

COMMISSIONERS APPROVAL

IMAN 

CHILCOTT 

FOSS 

KANENWISHER 

STOLTZ 

PLETTENBERG (Clerk & Recorder)

Members Present.....Commissioner J.R. Iman, Commissioner Suzy Foss, Commissioner Ron Stoltz and Commissioner Matt Kanenwisher

Date.....March 23, 2011

- ▶ Minutes: Beth Perkins
- ▶ Commissioner Chilcott attended a MACo Legislative session in Helena for the day.
- ▶ The Board met to designate County Earmarked Alcohol Tax Money and Western Montana Addiction Services update at 9:30 a.m. Present was Skip Rosenthal. Commissioner Iman was not present for this meeting due to another scheduled matter.

Skip gave the Board an update of Western Montana Addiction Services. **Commissioner Foss made a motion to designate Western Montana Addiction Services for the County Earmarked Alcohol Tax Money. Commissioner Kanenwisher seconded the motion and all voted "aye".**

- ▶ The Board met with David Price regarding decision on application for personal property tax refund/property was out of state at 10:00 a.m. Present was DOR Kimberly Mills.

Kimberly gave a brief update of the personal property in question and stated at the time of taxation, the equipment was out of state in Idaho. The amount totaled \$1,146.88.

**Commissioner Kanenwisher made a motion to approve the tax abatement for David Price in the amount \$1,146.88. Commissioner Foss seconded the motion and all voted "aye".**

► The Board met for an update and discussion and decision regarding upcoming floodplain map revisions at 10:30 a.m. Present were Civil Counsel Karen Mahar, Planning Director Tristan Riddell, Floodplain Administrator Eric Anderson and Environmental Health Director Lea Guthrie.

Eric gave an update of the floodplain map revisions. He discussed FEMA funding to map Eight Mile and Three Mile Creeks in detail as well as an overlay of existing maps. There is an existing study for Nez Perce which will be reviewed in order to be included within the floodplain. The Zone D areas are going to change into Zone A (regulatory) for the maps. Eric discussed the history of DNRC and the Board of Commissioners conflict of delineation in 1981 (See Attached). Anyone in the Zone D can chose to have flood insurance but it would be extremely expensive due to high risk categorization. Eric stated those not delineated are considered to be Zone D. The problem started in 1981 with the argument of designation of Zone D areas changed to Zone A areas without basis. Now FEMA wants to change the Zone D areas to Zone A without any input from the County. He further discussed the LiDAR project and how it came into effect. Karen stated the only current detailed mapping is Mainstem adopted by FEMA. Eric stated the only recognized detailed mapping by FEMA is Mainstem, Eight Mile and Three Mile Creeks.

Karen Mahar reviewed past litigation regarding floodplain delineations. The County does not want to use maps that cannot be defended legally. Discussion followed regarding the maps. Eric would like these issues resolved prior to FEMA issuing the revisions and requested the Board to issue a letter to FEMA to see if the issues can be resolved. After discussion, the Board concurred to send a letter to FEMA. **Commissioner Kanenwisher made a motion to have Eric draft a letter to FEMA with legal review. Commissioner Stoltz seconded the motion and all voted "aye".**

► Commissioner Foss visited RCEDA at 11:00 a.m.

► Commissioner Iman attended a Republican Women's luncheon at 12:00 p.m.

► The Board met for the continuation of decision on gravel roads level of services/priority for surface stabilization from March 17<sup>th</sup> at 1:45 p.m. Present were Road & Bridge Supervisor David Ohnstad, Chris Hockman, Tonia Bloom and Ravalli Republic Reporter Whitney Bermes. Commissioner Kanenwisher was not present for this meeting.

David presented the Board with a listing of gravel roads scheduled for surface stabilization. (See Attached) He reviewed the schedule with the Board by Commissioner District addressing length, proposed county contribution and priority. Commissioner Iman stated traffic may go by a home but does not participate in the program. He discussed changing North Kootenai Creek from 100% county contribution to 50% and others if more people participated in the program. David agreed that the schedule was created with the participation at the moment and can be modified as they get more participation. Commissioner Iman further reviewed the schedule and suggested

modifications to other areas to reduce the cost to \$50,000 from SRS funds. He requested David to revise the schedule and return to the Board for approval.

► The Commissioners attended an Open Lands Bond Program Site Visit for Triple J Bar Ranch at 3:00 p.m.

**SURFACE STABILIZATION \* COMMISSIONER DISTRICTS \* PRIORITY STATUS**

(L = LENGTH, % = PROPOSED COUNTY CONTRIBUTION, P = PRIORITY 1 - 3)

DISTRICT 1						
ROADWAY NAME	FROM	TO	L	%	P	
AMBROSE CREEK ROAD	LONE ROCK SCHOOL	FOREST ROAD 428	1.80	100%	3	
HOOVER LANE	THREE MILE CREEK	DRY GULCH ROAD	2.15	50%	1	
LONE ROCK SCHOOL RD	END COUNTY ROAD	AMBROSE CREEK RD	1.10	50%	3	
LONE ROCK SCHOOL RD	AMBROSE CREEK RD	THREE MILE CREEK	0.50	100%	1	
NORTH KOOTENAI CREEK	END	FOREST ROAD 1322	0.50	FS	FS	
NORTH KOOTENAI CREEK	FOREST ROAD 1322	U.S. HIGHWAY 93	1.75	100%	1	
PORTER HILL ROAD	END PAVEMENT	DRY GULCH ROAD	2.75	50%	1	

**RAVALLI COUNTY ROAD & BRIDGE DEPARTMENT / GRAVEL ROADS MANAGEMENT**

<b>SUNNYSIDE CEMETERY RD</b>	<b>END COUNTY ROAD</b>	<b>END PAVEMENT</b>	<b>0.30</b>	<b>50%</b>	<b>1</b>
<b>THREE MILE CREEK ROAD</b>	<b>LONE ROCK SCHOOL</b>	<b>RIDGE ROAD</b>	<b>1.50</b>	<b>50%</b>	<b>1</b>
<b>THREE MILE CREEK ROAD</b>	<b>RIDGE ROAD</b>	<b>FOUR CORNERS</b>	<b>1.80</b>	<b>100%</b>	<b>3</b>
<b>TRIPP LANE</b>	<b>THREE MILE CREEK</b>	<b>PORTER HILL RD</b>	<b>1.25</b>	<b>50%</b>	<b>2</b>
<b>#1 PRIORITY @ 50% = 6.70 MILES = \$11,790.00 * #1 PRIORITY @ 100% = 2.25 MILES = \$7,920.00</b>					

<b>DISTRICT 2</b>					
<b>ROADWAY NAME</b>	<b>FROM</b>	<b>TO</b>	<b>L</b>	<b>%</b>	<b>P</b>
<b>BEAR CREEK TRAIL</b>	<b>END COUNTY ROAD</b>	<b>RED CROW ROAD</b>	<b>1.00</b>	<b>50%</b>	<b>1</b>
<b>CURLEW ORCHARD ROAD</b>	<b>FOREST ROAD 738</b>	<b>MERIDIAN ROAD</b>	<b>1.20</b>	<b>50%</b>	<b>1</b>
<b>GROFF LANE</b>	<b>END PAVEMENT</b>	<b>HOME ACRES ROAD</b>	<b>0.75</b>	<b>100%</b>	<b>1</b>

RAVALLI COUNTY ROAD & BRIDGE DEPARTMENT / GRAVEL ROADS MANAGEMENT

GROFF LANE	HOME ACRES ROAD	END	0.65	50%	2
HOLLIBAUGH ROAD	END PAVEMENT	ILLINOIS BENCH	0.95	50%	1
INDIAN PRAIRIE LOOP	CURLEW ORCHARD	END PAVEMENT	1.75	100%	1
IROQUOIS TRAIL	END PAVEMENT	CURLEW ORCHARD	1.15	50%	1
MERIDIAN ROAD	BEAR CREEK ROAD	THIRD AVE (VICTOR)	3.40	50%	1
MIDDLE BEAR CREEK RD	RED CROW ROAD	PLEASANT VIEW	2.50	50%	1
NORTH SUNSET BENCH	PINE HOLLOW	S BURNT FORK	2.25	100%	1
RED CROW ROAD	PLEASANT VIEW DR	SWEATHOUSE CRK	1.20	50%	2
SAINT MARY'S ROAD	INDIAN PRAIRIE LP	END PAVEMENT	1.85	50%	3
SALISH TRAIL	SAINT MARY'S RD	S KOOTENAI CRK	2.00	50%	3

RAVALLI COUNTY ROAD & BRIDGE DEPARTMENT / GRAVEL ROADS MANAGEMENT

SOUTH SUNSET BENCH	PINE HOLLOW RD	LA FONTAINE RD	3.00	100%	1
SWEATHOUSE CREEK RD	FOREST ROAD 4520	RED CROW ROAD	0.80	50%	3
SWEATHOUSE CREEK RD	RED CROW ROAD	PLEASANT VIEW DR	1.65	100%	1
WILDFOWL LANE	END PAVEMENT (S)	END PAVEMENT (N)	1.25	100%	1
WILLOUGHBY LANE	S SUNSET BENCH	END	2.10	50%	1
<p>#1 PRIORITY @ 50% = 12.30 MILES = \$21,650.00 * #1 PRIORITY @ 100% = 10.65 MILES = \$37,490.00</p>					

