

US Highway 93 Ninepipe/Ronan Improvement Project

Final Supplemental Environmental Impact Statement and Section 4(f) Evaluation Volume II—Appendices



Montana Department
of Transportation



Confederated Salish and
Kootenai Tribes



U.S. Department of Transportation
Federal Highway Administration

February 2008

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APPENDIX A

MDT Standards and Modifications

MDT Standards and Modifications

Tables A-1 and A-2, taken from the MDT Design Standards manual, show the standard slopes for both rural and urban principal arterials.

Table A-1. MDT standard slope table for rural principal arterials.

Design Element		Design Criteria
Inslope		6:1 (with 3.0 m)
Ditch	Width	3.0 m minimum
	Slope	20:1 towards back slope
Back slope: cut depth at slope stake ^a	0 – 1.5 m	5:1
	1.5 m – 3.0 m	Rolling: 4:1
	3.0 m – 4.5 m	Rolling: 3:1
	4.5 m – 6.0 m	Rolling: 2:1
	> 6.0 m	1.5:1
Full height at slope stake ^b	0 – 3.0 m	6:1
	3.0 m – 6.0 m	4:1
	6.0 m – 9.0 m	3:1
	> 9.0 m	2:1

^a Cut slope (rock) – the back slope through rock cut sections will be determined by the geotechnical section based on its field investigation. At a maximum, the back slope typically will not exceed 0.25:1. For large cuts, benching of the back slope may be required.

^b Fill slope (rock) – in rock fills over 3.0 m high, the typical fill slope is 1.5:1. In rock fills greater than or equal to 3.0 m, the typical slope is 6:1.

Table A-2. MDT standard slope table for urban principal arterials.

Design Element		2-lane		Multi-lane	
		Curbed	Uncurbed	Curbed	Uncurbed
Inslope		N/A	6:1	N/A	6:1
Ditch	Width	N/A	3.0 m minimum	N/A	3.0 m minimum
	Slope	N/A	20:1 towards back slope	N/A	20:1 towards back slope
Back slope: cut depth at slope stake ^a	0 – 1.5 m	As flat as practical	5:1	As flat as practical	5:1
	1.5 m – 3.0 m		Rolling: 4:1		3:1
	3.0 m – 4.5 m		Rolling: 3:1		2:1
	4.5 m – 6.0 m		Rolling: 2:1		1.5:1
	> 6.0 m		1.5:1		1.5:1
Full height at slope stake ^b	0 – 3.0 m	As flat as practical	6:1	As flat as practical	6:1
	3.0 m – 6.0 m		4:1		4:1
	6.0 m – 9.0 m		3:1		3:1
	> 9.0 m		2:1		2:1

^a Cut slope (rock) – for curbed sections, see the typical section figures in section 11.7 of the MDT design manual. The back slope through rock cut sections will be determined by the geotechnical section based on its field investigation. At a maximum, the back slope typically will not exceed 0.25:1. For large cuts, benching of the back slope may be required.

^b Fill slope (rock) – for curbed sections, see the typical section figures in section 11.7 of the MDT Design Manual in rock fills over 3.0 m high, the typical fill slope is 1.5:1. In rock fills greater than or equal to 3.0 m, the typical slope is 6:1.

Table A-3 lists the areas between Dublin Gulch Road/Red Horn Road (reference post 37.1) and Little Marten Road/Timber Lane Road (reference post 46) where the default MDT standard slopes have been modified to a steeper slope. This applies to both cut and fill slopes. On cut slopes, the MDT-standard 3.0-meter (10-foot) flat bottom ditch is used in the cross sections. This change constitutes a deviation from standards for mitigation of impacts to class I and II wetlands, 4(f) lands, and Tribal trust lands dedicated to wildlife habitat management. Approximate locations where commitments were made in the preliminary design to steepen slopes are shown. These preliminary measures will be carried forward into final design where it is determined to be practicable and feasible and safety is not compromised. Actual avoidance and minimization measures will be determined during the final design process and may include additional measures at these locations as well as at other locations.

Table A-3. Locations of proposed slope modifications in the US 93 Ninepipe/Ronan improvement project preliminary design.

Approximate Reference Posts		Left/Right	Location	Modification	
From	To			Changed from	Changed to
37.19	37.26	RT (east)	Wetlands	Min. of 6:1	Min. of 4:1
37.24	37.26	LT (west)	Wetlands	Min. of 6:1	Min. of 4:1
37.35	38.08	LT (west)	Wetlands / Post Creek / Tribal Trust Land	Min. of 6:1	Min. of 4:1
37.62	38.09	RT (east)	Wetlands / Post Creek / Tribal Trust Land	Min. of 6:1	Min. of 4:1
39.53	42.04	LT (west)	4(f) / Ninepipe Reservoir / Wetlands / Tribal Trust Land	Min. of 6:1	Min. of 4:1
39.87	40.88	RT (east)	4(f) / Ninepipe Reservoir / Wetlands	Min. of 6:1	Min. of 4:1
40.88	41.13	RT (east)	Ninepipes Lodge	Min. of 6:1	Wall
41.67	41.76	RT/LT	4(f) / Wetlands	Min. of 6:1	Wall
41.13	42.04	RT (east)	4(f) / Wetlands	Min. of 6:1	Min. of 4:1
42.21	44.05	RT (east)	4(f) / Wetlands / Tribal Trust Land	Min. of 6:1	Min. of 4:1
42.46	42.56	RT/LT	4(f) / Wetlands	Min. of 6:1	Wall
42.31	43.20	LT (west)	4(f)	Min. of 6:1	Min. of 4:1
43.31	43.75	LT (west)	4(f)	Min. of 6:1	Min. of 4:1
43.81	44.20	LT (west)	Crow Creek / Wetlands	Min. of 6:1	Min. of 4:1
44.07	44.20	RT (east)	Crow Creek / Wetlands	Min. of 6:1	Min. of 4:1
44.32	44.56	LT (west)	Tribal Trust Land	Min. of 6:1	Min. of 4:1

APPENDIX B

Cooperating Agency Correspondence



April 7, 2003

Jon Dahlberg, Area Manager
Montana Department of Natural Resources and Conservation
Northwestern Land Office
2250 Highway 93 North
Kalispell, MT 59901

Subject: NH-F 5-1(9)6F
US 93 Supplemental Environmental Impact Statement –
Ninepipe/Ronan Segment
Cooperating Agency Request

Dear Mr. Dahlberg:

This letter requests the Montana Department of Natural Resources and Conservation (DNRC) to be a Cooperating Agency on the above-referenced road improvement project in accordance with the U.S. Department of Transportation Federal Highway Administration's (FHWA's) regulations (23 CFR 771.111(d)). Even though your agency may already be involved with this project as an Advisory Committee or Interdisciplinary Team Member, your response in writing to this request is appreciated.

Skillings-Connolly, Inc., project consultant, is managing the project for the Montana Department of Transportation. The Montana Department of Transportation (MDT) has proposed to improve US 93 for a distance of 56.3 miles from Evaro to Polson at MT-35. The Federal Highway Administration (FHWA), MDT, and the Confederated Salish and Kootenai Tribes (CSKT) prepared a Final Environmental Impact Statement (FEIS) and Section 4(f) Evaluation on June 17, 1996 to describe the proposed project, alternatives, and the social, economic, and environmental impacts. A Record of Decision (ROD) was prepared on August 12, 1996, and modified on February 9, 1998, which selected the existing alignment for improvements. However, this ROD was unique in that FHWA deferred making a decision on lane configurations until agreement was reached on a number of issues including design features and mitigation measures.

The parties have since negotiated a Memorandum of Agreement (MOA) dated December 20, 2000. The MOA lays out a conceptual lane configuration, design features and mitigation measures for 30.8 miles of US-93 from Evaro to Red Horn Road / Dublin Gulch Road intersection near St. Ignatius and for 10.6 miles of US-93 from Spring Creek Road / Baptiste Road intersection near Ronan to the US-93 / MT-35 intersection near Polson.

However, due to extensive environmental and cultural issues, the segment from the vicinity of Red Horn Road on the south to Spring Creek Road on the north was excepted out of the MOA. This segment, referred to as the Ninepipe/Ronan Segment, requires additional environmental studies. The parties agreed to prepare a Supplemental Environmental Impact Statement (SEIS) to explore alternative roadway alignments and to evaluate impacts resulting from new circumstances and additional information relevant to environmental and cultural concerns for this 11.2-mile section of US-93.

A written response to this Cooperating Agency request is needed for the environmental documentation for this project. Statements on these matters may result, if necessary, in further inter-agency coordination to avoid or minimize potential project impacts. As a Cooperating Agency, DNRC will receive periodic updates on the progress of the study, as well as requests for your participation in additional coordination meetings. MDT will also provide a copy of the draft environmental document to you for your review.

Please contact me at Skillings-Connolly, Inc. at (406) 541-7877 if you have any questions about this request. If no reply is received within forty-five (45) calendar days – or by May 1, 2003 – it will be assumed that the DNRC has no concerns about the proposed project and does not wish to be a Cooperating Agency. Thank you for your assistance.

Sincerely,

SKILLINGS-CONNOLLY, INC.

Gerald Smith, PE
Project Manager for US 93 SEIS

Enclosure

cc: Loran Frazer, District Administrator – MDT District (No. 1)
Fred Bente, MDT
Jean Riley, MDT Environmental Services Supervisor
Craig Genzlinger, FHWA Operations Engineer - Native American Indian Coordinator
Joe Hovenkotter, CSKT



April 7, 2003

Mr. John Grant
Montana Fish, Wildlife & Parks
5791 Ninepipe Road
Charlo, MT 59824

Subject: NH-F 5-1(9)6F
US 93 Supplemental Environmental Impact Statement –
Ninepipe/Ronan Segment
Cooperating Agency Request

Dear Mr. Grant:

This letter requests the Montana Fish, Wildlife & Parks (MFWP) to be a Cooperating Agency on the above-referenced road improvement project in accordance with the U.S. Department of Transportation Federal Highway Administration's (FHWA's) regulations (23 CFR 771.111(d)). Even though your agency may already be involved with this project as an Advisory Committee or Interdisciplinary Team Member, your response in writing to this request is appreciated.

Skillings-Connolly, Inc., project consultant, is managing the project for the Montana Department of Transportation. The Montana Department of Transportation (MDT) has proposed to improve US 93 for a distance of 56.3 miles from Evaro to Polson at MT-35. The Federal Highway Administration (FHWA), MDT, and the Confederated Salish and Kootenai Tribes (CSKT) prepared a Final Environmental Impact Statement (FEIS) and Section 4(f) Evaluation on June 17, 1996 to describe the proposed project, alternatives, and the social, economic, and environmental impacts. A Record of Decision (ROD) was prepared on August 12, 1996, and modified on February 9, 1998, which selected the existing alignment for improvements. However, this ROD was unique in that FHWA deferred making a decision on lane configurations until agreement was reached on a number of issues including design features and mitigation measures.

The parties have since negotiated a Memorandum of Agreement (MOA) dated December 20, 2000. The MOA lays out a conceptual lane configuration, design features and mitigation measures for 30.8 miles of US-93 from Evaro to Red Horn Road / Dublin Gulch Road intersection near St. Ignatius and for 10.6 miles of US-93 from Spring Creek Road / Baptiste Road intersection near Ronan to the US-93 / MT-35 intersection near Polson.

However, due to extensive environmental and cultural issues, the segment from the vicinity of Red Horn Road on the south to Spring Creek Road on the north was excepted out of the MOA. This segment, referred to as the Ninepipe/Ronan Segment, requires additional environmental studies. The parties agreed to prepare a Supplemental Environmental Impact Statement (SEIS) to explore alternative roadway alignments and to evaluate impacts resulting from new circumstances and additional information relevant to environmental and cultural concerns for this 11.2-mile section of US-93.

This project will likely impact lands owned or managed by MFWP including those protected by Section 4(f) of the 1966 Department of Transportation Act (49 U.S.C. 303) such as:

- A. Parks and/or Recreation Areas;
- B. Wildlife/Waterfowl Refuges;
- C. Sites included in or eligible for inclusion in the National Register of Historic Places under Section 106 of the National Historic Preservation Act (16 U.S.C. 470); and/or
- D. Lands managed as multiple use which include recreation sites, or wildlife/waterfowl refuges as listed previously.

A written response to this Cooperating Agency request is needed for the environmental documentation for this project. Statements on these matters may result, if necessary, in further inter-agency coordination to avoid or minimize potential project impacts. As a Cooperating Agency, MFWP will receive periodic updates on the progress of the study, as well as requests for your participation in additional coordination meetings. MDT will also provide a copy of the draft environmental document to you for your review.

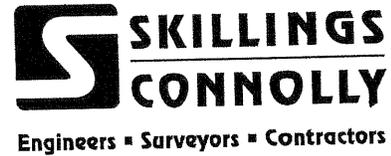
Please contact me at Skillings-Connolly, Inc. at (406) 541-7877 if you have any questions about this request. If no reply is received within forty-five (45) calendar days – or by May 1, 2003 – it will be assumed that the MFWP has no concerns about the proposed project and does not wish to be a Cooperating Agency. Thank you for your assistance.

Sincerely,

SKILLINGS-CONNOLLY, INC.

Gerald Smith, PE
Project Manager for US 93 SEIS
Enclosure

cc: Loran Frazer, District Administrator – MDT District (No. 1)
Fred Bente, MDT
Jean Riley, MDT Environmental Services Supervisor
Craig Genzlinger, FHWA Operations Engineer - Native American Indian Coordinator
Joe Hovenkotter, CSKT



April 7, 2003

Brent Esmoil, Acting Field Supervisor
US Fish & Wildlife Service
Fish & Wildlife Service MT Field Office
100 N Park Ste 320
Helena, MT 59601

Subject: NH-F 5-1(9)6F
US 93 Supplemental Environmental Impact Statement –
Ninepipe/Ronan Segment
Cooperating Agency Request

Dear Mr. Esmoil:

This letter requests the US Fish & Wildlife Service (USF&WS) to be a Cooperating Agency on the above-referenced road improvement project in accordance with the U.S. Department of Transportation Federal Highway Administration's (FHWA's) regulations (23 CFR 771.111(d)). Even though your agency may already be involved with this project as an Advisory Committee or Interdisciplinary Team Member, your response in writing to this request is appreciated.

Skillings-Connolly, Inc., project consultant, is managing the project for the Montana Department of Transportation. The Montana Department of Transportation (MDT) has proposed to improve US 93 for a distance of 56.3 miles from Evaro to Polson at MT-35. The Federal Highway Administration (FHWA), MDT, and the Confederated Salish and Kootenai Tribes (CSKT) prepared a Final Environmental Impact Statement (FEIS) and Section 4(f) Evaluation on June 17, 1996 to describe the proposed project, alternatives, and the social, economic, and environmental impacts. A Record of Decision (ROD) was prepared on August 12, 1996, and modified on February 9, 1998, which selected the existing alignment for improvements. However, this ROD was unique in that FHWA deferred making a decision on lane configurations until agreement was reached on a number of issues including design features and mitigation measures.

The parties have since negotiated a Memorandum of Agreement (MOA) dated December 20, 2000. The MOA lays out a conceptual lane configuration, design features and mitigation measures for 30.8 miles of US-93 from Evaro to Red Horn Road / Dublin Gulch Road intersection near St. Ignatius and for 10.6 miles of US-93 from Spring Creek Road / Baptiste Road intersection near Ronan to the US-93 / MT-35 intersection near Polson.

However, due to extensive environmental and cultural issues, the segment from the vicinity of Red Horn Road on the south to Spring Creek Road on the north was excepted out of the MOA. This segment, referred to as the Ninepipe/Ronan Segment, requires additional environmental studies. The parties agreed to prepare a Supplemental Environmental Impact Statement (SEIS) to explore alternative roadway alignments and to evaluate impacts resulting from new circumstances and additional information relevant to environmental and cultural concerns for this 11.2-mile section of US-93.

The proposed project may impact USF&WS resources including those protected by Section 4(f) of the 1966 Department of Transportation Act (49 U.S.C. 303), such as the following:

- A. Parks and/or Recreation Areas;
- B. Wildlife/Waterfowl Refuges;
- C. Sites included in or eligible for inclusion in the National Register of Historic Places under Section 106 of the National Historic Preservation Act (16 U.S.C. 470); and/or
- D. Lands managed as multiple use which include recreation sites, or wildlife/waterfowl refuges as listed previously.

A written response to this Cooperating Agency request is needed for the environmental documentation for this project. Statements on these matters may result, if necessary, in further inter-agency coordination to avoid or minimize potential project impacts. As a Cooperating Agency, US Fish & Wildlife Service will receive periodic updates on the progress of the study, as well as requests for your participation in additional coordination meetings. MDT will also provide a copy of the draft environmental document to you for your review.

Please contact me at Skillings-Connolly, Inc. at (406) 541-7877 if you have any questions about this request. If no reply is received within forty-five (45) calendar days – or by May 1, 2003 – it will be assumed that the USF&WS has no concerns about the proposed project and does not wish to be a Cooperating Agency. Thank you for your assistance.

Sincerely,

SKILLINGS-CONNOLLY, INC.

Gerald Smith, PE
Project Manager for US 93 SEIS

Enclosure

cc: Loran Frazer, District Administrator – MDT District (No. 1)
Fred Bente, MDT
Jean Riley, MDT Environmental Services Supervisor

Craig Genzlinger, FHWA Operations Engineer - Native American Indian Coordinator
Dave Wiseman, National Bison Range
Joe Hovenkotter, CSKT



April 7, 2003

Mr. Allan Steinle, Montana Program Manager
US Army Corps of Engineers
Helena Regulatory Office
10 W 15th St Ste 2200
Helena, MT 59626

Subject: NH-F 5-1(9)6F
US 93 Supplemental Environmental Impact Statement –
Ninepipe/Ronan Segment
Cooperating Agency Request

Dear Mr. Steinle:

This letter requests the US Army Corps of Engineers (COE) to be a Cooperating Agency on the above-referenced road improvement project in accordance with the U.S. Department of Transportation Federal Highway Administration's (FHWA's) regulations (23 CFR 771.111(d)). Even though your agency may already be involved with this project as an Advisory Committee or Interdisciplinary Team Member, your response in writing to this request is appreciated.

