DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

JUDY MARTZ
GOVERNOR

DIRECTOR'S OFFICE (406) 444-2074
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STATE OF MONTANA

WATER RESOURCES DIVISION (406) 444-6601
TELEFAX NUMBERS (406) 444-0533 / (406) 444-5918

48 NORTH LAST CHANCE GULCH
PO BOX 201601
HELENA, MONTANA 59620-1601

Cover Letter

May 14, 2002

TO: Governor's Office, Barbara Ranf, Rm. 204, State Capitol, P.O. Box 200801, Helena, MT 59620-0801
Environmental Quality Council, Capitol Building, Room 106, P.O Box 201704, Helena, MT 59620
Dept. of Environmental Quality, Metcalf Building, P.O. Box 200901, Helena, MT 59620-0901
Director's Office
Dept. of Natural Resources and Conservation, US F&G Bldg. 1625 11th Ave. Helena, MT 59620
Director's Office
Information Services Section
Water Resources Division, 48 N. Last Chance Gulch, P.O. Box 201601, Helena, MT 59620-1601
Scott Irvin, Water Resources Div., Lewistown Office, 613 NE Main, Suite E, Lewistown, MT 59457
Montana Fish, Wildlife & Parks, 1420 E. 6th Ave. Helena, MT 59620
Director's Office
Steve Leathe, FWP Region 4 Office, 4600 Giant Springs Rd. Great Falls, MT 59405
Ann Tews, FWP Lewistown Area Office, 2358 Airport Rd., P.O. Box 938, Lewistown, MT 59457
MT Historical Society, State Historic Preservation Office, P.O. Box 201202 Helena, MT 59620-1202
MT State Library, 1515 E. Sixth Ave., P.O. Box 201800, Helena, MT 59620
Eugene Taber Jr., Upper Musselshell Water Users Association, P.O. Box 61, Shawmut MT 59078
Montana Environmental Information Center, P.O. Box 1184, Helena, MT 59624
Montana Audubon Council, P.O. Box 595, Helena, MT 59624
Meagher County Commissioners, 115 W. Main, White Sulphur Springs, MT 59645
Wildlife Federation, P.O. Box 1175, Helena, MT 59624
Trout Unlimited, P.O. Box 7186, Missoula, MT 59807
Northern Plains Resource Council, 2401 Montana Ave. Suite 200, Billings, MT 59626-2336
U.S. Army Corps of Engineers, 301 S. Park Ave. Drawer 10014, Helena, MT 59626-0014
U.S. Fish and Wildlife Service, MT Field Office, 100 N. Park Ave. Helena, MT 59601

Ladies and Gentlemen:

The enclosed Environmental Assessment (EA) has been prepared for the Martinsdale Diversion Modification Project and is submitted for your consideration. Please feel free to contact me at (406) 444-6622 (e-mail jdomino@state.mt.us) or Sterling Sundheim at (406) 538-7459 (e-mail ssundheim@state.mt.us) should you have any questions or comments. Comments will be accepted until 5:00 p.m., June 20, 2002. Address all comments to: Sterling Sundheim, Civil Engineer Specialist, DNRC Water Resources Regional Office, 613 NE Main, Lewistown, MT 59457.

Copies of the EA are available upon request. The EA can also be viewed on the DNRC website at www.dnrc.state.mt.us. Thank you.

Sincerely,

James P. Domino
Environmental Specialist
State Water Projects Bureau

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
WATER RESOURCES DIVISION
613 NE Main
Lewistown, MT 59457

ENVIRONMENTAL ASSESSMENT

MARTINSDALE DIVERSION MODIFICATION PROJECT

I. BACKGROUND

This Environmental Assessment (EA) has been prepared to comply with the Montana Environmental Policy Act (MEPA).

1. General Description

Martinsdale Reservoir is part of the Upper Musselshell River Irrigation Project owned by the Department of Natural Resources and Conservation (DNRC). It is located one mile southeast of Matinsdale in Meagher and Wheatland counties. This facility is an off-stream storage reservoir operated and maintained by the Upper Musselshell Water User's Association. The project impounds 23,105 acre-feet of water and serves several thousand acres of irrigation. The reservoir also provides substantial recreational opportunities.

The reservoir is supplied through a diversion canal from the South Fork of the Musselshell River. The headgate for the canal is located 2.4 miles west of the reservoir. The diversion setup includes a concrete diversion dam, which serves as a check structure and a concrete headgate with four steel slide gates. Construction of the project was completed in 1939.

The Department of Fish, Wildlife and Parks (DFWP) approached DNRC about modifying the diversion dam to allow for passage of spawning fish. DNRC agreed to the request and applied for a Future Fisheries grant from the DFWP to help pay for the project. The grant was approved in early 2000.

The project will consist of cutting a four foot wide opening (fish passage) in the diversion dam and constructing two parallel side walls to contain flow through the opening as it passes downstream. The sidewalls will contain flows and guarantee enough water depth to allow fish to pass upstream. Silts and gravels have deposited upstream of the diversion and will have to be removed from the area of the opening. Material has also eroded from the downstream side of the diversion dam. Rock riprap needs to be placed here to eliminate erosion and protect the structure from undermining. The riprap will also be needed to raise the water level to assist fish passage.

Proposed Modification

The department proposes to construct the fish passage, remove silts and gravel deposits from above the dam and fill the erosion hole below the dam. In order to complete the needed modifications and repairs, the diversion dam area must be dewatered. The proposal is to build a small cofferdam across the South Fork of the Musselshell River between the canal headgate and the diversion dam. The cofferdam will be constructed of either sandbags, straw bales or earth fill from the silt excavation. Rock riprap will also be placed below the dam. Water will be routed through the Martinsdale supply canal during construction. The capacity of the canal is more than adequate to handle the entire flow of the river.

There may also be a need to use a pump to complete dewatering and to remove any water seeping into the construction area. Discharge water will be directed onto an adjoining field.