DISTRICT 3					
ROADWAY NAME	FROM	TO	L	%	P
ALVISTA LOOP (NORTH)	N/S ALVISTA LOOP	BOWMAN ROAD	0.50	100%	1
HAMILTON HEIGHTS ROAD	END PAVEMENT	END COUNTY ROAD	0.50	100%	1

**RAVALLI COUNTY ROAD & BRIDGE DEPARTMENT / GRAVEL ROADS MANAGEMENT**

<b>MILL CREEK TRAIL</b>	<b>END</b>	<b>FOREST ROAD 1328</b>	<b>0.80</b>	<b>FS</b>	<b>FS</b>
<b>MILL CREEK TRAIL</b>	<b>FOREST ROAD 1328</b>	<b>BOWMAN ROAD</b>	<b>0.75</b>	<b>100%</b>	<b>3</b>
<b>MILL CREEK ROAD</b>	<b>BOWMAN ROAD</b>	<b>ORCHARD DRIVE</b>	<b>2.05</b>	<b>50%</b>	<b>1</b>
<b>NORTH BIRCH CREEK RD</b>	<b>END PAVEMENT</b>	<b>CAMP THREE LANE</b>	<b>2.05</b>	<b>50%</b>	<b>2</b>
<b>PONY PALACE WAY</b>	<b>ORCHARD DRIVE</b>	<b>U.S. HIGHWAY 93</b>	<b>0.40</b>	<b>100%</b>	<b>1</b>
<b>SOFT ROCK ROAD</b>	<b>SUMMERDALE RD</b>	<b>END COUNTY RD</b>	<b>0.60</b>	<b>50%</b>	<b>1</b>
<b>SUTHERLAND LANE</b>	<b>POPHAM LANE</b>	<b>BAILEY LANE</b>	<b>1.75</b>	<b>50%</b>	<b>1</b>
<b>WILLOW CREEK ROAD</b>	<b>END PAVEMENT</b>	<b>FOREST ROAD 364</b>	<b>1.65</b>	<b>100%</b>	<b>3</b>
<b>#1 PRIORITY @ 50% = 4.40 MILES = \$7,745.00 * #1 PRIORITY @ 100% = 1.40 MILES = \$4,930.00</b>					

RAVALLI COUNTY ROAD & BRIDGE DEPARTMENT / GRAVEL ROADS MANAGEMENT

DISTRICT 4

ROADWAY NAME	FROM	TO	L	%	P
BLODGETT CAMP ROAD	END	FOREST ROAD 736	0.80	FS	FS
ROARING LION ROAD	END	JUDD CRK HOLLOW	0.30	FS	FS
TAMMANY LANE	DUUS LANE	END PAVEMENT	1.05	100%	1

#1 PRIORITY @ 50% = 0 MILES \* #1 PRIORITY @ 100% = 1.05 MILES = \$3,695.00

DISTRICT 5

ROADWAY NAME	FROM	TO	L	%	P
CAMAS CREEK LOOP	END PAVEMENT	HAYES CREEK RD	0.55	100%	1
FISH HATCHERY ROAD	STATE ROUTE 38	END PAVEMENT	1.10	50%	2

**RAVALLI COUNTY ROAD & BRIDGE DEPARTMENT / GRAVEL ROADS MANAGEMENT**

<b>HUGHES CREEK ROAD</b>	<b>WEST FORK ROAD</b>	<b>RANGER STATION</b>	<b>0.35</b>	<b>FS</b>	<b>FS</b>
<b>RYE CREEK ROAD</b>	<b>FOREST BOUNDARY</b>	<b>NORTH FORK RYE</b>	<b>1.40</b>	<b>FS</b>	<b>FS</b>
<b>SAWMILL LANE</b>	<b>END COUNTY ROAD</b>	<b>CONNER CUT-OFF</b>	<b>0.35</b>	<b>50%</b>	<b>1</b>
<b>#1 PRIORITY @ 50% = 0.35 MILES = \$615.00 * #1 PRIORITY @ 100% = 0.55 MILES = \$1,935.00</b>					

<b>#1 PRIORITY @ 50% = 23.75 MILES = \$41,800.00</b>	<b>#1 PRIORITY @ 100% = 15.90 MILES = 55,970.00</b>
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**39.65 TOTAL MILES + 5 MILES @ RCRBD OPTION**

**TOTAL PROPOSED APPROPRIATION \$115,000.00**

**IT IS ALSO PROPOSED THAT THE DUST ABATEMENT PROGRAM CONTINUE TO BE AVAILABLE FOR ALL COUNTY ROADWAYS, AND FOR PRIVATELY-OPERATED ROADWAYS THAT OCCUR WITHIN PUBLIC EASEMENTS, WITH THE PARTICIPANT PAYING ONLY FOR THE COST OF THE MAGNESIUM CHLORIDE AND THE COUNTY PROVIDING ROADWAY PREPARATION AND APPLICATION OF THE MATERIALS**

# COUNTY OF RAVALLI

STATE  
OF  
MONTANA

HAMILTON, MONTANA 59840

November 24, 1981

Mr. John Hamble  
Floodplain Bureau  
32 South Ewing  
Department of Natural Resources &  
Conservation  
Helena, MT 59620

Dear Mr. Hamble:

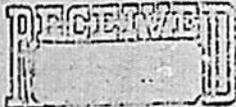
Please accept this letter as one of protest concerning the recent proposed floodplain maps.

Ravalli County will enforce any reasonable floodplain delineations and their corresponding restrictions. Even the main stem cross sections are so few as to make the Bitterroot a weak floodplain map often difficult to substantiate in the field. It is our understanding that only five actual cross sections were used for the main stem mapping even though estimated elevations were specified as 500 to 1500 yard intervals.

Even Mr. Porrini admitted the lack of accuracy within the main stem mapping. This fact leads us to feel the tributary delineations without elevations and cross sections as less than useless.

Making a floodplain delineation from a 40 to 80 foot contour map is unreasonable. The county is requested to administer these floodplains enforcing stringent restrictions on its use based on a tremendously inaccurate delineation.

Ravalli County is willing to manage the tributary floodplains if they are established by on site scientific fact gathering but certainly not



FEMA REGION VII  
HURDANCE MITIGATION

Mr. John Hamble  
Page 2  
November 24, 1981

random undocumented guesswork. We feel that some tributaries do not even require a 100 year floodplain delineation.

Sincerely,

THE RAVALLI COUNTY BOARD OF HEALTH

Harold White  
Harold White, Chairman

Frank Williams  
Frank Williams, Member

Fritz Tossberg  
Fritz Tossberg, Member

David Jones  
David Jones, Member

Herald Cox, Sc.D.  
Herald Cox, Sc.D., Member

SV

cc: ✓ Bob Kistner, Federal Emergency Management Agency  
Max Baucus, U.S. Senator  
John Melcher, U.S. Senator  
Pat Williams, Congressman  
Ron Marlenee, Congressman  
Elmer Severson, State Senator  
Robert Thoft, State Representative  
Kenneth Robbins, State Representative

DEPARTMENT OF NATURAL RESOURCES  
AND CONSERVATION  
WATER RESOURCES DIVISION



TED SCHWINDEN GOVERNOR

32 SOUTHWING

STATE OF MONTANA

14061 449-2872 ADMINISTRATOR  
14061 449-3760 WATER DEVELOPMENT BUREAU  
14061 449-2872 WATER MANAGEMENT BUREAU  
14061 449-3864 STATE WATER PROJECTS BUREAU  
14061 449-3962 WATER RIGHTS BUREAU

HELENA MONTANA 59620

December 7, 1981

Jerome Olson, Director  
Natural & Technological Hazards Division  
FEMA Region VIII  
Denver Federal Center, Bldg. 710  
Denver, Colorado 80225

Dear Jerry:

I am requesting that all of the approximate delineations of floodplains for tributaries to the Bitterroot River be deleted from the Flood Insurance Rate Maps for Ravalli County. As you know the Ravalli County government has strongly opposed their inclusion in the Flood Insurance Study. It is a considerable burden to place upon landowners to prove that they are out of the floodplain when the delineations were done by approximate means.

Enclosed is a copy of an article that appeared in the Missoulian Newspaper that I thought might be of interest to you.

Thank you for your consideration in this matter.

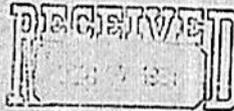
Sincerely,

A handwritten signature in cursive script that reads "John R. Hamill".

John R. Hamill, Supervisor  
Floodplain Management Section  
Engineering Bureau

enclosure

cc: Don Mullin



FEMA REGION VIII  
INSURANCE & MITIGATION

# COUNTY OF RAVALLI

STATE  
OF  
MONTANA

HAMILTON, MONTANA 59840

December 7, 1981

Mr. John Hamel  
Floodplain Bureau  
32 South Ewing  
Dept. of Natural Resources  
and Conservation  
Helena, Montana 59601

Dear Mr. Hamel:

We are writing this letter to protest the proposed flood plain delineations for the various tributaries of the Bitterroot River in Ravalli County, approximately 33 in number.