Skillings-Connolly, Inc., project consultant, is managing the project for the Montana Department of Transportation. The Montana Department of Transportation (MDT) has proposed to improve US 93 for a distance of 56.3 miles from Evaro to Polson at MT-35. The Federal Highway Administration (FHWA), MDT, and the Confederated Salish and Kootenai Tribes (CSKT) prepared a Final Environmental Impact Statement (FEIS) and Section 4(f) Evaluation on June 17, 1996 to describe the proposed project, alternatives, and the social, economic, and environmental impacts. A Record of Decision (ROD) was prepared on August 12, 1996, and modified on February 9, 1998, which selected the existing alignment for improvements. However, this ROD was unique in that FHWA deferred making a decision on lane configurations until agreement was reached on a number of issues including design features and mitigation measures.

The parties have since negotiated a Memorandum of Agreement (MOA) dated December 20, 2000. The MOA lays out a conceptual lane configuration, design features and mitigation measures for 30.8 miles of US-93 from Evaro to Red Horn Road / Dublin Gulch Road intersection near St. Ignatius and for 10.6 miles of US-93 from Spring Creek Road / Baptiste Road intersection near Ronan to the US-93 / MT-35 intersection near Polson.

However, due to extensive environmental and cultural issues, the segment from the vicinity of Red Horn Road on the south to Spring Creek Road on the north was excepted out of the MOA. This segment, referred to as the Ninepipe/Ronan Segment, requires additional environmental studies. The parties agreed to prepare a Supplemental Environmental Impact Statement (SEIS) to explore alternative roadway alignments and to evaluate impacts resulting from new circumstances and additional information relevant to environmental and cultural concerns for this 11.2-mile section of US-93.

The U.S. Army Corps of Engineers (COE) has jurisdiction by law over all "waters of the U.S.", and is requested to be a Cooperating Agency on this proposed project in accordance with the U.S. Department of Transportation Federal Highway Administration's (FHWA's) regulations 23 CFR 771.111(d) and the provisions of Section 404 of the Clean Water Act (33 U.S.C. 1251 - 1376, inclusive).

A written response to this Cooperating Agency request is needed for the environmental documentation for this project. Statements on these matters may result, if necessary, in further inter-agency coordination to avoid or minimize potential project impacts. As a Cooperating Agency, US Army Corps of Engineers will receive periodic updates on the progress of the study, as well as requests for your participation in additional coordination meetings. MDT will also provide a copy of the draft environmental document to you for your review.

Please contact me at Skillings-Connolly, Inc. at (406) 541-7877 if you have any questions about this request. If no reply is received within forty-five (45) calendar days – or by May 1, 2003 – it will be assumed that the COE has no concerns about the proposed project and does not wish to be a Cooperating Agency. Thank you for your assistance.

Sincerely,

SKILLINGS-CONNOLLY, INC.

Gerald Smith, PE
Project Manager for US 93 SEIS

Enclosure

cc: Loran Frazer, District Administrator – MDT District (No. 1)
Fred Bente, MDT
Jean Riley, MDT Environmental Services Supervisor
Craig Genzlinger, FHWA Operations Engineer - Native American Indian Coordinator
Joe Hovenkotter, CSKT



April 7, 2003

John Wardell, Director
US Environmental Protection Agency
Region 8 Montana Operations Office
10 W 15th St Ste 3200
Helena, MT 59626

Subject: NH-F 5-1(9)6F
US 93 Supplemental Environmental Impact Statement –
Ninepipe/Ronan Segment
Cooperating Agency Request

Dear Mr. Dahlberg:

This letter requests the US Environmental Protection Agency (EPA) to be a Cooperating Agency on the above-referenced road improvement project in accordance with the U.S. Department of Transportation Federal Highway Administration's (FHWA's) regulations (23 CFR 771.111(d)). Even though your agency may already be involved with this project as an Advisory Committee or Interdisciplinary Team Member, your response in writing to this request is appreciated.

Skillings-Connolly, Inc., project consultant, is managing the project for the Montana Department of Transportation. The Montana Department of Transportation (MDT) has proposed to improve US 93 for a distance of 56.3 miles from Evaro to Polson at MT-35. The Federal Highway Administration (FHWA), MDT, and the Confederated Salish and Kootenai Tribes (CSKT) prepared a Final Environmental Impact Statement (FEIS) and Section 4(f) Evaluation on June 17, 1996 to describe the proposed project, alternatives, and the social, economic, and environmental impacts. A Record of Decision (ROD) was prepared on August 12, 1996, and modified on February 9, 1998, which selected the existing alignment for improvements. However, this ROD was unique in that FHWA deferred making a decision on lane configurations until agreement was reached on a number of issues including design features and mitigation measures.

The parties have since negotiated a Memorandum of Agreement (MOA) dated December 20, 2000. The MOA lays out a conceptual lane configuration, design features and mitigation measures for 30.8 miles of US-93 from Evaro to Red Horn Road / Dublin Gulch Road intersection near St. Ignatius and for 10.6 miles of US-93 from Spring Creek Road / Baptist Road intersection near Ronan to the US-93 / MT-35 intersection near Polson.

However, due to extensive environmental and cultural issues, the segment from the vicinity of Red Horn Road on the south to Spring Creek Road on the north was excepted out of the MOA. This segment, referred to as the Ninepipe/Ronan Segment, requires additional environmental studies. The parties agreed to prepare a Supplemental Environmental Impact Statement (SEIS) to explore alternative roadway alignments and to evaluate impacts resulting from new circumstances and additional information relevant to environmental and cultural concerns for this 11.2-mile section of US-93.

A written response to this Cooperating Agency request is needed for the environmental documentation for this project. Statements on these matters may result, if necessary, in further inter-agency coordination to avoid or minimize potential project impacts. As a Cooperating Agency, EPA will receive periodic updates on the progress of the study, as well as requests for your participation in additional coordination meetings. MDT will also provide a copy of the draft environmental document to you for your review.

Please contact me at Skillings-Connolly, Inc. at (406) 541-7877 if you have any questions about this request. If no reply is received within forty-five (45) calendar days – or by May 1, 2003 – it will be assumed that the EPA has no concerns about the proposed project and does not wish to be a Cooperating Agency. Thank you for your assistance.

Sincerely,

SKILLINGS-CONNOLLY, INC.

Gerald Smith, PE
Project Manager for US 93 SEIS

Enclosure

cc: Loran Frazer, District Administrator – MDT District (No. 1)
Fred Bente, MDT
Jean Riley, MDT Environmental Services Supervisor
Craig Genzlinger, FHWA Operations Engineer - Native American Indian Coordinator
Joe Hovenkotter, CSKT



April 7, 2003

Stanley Speaks, Director
Bureau of Indian Affairs
911 NE 11th Ave
Portland, OR 97232

Subject: NH-F 5-1(9)6F
US 93 Supplemental Environmental Impact Statement –
Ninepipe/Ronan Segment
Cooperating Agency Request

Dear Mr. Dahlberg:

This letter requests the Bureau of Indian Affairs (BIA) to be a Cooperating Agency on the above-referenced road improvement project in accordance with the U.S. Department of Transportation Federal Highway Administration's (FHWA's) regulations (23 CFR 771.111(d)). Even though your agency may already be involved with this project as an Advisory Committee or Interdisciplinary Team Member, your response in writing to this request is appreciated.

Skillings-Connolly, Inc., project consultant, is managing the project for the Montana Department of Transportation. The Montana Department of Transportation (MDT) has proposed to improve US 93 for a distance of 56.3 miles from Evaro to Polson at MT-35. The Federal Highway Administration (FHWA), MDT, and the Confederated Salish and Kootenai Tribes (CSKT) prepared a Final Environmental Impact Statement (FEIS) and Section 4(f) Evaluation on June 17, 1996 to describe the proposed project, alternatives, and the social, economic, and environmental impacts. A Record of Decision (ROD) was prepared on August 12, 1996, and modified on February 9, 1998, which selected the existing alignment for improvements. However, this ROD was unique in that FHWA deferred making a decision on lane configurations until agreement was reached on a number of issues including design features and mitigation measures.

The parties have since negotiated a Memorandum of Agreement (MOA) dated December 20, 2000. The MOA lays out a conceptual lane configuration, design features and mitigation measures for 30.8 miles of US-93 from Evaro to Red Horn Road / Dublin Gulch Road intersection near St. Ignatius and for 10.6 miles of US-93 from Spring Creek Road / Baptiste Road intersection near Ronan to the US-93 / MT-35 intersection near Polson.

However, due to extensive environmental and cultural issues, the segment from the vicinity

of Red Horn Road on the south to Spring Creek Road on the north was excepted out of the MOA. This segment, referred to as the Ninepipe/Ronan Segment, requires additional environmental studies. The parties agreed to prepare a Supplemental Environmental Impact Statement (SEIS) to explore alternative roadway alignments and to evaluate impacts resulting from new circumstances and additional information relevant to environmental and cultural concerns for this 11.2-mile section of US-93.

A written response to this Cooperating Agency request is needed for the environmental documentation for this project. Statements on these matters may result, if necessary, in further inter-agency coordination to avoid or minimize potential project impacts. As a Cooperating Agency, BIA will receive periodic updates on the progress of the study, as well as requests for your participation in additional coordination meetings. MDT will also provide a copy of the draft environmental document to you for your review.

Please contact me at Skillings-Connolly, Inc. at (406) 541-7877 if you have any questions about this request. If no reply is received within forty-five (45) calendar days – or by May 1, 2003 – it will be assumed that the BIA has no concerns about the proposed project and does not wish to be a Cooperating Agency. Thank you for your assistance.

Sincerely,

SKILLINGS-CONNOLLY, INC.

Gerald Smith, PE
Project Manager for US 93 SEIS

Enclosure

cc: Loran Frazer, District Administrator – MDT District (No. 1)
Fred Bente, MDT
Jean Riley, MDT Environmental Services Supervisor
Craig Genzlinger, FHWA Operations Engineer - Native American Indian Coordinator
Joe Hovenkotter, CSKT

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
MONTANA FIELD OFFICE
100 N. PARK, SUITE 320
HELENA, MONTANA 59601
PHONE (406) 449-5225, FAX (406) 449-5339

RECEIVED

SEP 02 2003

Skillings-Connolly, Inc.
Consulting Engineers

M.17 FHWA - Ninepipe SEIS (Hwy. 93)

August 28, 2003

Gerald Smith
Skillings - Connolly, Inc.
2685 Palmer
Suite C
Missoula, Montana 59808

Dear Mr. Smith:

This responds to your letter dated April 7, 2003, regarding the Supplemental Environmental Impact Statement to be prepared for the Montana Department of Transportation and the Federal Highway Administration relative to the Ninepipe - Ronan segment (NH-F 5-1(9)6F) of the proposed reconstruction of U.S. Highway 93 between Evaro and Polson in Lake County, Montana. Your letter requested that the U.S. Fish and Wildlife Service (Service) be a Cooperating Agency with regards to this project.

The Service agrees to be a Cooperating Agency for this project. As such, the Service will review and respond to documents required for compliance with the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.), the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), and other applicable laws. The Service has been involved with this project and has provided comments during meetings, discussions, and correspondence with the involved agencies and consultants.

We look forward to continuing to work with you on this project. If you have questions regarding this letter, please contact Mr. Scott Jackson, of my staff, at (406)449-5225, extension 201.

Sincerely,

R. Mark Wilson
R. Mark Wilson
Field Supervisor

Post-it® Fax Note	7671	Date	9/2	# of pages	1
To	Thad Dickson		From	Kerry	
Co./Dept.			Co.		
Phone #			Phone #		
Fax #			Fax #		



U.S. ARMY CORPS OF ENGINEERS
 HELENA REGULATORY OFFICE
 10 WEST 15TH STREET, SUITE 2200
 HELENA, MONTANA 59626

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JUN 12 2003

Skilling-Connolly, Inc.
 Consulting Engineers

June 9, 2003

01001 10 101

REPLY TO
 ATTENTION OF:

Helena Regulatory Office
 Phone (406) 441-1375
 Fax (406) 441-1380

Subject: Corps File Number 2001-90-416
 US 93 Supplemental Environmental Impact Statement: Ninepipe/Ronan Segment
 NH-F 5-1(9)6F, MDT Control Number 1744
 Cooperating Agency Response

Mr. Gerald Smith, P.E.
 Senior Project Engineer
 Skilling-Connolly, Inc.
 2685 Palmer Street, Suite C
 Missoula, Montana 59808

Post-it® Fax Note	7671	Date	6/13/03	# of pages	1
To	Thad Dickson	From	Gerry Smith		
Co./Dept.		Co.			
Phone #		Phone #			
Fax #		Fax #			

Dear Mr. Smith:

This letter is a response to your April 7, 2003 request that the US Army Corps of Engineers (Corps) be a Cooperating Agency for the Montana Department of Transportation (MDT) project listed above. The project is located on US Highway 93 between the communities of Evaro and Polson in Lake County, Montana.

Under the authority of Section 404 of the Clean Water Act, Department of the Army permits are required for the discharge of fill material below the ordinary high water mark of our Nation's rivers, streams, lakes or wetlands.

Pursuant to the National Environmental Policy Act, the Corps agrees to be a Cooperating Agency. Our participation as a Cooperating Agency will be limited to reviewing and commenting on project features that will or may affect Waters of the United States. This will be in addition to our regulatory and permitting responsibilities.

Todd Tillinger of this office is the Corps' project manager for this project. He may be reached by phone at (406) 441-1375 or by e-mail at todd.n.tillinger@usacc.army.mil. Please reference Corps File Number 2001-90-416 on all future correspondence and inquiries.

Sincerely,

Allan Steinle
 Montana Program Manager

cc: Jean Riley, Montana Department of Transportation Environmental Services, Helena

6.001 10 100



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 REGION 8, MONTANA OFFICE
 FEDERAL BUILDING, 10 West 15th St, Suite 3200
 HELENA, MONTANA 59626

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APR 11 2003

Ref: SMO

April 10, 2003

Mr. Gerald Smith, P.E.,
 Senior Project Engineer
 Skillings-Connolly, Inc.,
 2685 Palmer, Suite C
 Missoula, Montana 59808

Post-It [®] Fax Note	7671	Date	5/22/03	# of pages	2
To	Thad Dickson	From	Gerry Smith		
Co./Dept.		Co.			
Phone #		Phone #			
Fax #		Fax #			

Re: U.S. 93 Supplemental EIS
 Ninepipe/Ronan Segment

Dear Mr. Smith:

This is in response to your letter dated April 7, 2003 requesting EPA to be a cooperating agency with the Federal Highway Administration (FHWA) and Montana Dept. of Transportation (MDT) during the preparation of the Supplemental Environmental Impact Statement (SEIS) for the U.S. 93 Ninepipe/Ronan Segment.

The EPA is interested in providing meaningful and early input on environmental issues of concern for this project. We are particularly interested in helping to ensure that proper wetland, and surface and ground water quality, air quality, tribal concerns, and any secondary and cumulative effects considerations are incorporated into the Supplemental EIS. The Agency, however, has resource limitations and other program commitments which may limit the degree and extent of EPA's participation in the EIS preparation process. These resource constraints and other program commitments make it difficult for me to agree to formal full fledged participation as a cooperating agency during the preparation of the EIS (see 40 CFR 1501.6(c)).

EPA will be reviewing and providing comment on the draft and final Supplemental EIS's for this project in accordance with our responsibilities under NEPA and Section 309 of the Clean Air Act. Mr. Steve Potts, EPA Montana NEPA Coordinator, will coordinate and manage EPA's participation in and review of this project. As you know EPA has provided EIS guidance and scoping comments for this project, and EPA staff (Mr. Steve Potts) have participated on the interdisciplinary team and advisory committee for this project. We anticipate that Mr. Potts, will continue to participate in interdisciplinary team and/or advisory committee meetings and field trips as resources, workload, and schedules allow. The EPA will also try to review and comment upon preliminary EIS documents as much as our workload and schedules allow. We encourage you to send us preliminary EIS documents to allow us the opportunity for early review and input.

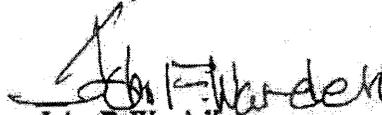


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I hope you understand our workload and resource constraints, and our inability to agree to formal cooperating agency status, although we will make every effort to provide input and assist in the EIS preparation process and participate on the interdisciplinary team and advisory committee as much as our resources and workload will allow.

If you have any questions or would like to discuss this matter further please feel free to call me at (406) 457-5001. You may reach Mr. Steve Potts of my staff at (406) 457-5022 in Helena, or at (406)329-3313 in Missoula. Thank you for your consideration.

Sincerely,



John F. Wardell
Director
Montana Office

cc: Cynthia Cody, EPA, SEPR-N, Denver
Loran Frazier, MDT, Missoula District Administrator
Fred Bente, MDT, Helena
Jean Riley, MDT, Helena
Joe Hovencutter, CSKT
Craig Genzlinger, FHWA, Helena

APPENDIX C

Section 106, Section 4(f), and Section 6(f) Documentation



U.S. Department
of Transportation
**Federal Highway
Administration**

Montana Division

January 08, 2008

585 Shepard Way
Helena, MT 59601

Marcia Pablo
Tribal Historic Preservation Director
PO Box 278
Pablo, MT 59855

In Reply Refer To:
HDA-MT

Subject: ***De minimis Finding***
NH-F 5-1(9)6 (De minimis Finding)
US 93 Ninepipe/Ronan Supplemental Environmental Impact Statement
Control No. B744

Dear Ms. Pablo:

By way of this letter, the Federal Highway Administration (FHWA) is requesting written concurrence from the Confederated Salish and Kootenai Tribal Historic Preservation Office (THPO) with the determinations of effect as listed below:

During 2004 and 2005, in coordination with your office, it was determined that this project would have **No Adverse Effect** to the Flathead Irrigation Project (24LA91) and the Anderson Farmstead (24LA161) and **No Effect** to the Stage Road. Attached for your information is a concurrence letter from your office and correspondence and an MOA that was executed with the Montana Department of Transportation and FHWA.