The scope of the proposed project includes:

- Removal of a four-foot wide section of the concrete dam.
- Construction of two new concrete sidewalls downstream of the opening.
- Excavation of silt-gravel deposits above the dam. The excavated material would be deposited on an existing waste pile on the north side of the canal above the high water level.
- Add riprap downstream to fill the erosion hole and protect the diversion dam.
- Construction of a small cofferdam.
- Removal of the cofferdam and restoration of the river channel to original condition.
- Reclamation / reseeding of disturbed areas.
- Weed control measures implemented.

Additional information:

Construction is tentatively planned to begin on Monday, August 19 2002, with the project completed within one week.

Equipment to be used includes a backhoe, tracked excavator, dump truck and cement truck.

The total disturbed area will be less than 1 acre.

Appendix B contains additional project information and descriptions, project drawings and sketches, photographs, a copy of the DFWP Future Fisheries Grant Application, a proposed project budget and a location map.

2. Location of Project

The proposed project is located in Meagher County, N½ Section 15, Township 8 North, Range 11 East, MPM, near Martinsdale, Montana.

The surrounding land is presently owned by the Bair Ranch and the diversion works are owned by the DNRC.

3. Purpose and Need for the Project

The purpose of this project is to modify an existing diversion structure to allow for passage of spawning brown trout up the South Fork of the Musselshell.

II. ENVIRONMENTAL REVIEW

Whenever possible, effects to the environment will be avoided. Where effects cannot be avoided, they will be minimized to the extent possible.

1. Environmental Impact Checklist

An environmental checklist has been included as **Appendix A.**

2. Environmental Consequences

Air

During construction, equipment emissions will contain some pollutants. Because of the rural location of the site, these emissions should not impact adjacent property owners.

Because of the timing of the construction and general high water content of local soils, it is anticipated that construction dust will not be significant and that dust control will not be necessary.

Water

The river flow will be routed through an existing supply canal during construction.

A temporary and slight degradation of water quality is likely to occur during the construction period due to sediments. This should happen only as water is turned back into the river. Any downstream water quality impacts would be minor, temporary and end upon completion of the project. Potential impacts would be minimized by the low water flows normally experienced during August, the short project duration, and the temporary nature of the river re-routing.

Construction dewatering, if needed, will result in water being discharged onto an adjacent field where it will be absorbed (a 3A permit from the Department of Environmental Quality will not be required). Discharge flows, if any, should amount to less then 25 gallons per minute (gpm).

Fuel storage and equipment refueling will take place away from both the river channel and the floodplain.

Vegetation

The disturbed area of the construction site will be less than one acre, with the existing vegetation consisting of sage and grasses. All disturbed areas would be re-vegetated by re-seeding. A weed control program will be implemented until vegetation is re-established.

Fish and Wildlife

The project will allow fish migration upon its completion. No impacts to wildlife are anticipated. A file search was conducted by the MT Natural Heritage Program. No impacts are anticipated to any threatened, endangered or species of special concern.

Noise

Noise levels will increase temporarily during the construction period. Because of the rural location of the site, construction noise would not impact the adjacent landowners.

Impacts from construction noise to wildlife is expected to be negligible.

Land Use

There will be no change in land use.

Taxes

The tax base will not be affected.

Recreation

Will not be affected, except that fishing should be improved upstream of the project.

Cultural Resources

No known archeological sites are known to exist in the proposed project area. The Montana Historical Society has been notified.

III. ALTERNATIVES

1. No Action Alternative

The migration of spawning fish would continue to be blocked by the no action alternative.

IV. CONSULTATION AND COORDINATION

1. Agencies Consulted

Federal and State Government agencies and private organizations were contacted regarding the rehabilitation construction proposal:

Agency Name	Type of Responsibility
Corps of Engineers	regulatory/technical
Montana Dept. of Fish, Wildlife & Parks	regulatory/technical
Montana Dept. of Environmental Quality	regulatory/technical
Montana Historical Preservation Office	advisory
Montana Natural Heritage Program	advisory
Local Conservation District	regulatory/technical

2. Permits Required

The following permits will be needed for the project:

Permit	Issuing Agency	Statue
404-Permit	Army Corps of Engineers	Pending
124-Permit	DFWP	Pending
Cultural Clearance	MT SHPO	Pending
Dewatering	MT DEQ	Pending

3. Public Involvement

Public comments will be solicited through advertisement in local newspapers.

V. CONCLUSION

Based on the criteria evaluated in this EA, no significant impacts, either individually or cumulative will result from the project.

APPENDIX A

PART II. ENVIRONMENTAL CHECKLIST REVIEW

1. PHYSICAL ENVIRONMENT

	IMPACTS					
	UNKNOWN*	NO IMPACTS	MINOR IMPACTS:*	POTENTIALLY SIGNIFICANT IMPACTS:*	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		See 1d comment	1d.
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				
f. Other: _____						

Note:

1d. The construction of the fish passage would cause a temporary, non-significant and minor increase in sediments within the river. The impact would end upon completion of the project.

PHYSICAL ENVIRONMENT (Continued)

IMPACTS

	UNKNOWN*	NO IMPACTS	MINOR IMPACTS:*	POTENTIALLY SIGNIFICANT IMPACTS:*	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?			X		See 2a. comment	2a.
b. Creation of objectionable odors?			X		See 2b. comment	2b.
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. Other: _____						

Note: 2a. & b.) During construction, heavy equipment emissions will contain some pollutants and odors.

PHYSICAL ENVIRONMENT (Continued)

IMPACTS

	UNKNOWN*	NO IMPACTS	MINOR IMPACTS:*	POTENTIALLY SIGNIFICANT IMPACTS:*	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		See 3a. comment	3a.
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		See 3d. comment	3d.
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 the risk of contamination of surface or groundwater?		X				
i. Violation of the Montana Non-Degradation Statute?		X				
j. Effects on any existing water right or reservation?		X				
k. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
l. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
m. Other: _____						

Note: 3a.) Minor discharge of 25 gpm or less onto neighboring lands. Discharge may result from construction dewatering. The impacts would be non-significant and end upon completion of the project. 3d.) The River would be temporarily diverted into the diversion canal during construction. Downstream impacts would be minor, temporary and end upon completion of the project. Any potential impacts would be minimized by low river water flows, side streams providing inflows into the river, and the temporary nature of the project.