While it is true that some of the tributaries are subject to flooding, there are others we believe present no hazard.

Our basic objections are two-fold:

1. To the best of our knowledge, no on-site inspections of the tributaries were made by the parties preparing the flood plain maps, nor were any pertinent elevations established.
2. The arbitrary delineation of the flood plains without inspection or elevations means that landowners are forced to defend their property rights and prove that their ground is not in the flood plain. In turn, we as County Commissioners are asked to enforce a flood plain that may have no basis in fact, which is an unfair burden for taxpayers in our county.

You should be aware that we would welcome a measured scientific approach to flood plain delineation since it would make our job of administration considerably less difficult. However, as proposed, we find ourselves in a virtually indefensible position.

Sincerely,  
BOARD OF COUNTY COMMISSIONERS  
Ravalli County, Montana

*Harold White*

Harold White, Chairman

*F. Y. Williams*

F. Y. Williams, Member

*F. B. Tossberg*

F. B. Tossberg, Member



CONGRESS OF THE UNITED STATES  
HOUSE OF REPRESENTATIVES  
WASHINGTON, D.C. 20515

PAT WILLIAMS  
Member  
Western District

COMMITTEES  
EDUCATION AND LABOR  
INTERIOR

WASHINGTON OFFICE  
1221 Longworth Building  
WASHINGTON, D.C. 20515  
TELEPHONE: (202) 225-2211

TOLL-FREE NUMBER  
1-800-335-6177

December 15, 1981

Mr. Bob Kistner  
Emergency Management Specialist  
Federal Emergency Management Agency  
Region VIII  
Denver Federal Center, Building 710  
Denver, Colorado 80225

Dear Mr. Kistner:

I am writing to you on behalf of the Ravalli County Sanitarian and Board of Health, who have contacted me concerning the proposed floodplain maps for the tributaries of the Bitterroot River in Western Montana.

Ravalli County officials oppose the implementation of these maps because no on-site studies were conducted, thereby resulting in inaccurate delineations of the floodplain. They have written to your office and to the Montana Department of Natural Resources and Conservation regarding these problems. I urge you to carefully consider their comments before finalizing the floodplain maps.

Please keep me informed of your decision by writing to 409 Montana Building, 101 East Broadway, Missoula, Montana, 59802. Your attention in this matter is appreciated.

Best regards.

Sincerely,

Pat Williams

# COUNTY OF RAVALLI

STATE  
OF  
MONTANA



December 22, 1981

HAMILTON, MONTANA 59840

Mr. Bob Kistner  
Federal Emergency Management Agency  
Region VIII  
Denver Federal Center, Building 710  
Denver, CO 80225

Dear Mr. Kistner:

In light of the conditions under which the floodplain maps for the Bitterroot River were made, Ravalli County would like to have those flood hazard areas that were determined by approximate means (by-in-large the tributaries) shown as Zone D (areas of undetermined risk). The County government realizes there can be flood hazards associated with the tributaries but feels the methods used to determine the boundaries was not accurate enough to warrant imposing the more stringent local regulations on property owners in these areas.

The County would ask that the maps be printed as presented at the July 28, 1981, meeting with the exception that the approximate study areas be shown with a Zone D designation.

Although the County recognizes the maps resulting from the detailed study of the main channel of the Bitterroot River is not in itself entirely accurate, we would accept it as presented in the July 28, 1981, meeting in Hamilton with its presently designated zones.

Thank you for your cooperation. If there are any further problems we should know about please contact us.

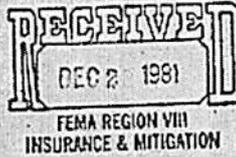
Sincerely,

Harold White  
Harold White, Chairman

Frank Williams  
Frank Williams, member

Fritz Tossberg  
Fritz Tossberg, member

DSM/sev



FIA FILE COPY



Federal Emergency Management Agency

Region VIII Denver Federal Center, Building 710 Denver, CO 80225

December 22, 1981

Congressman Pat Williams  
409 Montana Building  
101 East Broadway  
Missoula, Montana 59802

Dear Congressman Williams:

Thank you for advising me of the concerns of Ravalli County in regard to the proposed flood plains maps for the tributaries of the Bitterroot River.

We have reviewed the tributary mapping and have arrived at a solution that is acceptable to Mr. Don S. Mullin, Ravalli County Sanitarian, and the Board of County Commissioners of Ravalli County. We have instructed our technical contractors, Danes and Moore, to indicate zone "D" on all maps where no on-site studies were conducted. Zone "D" indicates some degree of hazard from flooding. This appears to be agreeable to Mr. Mullin and the Ravalli County Commissioners as they wanted some tool to control growth in possible flood hazard areas of Ravalli County. The changes in the flood plain maps will be incorporated into "proof maps" which will be sent to Ravalli County in January 1982.

We appreciate your interest in the National Flood Insurance Program. If we can be of assistance, please contact us.

Sincerely,

Alton D. Cook  
Regional Director

# COUNTY OF RAVALLI

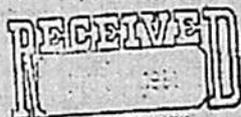
STATE  
OF  
MONTANA

The Bitterroot Valley

HAMILTON, MONTANA 59840

November 23, 1981

Mr. John Hamble  
Floodplain Bureau  
32 South Ewing  
Department of Natural Resources &  
Conservation  
Helena, MT 59620



FEMA REGION VIII  
INSURANCE & MITIGATION

Dear John:

I would like to make comment on the proposed floodplain maps of the Bitterroot River and tributaries in Ravalli County, Montana.

As far as the main river channel is concerned the maps are a major improvement over the existing official map now being used by Department of Natural Resources and Conservation (DNRC) and the county for floodplain administration. The delineation of the tributary streams to the river is quite a different matter however.

No study including any one site measurements was done for any of the tributaries to calculate the boundaries of a predicted 100 year flood. On the streams I have had time to investigate (Sweeney and Willoughby Creeks) I have found it difficult and often impossible to associate onsite physical features of the stream and surrounding land forms with the floodplain delineation shown on the proposed maps.

In terms of administration of a floodplain it is difficult to locate the floodplain line on the ground in some cases but usually it is possible to locate a physical feature that corresponds with the floodplain map (i.e. banks, rises inland, etc.). This has not been the case concerning the tributaries of the river. Often I find a 200 foot wide delineation of a floodplain on a two foot wide stream bed.

In light of the cost to be imposed on the local land owner in terms of loss of ground to strict regulation and cost of having the proposed delineation changed once it becomes adopted as official, I would protest the manner in which the tributary floodplain lines were created.

If the population is not great enough to warrant the cost of a detailed study on the tributaries then it would seem to me the population in this area is not great enough to imply a significant amount of hazard associated with flooding of the tributaries.

Mr. John Hamble  
Page 2  
November 23, 1981

I am very much in favor of proper floodplain management and would welcome regulation of and management of a properly designated floodplain on tributaries of the Bitterroot River. I also welcome the new maps in so far as the river channel itself but I object to the manner in which the tributaries of the Bitterroot River have been designated at a great savings to the federal and state government but at a great expense to the private landowner.

Sincerely,

*Don S. Mullin*

Don S. Mullin  
Ravalli County Sanitarian  
Floodplain Administrator

sv

✓ cc: Bob Kistner

- In 1980.*
- ① We did have an agreement with Central office & TEC that any approximated flooding boundary or FFBM added on our study areas should be noted to Regional office. Regional office will make the determination. However, this study is old study, therefore it is not applied.
  - ② But TEC said they will take off FFBM along the tributaries of region and then to do so. <sup>Mr. John Hamble</sup> therefore Mt. State will write a letter request to take off FFBM along the certain tributaries.

## APPENDIX D – RAVALLI COUNTY

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## SUMMARY OF PROJECT SCOPE

The panelization scheme reveals an estimated 39 printed and 68 non-printed (107 total) panels in the DFIRM as a result of the digital conversion, with a rough cost of about **\$180,000**. Studies or restudies could impact the number of panels for the DFIRM. There are no LOMRs to be incorporated.

There are two XDSs to be incorporated as part of the digital conversion that require FEMA approval. The flooding sources for which flood hazard data is available through these two XDSs are:

- East Fork Bitterroot River – about 25 miles from the confluence with the main stem to the Springer Memorial as studied by the NRCS,
- West Fork Bitterroot River – about 21 miles from the confluence with the main stem to the Painted Rocks Dam as studied by the NRCS, and
- Nez Perce Creek –from just below the confluence with the Little West to the West Fork Bitterroot River, about 3.4 miles, as studied by the USACE.

Two other XDS for Burnt Fork and Skalkaho Creek are being reviewed by the DNRC and considered for incorporation.