In addition to Section 106 of the National Historic Preservation Act (NHPA), FHWA must comply with the provisions of Section 4(f) of the 1966 Department of Transportation Act. Historically, Section 4(f) has required that prior to approval of any federally-funded highway project resulting in the "use" of listed or eligible historic properties under the NHPA; the FHWA must perform an avoidance analysis to determine whether there is a "feasible and prudent" alternative that would avoid the Section 4(f) resource.

In August of 2005, Section 138 of title 23, USC was amended under the Safe, Accountable, Flexible, and Efficient Transportation Act: A Legacy for Users (SAFETEA-LU). Section 6009 of SAFETEA-LU provided new legislative authority to address programs and projects with minor or '*de minimis*' impacts on a Section 4(f) resource.

More specifically, Section 6009(b) (2) of SAFETEA-LU states:

**MOVING THE
AMERICAN
ECONOMY**



(2) HISTORIC SITES.--With respect to historic sites, the Secretary may make a finding of *de minimis impact* only if--

(A) the Secretary has determined, in accordance with the consultation process required under section 106 of the National Historic Preservation Act (16 U.S.C. 470f), that--

(i) the transportation program or project will have no adverse effect on the historic site; or

(ii) there will be no historic properties affected by the transportation program or project;

(B) the finding of the Secretary has received written concurrence from the applicable State historic preservation officer or tribal historic preservation officer (and from the Advisory Council on Historic Preservation if the Council is participating in the consultation process); and

(C) the finding of the Secretary has been developed in consultation with parties consulting as part of the process referred to in subparagraph (A).

This new provision of Section 4(f) is the basis of this letter, and of the FHWA's determination of *de minimis* impacts.

***De Minimis* Determination**

The findings of "no adverse effect" reflect a conclusion that the uses identified in the attached exhibits will not "alter, directly or indirectly, any of the characteristics of [the] historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association."

If you concur in the "no adverse effect" determination, FHWA intends to make a finding that impacts to historic resources that would result from implementation of the subject project would be *de minimis* for purposes of Section 4(f), as recently amended by Congress.

Request for Concurrence

The FHWA requests the written concurrence of the THPO in the above-described finding of "no adverse effect" on historic resources from the subject project. This written concurrence will be evidence that the concurrence and consultation requirements of Section 6009 of SAFETEA-LU, as they will be codified at 23 U.S.C. § 138(b) (2) (B) & (C), and 49 U.S.C. § 303 (d) (2) (B) and (C) are satisfied. Concurrence can be provided either by signing and dating this letter or by separate letter from the THPO to the Federal Highway Administration, 585 Shepard Way, Helena, MT 59601.

If you have any questions, please contact Craig Genzlinger at 406-449-5302 ext. 240.

Sincerely,



Kevin L. McLaury, P.E.
Division Administrator

Attachments

cc: Dwane Kailey - MDT Missoula
Jon Axline - MDT
Carl James - FHWA, Transportation Specialist

File: NH-F 5-1(9)6 cg/lw

CONCUR
CSKT THPO:

DATE Jan. 10, 08 SIGNED Marcia Pablo

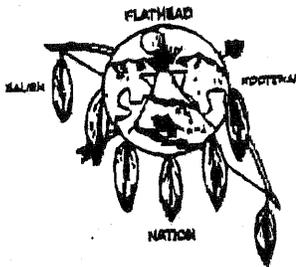
THE CONFEDERATED SALISH AND KOOTENAI TRIBES

OF THE FLATHEAD NATION
RECEIVED

JUN - 3 2005

P.O. Box 278
Pablo, Montana 59855
(406) 275-2700
FAX (406) 275-2806**ENVIRONMENTAL**

Email: csktcouncil@cskt.org



Joseph E. Dupuis - Executive Secretary
Vern L. Clairmont - Executive Treasurer
Leon Bourdon - Sergeant-at-Arms

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Joel Clairmont - Treasurer
Lloyd D. Irvine
Mike Kenmille
Mary Lethand
Elmer "Sonny" Morigeau
James Steele, Jr.
Ron Trahan

June 2, 2005

John Axline
Montana Department of Transportation
P.O. Box 201001
Helena, MT 59620-1001

RE: US 93 SEIS Ninepipe-Ronan: Control No. 17434

Dear John:

Thank you for sending us the Determination of Effect for the Anderson Farmstead (24LA161) and the Stage Road. Based on the construction plan, we concur that the US 93 reconstruction will have **No Adverse Effect** on the Anderson Farmstead (24LA161) since construction activity will be confined to the existing R/W, a veneered retaining wall will be constructed within the site area, and no physical features of the site will be directly impacted. We also agree that the project will have **No Effect** on the historic stage route.

We are unclear whether the Stage Road has been issued a site number and site form. We don't seem to have a site record for the property here and suggest that it probably should be issued a site form and number if it hasn't already been issued.

Thank you for consulting with us.

Sincerely,

Marcia Pablo
Preservation Officer

c.c. Mark Baumlert



Montana Fish, Wildlife & Parks

1420 East Sixth Avenue
P O Box 200701
Helena MT 59620-0701
June 10, 2005

Julie Kightlinger
Herrera Environmental Consultants, Inc.
101 East Broadway, Suite 610
Missoula, MT 59802

RE: US 93 SEIS

Dear Ms Kightlinger:

In response to your letter regarding the above project, Montana Fish, Wildlife & Parks (FWP) does own property and may be acquiring additional property in Lake County in the project vicinity within the next year. The management area is described as Ninepipe Wildlife Management Area. This land was acquired over many years by approximately thirty separate acquisitions funded in part through US Fish and Wildlife Service Pittman Robertson Funds and National Park Service Land and Water Conservation Funds. Each of these funding sources requires special mitigation treatment for any right of way impacts. Mitigation requirements must be coordinated with regional wildlife personnel from the FWP Kalispell/Ninepipe offices and Adam Brooks (444-3032) and Walt Timmerman (444-3753) of Helena when right of way needs are finalized.

FWP is also responsible for oversight of the state side of the Land and Water Conservation Fund (LWCF). There are many local municipalities with LWCF-assisted outdoor recreation sites. If proposed construction or land acquisition activities will affect such locally owned recreation or park facilities, please contact Walt Timmerman with site names. Walt will be able to check LWCF database files and provide the LWCF status of each named site. Any such site would need to be addressed as a 6(f) property and appropriate mitigation measures coordinated through his office.

In regard to other potential 4(f) properties, we do not keep information on lands owned or operated by others that would qualify for 4(f) treatment. This part of your inquiry would be better addressed through property ownership records or on the ground research.

This letter is not intended as formal comment to the highway 93 project, but rather information regarding 4(f) and 6(f) property ownership of FWP.

Sincerely,

Debby Dils
Land Section Supervisor

C: Region 1, Walt Timmerman, Adam Brooks

01001 10 104



Montana Department of Transportation

12701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001
2004 JAN 15 AM 10:38

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Don A. Galt, Director
Joy Marz, Governor

JAN 21 2004

Skilling-Connolly, Inc.
Consulting Engineers

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MASTER FILE
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January 14, 2004

Marcia Pablo
CSKT Tribal Preservation Office
Box 278
Pablo MT 59701

Subject: NH-F 5-1(9)6F
US 93 Evaro - Polson
Control No. B744

Frazier - Kelly
[Signature]

Dear Marcia:

Enclosed is a draft copy of the Memorandum of Agreement for your review and comments. The MOA was drafted after our telephone conversation this morning in which we agreed that the above proposed project would have either a No Effect or a No Adverse Effect on the Flathead Irrigation Project (24LA91). Based on the scope of the project, a discussion with FHWA, and the impact to the ditches, we went ahead with the MOA based on a No Adverse Effect determination. In the MOA we have stipulated that the MDT would construct a turn-out on the roadway within the view shed of the impacted ditches, that we would also provide an historical marker describing the history and significance of the ditches on the Flathead Reservation, and also contribute \$6,000 to the study that the CS&KT will prepare of the Flathead Irrigation System.

It was nice talking to you this morning and I'm glad we were able to come to agreement regarding the irrigation system.

If you have any questions, please contact me at (406) 444-6258 or e-mail at jaxline@state.mt.us.

Jon Axline
Jon Axline, Historian
Environmental Services

cc: Loran Frazier, P.E., Missoula District Administrator
Tom Martin, P.E., Consultant Design Bureau
Jean Riley, P.E., Engineering Section
Bonnie Steg, Resources Section

02/11/2004 15:06

4864447245

MDT ENVIRONMENTAL

PAGE 02

MEMORANDUM OF AGREEMENT
NH-F 5-1(9)6F
US 93 EVARO - POLSON
LAKE COUNTY, MONTANA
Control No. B744

WHEREAS the Federal Highway Administration (FHWA) proposes to assist the Montana Department of Transportation (MDT) in funding the US 93 Evaro - Polson Road highway reconstruction project.

WHEREAS FHWA has determined that the undertaking will have an effect on the Flathead Irrigation Project (24LA91), a property eligible for inclusion in the National Register of Historic Places. The FHWA has consulted with the Confederated Salish & Kootenai Tribal Preservation Office (TPO) pursuant to Section 106 of the National Historic Preservation Act (16 USC 470) and its implementing regulations, "Protection of Historic Properties" (36 CFR 800);

WHEREAS MDT participated in the consultation and have been invited to concur in this amended Memorandum of Agreement;

NOW, THEREFORE; FHWA and the Montana SHPO agree that the undertaking will be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on an historic property.

Stipulations

- 1) The MDT will provide a turn-out and funding for a historical interpretive marker describing the development and significance of the Flathead Irrigation Project on the Flathead Reservation. The TPO will prepare the text for the interpretive marker and provide it to the MDT for review and production of the marker.
- 2) The MDT will provide \$6,000 to the CS&K TPO as partial funding for the inventory and evaluation of the Flathead Irrigation Project. The MDT will receive five copies of the completed report. The MDT's contribution to the study will be acknowledged in the report.
- 3) If a dispute arises regarding the implementation of this amended Agreement, FHWA shall consult with the objecting party to resolve the dispute. If any consulting party determines that the dispute cannot be resolved, FHWA shall request the further comments of the Advisory Council on Historic Preservation pursuant to the Council's regulations.

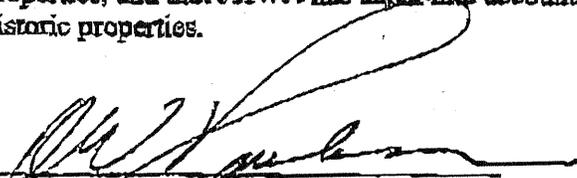
EXECUTION OF THIS MEMORANDUM OF AGREEMENT and implementation of its terms evidences that FHWA has afforded the Council an opportunity to comment on the

NH-F 5-1(7) 6F

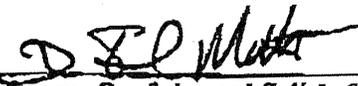
Memorandum of Agreement

Page 2

US 93 Evaro - Polson highway reconstruction project and its affects on historic properties, and that FHWA has taken into account the effect of the Undertaking on historic properties.

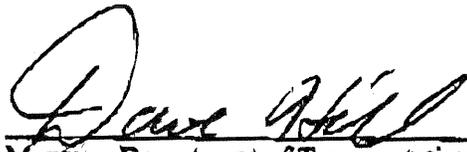

Federal Highway Administration

2-10-2004
Date

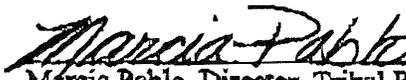

Chairman, Confederated Salish & Kootenai Tribes

2/4/04
Date

Concurring Party:


Montana Department of Transportation

2/5/04
Date


Marcia Pablo, Director, Tribal Preservation Office

Feb. 3, 2004
Date

APPENDIX D

Draft 404(b)1 Analysis

Draft 404(b)(1) Evaluation

US 93 Evaro-Polson EIS

SEIS Ninepipe/Ronan

MDT NH-F 5-1 (9) 6F

Control No. B744

Prepared for:

Montana Department of Transportation

December 2007

Prepared By:



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Section 1. Introduction

The 404(b)(1) Guidelines, found in Title 40 of the Code of Federal Regulations, Part 230, are the substantive criteria used in evaluating discharges of dredged or fill material into Waters of the United States under Section 404 of the Clean Water Act and are applicable to all 404 permit decisions. Fundamental to these Guidelines is the precept that dredged or fill material should not be discharged into the aquatic ecosystems unless it can be demonstrated that such discharges would not have unacceptable adverse impacts either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern.

Subpart B of the guidelines establishes four conditions, which must be satisfied to make a finding that a proposed discharge complies with the guidelines. Section 230.10 provides that:

- a) Except as provided under Section 404(b)(2), no discharge of dredged material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.
- b) No discharge of dredged or fill material shall be permitted if it violates state water quality standards, Section 307 of the Clean Water Act, or the Endangered Species Act of 1973.
- c) No discharge of dredge or fill material shall be permitted which would cause or contribute to significant degradation of the waters of the United States.
- d) Except as provided under Section 404(b)(2), no discharge shall be permitted unless appropriate and practicable steps have been taken which will minimize adverse impacts of the discharge on the aquatic ecosystem.

Mitigation to offset significant and insignificant adverse impacts may be developed which could result in bringing a project into compliance with the guidelines. Impacts must be avoided to the maximum extent practicable and remaining unavoidable impacts will then be mitigated to the extent appropriate and practicable by requiring steps to minimize impacts and finally, by compensation for loss of aquatic resource values.

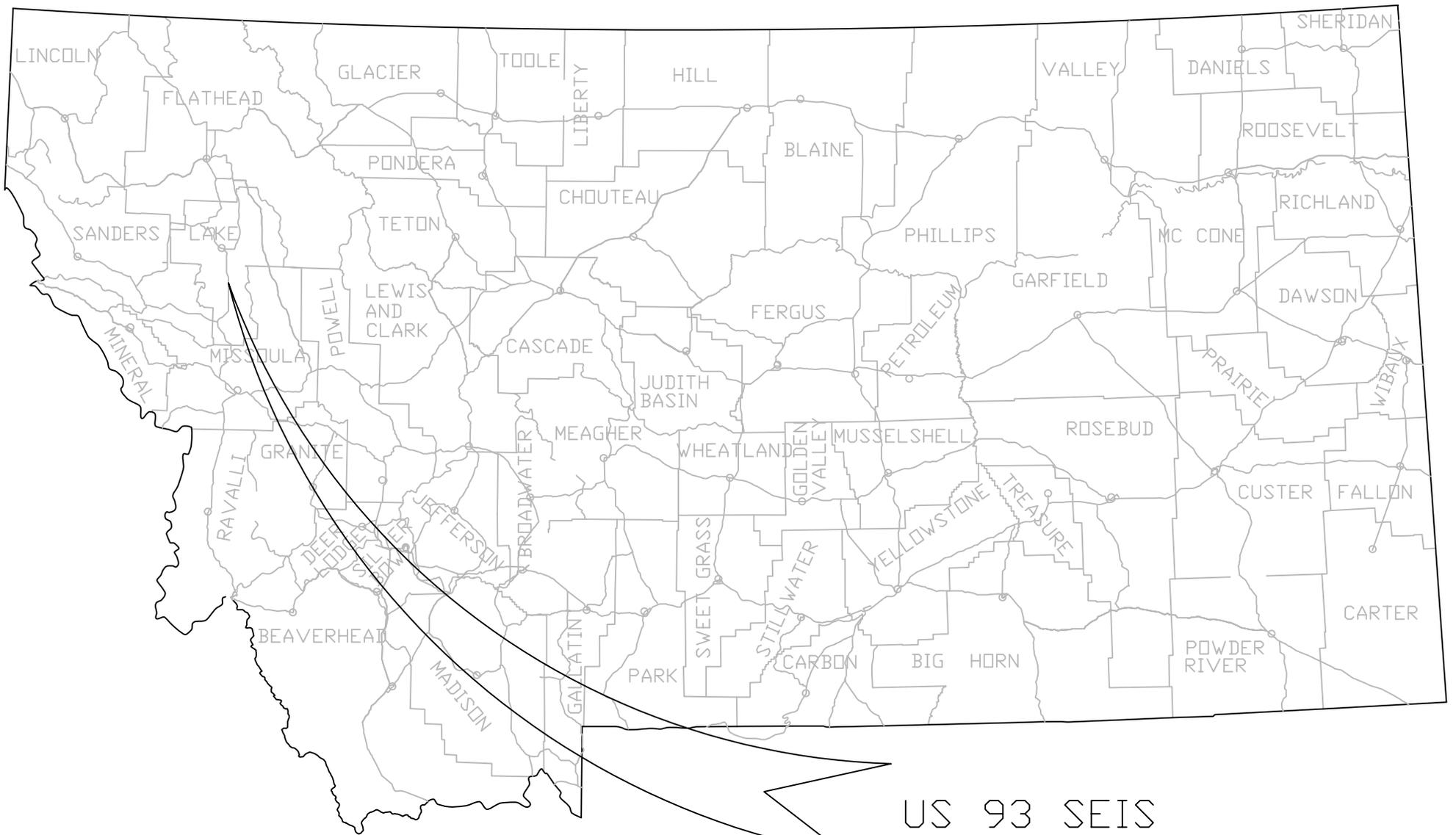
This evaluation represents the views of MDT on how the proposed action complies with the requirements of the 404(b)(1) Guidelines. It is not intended to represent the U.S. Army Corps of Engineers (USACE) views, conclusions, or their final 404(b)(1) Evaluation.