PHYSICAL ENVIRONMENT (Continued)

IMPACTS

	UNKNOWN*	NO IMPACTS	MINOR IMPACTS:*	POTENTIALLY SIGNIFICANT IMPACTS:*	CAN IMPACTS BE MITIGATED *	COMMENT INDEX
4. VEGETATION						
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		See 4a. comment	4a.
b. Alteration of a plant community?		X				
c. Adverse effects on any unique, rare, threatened, or endangered plant species?		X				4c.
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?		X				
f. Other: _____						

Notes:
4a.) Less than one acre of vegetation would be disturbed, consisting of sage and grasses. All disturbed areas would be reclaimed and reseeded upon project completion.
4c.) A file search was conducted by the Montana Natural Heritage Program. No impacts are anticipated to any threatened, endangered or species of special concern.

PHYSICAL ENVIRONMENT (Continued)

IMPACTS

	UNKNOWN*	NO IMPACTS	MINOR IMPACTS:*	POTENTIALLY SIGNIFICANT IMPACTS:*	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				5b.
c. Changes in the diversity or abundance of nongame species?		X				5c.
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				5f.
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?		X				
h. Other: _____						

Note: 5b.) The project is expected to improve habitat for spawning trout.
5c.) (Same as item b.)
5f.) A file search was conducted by the MT Natural Heritage Program. No impacts are anticipated to any threatened, endangered, or species of special concern.

2. HUMAN ENVIRONMENT

IMPACTS

	UNKNOWN*	NO IMPACTS	MINOR IMPACTS:*	POTENTIALLY SIGNIFICANT IMPACTS:*	CAN IMPACTS BE MITIGATED *	COMMENT INDEX
6. NOISE/ELECTRICAL EFFECTS						
Will the proposed action result in:						
a. Increases in existing noise levels?			X		See 6a. comment	6a.
b. Exposure of people to severe or nuisance noise levels?			X		See 6b. comment	6b.
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: _____						

Note: 6a.) Noise levels will increase temporarily during the construction period. However, this is a very rural area.
6b.) (Same as item a. above)

HUMAN ENVIRONMENT
(Continued)

IMPACTS

	UNKNOWN*	NO IMPACTS	MINOR IMPACTS:*	POTENTIALLY SIGNIFICANT IMPACTS:*	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. Conflict 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. Increase regulatory restrictions on private property rights?		X				
f. Other: _____						

Note: .

HUMAN ENVIRONMENT
(Continued)

IMPACTS

	UNKNOWN*	NO IMPACTS	MINOR IMPACTS:*	POTENTIALLY SIGNIFICANT IMPACTS:*	CAN IMPACTS BE MITIGATED *	COMMENT INDEX
8. 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. Other: _____						

HUMAN ENVIRONMENT
(Continued)

IMPACTS

	UNKNOWN*	NO IMPACTS	MINOR IMPACTS:*	POTENTIALLY SIGNIFICANT IMPACTS:*	CAN IMPACTS BE MITIGATED *	COMMENT INDEX
9. COMMUNITY 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 goods?		X				
f. Other: _____						

HUMAN ENVIRONMENT
(Continued)

	IMPACTS					
	UNKNOWN*	NO IMPACTS	MINOR IMPACTS:*	POTENTIALLY SIGNIFICANT IMPACTS:*	CAN IMPACTS BE MITIGATED *	COMMENT INDEX
10. PUBLIC SERVICES/ TAXES/UTILITIES						
Will the proposed action:						
a. 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. Have an effect upon the local or state tax base and revenues?		X				
c. 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. Result in increased use of any energy source?		X				
e. Other: _____						

Note:

HUMAN ENVIRONMENT
(Continued)

	IMPACTS					
	UNKNOWN*	NO IMPACTS	MINOR IMPACTS:*	POTENTIALLY SIGNIFICANT IMPACTS:*	CAN IMPACTS BE MITIGATED *	COMMENT INDEX
11. 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				11c.
d. Other: _____						

Note: 11c.) May improve fishing opportunities.

HUMAN ENVIRONMENT
(Continued)

	IMPACTS					
	UNKNOWN*	NO IMPACTS	MINOR IMPACTS:*	POTENTIALLY SIGNIFICANT IMPACTS:*	CAN IMPACTS BE MITIGATED *	COMMENT INDEX
12. CULTURAL/ HISTORICAL RESOURCES						
Will the proposed action result in:						
a. Destruction or alteration of any site, structure or object of prehistoric, historic, or paleontological importance?	X					12a.
b. Physical change that would affect unique cultural values?	X					12b.
c. Effects on existing religious or sacred uses of a site or area?	X					12c.
d. Other: _____						

Note: 12a, b, and c.) An assessment of cultural resources will be completed by the State Historic Preservation Office. The SHPO findings and recommendations will be incorporated in the final draft of the EA and Notice of Decision.