The County identified many areas for restudy; the top priorities are:

- About 715 miles of about 80 flooding sources covering almost the entire FIRM of delineated Zone D areas that are requested to be relabeled (or restudied if necessary) as Zone A areas,
- Detail study on Eightmile Creek from the confluence with Bitterroot River to the USFS Boundary, about 8 miles (currently shown as a delineated Zone D),
- Detail study on Three Mile Creek from the confluence with Bitterroot River to the USFS Boundary, about 14 miles (currently shown as a delineated Zone D),
- Detail study on Ambrose Creek from the confluence with Three Mile Creek to the USFS Boundary, about 9 miles (currently shown as a delineated Zone D),
- Detail study on Dry Gulch Creek from the confluence with the Bitterroot River to the USFS Boundary, about 8 miles (currently shown as a delineated Zone D), and
- Detail study on Willow Creek from the confluence with the Bitterroot River to the USFS Boundary, about 10 miles (currently shown as a delineated Zone D).

All XDSs and restudy needs are listed on the Data Collection Worksheet.

The project as listed above is estimated at about **\$1,101,000**.

## CONTACT INFORMATION

Last	Agency or Municipality	Title/Responsibility	E-mail Address	Phone Number	Street Address	City
Bowman	DNRC	Map Mod Coordinator	<a href="mailto:mbowman@mt.gov">mbowman@mt.gov</a>	406.444.6656	1424 9th Ave; PO Box 201601	Helena
Schock	DNRC	Regional Manager	<a href="mailto:lschock@mt.gov">lschock@mt.gov</a>	406.721.4284	101 S 3rd St West	Missoula
Scheele	Darby, Town of	Mayor	<a href="mailto:darbymontana@usa.net">darbymontana@usa.net</a>	406.821.3753	PO Box 37	Darby
Hansen	Hamilton, City of	Building Inspector	<a href="mailto:blginsp@cityofhamilton.net">blginsp@cityofhamilton.net</a>	406 363.3316	202 S Third St	Hamilton
Hendrix	Ravalli County	Floodplain Administrator	<a href="mailto:lhendrix@ravalliacounty.mt.gov">lhendrix@ravalliacounty.mt.gov</a>	406.375.6229	215 S. 4th St., Ste. F	Hamilton
Miller	Ravalli County	GIS Department	<a href="mailto:kmiller@ravalliacounty.mt.gov">kmiller@ravalliacounty.mt.gov</a>	406.375.6622	215 S. 4th St., Ste. F	Hamilton
Chilcott	Ravalli County	Commissioner	<a href="mailto:gchilcott@ravalliacounty.mt.gov">gchilcott@ravalliacounty.mt.gov</a>	406.375.6500	215 S. 4th St., Ste. F	Hamilton
McCubbin	Ravalli County	Attorney	<a href="mailto:jmccubbin@ravalliacounty.mt.gov">jmccubbin@ravalliacounty.mt.gov</a>		215 S. 4th St., Ste. F	Hamilton
Hughes	Ravalli County	Interim Director, Planning	<a href="mailto:khughes@ravalliacounty.mt.gov">khughes@ravalliacounty.mt.gov</a>	406.375.6530	215 S. 4th St., Ste. F	Hamilton

## SCOPING MEETING NOTIFICATION

From: Karen Price <highstarconsulting@mac.com>

Date: May 5, 2006 2:25:01 PM MDT

To: kmiller@ravallcounty.mt.gov, bldginsp@cityofhamilton.net, darbymontana@usa.net, Laura Hendrix <lhendrix@ravallcounty.mt.gov>

Cc: Dan March <DEMarch@pbsj.com>, Millicent Bowman <mbowman@mt.gov>, Terry Voeller <tvoeller@mt.gov>, Marijo Camrud <marjio.camrud@dhs.gov>, cbhiginbotham@pbsj.com

Subject: Ravalli County DFIRM

Good afternoon,

The Montana Department of Natural Resources and Conservation (DNRC), in coordination with the Federal Emergency Management Agency (FEMA), is interested in updating the Flood Insurance Rate Map (FIRM) for Ravalli County. Under FEMA's Map Modernization Program, the first step in this process is to meet with local Floodplain Administrators and GIS Specialists from National Flood Insurance Program (NFIP) communities. One of our goals at this Scoping Meeting is to provide information to community and county representatives about the Map Mod Program and the resulting GIS-based Digital FIRM (DFIRM).

In support of the DNRC and FEMA, PBS&J and High Star Consulting will be facilitating this scoping effort, including the upcoming meeting. We would most appreciate if you could attend. The meeting will be held in Hamilton on Tuesday, May 23rd, from 1:30 to 3:30 p.m. at the Ravalli County Administrative Center, 215 South 4th Street, in the Commissioner's Meeting Room on the 3rd floor.

In addition to providing you with information about the program, the DFIRM process, and the map products, we would like to gather some information from you. Specifically, we are interested in learning of local base map data that could be used for the DFIRM to help tailor the maps for local planning department's use. A document is attached for GIS professionals describing the type of base map data FEMA is interested in for the DFIRM.

We would also like to learn of those flood hazard areas that may need study or restudy. A spreadsheet is attached for Floodplain Administrators showing the data we have so far of the "mapping needs" in your county. Feel free to edit the existing data or add new information before the meeting (don't worry if you can't fill in all the fields); if you know of existing studies that could be reflected on the new DFIRMs, please add that information as well. We will bring a large map to use for discussions about restudies - at the end of the meeting we will try to prioritize these restudy needs for use in determining the project scope.

I have been working in the NFIP for several years and managed DFIRM efforts in other States. I would love to talk with you before the meeting by phone to answer any questions you have, provide some background, or learn of restudies you are interested in. Give me a call anytime at 303.345.4728. Please RSVP about the meeting by responding to this email, including names of any other local representatives who may be interested in attending.

Thank you very much - I look forward to talking with you!

Karen Price

High Star Consulting, Inc.  
highstarconsulting@mac.com  
303.345.4728  
3321 Brushwood Drive  
Castle Rock, CO 80109

Attachments



## Countywide DFIRM Base Map Data

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This document is intended to serve as a guide to gathering, evaluating, and submitting datasets for inclusion in a countywide Digital Flood Insurance Rate Map (DFIRM), including an explanation of base mapping data needs, standards, and the delivery deadline.

### Overview

In the beginning phases of a DFIRM project, data is gathered and compiled by the contractor into countywide GIS layers for use in FEMA DFIRM hard-copy map production. This data is also converted to the FEMA Standard DFIRM Database format that will be distributed to the communities with the hard-copy flood insurance maps and the Flood Insurance Study (FIS). The gathered and compiled data will form the base map for the project. FEMA has set forth GIS and mapping standards adopted from the National Standards for Spatial Data Accuracy (NSSDA) and published in FEMA's document: *Guidelines and Specifications for Flood Hazard Mapping Partners, Appendix A* ([http://www.fema.gov/pdf/fhm/frm\\_gsaa.pdf](http://www.fema.gov/pdf/fhm/frm_gsaa.pdf)). FEMA feels that the best data is local data and ultimately prefers to use community datasets that meet or exceed their specifications rather than using National-level datasets.

### Certification

For FEMA to use the data, certification and permission must be provided with the data. The certification is a written statement from the contributing organization that the data meets FEMA's minimum standards and specifications. The permission is a written statement that FEMA may use the data for their digital base map, and that FEMA may use and distribute hardcopy and digital products using the digital base map with no monetary charge.

### Submittal Deadline

A FEMA-approved base map is one of the first steps in developing a DFIRM for each county. The base map must be submitted to FEMA early in the process; therefore, it is essential that contractors receive all locally-developed data that the communities would like to see in their maps by the deadline (no deadline has been set for this project at this time).

## DATA STANDARDS

This section outlines the mapping data standards set forth by FEMA for data to be included in any DFIRM project. All data submitted for this project must conform to these standards to be included in the final DFIRM hard-copy and Database products. These specifications are published in the *Guidelines and Specification for Flood Hazard Mapping Partners* and are available from FEMA's web site.

### *File Format*

FEMA specifies many acceptable formats, and a full listing can be found in *Appendix L* of the *Guidelines and Specifications for Flood Hazard Mapping Partners*. The vector mapping files will be submitted to FEMA in an ESRI format and production work will take place in either an ESRI coverage format or an ESRI geodatabase format for vector datasets. Data to be included in the County DFIRM should be submitted in these formats or shapefile if possible. A Microstation CAD format is also acceptable as an alternative if the data is not available in a GIS format.

Imagery may be submitted in many formats including: .jpg, .tif, .sid, or .ecw. Topographic information can be accepted in grid, DEM, TIN, or TVC formats. If you have data to be submitted in a format other than those listed, please contact us and we can work with you toward a solution. Please include the coordinate system, datum, and projection information with the imagery as well as referenced world files if applicable.

### *Quality*

Topological fidelity must be maintained on all vector layers submitted for inclusion in the County DFIRM. If shapefiles or CAD files for both polyline and polygon are submitted for a single layer (i.e. Floodplain delineation polygons and line work are submitted in two separate files), those boundaries must be mathematically coincident. Overshoots, undershoots, dangles, psuedonodes, and slivers must be eliminated from the submitted datasets prior to submission.

### *Scale and Accuracy*

FEMA relies on National Map Accuracy Standards for dataset accuracy. These standards are located in *Guidelines and Specifications for Flood Hazard Mapping Partners, Appendix A and L*. These standards for base mapping layers (aerial photography, centerlines, etc.) are:

- \* scale of 1:20,000 or better;
- \* raster resolution of 1M or better;
- \* radial-RMSE (rRMSE) of 38 feet at the 95% confidence level.