Section 2. Project Description

2. A. LOCATION

The Federal Highway Administration (FHWA), the Montana Department of Transportation (MDT), and the Confederated Salish and Kootenai Tribes (CSKT) propose to improve an 18-kilometer (11.20-mile) section of the existing U.S. Highway 93 (US 93) corridor in Montana. US 93 serves as the major north-south transportation corridor in western Montana (Figure 1, Vicinity Map). The US 93 Ninepipe/Ronan improvement project extends from Dublin Gulch Road/Red Horn Road to the proposed project's northern terminus at Baptiste Road/Spring Creek Road (Figure 2, Location of Project on the US 93 Corridor). The project corridor lies entirely within Lake County, on the Flathead Reservation, which is governed by the Confederated Salish and Kootenai Tribes.

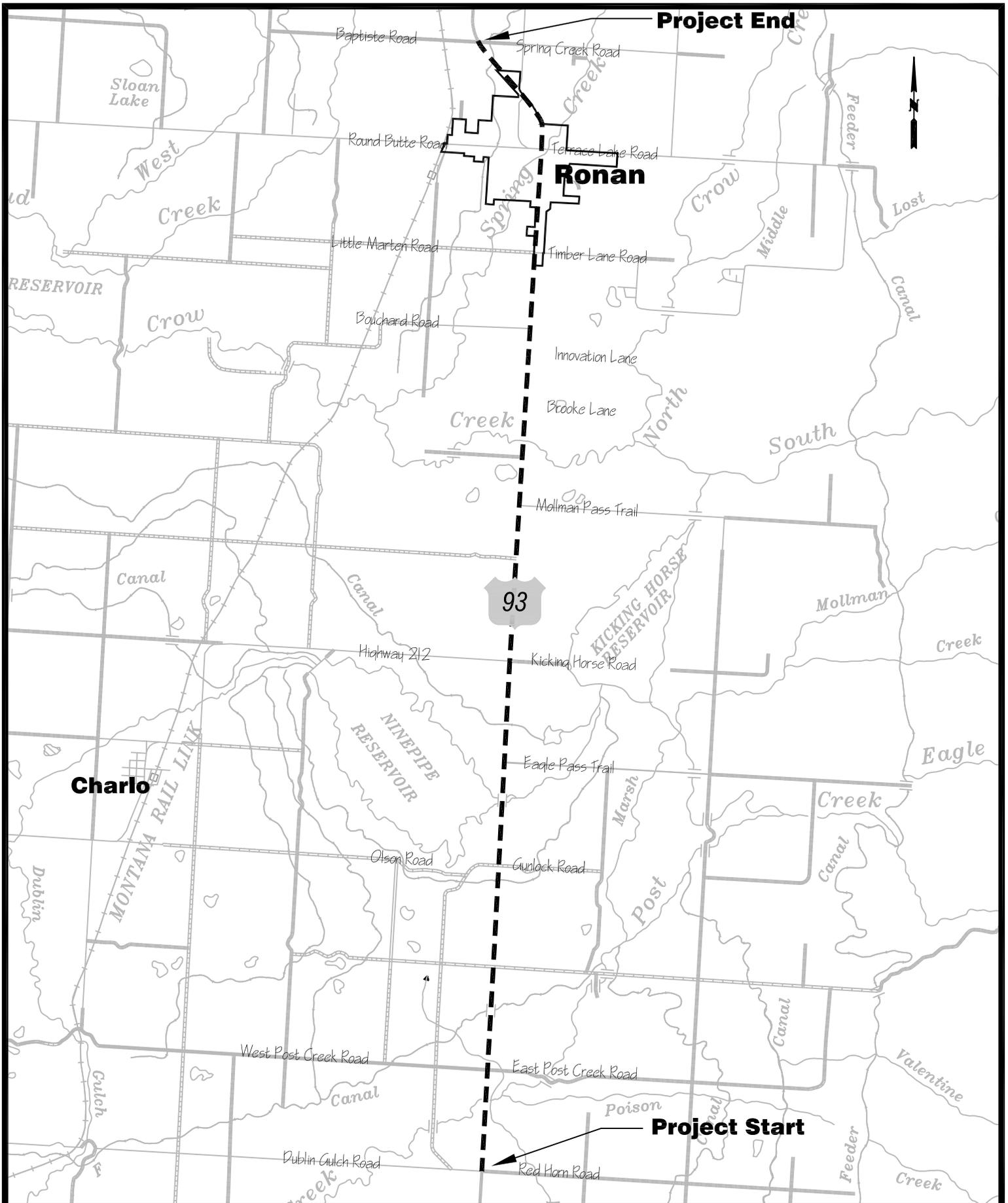
The Ninepipe/Ronan area is a wetland complex, located partially within a National Wildlife Refuge, which includes thousands of pothole wetlands, which offer diverse wildlife habitat. The Post Creek drainage basin, an important corridor for fish and wildlife, is also located within the project area.



US 93 SEIS
RONAN - NINEPIPE

VICINITY MAP
FIGURE 1





LOCATION OF PROJECT ON THE US 93 CORRIDOR

FIGURE 2



Prime farmland acreage is prevalent along the unincorporated project segments of US 93 to the north and south of the City of Ronan. Residential and commercial activity is primarily limited to single family residences on large lots. Commercial activity is often of single proprietors operating from residential properties. Within the city limits of Ronan, natural habitats are limited to Ronan Spring Creek, which crosses US 93, and a limited number of wetlands near the northern terminus of the project corridor. US 93 is a major commercial corridor through the City of Ronan, with adjacent businesses providing a variety of motorist related services.

2.B. GENERAL DESCRIPTION

Project Background

In 1996, the FHWA, MDT, and CSKT issued the *U.S. Highway 93 – Evaro to Polson – Missoula and Lake Counties, Montana: Final Environmental Impact Statement and Section 4(f) Evaluation; FHWA-MT-EIS-95-01-F; F 5-1(9)6* (FHWA and MDT 1996) (referred to as the US 93 Evaro to Polson FEIS) consistent with requirements of the National Environmental Policy Act (NEPA). The Final Environmental Impact Statement (FEIS) described the impacts from improvement of a 90.6 km (56.3 mile) section of US 93 from Evaro to Polson. A Supplemental Environmental Impact Statement (SEIS) is being prepared concurrently with this 404(b)(1) Evaluation that will describe impacts to the Ninepipe/Ronan section of US 93. The SEIS is being prepared as a supplement to the FEIS to examine various alternatives for improving transportation in the project corridor and to identify the associated environmental impacts.

The US 93 Evaro to Polson FEIS described the proposed project and alternatives, and the social, economic, and environmental impacts of the corridor project. A Record of Decision (ROD) was issued on August 12, 1996; however, the ROD deferred making a decision on lane configurations, mitigation measures, and a Section 4(f) determination until agreement was reached by FHWA and MDT, along with their cooperating agency, the CSKT.

Representatives from MDT, FHWA, and CSKT (referred to as the “three governments” or “proponents”) then negotiated and signed the Memorandum of Agreement-US 93 Evaro to Polson (MDT, FHWA, and CSKT 2000) (referred to as the US 93 Corridor MOA). The US 93 Corridor MOA, dated December 20, 2000, lays out the preferred conceptual roadway improvements, including lane configurations, design features, and mitigation measures for 50 kilometers (30.6 miles) of US 93 from Evaro to the Dublin Gulch Road/Red Horn Road intersection (RP 37.1) near Saint Ignatius and for 17.4 kilometers (10.8 miles) of US 93 from the Baptiste Road/Spring Creek Road intersection near Ronan (RP 48.3) to the MT 35 intersection near Polson (RP 59.1). The US 93 Corridor MOA does not include an 18-kilometer (11.2-mile) section between the Dublin Gulch Road/Red Horn Road intersection (RP 37.1) and the Baptiste Road/Spring Creek Road intersection (RP 48.3), which is called the US 93 Ninepipe/Ronan project corridor.

The three governments agreed to prepare a Supplemental EIS (referred to as the US 93 Ninepipe/Ronan SEIS) for the Ninepipe/Ronan section. It was agreed a supplement was needed to explore possible alternate alignments around the environmentally sensitive Ninepipe glacial pothole wetland complex, and to study in more depth the effects of the highway improvement on the wetlands and wildlife in the corridor.

Project Alternatives

The SEIS evaluates the following alternatives:

No Action

The No Action Alternative will perpetuate the existing highway with no substantial improvements. Any improvements to the existing system would be considered on individual merits and could include spot safety improvements, channelization at intersections, climbing lanes, and signalization as dictated during the coming years.

Although the No Action Alternative does not meet the purpose and need for the proposed action, it is evaluated in detail in accordance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) regulations.

Lane Configuration Alternatives

All of the alternatives under consideration represent various combinations of the lane configurations included in the following descriptions.

The 1996 US 93 FEIS defined the four-lane configurations included in the study as follows:

Lane configuration A is a two-lane two-way highway with auxiliary lanes. Where needed, passing lanes will be added for short distances, designated left-turn bays will be constructed at important intersections, and continuous two-way left-turn center medians will be constructed where there are high numbers of intersections and driveways.

Lane configuration B is a four-lane highway with two traffic lanes in each direction. Designated left-turn bays will be constructed at important intersections.

Lane configuration C is a four-lane highway with a continuous two-way left-turn center median.

Lane configuration D is a four-lane highway with a divided, unpaved center median. Designated left-turn bays will be constructed at important intersections.

The alternatives studied in the SEIS include these lane configurations and variations of them singly or in combinations over the length of the proposed project.

All of the action alternatives will include reconstruction of the existing roadway. The reconstruction will provide for curvilinear horizontal alignment roughly following the existing roadway to minimize impacts to adjacent lands. Included will be construction of wider shoulders and revision of the vertical alignment to accommodate structures crossing waterways, streams, and riparian areas. Many of these structures will also serve as wildlife crossings. All slopes will follow the slope tables for rural and urban principal arterials as shown in the MDT Design Standards, except as modified in the preliminary project design (see Appendix A of the US 93 Ninepipe/Ronan Improvement Project Draft SEIS).

Rural Alternatives

The following alternatives were studied in detail. Impacts are set forth for two segments in the rural portion of the proposed project.

The Post Creek Hill segment begins at Red Horn Road and ends at the top of Post Creek Hill just south of Gunlock Road. The Ninepipe segment begins just south of Gunlock Road at the top of Post Creek Hill and ends at the south Ronan City limits.

Alternative Rural 1 consists of a two-lane undivided highway throughout the length of the section.

Alternative Rural 2 includes a two-lane undivided highway with a 2.9 km (1.8 mile) northbound passing lane from Post Creek Road to the top of Post Creek Hill just south of Gunlock Road.

Alternative Rural 3, the rural preferred alternative, would include a two-lane undivided highway with a 2.9 km (1.8 mile) northbound passing lane from Post Creek Road to the top of Post Creek Hill and a four-lane divided section from Brooke Lane to the south Ronan City limits.

Following publication of the draft SEIS more than 100 comments requesting the addition of a separated bicycle/pedestrian path were received (comments received on the draft SEIS are included in Appendix J). As a result of these comments, the project proponents endorsed the inclusion of a bicycle/pedestrian path from Red Horn/Dublin Gulch Road to Buchanan Street in Ronan in the final PA.

Alternative Rural 4 would include a two-lane undivided highway with the addition of a 1.6+ km (1+ mile) southbound passing lane extending from south of the project limits to Post Creek, a 2.9 km (1.8 mile) northbound passing lane from Post Creek Road to the top of Post Creek Hill, a 1.6 km (1 mile) southbound passing lane from Mollman Pass Trail to Brooke Lane, and a four-lane divided section from Brooke Lane to the south Ronan City limits.

Alternative Rural 5 would include a two-lane undivided highway with the addition of a 2.4 km (1.3 mile) southbound passing lane extending from south of the project limits to Post Creek Road, a 2.9 km (1.8 mile) northbound passing lane from Post Creek Road to the top of Post Creek Hill, and a 1.5 km (0.9 mile) four lane divided roadway from Innovation Lane to the south Ronan City limits.

Alternative Rural 6 would provide a two-lane undivided highway from Red Horn Road to Post Creek Road with a 1.6 km (1.0 mile) southbound passing lane from south of the project limits to Post Creek, a 2.9 km (1.8 mile) section of four-lane divided roadway with independently aligned southbound and northbound travel lanes from Post Creek Road to the top of Post Creek Hill, two lanes undivided from the top of Post Creek Hill to Bouchard Road, and four lanes divided from Bouchard Road to the south Ronan City limits.

Alternative Rural 7 provides for a two-lane undivided highway from Red Horn Road to the south Ronan City limits, with the addition of a 1.3 km (0.8 mile) southbound passing lane from south of the project limits (RP 36.7) to approximately 180 m (600 feet) south of Post Creek, a 2.9 km / 1.8 mile northbound passing lane from Post Creek Road to the top of Post Creek Hill, a 2.1 km (1.3 mile) northbound passing lane from RP 44.2 (north of Crow Creek) to RP 45.5 (north of Bouchard Road), and a 1.0 km (0.6 mile) southbound passing lane from RP 45.5 (north of Bouchard Road) to RP 46.1 just north of Little Marten Road/Timber Lane Road. The horizontal alignment generally follows the existing roadway with the curvilinear alignment added. The vertical alignment is a departure from the other alternatives, as the major structures are much more extensive. There would be a major structure at Post Creek and then from approximately Gunlock Road to just north of Crow Creek the highway would be nearly entirely on structures. Passage of large animals throughout the lengths of these structures is the objective. Left-turn lanes would be provided only at Gunlock Road, Eagle Pass Trail, Montana Highway 212 (MT 212), and Mollman Pass Trail in the Gunlock Road to Crow Creek section. All other public roads would be terminated, and all accesses would be right turn only, no

left-turns provided. There would be a half round turnout at each end providing parking and for observing the pristine wetland areas. The elevated structure section would resemble an elevated parkway and would be constructed within the existing right-of-way. There would be additional observation areas constructed near Ninepipe Reservoir, MT 212, and Mollman Pass Trail.

Alternative Rural 8 consists of four lanes undivided throughout its length.

Alternative Rural 9 would provide for four lanes divided throughout its length.

Alternative Rural 10 is similar to Alternative Rural 5, but has differing passing lane components. It would include two lanes undivided with the addition of a 0.8 km (0.5 mile) two-way left-turn lane extending from Dublin Gulch Road/Red Horn Road northward to a business entrance driveway on the east side, a 2.9 km (1.8 mile) northbound passing lane from Post Creek Road to the top of Post Creek Hill, a 1.9 km (1.2 mile) southbound passing lane from the top of Post Creek Hill to Eagle Pass Trail, and a 1.5 km (0.9 mile) section of four lane divided roadway from Innovation Lane to the south Ronan City limits.

Ronan Alternatives

The Ronan portion of the proposed project extends from the south city limits just south of Little Marten Road to Spring Creek Road on the north end.

Alternative Ronan 1 consists of four lanes with a raised landscaped median on the existing alignment throughout most of the length, transitioning to a four-lane divided section at the north end of the proposed project between old US 93 and the Baptiste Road/Spring Creek Road intersection.

Alternative Ronan 2 consists of four lanes on the existing alignment with a continuous two-way left-turn lane transitioning to a four-lane divided section at the north end of the proposed project between old US 93 and the Baptiste Road/Spring Creek Road intersection.

Alternative Ronan 3 would be a couplet with a two-lane one-way roadway northbound on the existing US 93 alignment and a two-lane southbound roadway constructed on the First Avenue SW alignment. This alternative would largely be constructed within the existing right-of-way of US 93 and First Avenue SW, except where the southbound transitions away from the existing and back again, where new right-of-way would be required. Transition sections would also be necessary at the southerly end to the selected rural lane configuration and to a four-lane divided section on the north end between old US 93 and the Baptiste Road/Spring Creek Road intersection.

Alternative Ronan 4, the urban preferred alternative, would be a couplet with the northbound roadway on the existing alignment, and the southbound roadway on First Avenue SW, nearly identical to Alternative Ronan 3, except the southbound roadway on First Avenue SW would consist of a wider section which would include a 3 m / 10 ft planting area and a 3.6 m / 12 ft buffer on the west side of the street, and a 3 m / 10 ft planting area and a 1.8 m / 6 ft buffer on the east side. Most of the right-of-way would be purchased from the east side of the street to provide the maximum buffer to the neighborhood on the west. Transition sections, as described under Alternative Ronan 3, would also be necessary under this alternative.

Alternative Ronan 5 would be similar to the existing except that the three lanes would include curb and gutter on the existing alignment, with sidewalks for pedestrians and bicycle lanes for the bicyclists. Transition sections would also be necessary at the southerly end to the selected rural lane configuration and to a four-lane divided section on the north end between old US 93 and the Baptiste Road/Spring Creek Road intersection. It would also include improvements to First Avenue SW and

First Avenue SE to provide for additional traffic circulation parallel to the US 93 roadway. This circulation would be for local traffic and may also be used as a bypass to the main roadway during periods of congestion.

The major environmental impacts and benefits of the rural and urban action alternatives are summarized in Sections 1.4.1 and 1.4.2 of the Draft SEIS.

2.C. AUTHORITY AND PURPOSE

US 93 is important to local, regional and nationwide transportation; the volume of traffic is high, has been steadily increasing and is projected to continue to increase. The existing roadway has various geometric features that do not meet current guidelines and standards for safety and design. Existing level-of-service (LOS) is poor, and is projected to get worse by the design year 2024. With the high volume of traffic, the accident rate is lower than the statewide average accident rate, while accident severity numbers (proportion of fatal and injury accidents) are substantially higher than statewide averages. Bicycle and pedestrian facilities are very limited in the project corridor. The City of Ronan, CSKT, and MDT have all supported the need for improved bicycle and pedestrian accommodations.