3. SIGNIFICANCE CRITERIA

IMPACTS

	UNKNOWN*	NO IMPACTS	MINOR IMPACTS:*	POTENTIALLY SIGNIFICANT IMPACTS:*	CAN IMPACTS BE MITIGATED *	COMMENT INDEX
13. SUMMARY EVALUATION 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 two 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				
d. Establish 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				
f. Other: _____						

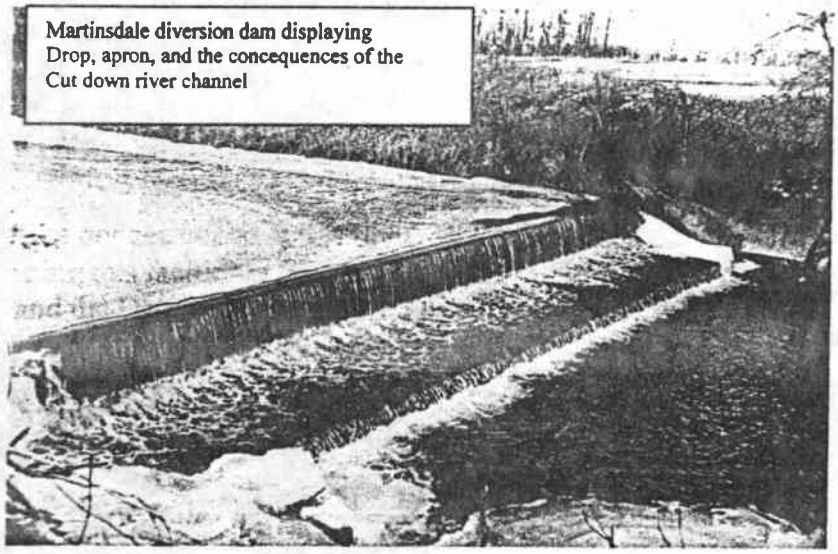
APPENDIX B

Project Description:

The proposed project consists of installing a fish passage through the Martinsdale Reservoir diversion dam. The problem of brown trout migration being blocked by this structure was document by the DFWP in their application for instream flow reservations (MFWP. 1989 Application for Reservations of Water in the Missouri River Basin above Fort Peck Dam. Volume 3.). A site visit with DFWP representatives Ann Tews and Ken Fraiser of the MDFWP and subsequent discussions with the State Water Projects Bureau generated the desire to mitigate this problem.

A plan to install a fish passage in the diversion dam was presented to the Upper Musselshell Water Users Association board of directors. The directors voted to share in the expense of providing a fish passage through the Martinsdale Diversion Dam. Their contribution would come in the form of inkind service (see Budget attachment).

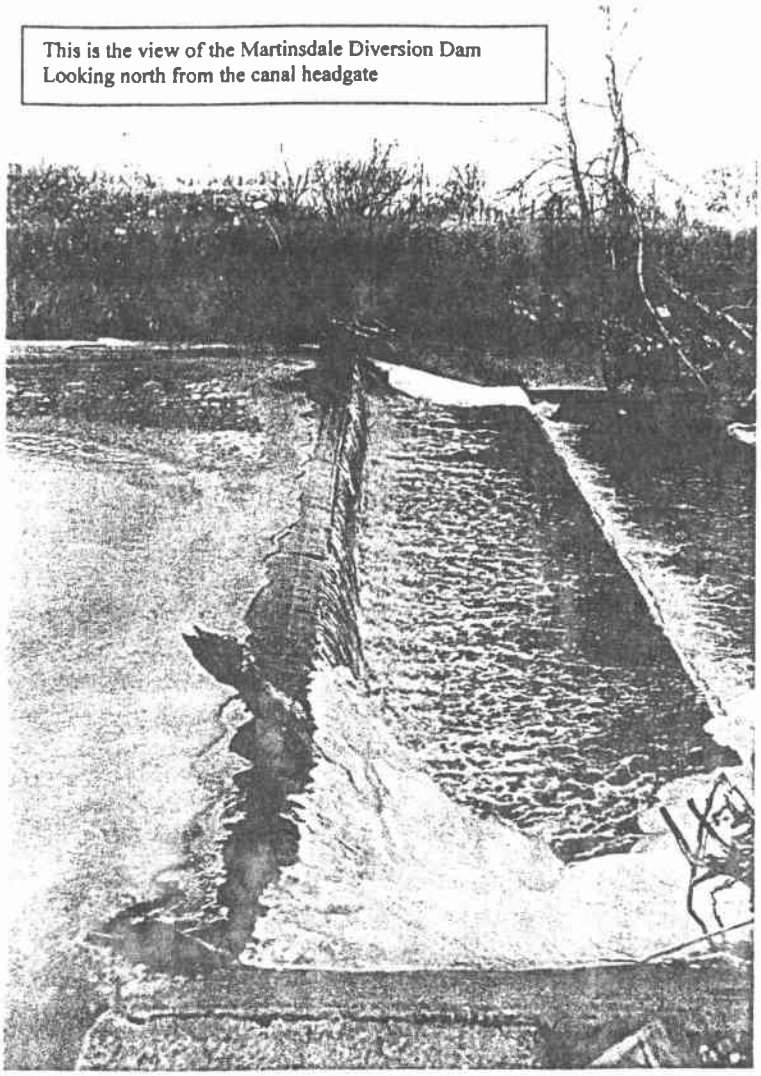
The plan is to install a fish passage through the irrigation diversion. The existing structure consist of a ± 3' high concrete diversion dam with a 6.0' wide concrete apron on the down stream side of the dam. The crest of the dam is approximately 30' wide. Typically during the period of concern the natural flow of the Musselshell River is inadequate to allow fish to leap the diversion. This is due to low flows (typically less than 50 cfs), the width of the crest (causes the flow to be distributed as a thin layer across the dam's crest), and the concrete apron moves the deep jumping pool far enough away from the dam crest that brown trout are not able to pass the dam.



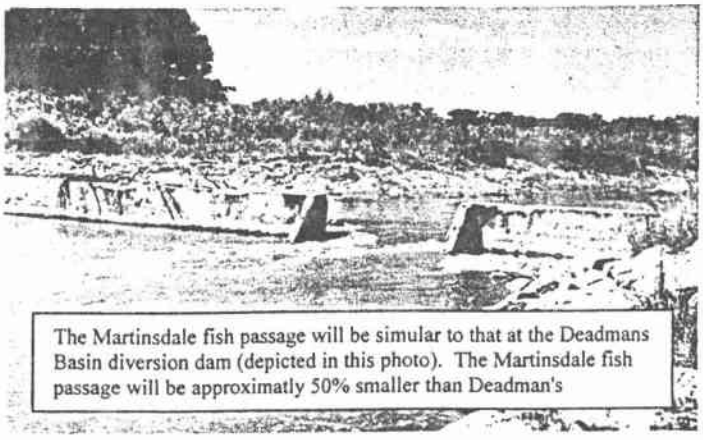
Martinsdale diversion dam displaying Drop, apron, and the concequences of the Cut down river channel

Because of the head cutting of the river over the years the water surface down stream of the dam will have to be raised to accommodate the fish. This will be done with some low flow channel modifications. It is estimated that the WSEL (water surface elevation) downstream of the dam may have to be raised approximately 1 foot.

