MITIGATED*	COMMENT INDEX
1. LAND RESOURCES						
Will the proposed action result in:						
a. Soil instability or changes in geologic substructure?		X				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil which would reduce productivity or fertility?		X				
c. Destruction, covering or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?		X				
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				
f. Other: _____						

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

The enhancement of the Dry Creek riparian corridor will require the excavation of approx 100 cu. yds. of gravel. The gravel will be contoured to blend with the existing slope. Topsoil will be placed over the gravel and the soil seeded to establish a vegetative cover to minimize erosion. The enhanced stream channel will also be covered seeded with a riparian grass mixture. Shrub species will also be transplanted to the stream channel for increased recovery times. Rock and log fish habitat improvement structures are also planned in and adjacent to the stream channel to stabilize the channel configuration.

IMPACTS

PHYSICAL IRONMENT	UNKNOWN*	NO IMPACTS	IMPACTS:* MINOR	POTENTIALLY SIGNIFICANT	CAN IMPACTS BE MITIGATED*	COMMENT INDEX
2. AIR						
Will the proposed action result in:						
a. Emission of air pollutants or deterioration of ambient air quality? (also see 13 (c))		X				
b. Creation of objectionable odors?		X				
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. *For P-R/D-J projects, he project result in a.., discharge which will conflict with federal or state air quality regs? (Also see 2a)		X				
f. Other _____						

IMPACTS

PHYSICAL ENVIRONMENT	UNKNOWN*	NO IMPACTS	IMPACTS:* MINOR	POTENTIALLY SIGNIFICANT	CAN IMPACTS BE MITIGATED*	COMMENT INDEX
3. WATER						
Will the proposed action result in:						
a. Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?			X			X
b. Changes in drainage patterns or the rate and amount of surface runoff?		X				
c. Alteration of the course or magnitude of flood water or other flows?		X				
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water related hazards such as flooding?		X				
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				
i. Effects on any existing water right or reservation?		X				
j. Effects on other water users as a result of any alteration in surface or ground-water quality?		X				
k. Effects on other?		X				

a) temporary increase in stream turbidity during project implementation.

IMPACTS

PHYSICAL ENVIRONMENT	UNKNOWN*	NO IMPACTS	IMPACTS:* MINOR	POTENTIALLY SIGNIFICANT	CAN IMPACTS BE MITIGATED*	COMMENT INDEX
EGETATION						
Will the proposed action result in:						
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?		X				X
b. Alteration of a plant community?		X				
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				
d. Reduction in acreage or productivity of any agricultural land?		X				X
e. Establishment or spread of noxious weeds?		X				X
f. **For P-R/D-J, will the project affect wetlands, or prime and unique f and?						
g. Other: _____						

a)This project will improve diversity, productivity and abundance of plant species.

d)A rest-rotation grazing system and offstream watering is being implemented and will improve range productivity.

e)Disturbed sites will be immediately seeded with a competitive native grass mixture.

IMPACTS

PHYSICAL ENVIRONMENT	UNKNOWN*	NO IMPACTS	IMPACTS:* MINOR	POTENTIALLY SIGNIFICANT	CAN IMPACTS BE MITIGATED*	COMMENT INDEX
5. FISH/WILDLIFE						
Will the proposed action result in:						
a. Deterioration of critical fish or wildlife habitat?		X				
b. Changes in the diversity or abundance of game animals or bird species?		X				
c. Changes in the diversity or abundance of nongame species?		X				
d. Introduction of new species into an area?		X				
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare, threatened, or endangered species?		X				
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?		X				
h. **For P-R/D-J, will the project be performed in any area in which T&E species are present, and will the project affect any T&E species or their habitat? (Also see 5f)		X				
i. *For P-R/D-J, will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d)		X				
j. Other: _____						

IMPACTS

HUMAN ENVIRONMENT	UNKNOWN*	NO IMPACTS	IMPACTS:* MINOR	POTENTIALLY SIGNIFICANT	CAN IMPACTS BE MITIGATED*	COMMENT INDEX
6. NOISE/ELECTRICAL EFFECTS						
Will the proposed action result in:						
a. Increases in existing noise levels?		X				
b. Exposure of people to serve or nuisance noise levels?		X				
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				
e. Other: _____						

IMPACTS

HUMAN ENVIRONMENT

	UNKNOWN*	NO IMPACTS	IMPACTS:* MINOR	POTENTIALLY SIGNIFICANT	CAN IMPACTS BE MITIGATED*	COMMENT INDEX
7. LAND USE						
Will the proposed action result in:						
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				
b. Conflicted with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?		X				
d. Adverse effects on or relocation of residences?		X				
e. Other: _____						