The US 93 Evaro to Polson FEIS described the proposed project, alternatives, and social, economic and environmental impacts of the proposed project. A Record of Decision (ROD) was issued, which selected the existing alignment for improvement throughout the length of the proposed project, calling for a corridor bypassing the City of Ronan, and allowing for right-of-way acquisition and access control. However, the ROD deferred making a decision on lane configurations, mitigation measures, and a Section 4(f) determination until agreement was reached by the three stakeholders on lane-configuration, design features, and mitigation measures for the corridor bypass.

The Ninepipe/Ronan improvement project corridor, which is a segment of the overall U.S. Highway 93 Evaro to Polson project, is an 18 km (11.2 mile) section that extends from Dublin Gulch Road/Red Horn Road to Baptiste Road/Spring Creek Road. This section is being evaluated separately from the overall project due to design conditions and alternative analysis. The purpose of the proposed action within this section remains the same as stated; to improve the transportation system of US 93. This supplement (SEIS) to the US 93 FEIS will evaluate impacts to various alternatives within the US 93 Ninepipe/Ronan project corridor. This 404(b)(1) Evaluation will detail impacts to the aquatic ecosystem based on the different alternatives.

2.D. GENERAL DESCRIPTION OF THE DREDGED OR FILL MATERIAL

2.D.1 General Characteristics of Material

Fill material will be excavated locally and will be similar in physical and chemical characteristics to substrate in wetlands that are filled. Material used in wetland fills is likely to be an American Association of State and Transportation Highway Officials (AASHTO) approved fill material with no organics, more granular soils, etc. Also, some sub-excavation may be needed for construction of the road base. While excavation and borrow sites have not been identified at this time, the site will be chosen in part on certain characteristics. General fill material may be suitable soils, including earth and crushed or naturally occurring sands and gravels. Some fill material may be concrete, steel, or similar materials that could be used for culvert or bridge construction. Rock riprap may be used to resist erosion around flowing water.

2.D.2 Quantity of Material

Quantities of fill material will depend upon the action alternative that is selected and specific topographical features of affected wetlands. Quantities of fill material to be placed will be

determined during the final design phase of the proposed project. Quantities will be sufficient to construct the roadway and appurtenant features. Appendix A of the US 93 Ninepipe/Ronan improvement project Draft SEIS details the MDT standard slopes applied in the preliminary design for the US 93 Ninepipe/Ronan improvement project.

2.D.3. Source of Material

The locations of the borrow pits that will be used as fill material for the proposed project have not yet been finalized. The source of fill material to be placed will be determined during the final design phase of the proposed project. Borrow or excavation sites will not be allowed if they have high levels of salinity, acid-generating materials, heavy metals, pesticides or other elements or substances potentially harmful to fish, wildlife, or other aquatic organisms. Due to the fact that borrow sites would require environmental review and approval prior to their use, development of the borrow sites will not have any adverse effects on aquatic resources, cultural or historic resources, or any threatened or endangered species.

2.E. DESCRIPTION OF THE PROPOSED DISCHARGE SITES

The information contained in this section is summarized from the *Biological Resources Report: US 93 Ninepipe/Ronan improvement project* (Herrera 2005a) prepared for the proposed project. The report documents the methodology used in the wetland determination, describing the location, overall size, and type of wetlands identified within the project corridor. The report also describes the potential impacts to site wetlands that are associated with the action alternatives, and the proposed mitigation for each alternative. Table 1 is a summary of the wetland occurrence, wetland classification, and associated water bodies in the project corridor

2.E.1 Location of Sites

Wetlands and surface waters (measured by area) affected by the action alternatives are located within Lower Flathead Watershed (HUC 17010212). The locations of all identified wetlands are listed in Table 1 (Wetland Location and Classification). The locations of other surface waters in the project area are listed in Table 2.

2.E.2 Size of Sites

The wetland boundaries were determined using the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). All wetlands within the proposed right-of-way lines, either completely or partially, were evaluated to determine the extent of their boundaries.

Table 1 shows the estimated overall acreage of each wetland within the corridor at each specific location.

2.E.3 Type of Sites

Wetlands in the project area are divided into five wetland types based on their appearance and position in the landscape: riparian zone wetlands, pothole wetlands, Ninepipe Reservoir wetlands, irrigation feature wetlands, and roadside ditch wetlands. Riparian zone wetlands are located in the floodplains of associated streams, outside of the stream channel. Prairie pothole wetlands are depressions in the landscape that are fed by surface water or groundwater. These depressional areas were formed by glaciation. Pothole wetlands were further divided into 3 groups: Group 1 pothole wetlands are inundated by precipitation, surface water runoff, and/or ground water inflow for all of the year; Group 2 pothole wetlands are usually saturated at or near the soil surface for all or most of the year and inundated for portions of the year; and Group 3 pothole wetlands are depression areas that are inundated periodically, but with much longer lengths of time between inundations. Ninepipe Reservoir wetlands are the two wetlands within the US 93 right-of-way that are associated with the

Table 1. Characteristics of wetlands in the US 93 Ninepipe/Ronan improvement project corridor.

<i>Wetland ID</i>	<i>Reference Post</i>	<i>Wetland Type^a</i>	<i>Provisional USACE Jurisdictional Status^b</i>	<i>Cowardin Class^c</i>	<i>Hansen Community Type^d</i>	<i>Montana Wetland Category^e</i>	<i>Estimated Size^f Hectares (acres)</i>
H14A	37.2 to 37.3	Riparian zone (unnamed tributary to Post Creek 1)	Jurisdictional	PEM, PSS, PAB	Unclassified riparian or wetland site	II	0.6 (1.4)
H14B	37.2 to 37.3	Riparian zone (unnamed tributary to Post Creek 1)	Jurisdictional	PEM, PSS, PAB	Unclassified riparian or wetland site	II	0.5 (1.2)
H15A	37.4 to 37.6	Riparian zone (Ashley Creek)	Jurisdictional	PEM	Sedge community type	III	0.5 (1.2)
H15B	37.6	Riparian zone (Ashley Creek)	Jurisdictional	PEM	Sedge community type	III	0.01 (0.03)
H15C	37.6	Riparian zone (Ashley Creek)	Jurisdictional	PEM	Sedge community type	III	0.1 (0.2)
H16A	37.6 to 37.8	Riparian zone (Post Creek)	Jurisdictional	PEM, PSS, PAB, PUB	Quaking aspen/red-osier dogwood habitat type	I	8.4 (20.8)
H16B	37.6 to 38.1	Riparian zone (Post Creek)	Jurisdictional	PEM, PSS, PAB, PUB	Quaking aspen/red-osier dogwood habitat type	I – Post Creek Riparian Floodplain, III – north of the Post Creek Channel, associated with drainage from H16C	4.4 (10.9)
H16C	38.1 to 38.2	Riparian zone (unnamed tributary to Post Creek 2)	Jurisdictional	PEM, PSS, PAB	Quaking aspen/red-osier dogwood habitat type	III	0.8 (1.9)
H17A	37.9 to 38.1	Riparian zone (unnamed tributary to Post Creek 3)	Jurisdictional	PEM	Common cattail habitat type	III	0.2 (0.5)
H17B	38.1 to 38.3	Roadside ditch	Jurisdictional	PEM	Common cattail habitat type	IV	0.2 (0.5)

<i>Wetland ID</i>	<i>Reference Post</i>	<i>Wetland Type^a</i>	<i>Provisional USACE Jurisdictional Status^b</i>	<i>Cowardin Class^c</i>	<i>Hansen Community Type^d</i>	<i>Montana Wetland Category^e</i>	<i>Estimated Size^f Hectares (acres)</i>
H17C	38.3 to 38.5	Roadside ditch	Jurisdictional	PEM	Common cattail habitat type	IV	0.1 (0.2)
H17D	38.5	Roadside ditch	Jurisdictional	PEM	Common cattail habitat type	IV	0.04 (0.1)
H17E	38.5	Roadside ditch	Jurisdictional	PEM	Common cattail habitat type	IV	0.01 (0.02)
H17F	38.6	Roadside ditch	Jurisdictional	PEM	Common cattail habitat type	IV	0.1 (0.1)
H18A	38.4	Irrigation feature	Jurisdictional	PEM	Nebraska sedge community type	III	0.03 (0.07)
H18B	38.4 to 38.6	Irrigation feature	Jurisdictional	PEM	Nebraska sedge community type	III	1.6 (3.8)
H19A	38.6	Irrigation feature	Jurisdictional	PEM, PUB	Reed canarygrass habitat type	III	0.1 (0.2)
H19B	38.6 to 39.1	Irrigation feature	Jurisdictional	PEM, PUB	Nebraska sedge community type	III	0.8 (2.0)
H20A	39	Irrigation feature	Jurisdictional	PEM, PUB	Nebraska sedge community type	III	0.2 (0.5)
H21A	39.1 to 39.3	Roadside ditch	Jurisdictional	PEM	Common cattail habitat type	III	0.3 (0.7)
H21B	39.4 to 39.5	Roadside ditch	Non-jurisdictional	PEM	Common cattail habitat type	III	0.2 (0.5)
H22A	39.4 to 39.6	Roadside ditch	Non-jurisdictional	PEM	Common cattail habitat type	III	0.2 (0.5)
H22B	39.4	Irrigation feature	Non-jurisdictional	PEM	Reed canarygrass habitat type	III	0.1 (0.2)
H22C	39.4	Irrigation feature	Non-jurisdictional	PEM	Reed canarygrass habitat type	III	0.1 (0.2)
H23A	39.5 to 39.7	Roadside ditch	Non-jurisdictional	PEM	Common cattail habitat type	III	0.1 (0.2)
H23B	39.6 to 39.7	Roadside ditch	Non-jurisdictional	PEM	Common cattail habitat type	III	0.1 (0.2)
H23C	39.7	Roadside ditch	Non-jurisdictional	PEM	Common cattail habitat type	III	0.01 (0.02)
H24A	39.7	Irrigation feature	Jurisdictional	PEM	Sedge community type	III	0.1 (0.2)

<i>Wetland ID</i>	<i>Reference Post</i>	<i>Wetland Type^a</i>	<i>Provisional USACE Jurisdictional Status^b</i>	<i>Cowardin Class^c</i>	<i>Hansen Community Type^d</i>	<i>Montana Wetland Category^e</i>	<i>Estimated Size^f Hectares (acres)</i>
H24B	39.7	Group 2 pothole wetland	Non-jurisdictional	PEM, PUB	Unclassified riparian or wetland site	II	0.2 (0.5)
H24C	39.8	Group 2 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.04 (0.10)
H24D	39.8	Group 2 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.02 (0.05)
H25A	39.8	Group 2 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	II	0.2 (0.5)
H26A	39.8	Irrigation feature	Jurisdictional	PEM, PSS	Black cottonwood/herbaceous community type	III	0.3 (0.7)
H26B	39.9	Group 3 pothole wetland	Non-jurisdictional	PEM	Reed canarygrass habitat type	III	0.04 (0.1)
H26C	39.9	Group 2 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.1 (0.2)
H27A	39.9 to 40	Group 2 pothole wetland	Non-jurisdictional	PEM, PUB	Common cattail habitat type	II	1.3 (3.2)
H27B	39.9	Group 1 pothole wetland	Jurisdictional	PEM, PUB	Common cattail habitat type	II	0.3 (0.7)
H27C	40	Group 3 pothole wetland	Jurisdictional	PEM, PUB	Common cattail habitat type	II	0.01 (0.02)
H27D	39.9	Group 2 pothole wetland	Jurisdictional	PEM, PUB	Common cattail habitat type	II	0.03 (0.07)
H27E	39.9	Group 3 pothole wetland	Jurisdictional	PEM, PUB	Common cattail habitat type	II	0.1 (0.2)
H27F	39.9	Group 3 pothole wetland	Jurisdictional	PEM, PUB	Common cattail habitat type	II	0.02 (0.05)
H27G	40	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	II	0.6 (1.5)
H27H	40	Group 2 pothole wetland	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	II	0.1 (0.2)
H27I	40	Roadside ditch	Non-jurisdictional	PEM	Common cattail habitat type	IV	0.04 (0.10)

<i>Wetland ID</i>	<i>Reference Post</i>	<i>Wetland Type^a</i>	<i>Provisional USACE Jurisdictional Status^b</i>	<i>Cowardin Class^c</i>	<i>Hansen Community Type^d</i>	<i>Montana Wetland Category^e</i>	<i>Estimated Size^f Hectares (acres)</i>
H28A	40.1 to 40.2	Group 1 pothole wetland	Non-jurisdictional	PEM, PAB, PUB	Common cattail habitat type	II	1.0 (2.5)
H29A	40.4	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Common cattail habitat type	II	0.9 (2.2)
H30A	40.4 to 41	Ninepipe Reservoir	Jurisdictional	PEM, PUB	Reed canarygrass habitat type	II	8.3 (20.4)
H30B	40.4 to 40.8	Ninepipe Reservoir	Jurisdictional	PEM, PUB	Reed canarygrass habitat type	II	7.8 (19.3)
H31A	40.8 to 41	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Common cattail habitat type	II	0.5 (1.2)
H31B	41.1	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	II	0.3 (0.7)
H32A	41.1	Group 3 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.004 (0.01)
H32B	41.1	Group 3 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.02 (0.05)
H32C	41.1	Group 3 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.01 (0.02)
H32D	41.2	Group 3 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.004 (0.01)
H33A	41.1	Group 2 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.04 (0.10)
H33B	41.2	Group 1 pothole wetland	Non-jurisdictional	PEM, PSS, PFO	Black cottonwood/herbaceous community type	II	0.8 (2.0)
H33C	41.2	Group 3 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.03 (0.07)
H34A	41.3	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Black cottonwood/herbaceous community type	II	0.3 (0.7)
H34B	41.3	Group 2 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.1 (0.2)

<i>Wetland ID</i>	<i>Reference Post</i>	<i>Wetland Type^a</i>	<i>Provisional USACE Jurisdictional Status^b</i>	<i>Cowardin Class^c</i>	<i>Hansen Community Type^d</i>	<i>Montana Wetland Category^e</i>	<i>Estimated Size^f Hectares (acres)</i>
H34C	41.3 to 41.4	Group 1 pothole wetland	Non-jurisdictional	PEM, PSS, PUB	Black cottonwood/red-osier dogwood community type	II	1.4 (3.5)
H34D	41.4	Group 1 pothole wetland	Non-jurisdictional	PEM, PSS, PUB	Common cattail habitat type	II	0.3 (0.7)
H35A	41.4	Irrigation feature	Jurisdictional	PEM, PFO, PAB, PUB	Reed canarygrass habitat type	III	0.02 (0.05)
H35B	41.4	Irrigation feature	Jurisdictional	PEM, PFO, PAB, PUB	Reed canarygrass habitat type	III	0.1 (0.2)
H36A	41.5	Roadside ditch	Non-jurisdictional	PEM	Common cattail habitat type	III	0.01 (0.02)
H37A	41.6 to 41.8	Group 1 pothole wetland, Kettle Pond 1	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	II	2.4 (6.0)
H37B	41.6 to 41.8	Group 1 pothole wetland, Kettle Pond 1	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	II	1.7 (4.2)
H38A	41.9	Group 2 pothole wetland	Non-jurisdictional	PEM	Unclassified riparian or wetland site	IV	0.04 (0.10)
H39A	41.9	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Common cattail habitat type	III	0.2 (0.5)
H39B	41.9 to 42	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Common cattail habitat type	III	0.6 (1.5)
H40A	42	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Common cattail habitat type	III	0.9 (2.2)
H40B	42	Group 2 pothole wetland	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	III	0.10 (0.2)
H40C	42	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Common cattail habitat type	III	0.2 (0.5)
H40D	42	Roadside ditch	Non-jurisdictional	PEM	Common cattail habitat type	III	0.004 (0.01)
H40E	42.1	Group 3 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.1 (0.2)

<i>Wetland ID</i>	<i>Reference Post</i>	<i>Wetland Type^a</i>	<i>Provisional USACE Jurisdictional Status^b</i>	<i>Cowardin Class^c</i>	<i>Hansen Community Type^d</i>	<i>Montana Wetland Category^e</i>	<i>Estimated Size^f Hectares (acres)</i>
H40F	42.1	Group 3 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.04 (0.10)
I1A	42.1	Irrigation feature	Non-jurisdictional	PEM	Common cattail habitat type	IV	0.004 (0.01)
I1B	42.1	Irrigation feature	Non-jurisdictional	PEM	Common cattail habitat type	IV	0.01 (0.02)
I2A	42.2	Group 2 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	IV	0.02 (0.05)
I3A	42.	Group 2 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.1 (0.2)
I3B	42.4	Group 1 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.1 (0.2)
I3C	42.3 to 42.4	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	II	0.2 (0.5)
I3D	42.4	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	II	0.4 (1.0)
I3E	42.8	Group 2 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.1 (0.2)
I4A	42.5 to 42.6	Group 1 pothole wetland, Kettle Pond 2	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	II	2.00 (5.0)
I4B	42.5 to 42.6	Group 1 pothole wetland, Kettle Pond 2	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	II	0.9 (2.2)
I5A	42.7	Group 2 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.1 (0.2)
I5B	42.5 to 42.7	Group 1 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.5 (1.2)
I6A	42.7	Group 1 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.10 (0.2)
I6B	42.7	Group 1 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.04 (0.10)
I6C	42.8	Group 3 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.03 (0.07)