This is the view of the Martinsdale Diversion Dam
Looking north from the canal headgate

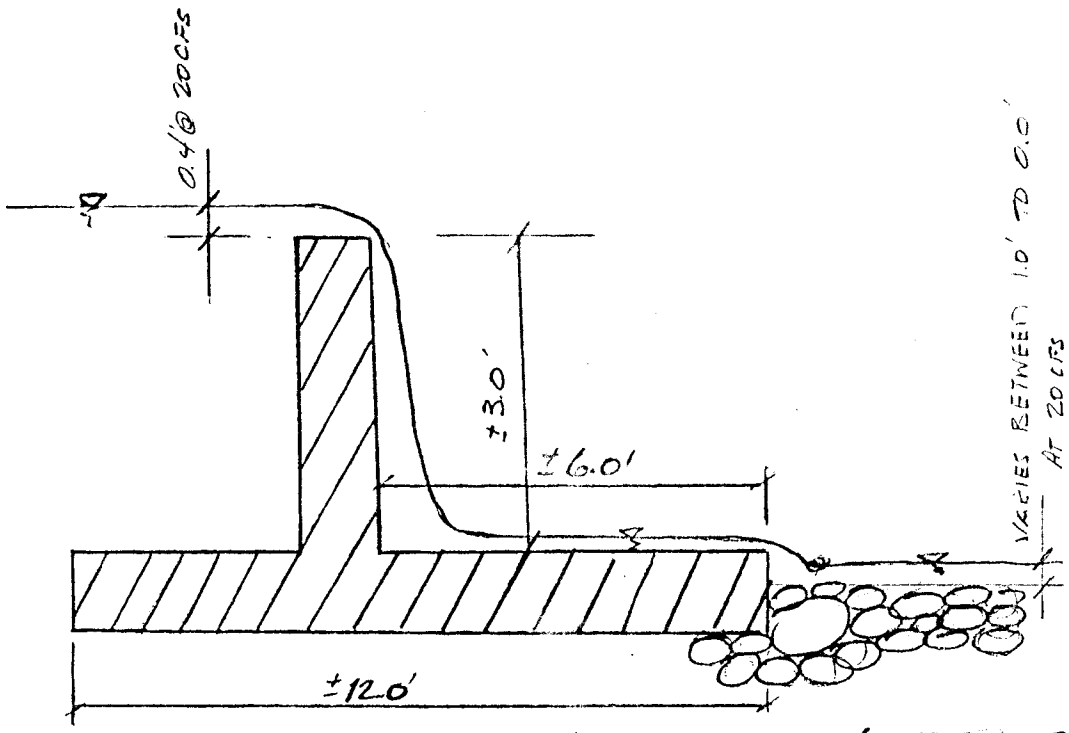


Final engineering has not been done at this time. Both the DNRC and the UMWUA have an interest in maintaining this facility in the best condition possible. The water users have a financial interest and the DNRC is charged with the responsibility of making sure that the water users maintain the facility for as long as the state owns it.



The Martinsdale fish passage will be simular to that at the Deadmans Basin diversion dam (depicted in this photo). The Martinsdale fish passage will be approximatly 50% smaller than Deadman's

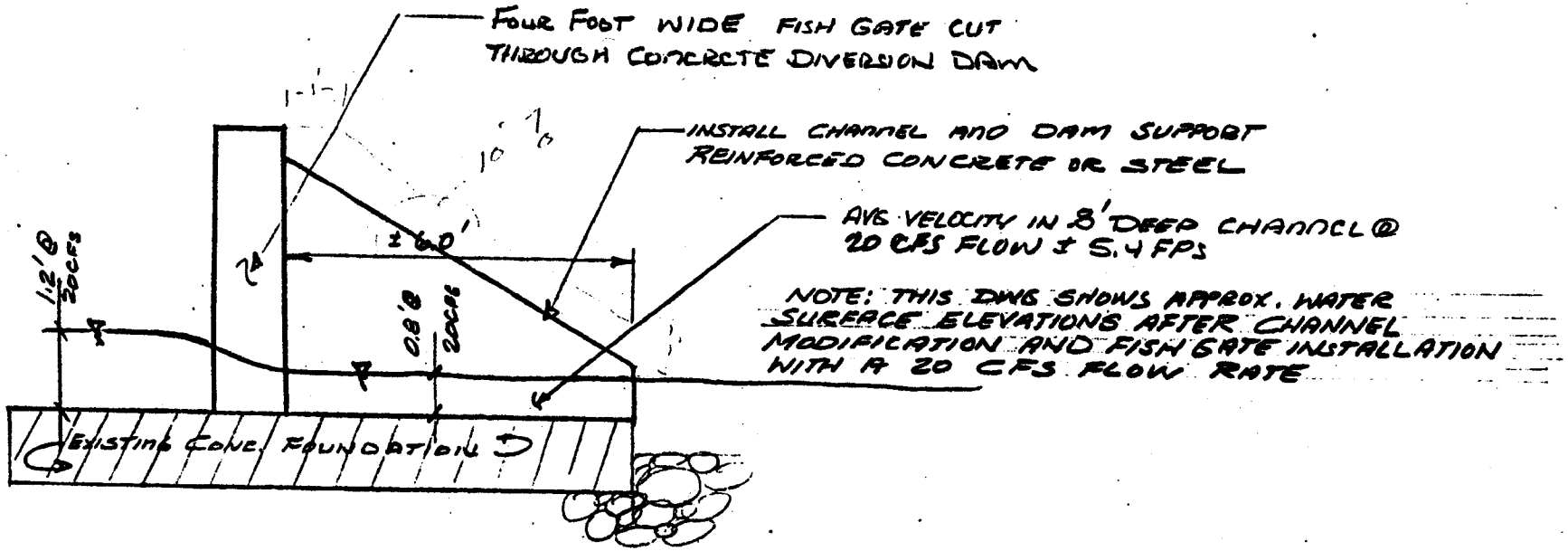
The state of Montana entered into a water marketing agreement with the UMWUA that requires that they complete all maintenance on the state project at their own expense. To assist them in this the DNRC provides regular engineering inspections of the facility and a report is generated. The report typically includes all deficiencies and a timetable for completion of any maintenance items that the State Water Projects Bureau deems necessary. If the water users association fails to complete the necessary maintenance the Projects Bureau will complete the work and back charge the Association. This should provide the assurance that the work completed will be maintained to the best of the UMWUA ability.