### *Coordinate System and Projection*

The final data layers for this project may be submitted to FEMA and published in UTM (meters), NAVD88, NAD83, feet. Check with the project GIS manager about submittals in State Plane Coordinate System. Data may generally be submitted for inclusion to the DFIRM in any coordinate system, projection, horizontal or vertical datum so long as it is common, recognizable, documented, and easily converted to the project system.

### *Distribution*

FEMA must be able to distribute an unlimited number of hardcopy maps produced from these data, and they must be able to freely distribute the datasets used to create the maps. The data must also be available at zero cost to FEMA. Data distribution and use agreements can be signed by FEMA to limit data distribution in some cases and are dealt with on a case-by-case basis. FEMA also allows high quality data used in production of hard copy mapping products to be distributed in a reduced quality format. For example, 1-foot pixel aerial photography used to create DFIRM maps may be resampled to the 1-meter minimum resolution for distribution. Additionally, sensitive vector data, on special occasion, may be rasterized for distribution.

### *Currency*

Data to be included in the countywide DFIRM must have been created or reviewed for currency within the past seven (7) years.

### *Coverage*

FEMA requires complete county coverage in either a raster or vector format. The base map data for the county must ultimately cover the entirety of the County and Incorporated Communities in a vector dataset. Although a vector dataset will be used as the countywide base map, submission of ortho-rectified aerial imagery will assist the project by providing a source for georeferencing hard copy scans as well as assisting with feature verification. Data may come from multiple sources but all sources must meet the requirements stated above.

### *Metadata*

All datasets delivered from the community to DNRC for use in the DFIRM project must be accompanied by descriptive metadata files. FGDC compliant metadata will be delivered to FEMA with preliminary and final maps and data. This format is also the preferred format for community submittal of data to DNRC for inclusion to the DFIRM. If the FGDC format does not exist for the datasets and/or is not attainable, an alternate format is acceptable. A data dictionary and detailed description of the datasets are required at a minimum.

### *Summary*

If the above FEMA standards: scale of 1:20,000; resolution of 1 meter; currency of 7 years; freely distributable; accuracy of 38 feet rRMSE; complete coverage, and accompanying metadata can not be met or exceeded with existing community datasets for inclusion into the DFIRM and submittal to FEMA for the countywide DFIRM, then FEMA will necessitate the use of USGS quarter quadrangle aerial photography collected through the National Aerial Photography Program as the default base map for the project.

No data is being requested at this time – only a list of data that meets FEMA specifications and is likely to be available for use in the DFIRM project.

#### DATA LAYERS FOR USE IN BUILDING A DFIRM

FEMA and the DNRC are requesting that the following data layers from your area be submitted for inclusion into the DFIRM if they are available from your area. If your community has data meeting the above-described data standards and formats, and your community is willing to certify and allow this data for FEMA's use, please let us know which layers you can contribute, and send them in.

*We are looking for:*

- \* **Transportation**
  - o Street and Highway Centerlines
  - o Railroads
  - o Airport Runways
  - o Feature names. Should be included in a database or linked table
- \* **Flooding Sources**
  - o Stream centerlines
  - o Lakes
  - o Ponds
  - o Ditches, canals, laterals, and other sources contributing to the floodplain delineations included in the DFIRM study.
- \* **Flood Hazard Features**
  - o 1% annual chance flood hazard areas (100 year flood hazard), including shallow flooding areas
  - o 0.2% annual chance flood hazard areas (500 year flood hazard)
  - o Floodway
  - o Flood structures: dams, levees, bridges, culverts, etc.
  - o Cross Sections
  - o Base Flood Elevation Lines
- \* **Corporate Limits**
  - o Corporate Boundaries
  - o Annexations
  - o Extra Territorial Jurisdictions
  - o State or National Parks and Forests
  - o Airports
  - o Any other accurate boundary file defining jurisdictional limits
- \* **Public Land Survey System**
  - o Township, Range, and Section boundaries
- \* **Survey Benchmarks**
  - o Exact coordinates and identification of any locally used benchmarks that are desired to be placed on the DFIRM.
- \* **Topographic Data**
  - o Detailed contours suitable for floodplain delineation – preferably in a digital format
  - o Digital topographic surface (DEM, TIN, or other) suitable for floodplain delineation
- \* **Aerial Orthophotography**
  - o Most recent ortho-rectified aerial imagery referenced to a common coordinate system and projection

*We are not looking for:*

- \* Utilities
- \* Building footprints
- \* Parcels
- \* Right-of-way or easements

Priority	Start	End	Length (mi.)	Zone A?	Limited Detail?	Detail w/ floodway?	FEM studies	3 topo	4 topo	5 topo	Engineering Studies	Survey	Hydro	Hydraul	Panel	Hydro
2	conf. w. Red River	2nd Street	2.5 mi		X			X					X	X	0080	X
1								?	?	?	NRCS	no	no	no		X
2								?	?	?	USACE	no	no	no		
3								?	?	?	karl?					
4								?	?	?	karl?					
5			5 mi	X	X	X		?	?	?						
6			5 mi	X	X	X		?	?	?						
7			5 mi	X	X	X		?	?	?						
8			5 mi	X	X	X		?	?	?						



## AGENDA

Ravalli County DFIRM Scoping Meeting  
Ravalli County Administrative Center, 215 S. \$th St., Commissioner's Mtg Room, 3<sup>rd</sup> Flr.  
Tuesday, May 23, 2006, 1:30 p.m.

Welcome and Introductions – 5 min.

Montana DNRC  
FEMA  
PBS&J and High Star Consulting  
Ravalli County  
City of Hamilton  
Town of Darby

Meeting Goals – 5 min.

Local Goals  
Project Goals

**Presentation: Map Mod Overview and DFIRM Project Process – 20 min.**

Timeline and Budget – 5 min.

Timeline  
Budget: FEMA, MT DNRC, Local

Panelization – 5 min.

USGS Quad-based

**Discussion: Floodplain Restudy Prioritization**

Review of Highest Priority Restudy Needs

Next Steps

Wait ☺  
County Selection  
Project Contracting  
Project Kickoff, Data Collection

Close



## FACT SHEET: RAVALLI COUNTY

### *COUNTY AND COMMUNITY CONTACTS*

Ravalli County – Laura Hendrix, FPA; Ken Miller, GIS  
City of Hamilton – Land Hansen, FPA  
Town of Darby – Rick Scheele, FPA

### *EFFECTIVE FIRMS AND FIS TEXTS*

Ravalli County: FIS, FIRM last update September 1998  
City of Hamilton: last update September 1998  
Town of Darby: original FIRM from September 1998

### *KNOWN NON-FEMA STUDIES (XDS)*

E&W Fork Bitterroot River, NRCS  
NezPierce Creek, USACE  
Burnt Fork ?  
Skalkaho Creek ?

### *LOCALLY - IDENTIFIED MAPPING NEEDS*

Eightmile Creek, 5 miles  
Three Mile Creek, 5 miles  
Ambrose Creek, 5 miles  
Willow Creek, 5 miles

### *PREVIOUSLY – IDENTIFIED MNUSS NEEDS*

East Fork Bitterroot River (2005), 40 miles: new study  
West Fork Bitterroot River (2005), 100 miles: new study  
Bitterroot River (2005), 2 miles: bridge rebuilt near Victor at Bell Crossing that has altered the flow of the river

### *LOMRs TO BE INCORPORATED*

None

### *IDENTIFIED BASE MAP AND TOPO DATA*

Road and Railroad Centerlines, U.S. Census TIGER  
Stream Centerlines, U.S.G.S. National Hydrography  
LiDAR mapping through grant (proposed)



## RAVALLI COUNTY SCOPING MEETING NOTES

Ravalli County Administrative Center, 215 S. 5th St., Commissioner's Mtg Room, 3<sup>rd</sup> Flr.  
Tuesday, May 23, 2006, 1:30 p.m.

### *Attendees*

MT DNRC – Millie Bowman, Karl Christians, Larry Schock

PBS&J – Dan March, Carrie Higinbotham

High Star Consulting – Karen Price

Ravalli County – Laura Hendrix, Ken Miller, Greg Chilcott, James McCubbin, Karen Hughes

Local Media – Antony Quirihi

### *Overview*

The meeting was opened by Dan March, and then turned over to Karen Price. All attendees introduced themselves. Karen noted that some of the meeting goals were to provide information to the attendees about Map Modernization and to learn from them about desired changes to their local maps. Backed by a presentation, Karen and the project team discussed:

- Map Modernization from a Federal, State, and local level,
- Montana's ongoing DFIRM projects
- The DFIRM process, how communities could be involved, and local base map data contributions,
- Applications and uses of the DFIRM,
- Project timeline, and
- Project budget and local and State funding expectations.

Following the presentation, all attendees gathered around a panelization map to view the anticipated panel scheme for the DFIRM. Finally, the group documented all mapping needs using the scoping map and some markers, particularly those areas needing study or restudy, and prioritized them.

During the meeting, community representatives talked about issues unique to their FIRM panels and/or county and potential obstacles to the DFIRM development. These were recorded and are noted below. Once it was explained to the community representatives that they would be contacted again once the start date for the project was determined, the meeting was closed.