<i>Wetland ID</i>	<i>Reference Post</i>	<i>Wetland Type^a</i>	<i>Provisional USACE Jurisdictional Status^b</i>	<i>Cowardin Class^c</i>	<i>Hansen Community Type^d</i>	<i>Montana Wetland Category^e</i>	<i>Estimated Size^f Hectares (acres)</i>
I6D	42.8 to 42.8	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	II	0.7 (1.7)
I6E	42.8	Group 3 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.02 (0.05)
I7A	42.8 to 42.9	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	II	0.2 (0.5)
I7B	42.9	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	II	0.6 (1.5)
I7C	43	Group 2 pothole wetland	Non-jurisdictional	PEM	Unclassified riparian or wetland site	III	0.1 (0.2)
I8A	43	Group 1 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	II	0.1 (0.2)
I8B	43.1 to 43.2	Group 1 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	II	0.2 (0.5)
I8C	43.1 to 43.2	Group 1 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	II	0.6 (1.5)
I8D	43.2	Group 1 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	II	0.5 (1.2)
I9A	43.3	Group 1 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.3 (0.7)
I9B	43.3	Group 2 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.04 (0.1)
I10A	43.4	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	III	0.1 (0.2)
I11A	43.4	Roadside ditch	Non-jurisdictional	PEM	Common cattail habitat type	IV	.004 (0.01)
I11B	43.4	Roadside ditch	Non-jurisdictional	PEM	Common cattail habitat type	IV	.004 (0.01)
I11C	43.4	Roadside ditch	Non-jurisdictional	PEM	Common cattail habitat type	IV	.004 (0.01)
I11D	43.4	Roadside ditch	Non-jurisdictional	PEM	Common cattail habitat type	IV	.004 (0.01)
I12A	43.4	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Common cattail habitat type	III	0.1 (0.2)

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I12B	43.5	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Common cattail habitat type	III	0.1 (0.2)
I12C	43.5	Group 2 pothole wetland	Non-jurisdictional	PEM, PUB	Common cattail habitat type	III	0.02 (0.05)
I13A	43.4	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	III	0.02 (0.05)
I13B	43.4 to 43.5	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	III	0.6 (1.5)
I13C	43.5	Group 3 pothole wetland	Non-jurisdictional	PEM, PUB	Reed canarygrass habitat type	III	0.02 (0.05)
I13D	43.5	Group 2 pothole wetland	Non-jurisdictional	PEM, PUB	Common cattail habitat type	III	0.1 (0.2)
I13E	43.5	Group 2 pothole wetland	Non-jurisdictional	PEM, PUB	Common cattail habitat type	III	0.02 (0.05)
I13F	43.5	Group 2 pothole wetland	Non-jurisdictional	PEM, PUB	Common cattail habitat type	III	0.03 (0.07)
I14A	43.6 to 43.7	Group 2 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.50 (1.2)
I14B	43.6	Group 1 pothole wetland	Non-jurisdictional	PEM	Reed canarygrass habitat type	III	0.2 (0.5)
I14C	43.6 to 43.8	Group 1 pothole wetland	Non-jurisdictional	PEM	Common cattail habitat type	III	0.9 (2.2)
I15A	43.8 to 44	Group 1 pothole wetland	Non-jurisdictional	PEM, PUB	Unclassified riparian or wetland site	II	2.4 (5.9)
I16A	44 to 44.2	Riparian zone (Crow Creek)	Jurisdictional	PEM, PSS, PAB, PUB	Unclassified riparian or wetland site	II	1.5 (3.7)
I16B	44 to 44.2	Riparian zone (Crow Creek)	Jurisdictional	PEM, PSS, PAB, PUB	Unclassified riparian or wetland site	II	0.8 (2.0)
I17A	44.2 to 44.3	Roadside ditch	Jurisdictional	PAB	Common cattail habitat type	IV	0.1 (0.2)
I17B	44.3	Roadside ditch	Jurisdictional	PAB	Common cattail habitat type	IV	0.02 (0.05)
I17C	44.4 to 44.5	Roadside ditch	Jurisdictional	PAB	Common cattail habitat type	IV	0.1 (0.2)

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I17D	44.5 to 44.6	Roadside ditch	Jurisdictional	PAB	Common cattail habitat type	IV	0.1 (0.2)
I17E	44.7	Roadside ditch	Jurisdictional	PAB	Common cattail habitat type	IV	0.1 (0.2)
I18A	44.8	Roadside ditch	Non-jurisdictional	PAB	Common cattail habitat type	IV	0.004 (0.01)
I18B	44.8	Roadside ditch	Non-jurisdictional	PAB	Common cattail habitat type	IV	0.01 (0.02)
I18C	44.9	Roadside ditch	Non-jurisdictional	PAB	Common cattail habitat type	IV	0.02 (0.05)
I18D	44.9	Roadside ditch	Non-jurisdictional	PAB	Common cattail habitat type	IV	0.01 (0.02)
I19A	44.2 to 44.6	Roadside ditch; Group 2 pothole wetland	Jurisdictional	PAB	Common cattail habitat type	IV	0.6 (1.5)
I19B	44.6 to 44.7	Roadside ditch; Group 2 pothole wetland	Jurisdictional	PAB	Common cattail habitat type	IV	0.4 (1.0)
I20A	45.1	Roadside ditch	Non-jurisdictional	PAB	Common cattail habitat type	IV	0.004 (0.01)
I20B	45.1	Roadside ditch	Non-jurisdictional	PAB	Common cattail habitat type	IV	0.01 (0.02)
I20C	45.1	Roadside ditch	Non-jurisdictional	PAB	Common cattail habitat type	IV	0.01 (0.02)
I21A	45.1	Irrigation feature	Jurisdictional	PEM, PAB	Common cattail habitat type	III	0.3 (0.7)
I21B	45.1 to 45.3	Irrigation feature	Jurisdictional	PEM, PAB	Common cattail habitat type	III	0.2 (0.5)
I22A	45.5	Irrigation feature	Non-jurisdictional	PEM	Unclassified riparian or wetland site	IV	0.2 (0.5)
I22B	45.5	Irrigation feature	Non-jurisdictional	PEM	Unclassified riparian or wetland site	IV	0.04 (0.10)
J2A	47.2	Group 2 pothole wetland	Jurisdictional	PEM, PAB	Common cattail habitat type	III	0.1 (0.2)

<i>Wetland ID</i>	<i>Reference Post</i>	<i>Wetland Type^a</i>	<i>Provisional USACE Jurisdictional Status^b</i>	<i>Cowardin Class^c</i>	<i>Hansen Community Type^d</i>	<i>Montana Wetland Category^e</i>	<i>Estimated Size^f Hectares (acres)</i>
J2B	47.2	Irrigation feature	Jurisdictional	PEM, PAB	Unclassified riparian or wetland site	III	0.1 (0.2)
J2C	47.1 to 47.2	Riparian zone (Ronan Spring Creek)	Jurisdictional	PEM, PSS, PUB	Reed canarygrass habitat type	II	0.9 (2.2)
J2D	47.1	Riparian zone (Ronan Spring Creek)	Jurisdictional	PEM, PSS, PUB	Reed canarygrass habitat type	II	0.1 (0.2)
J3A	47.4	Irrigation feature	Non-jurisdictional	PEM, PAB	Common cattail habitat type	III	0.6 (1.5)
J4A	48.2	Group 3 pothole wetland	Jurisdictional	PEM, PAB	Common cattail habitat type	III	0.3 (0.7)
J4B	48.3	Group 1 pothole wetland	Jurisdictional	PEM, PAB	Common cattail habitat type	III	1.3 (3.2)

^a Wetland types, including the pothole wetland groupings, are described below in this section.

^b USACE jurisdictional status was determined by project biologists and has not been confirmed by the USACE. Wetlands within the project corridor are also regulated by CSKT per the Aquatic Lands Conservation Ordinance 87A.

^c Source: Cowardin et al. 1979. Wetland classes include: PAB - palustrine aquatic bed, PEM - palustrine emergent, PFO - palustrine forested, PSS - palustrine scrub-shrub, PUB - palustrine unconsolidated bottom wetland

^d Source: Hansen et al. 1995.

^e Source: MDT 1995.

^f The size of the wetland is the area of the wetland generally within the proposed right-of-way for the widest alternative (Rural 9). Many of the wetlands in the project corridor are entirely within this limit and others, such as wetlands associated with streams and the Ninepipe Reservoir extend beyond this limit. For the latter case, the acreage presented does not represent the size of the entire system.

Ninepipe Reservoir. Irrigation feature wetlands include feeder canals, lateral canals, and features resulting from seepage of the irrigation system. The remaining wetland type, roadside ditch wetlands, are artificial wetlands that did not historically exist and are present as a result of runoff from the roadway collecting and ponding in roadway ditches or by interception of groundwater caused by excavation of the ditch.

Table 2. Surface waters located in the US 93 Ninepipe/Ronan improvement project corridor.

Waterbody	Location	Crossing Type
Post Creek Hill Segment		
Unnamed Tributary to Post Creek 1	US 93/Red Horn Road, RP 37.2	Culvert
Ashley Creek	US 93, RP 37.4 to 37.8	None - Adjacent
Post Creek	US 93, RP 37.8	Bridge
Unnamed Tributary to Post Creek 2	US 93, West Post Creek Road, RP 37.8 to 38.1	None - Adjacent
Unnamed Tributary to Post Creek 3	US 93, East Post Creek Road, RP 37.8 to 38.1	None - Adjacent
Post F Canal	US 93, RP 38.6	Culvert
17 G-4 Canal ^b	US 93, RP 39.0	Culvert
14G Canal ^b	US 93, RP 39.5	None - Adjacent
Ditch ^b	US 93, RP 39.5	None - Adjacent
Canal ^b	US 93, RP 39.5	Culvert
14G Canal ^b	US 93, RP 39.6 – 39.8	None- Adjacent
Siphon ^b	US 93, RP 39.8	Culvert
Post G Canal	US 93, RP 39.9	Culvert
Ninepipe Segment		
Siphon ^b	US 93, RP 40.2	Culvert
Ninepipe Reservoir	US 93, RP 40.5 to 40.8	Bridge
Post A Canal	US 93, RP 41.5	Culvert
Crow Creek	US 93, RP 44.2	Culvert
Ronan A Canal	US 93, RP 44.2 – 45.1	None - Adjacent
Siphon	US 93, RP 45.1	Culvert
13A Canal ^b	US 93, RP 45.8 – 46.3	None - Adjacent
Ronan Portion		
Ronan A Canal	US 93, RP 46.3	Culvert
Ronan D Canal Siphon	US 93, RP 48.1	Culvert
Ronan Spring Creek	US 93, Main Street, RP 47.0	Culvert

^a CSKT 2001b.

^b These surface waters were identified as nonjurisdictional under the USACE regulations. USACE jurisdictional status was determined by project biologists and has not been confirmed by the USACE. Surface waters within the project corridor are also regulated by the CSKT per Aquatic Lands Conservation Ordinance 87A.

RP: Reference post.

A preliminary jurisdictional determination (as regulated by the US Army Corps of Engineers [USACE]) was made for each wetland in the project area by project biologists, but final jurisdictional

determinations have not been verified by USACE. MDT would not be responsible for mitigating impacts on non-jurisdictional wetlands for the purposes of securing a Section 404 permit. However, regardless of jurisdiction, Executive Order 11990 requires MDT to account for all wetland losses. Therefore, MDT would ultimately seek to replace all wetlands affected by the proposed project.

Jurisdictional wetlands include those wetlands that meet the definition of a wetland as defined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and do not fall under any of the criteria for non-jurisdictional wetlands. Non-jurisdictional wetlands in the US 93 Ninepipe/Ronan improvement project corridor consist of isolated wetlands, which are generally pothole wetlands. The following guidelines were used by project biologists in this assessment to determine if a wetland was isolated and non-jurisdictional:

- No apparent surface or wetland connection with any water of the U.S. and not directly adjacent to any water of the U.S.
- No actual link between the water body and interstate or foreign commerce based on the factors mentioned previously.
- Individually and/or in the aggregate, the use, degradation or destruction of the isolated water would have no substantial effect on interstate or foreign commerce, i.e. the wetland does not have a “significant nexus” to navigable waters.

Jurisdictional and non-jurisdictional wetlands in the US 93 project area are identified in Table 1 and are described in greater detail in the *Biological Resources Report: US 93 Ninepipe/Ronan Improvement Project* (Herrera 2005a). The USACE has not yet concurred with the preliminary jurisdictional determinations made by project biologists. A field visit was conducted in Summer 2006 to confirm the jurisdictional determinations. As of this date, formal notice regarding USACE jurisdiction of potential wetland impacts has not been given.

2.E.4 Types of Wetland Habitats

Table 1 describes the wetland at each site including the wetland type based on appearance (as described above), Cowardin Class, Hansen Community Type, and Montana Wetland Category. Cowardin Class is based on the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979), a descriptive classification with 28 subclasses, based on physical wetland attributes (i.e., vegetation, soils, and water regime). Hansen Community Type describes the wetland vegetation units using habitat types or community types according to *Classification and Management of Montana’s Riparian and Wetland Sites* (Hansen et al. 1995). The Montana Wetland Category assesses the functions and values of a wetland using the *Montana Wetland Assessment Method* (MDT 1999).

2.E.5 Timing and Duration of Discharge

The timing and duration of construction activities will depend on the alternative chosen for that specific location and the type of construction (bridge, road widening, road realignment, and culvert installation). Detailed schedules and phasing plans will be prepared during the final design. Construction schedules will be specified to not conflict with spawning and migration periods for fish.

2.F. DESCRIPTION OF DISPOSAL METHOD

The type of disposal methods will depend on the type of construction that is undertaken in a specific location. The following sections describe the general construction methods, which would be used for

action alternatives selected to widen the existing US 93 highway, or construct a bridge or culvert in the vicinity of surface waters and wetlands.

2.F.1 Roadway Widening

When widening the highway, it would be necessary to place fill in wetlands that are encountered along the highway. The fill material would be placed in the wetlands by large earth-moving and excavating equipment. The material would likely be from a nearby source (borrow) pits or excess material from other areas in the project corridor. The fill would be necessary to construct the proper side slopes and adjust the elevation of the roadway. Some removal of the existing roadway surface, topsoil, and structures would be necessary. Disposal of the material would be determined prior to construction of the proposed project.

2.F.2 Bridge and Culvert Construction

Where feasible, bridges would be built such that the abutment footings are outside of the active stream channel, effectively spanning the water body. Some bridge piers and abutment footings may use driven piling or drilled shafts, which would result in minimal disturbance to the streambed and banks. Culvert construction would also require excavation in the streambed or wetland to lay the pipe or box culvert.

The existing structures along US 93 will need to be removed. To minimize impacts associated with removal, the Contractor would isolate the construction activities from the stream channel. This can be accomplished using cofferdams or drilled shafts. Cofferdams are temporary structures, which are constructed in the streambed and enclose the construction activities. After they are in place, the creek water trapped within the dam is pumped out to expose the creek-bed and facilitate the excavation and construction activities. The excavated materials and pumped water from within the cofferdams would be transferred to a temporary settling pond to remove the sediment. The sediment would be disposed of in proper locations and the water would be returned to the stream. The locations of the settling ponds would be identified before the construction permits are obtained.

Section 3: Factual Determinations (Section 230.11)

3.A. PHYSICAL SUBSTRATE DETERMINATIONS

3.A.1 Substrate Elevation and Slope

Based on preliminary design, bridge installation would not require changes in channel elevations or slope. Culverts would be installed to match the existing channel elevation and slope where practicable and feasible.

Direct changes to substrate elevation and slope would occur for streams requiring relocation. Ashley Creek and segments of the unnamed tributaries to Post Creek 1, 2, and 3 would require relocation under all action alternatives. Segments of these streams are located within the proposed construction limits for all alternatives and a segment of Ashley Creek flows in a ditch within the existing roadway right-of-way. Stream relocation would avoid changes to natural surface flow patterns and changes in the natural erosion and accretion patterns to the extent feasible. The relocated streams would be configured to match appropriate natural conditions, including substrate elevations and slope.

The daylighting of Ronan Spring Creek is associated with all of the Ronan action alternatives. Daylighting Ronan Spring Creek may change the elevation and substrate of the section of the stream

that is daylighted. This daylighting would restore the creek to a more natural condition and is anticipated to have a beneficial effect on the system.

3.A.2 Compare Fill Material and Substrate at Discharge Site

At stream crossings, the substrate varies from system to system including smooth cobbles with areas of sand and silt deposition at Post Creek and fine sediments and organic debris within Ashley Creek and the Unnamed tributaries to Post Creek 1, 2, and 3. The fill placed in streams for culvert installation would be select granular backfill from nearby sources or excess material from the proposed project itself. Some of the fill material may be similar to natural substrate; however, some fill material would not be similar. (Fill may also be whatever is suitable given MDT or AASHTO fill requirements.)

Substrates in wetland areas are fine sediments, organic soils (histosols), or glacial outwash that are common to many wetlands in this area. The fill material placed in the wetlands would either be granular material from nearby sources or excess material from the proposed project itself. Fill material used would be suitable for construction of a roadway.

3.A.3 Dredged/Fill Material

The fill materials used in the stream crossing would be granular materials that are not susceptible to movement by water action. Any fill that is placed in wetlands or streams for the construction of the proposed alignment would be done in a manner to avoid or minimize movement due to erosion.

3.A.4 Physical Effects on Benthos, Invertebrates, and Vertebrates

Physical effects on benthos, invertebrate and aquatic vertebrates would be associated with increased sediment and turbidity levels and are expected to be short-term. Best management practices (BMPs) during construction should minimize these problems.

a) Physical Effects on Benthos

Benthic organisms would be affected along the stream bank or in the wetland area where fill material would be placed. Construction activities can also cause sediment to be washed downstream, where it may affect benthic organisms. In the long term, the benthic organisms would establish themselves in the fill material and recolonize disturbed areas. Therefore, the physical effects on benthos should be short-term, localized impacts.

b) Invertebrates

Similar to the effects on benthos, the impacts to aquatic invertebrates will also primarily be short-term. Fill material placed along the stream bank or in wetlands would bury existing organisms, but new organisms would be expected to quickly re-establish in these areas. Additionally, construction activities could cause localized increases in suspended sediment, which would adversely affect aquatic insects. Increases in suspended sediment would decrease after the placement of fill materials, and effects on invertebrates would be short-term. Increased sediment levels could also clog interstitial spaces in the streambed, which invertebrates use for habitat. However, these interstitial spaces would quickly regenerate when turbidity is abated and “flushing” occurs.

c) Vertebrates

Sediment from the erosion of disturbed areas may adversely affect aquatic vertebrates. For the project area, “aquatic vertebrates” applies primarily to fish. Sediment in streams affects fish by increasing sediment deposits in spawning gravel and rearing habitat. This suffocates the eggs or fry and affects the aquatic organisms that fish rely on for food. Sediment is also

abrasive to fish gills. The use of Best Management Practices (BMP) for erosion control should alleviate these adverse impacts or reduce them to short-term and tolerable levels.