MARTINSDALE DIVERSION

EXISTING CONDITION

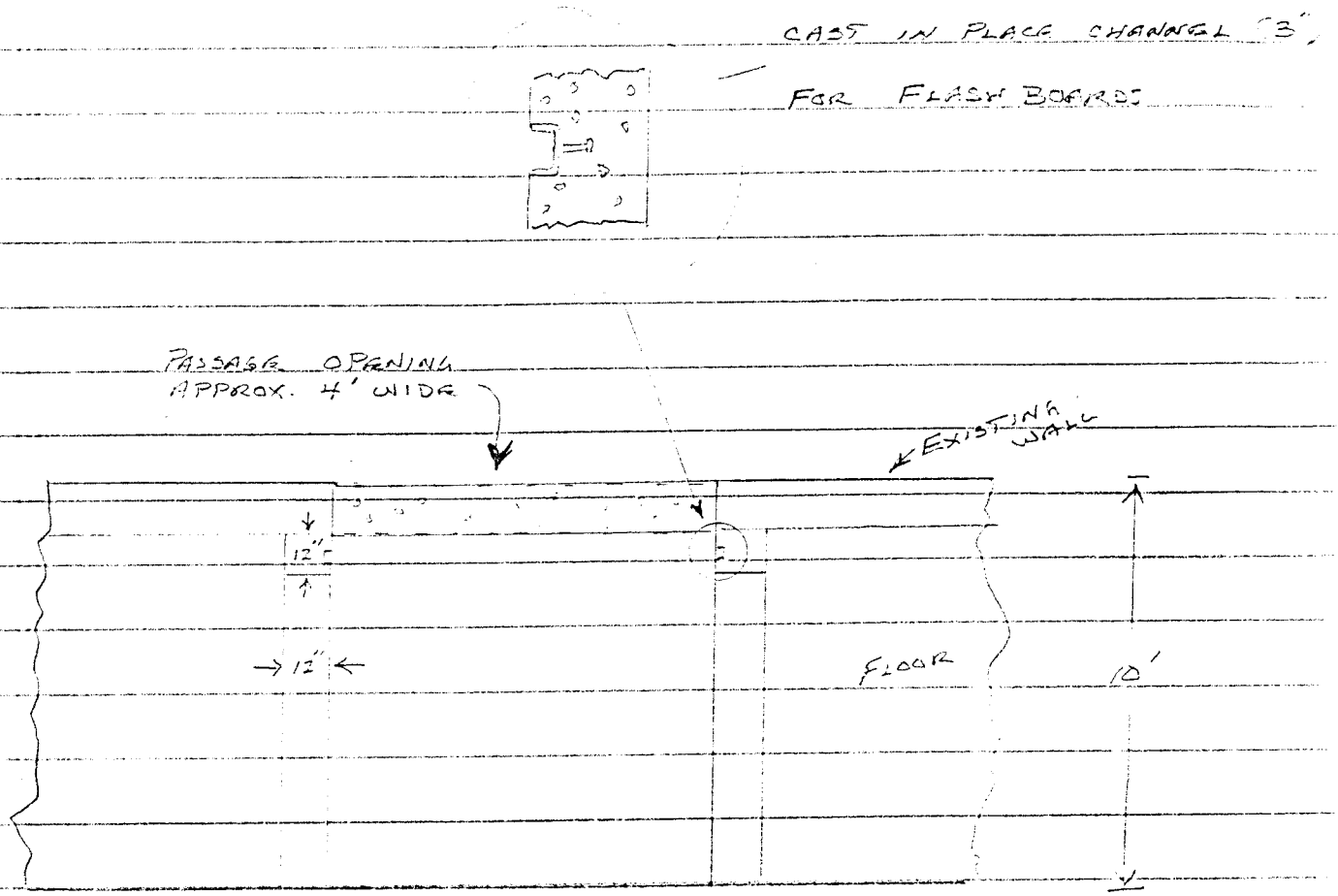
NOT TO SCALE

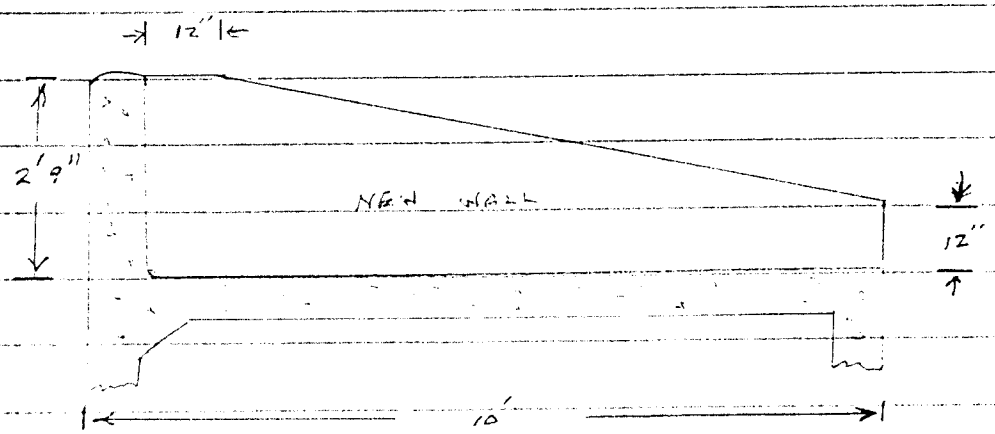


MARTINSDALE DIVERSION

MODIFIED CONDITION W/O STREAM BED Modification

NOT TO SCALE


CAST IN PLACE CHANNEL "3"
FOR FLASH BOARDS
PASSAGE OPENING
APPROX. 4' WIDE
EXISTING WALL
12"
12"
FLOOR
10'