### *Potential Obstacles and Unique Issues*

Ravalli County has several important issues to consider when determining the project scope, budget, and timing. There are extensive Zone D areas throughout the county that need conversion to a defined SFHA and the county is attempting to develop quality topographic data on a countywide basis.

The Zone D areas are seen on the majority of the panels, and provide a total of 770 miles of "undefined" flood hazard areas. These Zone D areas are very unusual in that they actually do define an area around the flooding sources and seem very similar to a typical Zone A delineation, but they are labeled as Zone D. There is considerable development along these flooding sources and it is the county's top priority that these Zone D areas be converted to Zone A. It is roughly estimated that if these Zone D areas were treated as a standard Zone A study, it would cost over \$1M to map. It is suggested that the Zone D areas be simply relabeled as Zone As for the new map, with ample time for local review and comment on the delineations. Changes could be made to the delineations as appropriate by the study contractor based on recommendations by the community, and the cost to provide these approximate zones could be minimized. It would be important to support the communities and county with a strong outreach program designed to educate homeowners and developers who would be affected by the Zone D to Zone A changes.

A second key issue for the county is their interest and action toward developing 1 ft contour data. Through a grant with MT DNRC, they hope to develop LiDAR data for the northern half of the county beginning in the summer of 2007. If funding continues to be approved, the southern half of the county would be flown in 2008. The data would likely be ready for use by the early winter of 2008. It is suggested that Ravalli County be considered for project start in 2008, so this data can be used for the project.

### *General Scope*

The panelization scheme reveals an estimated 39 printed and 68 non-printed (107 total) panels in the DFIRM as a result of the digital conversion, with a rough cost of about \$180,000. Studies or restudies could impact the number of panels for the DFIRM. There are no LOMRs to be incorporated.

There are two XDSs to be incorporated as part of the digital conversion that require FEMA approval. The flooding sources for which flood hazard data is available through these two XDSs are:

- East Fork Bitterroot River – about 25 miles from the confluence with the main stem to the Springer Memorial as studied by the NRCS,
- West Fork Bitterroot River – about 21 miles from the confluence with the main stem to the Painted Rocks Dam as studied by the NRCS, and
- Nez Perce Creek –from just below the confluence with the Little West to the West Fork Bitterroot River, about 3.4 miles, as studied by the USACE.

Two other XDS for Burnt Fork and Skalkaho Creek are being reviewed by the DNRC and considered for incorporation. Two additional undisclosed XDS have been included in the cost estimate. Assumptions used for the cost estimate include:

<i>number of DFIRM panels</i>		39
<i>number of DFIRM index</i>		1
<i>number of floodprone communities</i>		4
<i>DOQ or Vector Mapping?</i>		DOQ
<i>Miles of existing approximate A zone to redelineate</i>		0
<i>Miles of existing detailed AE Zone to redelineate</i>		0
<i>Miles of existing detailed with BFEs</i>		65
<i>number of effective profiles</i>		15
<i>number of effective Floodway Data Tables</i>		5
<i>number of LOMRs to incorporate</i>		7
<i>number of effective FIS</i>		1
<i>number of effective FIRM panels</i>		16
<i>number of FIS pages</i>		45
<b>estimated cost/panel DFIRM Conversion (prelim)</b>	<b>\$</b>	<b>3,264.95</b>
<b>estimated cost/panel DFIRM Conversion (post-prelim)</b>	<b>\$</b>	<b>1,238.75</b>
<b>Total estimated DFIRM Conversion cost</b>	<b>\$</b>	<b>180,148.10</b>

The County identified many areas for restudy; the top priorities are:

- About 715 miles of about 80 flooding sources covering almost the entire FIRM of delineated Zone D areas that are requested to be relabeled (or restudied if necessary) as Zone A areas. If these areas require restudy, estimated cost is **\$262,100** (\$367/mile). Assumptions for the cost estimate include:
  - Hydraulic model to be used;
  - Existing topographic data is adequate;
  - Bridges will not be analyzed; and
  - USGS gaging data or regression equations will be used.
  
- Detail study on Eightmile Creek from the confluence with Bitterroot River to the USFS Boundary, about 8 miles (currently shown as a delineated Zone D). Estimated cost is **\$107,300** (\$13,410/mile). Assumptions for the cost estimate include:
  - New hydraulic model from scratch;
  - Existing topographic data is adequate and will be supplemented with 10 newly surveyed cross sections per mile;
  - Seven bridges will be analyzed;
  - USGS gaging data or regression equations will be used;
  - Modeling floodway for 100-year return event (only).
  
- Detail study on Three Mile Creek from the confluence with Bitterroot River to the USFS Boundary, about 14 miles (currently shown as a delineated Zone D). Estimated cost is **\$185,500** (\$13,2500/mile). Assumptions for the cost estimate include:

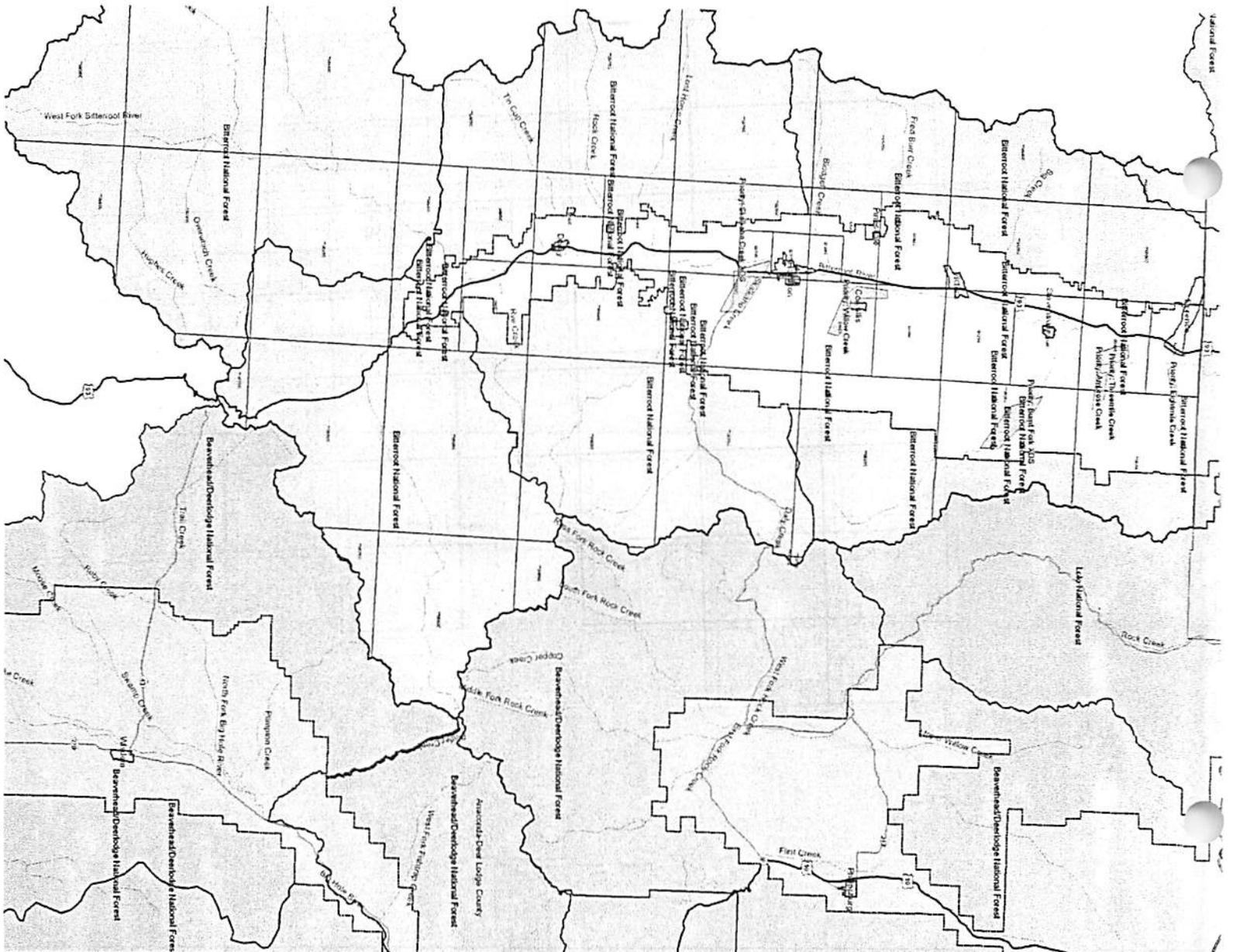
- New hydraulic model from scratch;
  - Existing topographic data is adequate and will be supplemented with 10 newly surveyed cross sections per mile;
  - Sixteen bridges will be analyzed;
  - USGS gaging data or regression equations will be used;
  - Modeling floodway for 100-year return event (only).
- Detail study on Ambrose Creek from the confluence with Three Mile Creek to the USFS Boundary, about 9 miles (currently shown as a delineated Zone D). Estimated cost is **\$117,300** (\$13,030/mile). Assumptions for the cost estimate include:
    - New hydraulic model from scratch;
    - Existing topographic data is adequate and will be supplemented with 10 newly surveyed cross sections per mile;
    - Seven bridges will be analyzed;
    - USGS gaging data or regression equations will be used;
    - Modeling floodway for 100-year return event (only).
- Detail study on Dry Gulch Creek from the confluence with the Bitterroot River to the USFS Boundary, about 8 miles (currently shown as a delineated Zone D). Estimated cost is **\$109,300** (\$13,660/mile). Assumptions for the cost estimate include:
    - New hydraulic model from scratch;
    - Existing topographic data is adequate and will be supplemented with 10 newly surveyed cross sections per mile;
    - Eight bridges will be analyzed;
    - USGS gaging data or regression equations will be used;
    - Modeling floodway for 100-year return event (only).
- Detail study on Willow Creek from the confluence with the Bitterroot River to the USFS Boundary, about 10 miles (currently shown as a delineated Zone D). Estimated cost is **\$139,300** (\$13,930/mile). Assumptions for the cost estimate include:
    - New hydraulic model from scratch;
    - Existing topographic data is adequate and will be supplemented with 10 newly surveyed cross sections per mile;
    - Thirteen bridges will be analyzed;
    - USGS gaging data or regression equations will be used;
    - Modeling floodway for 100-year return event (only).