3.A.5 Erosion and Accretion Patterns

The existing structures at Ashley Creek and Crow Creek are inadequately sized to handle high-flow conditions. The streams associated with undersized crossing structures experience flooding upstream of the structure during high-flow conditions, causing erosion or deposition and widening of the natural channel. Eroded material may then be deposited downstream, and may potentially, in combination with time and normal sediment transfer, alter the course of the stream.

All of the proposed bridge structures would be wider than the existing crossings. This is proposed to reduce hydraulic constrictions on the stream channel and to improve the hydrologic connectivity of the system (interactions between the stream, its floodplain, and adjacent wetlands). An increase in the bridge opening will allow a greater flow to pass through the bridge opening during storm events. This has the potential to change existing erosion and accretion patterns until the stream system re-equalizes itself. It is anticipated that any erosion and accretion that occurs will be beneficial because the system is being returned to a more natural condition.

3.A.6 Actions Taken to Avoid and Minimize Impacts

This section describes the action taken to avoid and minimize impacts on physical substrates, erosion and accretion patterns and benthos. Actions described in Sections 3.B.5, 3.C.4, and 3.D.5 are also applicable. Measures incorporated into the preliminary design include:

- The proposed preliminary design reviewed the possibility for steepened roadway slopes to minimize impacts on key features in the project corridor. Proposed approximate locations are shown in Appendix A. During final design, the areas will be further investigated to determine if the proposed preliminary design is practicable and feasible. If during final design there are areas that slopes can be safely steepened, they would be incorporated into the proposed project's plans. (Note: Slope steepening would require approval from the MDT Highways Engineer and FHWA through the design exceptions process.) These steeper slopes would reduce the width of the roadway footprint and consequently reduce impacts on wetlands.
- All of the proposed bridge structures would minimize impacts on substrates by opening a greater portion of the floodplain and allowing areas to be restored
- Stormwater treatment measures would be designed to reduce suspended solids from stormwater
- The amount of fill placement in floodplains would be minimized or reduced
- In fish bearing streams, culverts would be designed and installed to accommodate fish passage
- MDT requires that all construction activities within and adjacent to wetlands and streams adhere to the BMPs outlined in the MDT standard specifications and described in the Stormwater Pollution Prevention Plan (SWPPP), which is prepared for all projects disturbing more than 0.4 hectares (1 acre) of land area.

The BMPs are required to reduce soil erosion, to reduce site sediment loss, and to manage construction generated wastes.

- The placement of fill will change substrate elevations and contours as necessary to develop a roadway footprint. Compaction of the fill material will be required, resulting in a suitable roadway base that will not be prone to erosion, slumpage, or other movement.

3.B. WATER CIRCULATION, FLUCTUATION AND SALINITY DETERMINATIONS

3.B.1 Water

The US 93 Ninepipe/Ronan SEIS contains a discussion of surface waters and their associated quality. The following sections discuss the proposed action's impact on various components of the water quality. Tables 5.9-1, 5.9-2, 5.11-1, 5.11-2, and 5.12-3 in the Draft SEIS compare the effects of the action alternatives on water resources.

None of the streams located within the US 93 Ninepipe/Ronan Draft SEIS project corridor are listed on the state 303(d) list.

a) Salinity

No site specific tests for salinity have been performed. However, observations of streams and wetlands in the project corridor showed no saline areas. Although velocities are slow, water in wetland areas is continually resupplied and drained away. There are no known impoundment areas where water could be reasonably expected to increase in salinity. Such changes would most likely result from altering the hydraulic regime and interconnection of wetlands and streams or the use of fill materials significantly different from native soils. Neither of these changes are predicted to occur as a result of the proposed action.

b) Water Chemistry

Although no site-specific tests have been performed, there is no reason to suspect that the proposed action would significantly alter the alkalinity, hardness, pH level, or mineral concentration in surface waters.

c) Suspended Sediments

Construction could cause temporary, localized, minor increases in suspended sediments during construction activities, especially near streams where fines in the new fill material are transported from the disposal sites by water currents. Stable, granular fill materials and appropriate construction methods would be used to minimize these impacts.

d) Clarity

During the placement of fill materials in wetlands and streams, there may be temporary, localized increases in turbidity. These increases in turbidity would be very minor compared to the increases, which naturally occur after heavy rainstorms. This short-term impact would be minimal. However, even minor increases that do not occur with a corresponding spike in the hydrograph can be very damaging to aquatic ecosystems (no flushing would occur, and gravels could be smothered, etc.). The use of appropriate erosion control BMPs will help to avoid or minimize temporary, localized increases in turbidity.

e) Color

The placement of fill materials in wetlands and streams could disrupt the substrate and increase the suspended sediments and turbidity in the water. This would have the effect of temporarily and locally altering the color of the waters in the vicinity of the construction activity, especially immediately following the fill placement. This change in color would be similar to the change in color during the spring runoff when high concentrations of sediments from the surrounding drainages give the water a milky color.

f) Odor

The proposed project will not change any natural odors in the streams or wetlands.

g) Taste

The proposed project will not significantly alter the taste of the surface water or the groundwater in the project area precluding any unknown spills or highly abnormal conditions.

h) Dissolved Gas Levels

Improvements are not expected to significantly increase the turbulence of flows, cause stagnation in streams and wetlands, or cause other changes to hydraulic regimes; therefore, it is unlikely that the existing dissolved gas levels will be altered.

i) Nutrients

Current sources of nutrients such as phosphorous and nitrogen predominantly come from non-point agricultural sources, and other naturally occurring high organic loads such as decaying algae. None of these conditions are expected to be affected by the proposed action and since the hydrologic properties of wetlands and surface waters throughout the project area will be maintained or improved, there should be no detrimental impact from nutrient loading.

j) Eutrophication

The proposed action is not expected to contribute significant quantities of sediment or nutrients to project vicinity surface waters or wetlands. The waters that will be affected by the proposed project are primarily streams and wetlands, not lakes. Streams are generally well mixed and plant growth induced by excessive nutrients is generally not a problem in the project corridor, with the exception of the segment of Ashley Creek that flows in a right-of-way ditch. Eutrophication in this system is primarily attributed to adjacent land uses, which include a sawmill. Relocation of this stream may eliminate sources of eutrophication; thereby improving the system. Wetlands are, by their nature, already subject to eutrophication. Since there will be no significant increase in nutrients and the hydrologic properties will be preserved, there are no anticipated impacts from increased eutrophication to most wetlands. However, when small hydrologically isolated wetlands (potholes) are partially filled, eutrophication may occur more rapidly.

3.B.2 Current Patterns and Circulation

a) Current Patterns, Drainage Patterns, Normal and Low Flows

During final design, drainage patterns would be considered and culverts and ditches would be sized and located to adequately convey water and sediment transport. Where appropriate, animal crossings would also be considered.

b) Velocity

The existing structures at Ashley Creek and Crow Creek are inadequately sized to handle high-flow conditions. The streams associated with undersized crossing structures experience flooding upstream of the structure during high-flow conditions, causing erosion or deposition and widening of the natural channel. Eroded material may then be deposited downstream, and may potentially, in combination with time and normal sediment transfer, alter the course of the stream.

All of the proposed bridge structures would be wider than the existing crossings. This is proposed to reduce hydraulic constrictions on the stream channel and to improve the hydrologic connectivity of the system (interactions between the stream, its floodplain, and adjacent wetlands). An increase in the bridge opening will allow a greater flow to pass through the bridge opening during storm events. This has the potential to change existing erosion and accretion patterns until the stream system re-equalizes itself. It is anticipated that any erosion and accretion that occurs will be beneficial because the system is being returned to a more natural condition.

c) Stratification

Proposed improvements are not expected to alter the current stratification of waters in any of the streams or wetlands.

d) Hydrological Regime

All of the bridges that will be replaced under all of the action alternatives will have a larger opening associated with the stream channel. Bridge openings will be widened to span the stream channel, removing any existing constrictions to flow. This will allow greater flows through the structure, especially during a storm event. While this can be considered a change to the hydrologic regime, the overall effect will be to restore the hydrology to a more natural condition.

e) Aquifer Recharge

The proposed action is not expected to have any adverse effect on the quality or extent of any aquifer recharge.

3.B.3 Normal Water Level Fluctuations

Bridge openings and culverts would be designed to accommodate normal water level fluctuations. Consideration will be given during final design so that disruption of movement of aquatic life indigenous to the waterbody will be minimal. This includes designing culverts to ensure the passage of fish.

3.B.4 Salinity Gradients

There are no salinity gradients in the project corridor; therefore, salinity gradients will not be affected.

3.B.5 Actions Taken to Avoid and Minimize Impacts

This section describes actions taken to avoid and minimize impacts on water circulation, fluctuations, and water levels. Actions described in Sections 3.A.6, 3.C.4, and 3.D.5 are also applicable.

Under all action alternatives, stream and associated floodplain openings at the Post Creek, Ninepipe Reservoir, and Crow Creek crossings would be increased, and the existing roadway fill removed, improving conveyance and floodplain storage.

Under all of action alternatives the proposed structures would increase the percentage of floodplain spanned over the No-Action Alternative. Under all of the action alternatives the proposed structure at the Niinepipes Reservoir would span 100 percent of the existing floodplain and would require no net fill. In addition, under Alternative Rural 7 the proposed structure at Cow Creek would span 100 percent of the existing floodplain, and would require no net fill. For sites where floodplain fill may occur, the quantity of fill in the floodplain would be determined during final design and opportunities to remove fill from the affected floodplain would be sought, so that no net increase in floodplain fill and no net loss in floodplain storage capacity would occur.

Bridge and culvert openings would be sized to accommodate natural water level fluctuations.

3.C. SUSPENDED PARTICULATE/ TURBIDITY DETERMINATIONS

3.C.1 Expected Changes in Suspended Particulate and Turbidity Levels in the Vicinity of the Disposal Site

The placement of fill at stream channel crossings may introduce some fine materials to surface waters, which would cause temporary increases in the level of suspended particulates during construction. The placement of fill may re-suspend bottom sediments. As a result, turbidity levels may temporarily increase in the vicinity of stream or wetland encroachments.

Stormwater runoff from areas in the vicinity of streams and wetlands can also transport sediment to the surface waters. This would result in an increase in suspended particulates and turbidity levels. Refer to Section 4 Actions Taken to Avoid and Minimize Impacts for measures that would reduce sediment transported from stormwater runoff.

3.C.2 Effects on Chemical and Physical Properties of the Water Column

a) Light Penetration

Increased levels of suspended particulates and turbidity in the surface waters near the construction site can also decrease the amount of light penetration. These impacts would be short-term and would occur only temporarily during construction activities.

b) Dissolved Oxygen

The suspended particulates introduced to the surface waters by the placement of soil will be for the most part inorganic. Therefore, no additional Biochemical Oxygen Demand (BOD) should occur. In addition, the proposed action should not result in any increased turbulence or stagnation of the surface waters to the point of affecting the dissolved oxygen levels.

c) Toxic Metals and Organics

Since the fill materials used for construction will be suitable for highway construction, it should be free of high organic content and toxic metals. No material used for fill within the aquatic ecosystem will be taken from any hazardous material site identified in the Hazardous Material Section of the draft SEIS. Any identified contamination areas within the corridor would be removed and disposed of or treated at locations designed for hazardous material management.

d) Pathogens

There are no known major sources of viruses or pathogenic organisms in the project area, although livestock and wildlife waste is evident in places throughout the corridor. The use of clean, inorganic fill material would prevent the introduction of pathogens in surface waters. Whirling disease has been detected in the Mission Creek watershed, which encompasses

Ashley Creek, Post Creek, and the unnamed tributaries to Post Creek. The history of botulism in wetlands associated with the project area is not known.

e) Aesthetics

The proposed project would affect the aesthetics of surface water in the project area in a condition similar to the spring runoff conditions, albeit at a reduced scale. The effects would be temporary, localized, and occur near or just downstream of the actual construction activities. The expected impacts are the increased suspended particulate levels in the surface waters near the placement activity, which should disperse as the distance from the source increases.

3.C.3 Effects on Biota

a) Primary Production, Photosynthesis

The proposed project should not substantially lower the rate of photosynthesis and primary productivity in surface waters. As indicated in the previous section, changes in suspended particulates and turbidity levels are expected to be localized and temporary. These conditions should not be significant enough to affect the level of dissolved oxygen in the surface waters.

b) Sight Feeders

Sight feeders rely on clear water to find their food. Therefore, they would be affected by the short-term, localized increases in suspended particulates and turbidity due to the placement of fill materials. Similar to filter feeders, excessive sediment can bury these organisms, abrade their gills, and damage their habitat. Suspended particulates and turbidity should rapidly diminish after the actual placement of fill materials, allowing quick recovery for sight feeders.

3.C.4 Actions Taken to Avoid and Minimize Impacts

Actions taken to avoid and minimize impacts on suspended particulate/turbidity are described below. The actions described in Sections 3.A.6, 3.B.5, and 3.D.5 are also applicable.

MDT and the contractor would obtain an NPDES General Permit for Discharge from Large and Small Construction Activities regulated by U.S. EPA and CSKT to control sediment discharge and erosion during construction projects. This permit is required to protect water quality and requires the completion of a SWPPP. The SWPPP requires a description of BMPs and stormwater management controls appropriate for the construction site including measures to reduce soil erosion, reduce site sediment loss, and manage some of the more common construction-generated wastes and construction-related toxic materials. Appropriate BMPs for the project site would be selected from the current version of Erosion and Sediment Control Best Management Practices: Reference Manual, prepared for MDT and in place at the time final designs are completed. At a minimum, these BMPs would include the following provisions:

- Minimize area and duration of vegetation and soil disturbance, stabilize site soils, and revegetate areas of construction disturbance
- Prevent and control excessive discharge of sediment from site
- Prevent and control excessive wind erosion
- Control and minimize off-site tracking of sediments.

As stated previously, stormwater facilities would be included in the final design for the proposed project to reduce the long-term impact of roadway runoff pollutants on sensitive receiving waters. Stormwater facilities would be maintained to ensure their continued intended function.

3.D. AQUATIC ECOSYSTEM AND ORGANISM DETERMINATIONS

3.D.1 Effects on Special Aquatic Sites

a) Sanctuaries and Refuges

The US 93 Ninepipe/Ronan project crosses through the Ninepipe National Wildlife Refuge (Refuge). All alternatives would require placement of fill within the wetlands within the existing right-of-way through the Refuge, with the exception of Rural 7, which would not require wetland fill in the Refuge. Only Alternatives Rural 8 and 9 would require acquisition of lands from the Refuge for right-of-way needs. Alternatives Rural 8 and 9 would also require slightly more placement of wetland fill than the other action alternatives.

It is not anticipated that the placement of fill will adversely affect the breeding, spawning, migratory movement or other critical life requirements of resident or transient fish and wildlife resources within the Ninepipe National Wildlife Refuge. The placement of fill will not result in any unplanned, easy and incompatible human access to remote aquatic areas within the refuge nor create the need for frequent maintenance activities. The placement of fill does have the potential to result in the establishment of invasive plant species within the existing right-of-way. This can be minimized through the use of approved BMPs and standard MDT maintenance practices. It is not anticipated that the placement of fill will result in a change in resource needs by fish and wildlife that would require changes to refuge management practices. However, a beneficial impact common to all of the action alternatives would be improved hydrologic connectivity of wetlands within the Refuge along US 93.

The analyses contained in Section 3.A, 3.B, and 3.C are also relevant to the evaluation of these factors within the Refuge.

b) Wetlands

The estimated total amount of wetlands occurring within the project area is detailed in Table 1. Only those wetlands completely or partially located within the proposed project right-of-way were delineated. There are a variety of wetland resources in the project vicinity that are not within the proposed project right-of-way.

Tables 3 and 4 (Impacts by Wetland Type – Rural) identify the anticipated permanent and temporary wetland impacts by wetland type in the rural portion of the proposed project. Tables 5 and 6 (Estimated Impacts by Wetland Type – Ronan) identify the anticipated permanent and temporary wetland impacts by wetland type in the Ronan segment of the proposed project.

Table 3. Estimated permanent wetland impacts in hectares (acres) by wetland type in the rural portion of the US 93 Ninepipe/Ronan project corridor ^a.