12"
2'9"
NEW WALL
12"
10'

COPY

Montana Fish, Wildlife & Parks

RECEIVED
APR 12 2000
MONTANA D.N.R.C.
LEWISTOWN FIELD OFFICE

March 23, 2000

Mr. John Hunter
Department of Natural Resources and Conservation
613 N.E. Main Street, Suite E
Lewistown, MT 59457

Dear Mr. Hunter:

This is your official notification that your Future Fisheries grant application to improve fish passage on the South Fork of the Musselshell was approved for funding ($3,146). The review panel did not approve the contingency but, if needed, we can go up to 10% over the budget without additional approval.

Enclosed are two copies of the project agreement. Please sign and return the original – the second copy is for your records. You may send bills directly to me for payment or you can pay the bills and I will reimburse you – whichever is most convenient for you.

This looks like a great project. Give me a call (444-5334) if you have any questions.

Sincerely,

Glenn R. Phillips, Chief
Habitat Protection Bureau

copy

FUTURE FISHERIES IMPROVEMENT PROGRAM
GRANT APPLICATION

I. APPLICANT INFORMATION

A. Applicant Name : **State of Montana, Department of Natural Resources and Conservation**

B. Mailing Address: **613 N.E. Main Street, Suite E** City or Town **Lewistown**

C. State: **Montana** Zip: **59457**

D. Contact Person: **John Hunter**

Address if different from Applicant: **Same as above**

Telephone: **406-538-7459**

E. Landowner and/or lessee name, address, telephone (if other than Applicant)

II. PROJECT INFORMATION

A. Project Name: **Fish Passage through the Martinsdale Diversion Dam on the SFK of the Musselshell River**

Location: Township: **8 N** Range: **11 E** Section: **15** County: **Meagher**

B. Purpose of Project: **The purpose of this project is to provide a fish passage through a irrigation diversion that historically didn't allow spawning brown trout to migrate up the South Fork of the Musselshell River.**

C. Brief Project Description: **The existing irrigation diversion consists of a ± 3' concrete dam with a concrete apron on the down stream side of the dam. The proposed project will include the cutting of the structure and subsequent modification of the natural channel downstream of the diversion to allow the fish access to the upstream side of the dam.**

D. Length of stream or size of lake that will be treated: **The actual treatment will be localized to the Diversion dam. The benefits will be realized over the entire South Fork Drainage. An attached map depicts the area from the diversion to Lennep.**

E. Project Budget:

Grant Request:	**$4075.00**
Contribution by Applicant (Dollars or In-kind)	**$2050.00**
Contribution from other Sources (Dollars) N/A	
Total Project Cost:	**$6125.00**

F. Attach itemized (line item) budget. **See Attachment**

G. Attach specific project plans, detailed sketches, photographs, maps, and evidence of landowner consent, evidence of public support and/or other information necessary to evaluate the merits of the project.

H. Attach land management and maintenance plans that will ensure protection of the reclaimed area.

III. Project Benefits

A. What species of fish will benefit from this project? **Brown trout will benefit from this project. Better access to several miles of the S. Fk. Musselshell River should increase brown trout numbers throughout the area. Fisheries data collected on this reach of stream is provided in the attachments.**

B. How will the project protect or enhance wild fish habitat? **It will provide a passage through a major irrigation diversion that historically prevented spawning and migrating trout from gaining access to the upper reaches of the South Fork of the Musselshell River.**

C. Will the project improve fish populations and/or fishing? To what extent? **During years of very high flow some brown trout may have been able to get over this diversion, but in the fall of 1986 several large brown trout were observed trying to jump this structure (MFWP, 1989, See Attachment). The proposed changes to the diversion structure will provide access to over 27 miles of potential brown trout spawning habitat. Increased spawning in this reach should result in increased brown trout numbers throughout the S. Fk. of the Musselshell River and downstream.**

D. Will the project increase public fishing opportunity for wild fish and, if so, how? **This project should increase the trout density directly above the diversion and provide significant spawning habitat not previously available to the trout living below the diversion.**

E. If the project requires maintenance, what is your time commitment to this project? **The DNRC historically managed their storage projects for long term viability. All state owned projects are periodically inspected by DNRC engineers. Maintenance schedules are then submitted to the water uses association. The Water User Associations are required to perform the maintenance items listed in the schedules. The actual cost of all maintenance falls on the Upper Musselshell Water Users Association; this is a consequence of their water marketing agreement with the DNRC.**

F. What was the cause of habitat degradation in the area of this project and how will the project correct the cause? **The barrier to fish migration is caused by a 3 foot high concrete irrigation diversion dam. The project effectively removes this barrier for that period of the year that brown trout migrate, and spawn.**

G. What public benefits will be realized from this project? **This will improve the quantity of trout available for anglers in both the South Fork and the mainstem of the Musslehsell River.**