A complete list of the Zone D areas was provided at the scoping meeting and was added to the existing data submittal (see Existing FEMA Data). Additional restudy needs are listed on the Data Collection Worksheet.

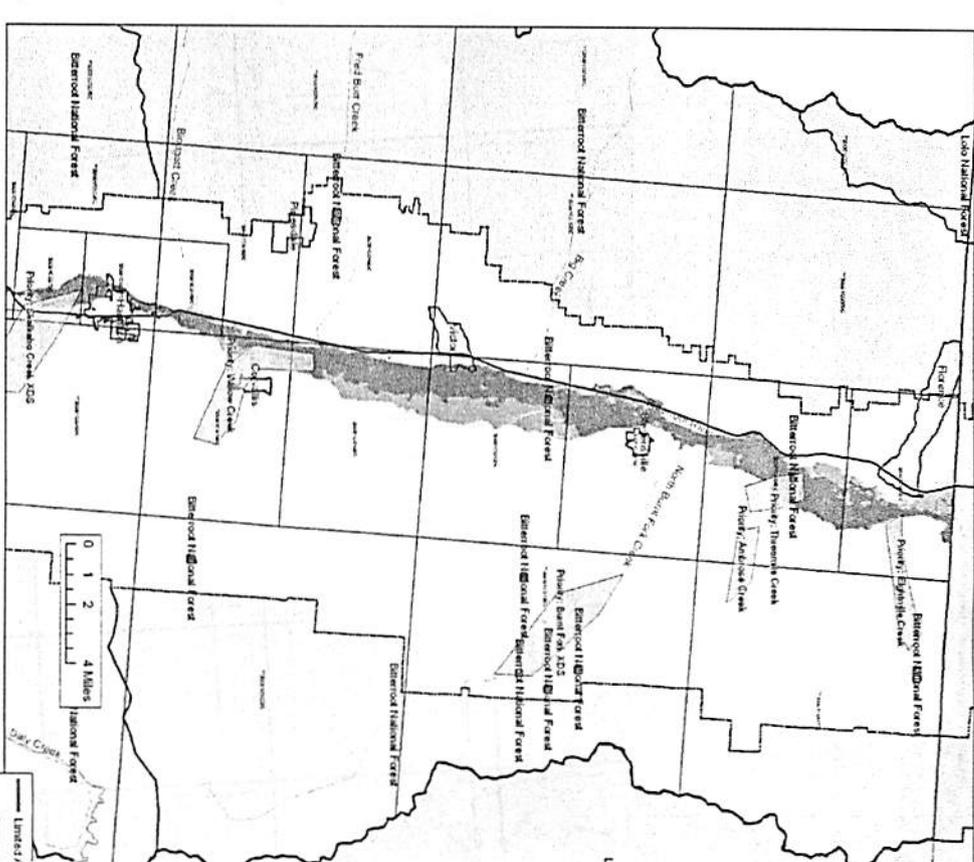
A DFIRM project including these needs is estimated at approximately: **\$1,101,000.**

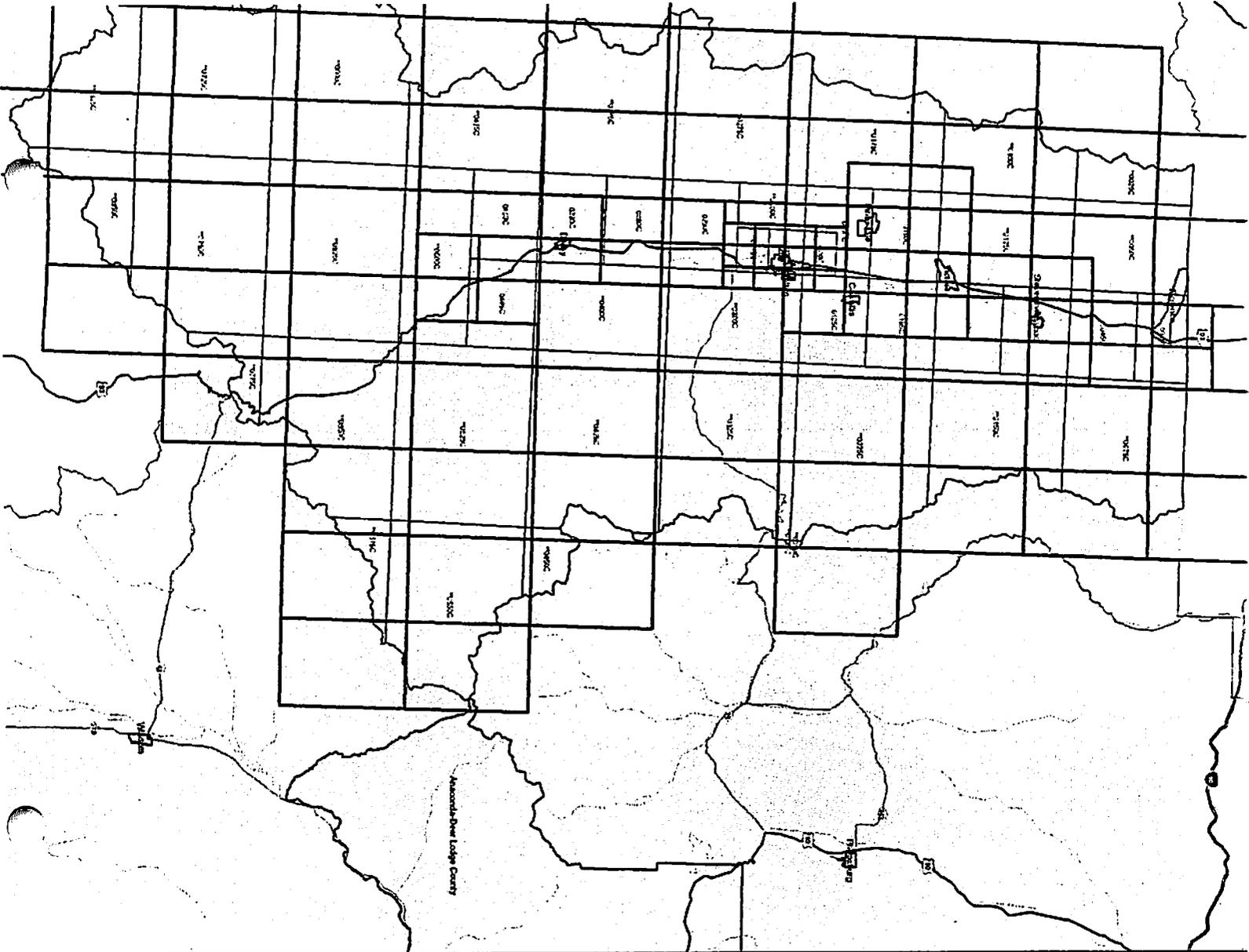
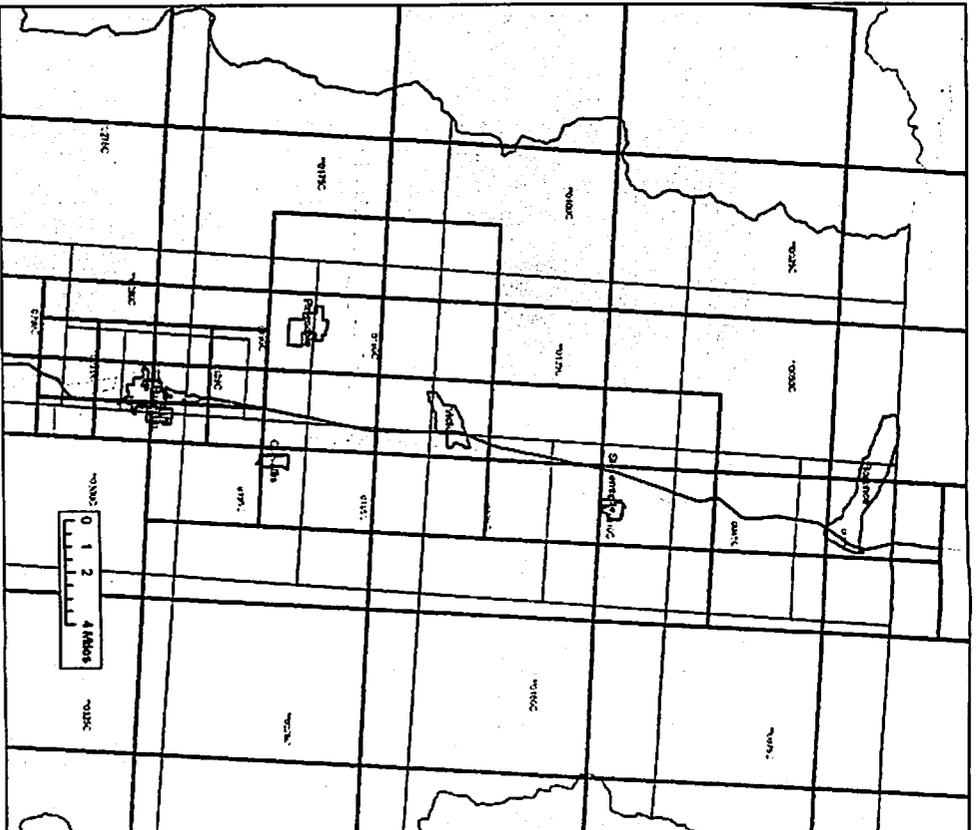
***Funding***