IMPACTS

HUMAN ENVIRONMENT	UNKNOWN*	NO IMPACTS	IMPACTS:* MINOR	POTENTIALLY SIGNIFICANT	CAN IMPACTS BE MITIGATED*	COMMENT INDEX
c. RISK/HEALTH HAZARDS						
Will the proposed action result in:						
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?		X				
b. Affect an existing emergency response or emergency evacuation plan or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?		X				
d. *For P-R/D-J, will any chemical toxicants be [illegible] (Also see 8a)		X				
e. Other: _____						

IMPACTS

HUMAN ENVIRONMENT	UNKNOWN*	NO IMPACTS	IMPACTS:* MINOR	POTENTIALLY SIGNIFICANT	CAN IMPACTS BE MITIGATED*	COMMENT INDEX
OMMUNITY IMPACTS						
Will the proposed action result in:						
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and s?		X				
f. Other: _____						

IMPACTS

HUMAN ENVIRONMENT	UNKNOWN*	NO IMPACTS	IMPACTS:* MINOR	POTENTIALLY SIGNIFICANT	CAN IMPACTS BE MITIGATED*	COMMENT INDEX
10. PUBLIC SERVICES/ TAXES/UTILITIES						
Will the proposed action result in:						
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify: _____		X				
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X				
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Will the proposed action result in increased used of any energy source?		X				
e. Other:_____						

IMPACTS

HUMAN ENVIRONMENT	UNKNOWN*	NO IMPACTS	IMPACTS:* MINOR	POTENTIALLY SIGNIFICANT	CAN IMPACTS BE MITIGATED*	COMMENT INDEX
1. AESTHETICS/ RECREATION						
Will the proposed action result in:						
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?		X				
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. Alteration of the quality or quantity of recreational opportunities and settings?		X				
d. *For P-R/D-J, will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? (Also see 11a, 11c)		X				
e. Other: _____						

IMPACTS

HUMAN ENVIRONMENT	UNKNOWN*	NO IMPACTS	IMPACTS:* MINOR	POTENTIALLY SIGNIFICANT	CAN IMPACTS BE MITIGATED*	COMMENT INDEX
CULTURAL/ HISTORICAL RESOURCES						
Will the proposed action result in:						
a. Destruction or alteration of any site, structure or object of prehistoric historic, or paleological importance?		X				
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				
d. ***For P-R/D-J, will the project affect historic or cultural resources? Attach SHPO letter of clearance. (Also see 12.a)		X				
e Other: _____						

IMPACTS

SIGNIFICANCE CRITERIA	UNKNOWN*	NO IMPACTS	IMPACTS:* MINOR	POTENTIALLY SIGNIFICANT	CAN IMPACTS BE MITIGATED*	COMMENT INDEX
UMMARY VALUATION OF SIGNIFICANCE						
Will the proposed action, considered as a whole:						
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on tow or more separate resources which create a significant effect when considered together or in total.)		X				
b. Involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?		X				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		X				
tablish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				

2. Description and analysis of reasonable alternatives (including the no action alternative) to the proposed action whenever alternatives are reasonably available and prudent to consider and a discussion of how the alternatives would be implemented:

a. No action alternative

This alternative would be implemented by not taking any actions on the proposed fish habitat restoration plan. The likely outcome of this alternative would be the acceptance of lost native fish species habitat, loss of improved recruitment to the Blackfoot River, loss of potential fishing opportunity on and off-site, additional siltation of downstream reaches.

3. Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency: The preferred alternative is an enhancement effort. Past landuse actions have disrupted migrations and production of fish species.

4. Based on the significance criteria evaluated in this EA, is an EIS required? YES / NO If an EIS is not required, explain why the EA is th propriate level of analysis for this proposed action:

.ne proposed action represents an enhancement in ecosystem components and the human environment. The positive corrective nature with minimal impacts make an EA the appropriate level of analysis.

5. Describe the level of public involvement for this project if any and, given the complexity and the seriousness of the environmental issues associated with the proposed action, is the level of public involvement appropriate under the circumstances?

Only limited public involvement is planned. All actions have been approved by the lessee, the Department of State Lands, Montana Fish, Wildlife and Parks, USFWS and Conservation District. This project is consistent with other restoration efforts in the Blackfoot River Basin.

6. Duration of comment period if:

30 days

7. Name, title, address and phone number of the Person(s) Responsible for Preparing the EA:

Don Peters, Ron Pierce
Montana Fish, Wildlife and Parks
3201 Spurgin Rd.
Missoula, MT. 59801
406-542-5506