H. Will the project interfere with water or property rights of adjacent landowners? **All proposed work will take place on a DNRC owned project. All easements are presently in place to perform maintenance and these easements will serve equally as well for this project. All privately owned water rights that are exercised from this diversion have a period of use that end on September 30. Therefor private water rights will not be adversely effected by keeping water in the river in October and November. There is also a side agreement between Deadmans Basin, and the Upper Musselshell Water Users Association. This agreement required the Upper Musselshell Water Users Association to subordinate their diversion of water to Deadmans Basin during this time of the year. This allows this project to work well within the present water management activities that occur on this reach of the river.**

Each approved project sponsor must enter into a written agreement with the Department specifying terms and duration of the project

IV. AUTHORIZING STATEMENT

I (we) hereby declare that the information, and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature John Hunter Date 12/29/99

Sponsor (if applicable) _____

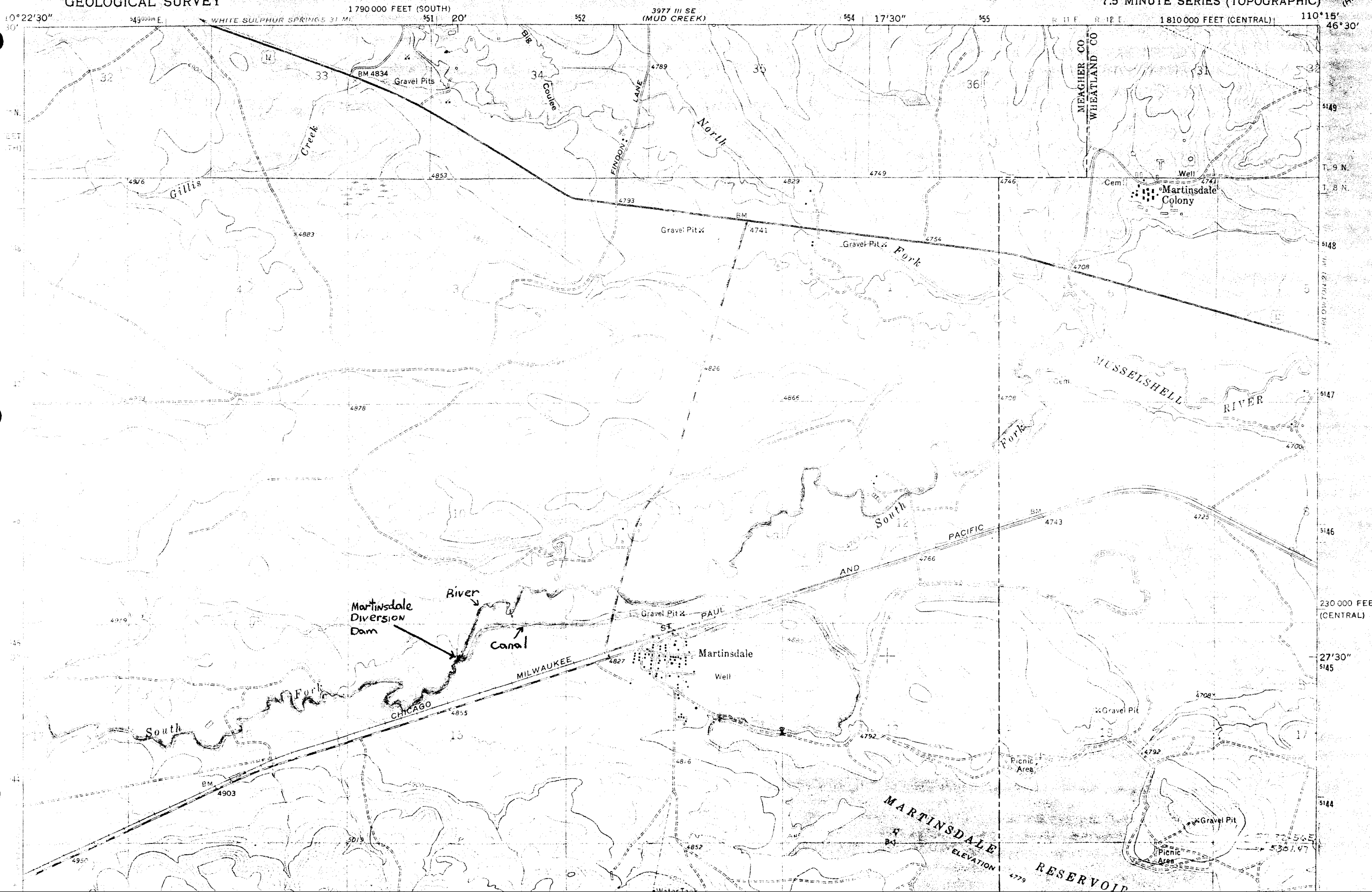
Addendum 1

Budget Spreadsheet

Future Fisheries Grant Budget for The Martinsdale Fish Passage

Item	Quantity	Unit Price	Estimated Cost	Contracted Services	Service provided by the UMWUA
Dam Modifications:					
Concrete	2 yds	$ 500.00	$ 1,000.00	$ 1,000.00	
Reinforcing steel	100 lbs	$ 0.90	$ 90.00	$ 90.00	
Misc Concrete	1 unit	$ 500.00	$ 500.00	$ 500.00	
Check boards (2"X10")	10	$ 5.00	$ 50.00		$ 50.00
Cutting concrete	1 unit	$ 500.00	$ 500.00	$ 500.00	
Concrete removal	1 unit	$ 500.00	$ 500.00		$ 500.00
Channel Maintenance:					
Equipment (Hoe)	3 day	$ 500.00	$ 1,500.00		$ 1,500.00
Rip-rap/Rock	10 yds	$ 50.00	$ 500.00	$ 500.00	
subtotal			$ 4,640.00		
Contingency (20%)			$ 928.00	$ 928.00	
Engineering (10%)			$ 556.80	$ 556.80	
Total			**$ 6,124.80**	**$ 4,074.80**	**$ 2,050.00**

UMWUA (Upper Musselshell Water Users Association)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MARTINSDALE QUADRANGLE
MONTANA
7.5 MINUTE SERIES (TOPOGRAPHIC)