The county was not able to indicate at this time how much, if any, funding they could contribute toward the DFIRM project.

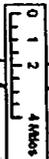


STATION	STATION LABEL		EASTING DATA		STATION HEIGHTS		WESTING	
	Code	Station	Point	Length	Other	Height	Code	Station
204/411	1	1	1	1	1	1	1	1
204/411	2	2	2	2	2	2	2	2
204/411	3	3	3	3	3	3	3	3
204/411	4	4	4	4	4	4	4	4
204/411	5	5	5	5	5	5	5	5
204/411	6	6	6	6	6	6	6	6
204/411	7	7	7	7	7	7	7	7
204/411	8	8	8	8	8	8	8	8





- Other Counties
- Kauai County
- Preliminary Panel Scheme
- Panel Not Printed
- Panel Printed
- Designated Districts (Counts 2002, from 1998)
- Election Panels ("Indices Panel Not Printed")
- 2000 Census Designated Places



GENERAL INFO				STUDY LEVEL			EXISTING DATA				STUDY NEEDS			MNR		
Initial Priority	Start	End	Approx. Reach Length (mi.)	Zone A?	Limited Detail?	Detail w/ floodway?	Existing FEMA studies	2' topo	5' topo	Other Engineering Studies	Topo/Survey	Hydro	Hydraul	Panels	C in Hydraul	C i Hyd
XDS	confl w/ Main Stem	Springer Memorial	25 mi			X		1 ft *		NRCS				485, 500, 625, 650, 525, 550		
XDS	confl w/ Main Stem	Painted Rocks Dam	21 mi			X		1 ft *		NRCS				485, 480, 500, 625, 750, 725		
XDS	Mile 3.4 just below confluence with Little West	West Fork Bitterroot River	3.4 mi	X				1 ft *		USACE				600, 625		
1	see list attached		750 mi	X			Defined Zone D	1 ft *						all		
2	Confl w/ Bitterroot River	USFS Bdry	8 mi			X	Defined Zone D	1 ft *			x*	x	x	55, 75	X	X
3	Confl w/ Bitterroot River	USFS Bdry	14 mi			X	Defined Zone D	1 ft *			x*	x	x	45	X	X
4	Confl w/ Three Mile Creek	USFS Bdry	9 mi			X	Defined Zone D	1 ft *			x*	x	x	45, 75	X	X
5	Confl w/ Bitterroot River	USFS Bdry	8 mi			X	Defined Zone D	1 ft *			x*	x	x	45	X	X
6	Confl w/ Main Stem	USFS Bdry	10 mi			X	Defined Zone D	1 ft *			x*	x	x	185, 195, 485, 480, 390, 380, 290, 279, 277, 189, 190, 180, 120, 110, 45, 35	X	X
7	Northern county line	Confl w/ E&W Fork	65 mi			X		1 ft *			x*		x		X	
Initial Priority	Start	End	Approx. Reach Length (mi.)	Zone A?	Limited Detail?	Detail w/ floodway?	Existing FEMA studies	2' topo	5' topo	Other Engineering Studies	Topo/Survey	Hydro	Hydraul	Panels	C in Hydraul	C i Hyd
XDS - hold **	Burnt Fork Dam	Bitterroot River	8.5 mi	AO Alluvial Fan				1 ft *		DNRC to locate				150		
XDS - hold **								1 ft *		DNRC to locate				279, 300		

## EXISTING FEMA DATA

A request was sent to the FEMA Library on April 20, 2006, for the following:

- Flood Insurance Study Data
- Topographic Mapping
- Flood Insurance Study Survey Notes
- Digital Line Graph or Digital Flood Insurance Rate Map Files
- Flood Insurance Study Text in a Digital, Editable Format
- Future Files in a Digital Format

On May 15, 2006, the following email was received in response.

From: Carleen Woo <Carleen.Woo@mapmodteam.com>

Date: May 15, 2006 10:40:45 AM MDT

To: highstarconsulting@mac.com

Subject: FEMA Request B0608079

Karen,

All the information for Ravalli County, MT has been burned onto a cd, and will be mailed today. There is modeling for Bitterroot River, which was from a LOMR: 99-08-179P. Data for Bitterroot River verifies for cross sections A-DL, and data for Left Branch of Bitterroot River verifies for cross sections A-D. Survey notes were found on microfiche, and scanned into a pdf file. The blowbacks of the survey notes will also be sent. Workmaps were also scanned into both pdf and tiff files. If you have any questions regarding this case, you can email me at this address.

Carleen Woo  
Analyst  
FEMA Flood Data Library  
Alexandria, VA

The modeling was received for the Bitterroot River and the LOMR. Survey notes and workmaps were also received for the county.

On May 25, 2006, another email from the FEMA Library reported that Future Files had been located for Ravalli County, but none had been found for Darby, Hamilton, Pinesdale, or Stevensville.

It was noted that contractors could obtain copies of the FIS text and FIRM panels through download from the Map Service Center.

All data herein described (and a copy of Zone D areas from the county) was forwarded to Millie Bowman at the MT DNRC under separate cover.

## EXISTING GIS AND BASE MAP DATA

Ravalli County  
Ken Miller  
5/23/2006

Data Type		Available?	How created?	Updated?	Scale	Meets FEMA spec?	Metadata?
Transportation	Roads & Railroads	yes	collected using GPS and digitized from DOQQs	frequently	25 ft horizontal accuracy	yes	no
Flooding Sources	Streams	yes	rectified and digitized using DOQQ or 2004 imagery, goal is to get data to meet TIGER specifications	occasionally	n/a	no	yes
Flood Hazard	Scanned Flood Workmaps	yes	scanned the workmaps used to produce the effective FIRMS, then georeferenced them to aerial photos (workmaps have an aerial photo base map, so registration/rectification was very accurate). Only floodplains (not cross sections or structures) were digitized, but georeferenced maps are available	no	variable	possibly	methodology would need to be written up
Corporate Boundaries	Community boundaries	yes	n/a	occasionally	n/a	no	no
PLSS	GCDB	yes	GCDB is very accurate in the North part of County (where most of the population is) Accuracy decrease in southern part of County.	occasionally	n/a	no	yes
Survey/Benchmarks	none						
Topography	USGS DEMs	yes	USGS DEMs	no	1:24000	no	yes
Ortho/Aerial Photography	2005 State NAIP Imagery	yes	flown by NAIP	no	1m pixel 38ft RMSE	yes	yes

Notes:

## SCOPE COST ESTIMATE

Comm	Flooding Source	Initial Priority	Approx. Reach Length (mi.)	Zone A?	Limited Detail?	Detail w/ floodway?	Topo/Survey	Hydro	Hydraul	Draft Cost Estimate
RAVALLI CO	W Fork Bitterroot River XDS	XDS	21 mi			X				\$0
RAVALLI CO	Nez Perce Creek	XDS	3.4 mi	X						\$0
RAVALLI CO	E Fork Bitterroot River	XDS	25 mi			X				\$0
RAVALLI CO	80 sources *	1	750 mi	X						\$0
RAVALLI CO	Eightmile Creek	2	8 mi			X	x	x	x	\$107,300
RAVALLI CO	Three Mile Creek	3	14 mi			X	x	x	x	\$185,500
RAVALLI CO	Ambrose Creek	4	9 mi			X	x	x	x	\$117,300
RAVALLI CO	Dry Gulch Creek	5	8 mi			X	x	x	x	\$109,300
RAVALLI CO	Willow Creek	6	10 mi			X	x	x	x	\$139,300
RAVALLI CO	Main Stem **	7	65 mi			X	x		x	\$715,000
									TOTAL	\$1,351,000

\* Costs based on relabeling all Zone Ds as Zone As

\*\* Costs based on doing complete restudy, option to do a conversion from existing WixPro to HEC-RAS