<i>Estimated Impacts by Wetland Type in hectares (acres)</i>								
<i>Alternative</i>	Riparian	Pothole Wetlands			Irrigation Features	Roadside Ditches	Ninepipe Reservoir	Total
		Group 1	Group 2	Group 3				
No Action	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rural 1	1.5 (3.6)	0.8 (1.9)	0.3 (0.7)	0.1 (0.4)	0.7 (1.8)	1.5 (3.8)	1.0 (2.6)	6.0 (14.8)
Rural 2	1.5 (3.6)	0.87 (1.9)	0.3 (0.7)	0.1 (0.4)	0.8 (1.9)	1.5 (3.8)	1.0 (2.6)	6.0 (14.9)
Rural 3 (PA) ^b	1.5 (3.6)	0.8 (1.9)	0.3 (0.7)	0.1 (0.4)	0.8 (2.1)	1.7 (4.3)	1.0 (2.6)	6.3 (15.5)
Rural 4	1.7 (4.2)	0.8 (1.9)	0.3 (0.7)	0.1 (0.4)	0.8 (2.1)	1.8 (4.4)	1.0 (2.6)	6.5 (16.1)
Rural 5	1.8 (4.3)	0.8 (1.9)	0.3 (0.7)	0.1 (0.4)	0.8 (2.1)	1.5 (3.8)	1.0 (2.6)	6.4 (15.8)
Rural 6	1.7 (4.2)	0.86 (1.9)	0.6 (1.4)	0.1 (0.4)	1.2 (3.0)	1.9 (4.8)	1.0 (2.6)	7.4 (18.2)
Rural 7	1.4 (3.5)	0.2 (0.6)	0.6 (1.4)	0.0 (0.1)	0.8 (2.0)	1.6 (4.0)	0	4.7 (11.7)
Rural 8	2.01 (4.9)	1.1 (2.8)	0.4 (1.1)	0.2 (0.4)	0.8 (2.0)	1.8 (4.4)	1.3 (3.2)	7.6 (18.8)
Rural 9	3.0 (7.4)	2.9 (7.2)	0.8 (1.9)	0.2 (0.5)	1.1 (2.7)	2.2 (5.3)	1.9 (4.7)	12.1 (29.8)
Rural 10	1.5 (3.6)	0.8 (1.9)	0.3 (0.7)	0.1 (0.4)	0.8 (2.1)	1.5 (3.8)	1.0 (2.6)	6.1 (15.1)

Source: US 93 Ninepipe/Ronan Improvement Project SEIS.

^a These preliminary estimates represent the area of wetland within the proposed project right-of-way that would be filled post-construction.

^b The inclusion of a separate bicycle/pedestrian path as part of Alternative 3 (PA) would convert up to 1.7 hectares (4.1 acres) of temporary impacts to permanent impacts. This conversion from temporary to permanent is not reflected in this table.

Table 4. Estimated temporary wetland impacts in hectares (acres) by wetland type in the rural portion of the US 93 Ninepipe/Ronan project corridor ^a.

<i>Estimated Impacts by Wetland Type in hectares (acres)</i>								
<i>Alternative</i>	Riparian	Pothole Wetlands			Irrigation Features	Roadside Ditches	Ninepipe Reservoir	Total
		Group 1	Group 2	Group 3				
No Action	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rural 1	1.6 (4.0)	3.0 (7.5)	0.3 (0.7)	0.0 (0.1)	0.3 (0.7)	0.6 (1.6)	1.0 (2.4)	6.9 (17.0)
Rural 2	1.6 (4.0)	3.0 (7.5)	0.3 (0.7)	0.0 (0.1)	0.3 (0.7)	0.6 (1.6)	1.0 (2.4)	6.8 (16.9)
Rural 3 (PA) ^b	1.6 (4.0)	3.0 (7.5)	0.3 (0.7)	0.0 (0.1)	0.3 (0.7)	0.6 (1.4)	1.0 (2.4)	6.8 (16.8)
Rural 4	1.4 (3.5)	3.0 (7.5)	0.3 (0.7)	0.0 (0.1)	0.3 (0.7)	0.5 (1.3)	1.0 (2.4)	6.6 (16.2)
Rural 5	1.6 (3.9)	3.0 (7.5)	0.3 (0.7)	0.0 (0.1)	0.3 (0.7)	0.6 (1.6)	1.0 (2.4)	6.8 (16.8)
Rural 6	1.4 (3.5)	3.0 (7.5)	0.3 (0.7)	0.0 (0.1)	0.3 (0.7)	0.3 (0.7)	1.0 (2.4)	6.2 (15.4)
Rural 7	1.6 (4.0)	3.8 (9.5)	0.4 (0.9)	0.0 (0.1)	0.2 (0.6)	0.5 (1.3)	2.1 (5.2)	8.7 (21.4)
Rural 8	1.4 (3.4)	3.5 (8.6)	0.4 (1.0)	0.0 (0.1)	0.3 (0.7)	0.5 (1.2)	1.0 (2.6)	7.1 (17.6)
Rural 9	1.2 (2.9)	3.0 (7.5)	0.4 (1.1)	0.0 (0.1)	0.3 (0.8)	0.2 (0.5)	1.1 (2.8)	6.3 (15.6)
Rural 10	1.6 (4.0)	3.0 (7.5)	0.3 (0.7)	0.0 (0.1)	0.3 (0.7)	0.6 (1.6)	1.0 (2.5)	6.9 (17.0)

Source: US 93 Ninepipe/Ronan Improvement Project SEIS.

^a These preliminary estimates represent the area of wetland within the proposed project right-of-way that would be temporarily affected by construction.

^b The inclusion of a separate bicycle/pedestrian path as part of Alternative 3 (PA) would convert up to 1.7 hectares (4.1 acres) of temporary impacts to permanent impacts. This conversion from temporary to permanent is not reflected in this table.

Table 5. Estimated permanent impacts in hectares (acres) by wetland type in the Ronan segment of the US 93 Ninepipe/Ronan project corridor.

<i>Alternative</i>	<i>Estimated Impacts by Wetland Type in hectares (acres)</i>						
	Riparian	Potholes			Irrigation Features	Roadside Ditches	Total
		Group 1	Group 2	Group 3			
No Action	0	0	0	0	0	0	0
Ronan 1	0	NA	0	NA	0.006 (0.014)	NA	0.006 (0.014)
Ronan 2	0	NA	0	NA	0.003 (0.008)	NA	0.003 (0.008)
Ronan 3	0	NA	0.005 (0.012)	NA	0.002 (0.006)	NA	0.007 (0.018)
Ronan 4 (PA)	0	NA	0.005 (0.012)	NA	0.002 (0.006)	NA	0.007 (0.018)
Ronan 5	0	NA	0	NA	0	NA	0

Note: areas expressed to 2-4 decimal places indicate the small size of the wetland, not the precision of delineation.

Table 6. Estimated temporary impacts in hectares (acres) by wetland type in the Ronan segment of the US 93 Ninepipe/Ronan project corridor.

<i>Alternative</i>	<i>Estimated Impacts by Wetland Type in hectares (acres)</i>						
	Riparian	Potholes			Irrigation Features	Roadside Ditches	Total
		Group 1	Group 2	Group 3			
No Action	0	0	0	0	0	0	0
Ronan 1	0.003 (0.008)	NA	0	NA	0.0004 (0.001)	NA	0.004 (0.009)
Ronan 2	0.07 (0.018)	NA	0	NA	0.0004 (0.001)	NA	0.008 (0.019)
Ronan 3	0	NA	0.003 (0.008)	NA	0.001 (0.003)	NA	0.004 (0.011)
Ronan 4 (PA)	0	NA	0.003 (0.008)	NA	0.001 (0.003)	NA	0.004 (0.011)
Ronan 5	0	NA	0	NA	0	NA	0

Note: areas expressed to 2-4 decimal places indicate the small size of the wetland, not the precision of delineation.

Impacts on wetlands within the project corridor vary between the 10 different rural action alternatives and the 5 different Ronan action alternatives. Table 7 (Total Estimated Wetland Impacts) identifies the estimated permanent and temporary wetlands impacts for each rural action alternative, urban action alternative, and the No-Action Alternative.

In response to numerous comments on the draft SEIS the project proponents have agreed to include a separate bicycle/pedestrian path. Construction of this path would convert up to 1.7 hectares (4.1 acres) of temporary impacts already addressed herein to permanent impacts.

Impact avoidance and minimization measures as well as compensatory mitigation are discussed in Section 3.D.5 of this evaluation.

Table 7. Total Estimated Wetland Impacts.

<i>Alternative</i>	<i>Estimated Wetland Impacts in hectares (acres)</i>		
	<u>Permanent</u>	<u>Temporary</u>	<u>Total</u>
No-Action	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Rural 1	6.0 (14.8)	6.9 (17.0)	12.9 (31.8)
Rural 2	6.0 (14.9)	6.8 (16.9)	12.9 (31.8)
Rural 3 (PA) ^a	6.3 (15.5)	6.8 (16.8)	13.1 (32.3)
Rural 4	6.5 (16.1)	6.6 (16.2)	13.1 (32.3)
Rural 5	6.4 (15.8)	6.8 (16.8)	13.2 (32.6)
Rural 6	7.4 (18.2)	6.2 (15.4)	13.6 (33.6)
Rural 7	4.7 (11.7)	8.7 (21.4)	13.4 (33.1)
Rural 8	7.6 (18.8)	7.1 (17.6)	14.7 (36.4)
Rural 9	12.1 (29.8)	6.3 (15.6)	18.4 (45.4)
Rural 10	6.1 (15.1)	6.9 (17.0)	13.0 (32.1)
Ronan 1	0.004 (0.01)	0.004 (0.01)	0.01 (0.02)
Ronan 2	0.004 (0.01)	0.008 (0.02)	0.01 (0.03)
Ronan 3	0.008 (0.02)	0.004 (0.01)	0.01 (0.03)
Ronan 4 (PA)	0.008 (0.02)	0.004 (0.01)	0.01 (0.03)
Ronan 5	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)

Note: areas expressed to 2-4 decimal places indicate the small size of the wetland, not the precision of delineation.

^aThe inclusion of a separate bicycle/pedestrian path as part of Alternative 3 (PA) would convert up to 1.7 hectares (4.1 acres) of temporary impacts to permanent impacts. This conversion from temporary to permanent is not reflected in this table.

c) Mud Flats

There are no mud flats in the project area, and the proposed project will not create any new mud flats.

d) Vegetated Shallows

These are areas that are permanently inundated and support rooted, aquatic vegetation. These areas are generally classified as wetlands. There are no vegetated shallows in the project corridor, and the proposed project will not create any new vegetated shallows.

e) Riffle and Pool Complexes

Riffle and pool complexes occur when the gradient of the stream channel varies from steep to shallow. Within the project corridor, Post Creek is the only stream with riffle and pool complexes. The habitat within the project corridor is mainly riffle habitat with lateral scour pools and deeper pools under the Post Creek bridge on US 93. Post Creek is a tributary to Mission Creek which is part of the larger Lower Flathead River Watershed.

The primary potential impacts on riffle and pool complexes within the Post Creek channel would occur during removal of the existing bridge. Cofferdams may be installed to isolate the existing bridge abutments from the stream channel during their removal. Cofferdams are described in Section 2.F.2. After the existing bridge structure is removed the stream channel would be stabilized to maintain its current alignment and configuration and impacts on the existing riffle and pool complexes are not expected.

3.D.2 Effects on Threatened and Endangered Species and Their Habitats

The *Biological Assessment: US 93 Ninepipe/Ronan Improvement Project* (Herrera 2005b) has been submitted to the USFWS, and the Federal Highway Administration and MDT have since completed the formal consultation process for the proposed project. The USFWS issued a biological opinion on August 29, 2005 for the effects to the threatened bull trout and grizzly bear due to the proposed

project (USFWS 2005), and issued a biological opinion on June 27, 2006 for the effects to bull trout critical habitat (USFWS 2006). Consultation for these species remains valid for the proposed project.

Nine listed species may occur in the project area; however, for several species, there is no suitable habitat and they are not known in the project area. These species include Ute ladies'-tress, water howellia, slender moonwort, Canada lynx, and Spalding's catchfly. Therefore, these species are not further addressed in this section. On July 9, 2007 the bald eagle was removed from the list of threatened and endangered wildlife under the ESA by the USFWS. Although the 404 (b)(1) evaluation in the draft SEIS included a thorough analysis of impacts to bald eagles as a result of this project, they are no longer discussed in this section on threatened and endangered species due to the recent delisting. For information regarding bald eagles in the project vicinity see Section 3.D.3 Effects on Other Animals. Grizzly bear, gray wolf, and bull trout also may occur in the project area or there is suitable habitat for these species in the project corridor. Additional information on these species is provided below.

a) Grizzly Bears

The project corridor is located on the western front of the Northern Continental Divide grizzly bear recovery area, which roughly corresponds with the northern Rocky Mountain Range. While the project corridor is not located within the recovery area, grizzly bears range into the Ninepipe/Ronan area in the spring (May 30) through late fall (end of October) (Becker 2003c personal communication).

The Ninepipe/Ronan area provides a variety of foraging opportunities including eggs, small mammals, succulent aquatic vegetation and tubers. In summer 1998, a bear was observed foraging at the reservoir edge after the water had receded and was later determined to have been foraging on snails (Becker 2003a personal communication). There is some evidence that bears are particularly attracted to the area when mouse populations in the wildlife management grasslands are peaking, approximately every five years.

The habitat appears to provide an escape area for young dispersing males or females with cubs evading aggressive male bears. The number of grizzly bears in the area is highly variable and generally ranges from 1 to 4 individuals. Grizzly bears likely access the area from the Mission Mountains via the Post Creek riparian area and perhaps the Crow Creek riparian area. Once they are in the area, many bears are compelled to cross US 93. In addition, bears reported in the Moiese Hills west of Charlo likely cross US 93 in the Ninepipe/Ronan area. One grizzly bear has been struck and killed in the Ninepipe/Ronan area in the last 5 years. Two were killed in the Post Creek vicinity in the same general location in 2001 and 2002.

Some bears in the Ninepipe/Ronan area appear to use the habitat around the refuge without dispersing much farther west. There is limited habitat available west of the project vicinity, and the risk of human-bear conflicts is greater.

Effects of the action alternatives on grizzly bears include an increased risk of human-bear conflicts during construction, disturbance of foraging habits during construction, minor loss of habitat, a potential decrease in habitat value for some areas adjacent to the corridor, a period of continued mortality on the roadway until bears learn to use the new structures, and an impediment to grizzly bear movement through the corridor for some individual bears.

All of the action alternatives would require temporary construction staging areas, including offices and lodging, which may attract bears if food is not properly stored and disposed. Alternatives with wider lane configurations (Alternative Rural 8 and Alternative Rural 9) may require slightly longer to

construct and so staging areas may be required for a longer period of time. However, contractors and construction crews would be instructed on the need and techniques for proper sanitation in grizzly bear habitat, and all grizzly bear sightings would be reported to Tribal Wildlife Program biologists.

Construction activities in the project corridor may cause grizzly bears to avoid foraging habitats near construction sites. Alternatives with wider lane configurations (Alternative Rural 8 and Alternative Rural 9) would disturb a larger area and may deter bears from a greater area of habitat. Construction of the raised parkway under Alternative Rural 7 would likely require a longer construction period to complete than the other alternatives due to the extended length of raised roadway and subsequent removal of the existing roadway, which may deter bears for a longer period of time than required for the other action alternatives. Because the habitat in the project area does not represent key habitat for the survival of bears in the region and use of the area is highly variable and unpredictable from year to year, disruption of grizzly bear access to project area habitats is expected to have a minor effect on bears (Becker 2003a personal communication).

Large amounts of roadway fill would be removed below the raised parkway to restore and reconnect habitat and would require extensive hauling to dispose of the excavated material. Disposal locations have not yet been identified. Alternative Rural 7 is expected to generate the greatest amount of fill requiring disposal, which may cause additional impacts on bears depending on the location of offsite disposal. As long as disposal sites are not in or near habitats frequented by bears, i.e., apple orchards, riparian corridors, or the Ninepipe National Wildlife Refuge, activities at disposal sites would not have a substantial effect on bears.

The proposed project would result in the minor loss of habitat areas in the corridor that may support use by bears. Bears are most likely to use the wildlife management grasslands, fruit trees, and some wetlands with tuberous species. Therefore, action alternatives with the greatest impacts on wetlands and wildlife management grasslands would have the greatest effect on grizzly bears (Alternatives Rural 8 and 9). Although the Preliminary Preferred Alternative includes a passing lane in a portion of the Ninepipe segment, construction would mostly occur within the existing right-of-way, and few new areas of grassland would be directly affected. Loss of habitat in the project area would likely have a minor effect on bears given the nature of their use of the area (limited and highly variable from year to year). Further, this habitat does not represent key habitat important for the survival of bears in the region (Becker 2003a personal communication). Because bears generally avoid roadways, a greater area of habitat would be reduced in value with the operation of a wider roadway surface. This impact would be greatest for the wider lane configuration (Alternatives Rural 8 and 9) because the zone of influence would comprise a greater area.

Under existing conditions, bears must cross over the roadway to access habitats on the west side of the corridor. Some bears appear to regularly cross the US 93 corridor in the Ninepipe area. Direct effects of roadway projects usually include a contribution to the impediment of wildlife movement through the road corridor and increased risk of mortality associated with wildlife/vehicle collisions. However, the proposed action includes several wildlife crossing areas aimed at reducing fragmentation of habitats in the project area, facilitating wildlife movement through the corridor, and preventing wildlife/vehicle mortality. The effectiveness of these structures in reducing or preventing grizzly bear/vehicle mortality and providing grizzly bears access to habitats on the other side of the roadway is unknown. In Canada, researchers have documented limited use of crossing structures underneath the Trans Canada Highway and grizzly bears have been observed digging under fencing or circumventing fencing to cross over the roadway (Clevenger 1998; Gibeau and Heuer 1996). Similar results were presented in Florida, where black bears preferred to cross roadways beyond the fenced areas (Roof and Wooding 1996).

The proposed project does not include fencing in the Ninepipe segment, so bears would not be precluded from crossing over the roadway. Therefore, at least in the near-term as bears learn to use the crossing areas, the level of risk of bear/vehicle mortality may not change. However, as traffic levels in the corridor increase, the barrier effect of the road is likely to increase, deterring more individuals from attempting to cross over the road and further disrupting movement patterns. Conversely, this deterrence would also likely reduce the level of mortality for all wildlife in the corridor.

Several structures in the project corridor would be located on protected lands managed specifically for wildlife, further improving the potential for their use by bears. Alternatively, if bears are attracted to the wildlife crossing structures, more individuals may choose to access habitats on the west side of the corridor, which could render them susceptible to human-bear conflicts. In general, the CSKT Wildlife Program tries not to influence or encourage bear movements to the west side of the corridor, because habitat quality is low and there is an increased risk of human-bear conflicts (Becker 2003a personal communication).

Because of the wide range of variables (traffic levels, quality of habitat, structure type and length, proximity of human threats or threats by adult male bears, availability of cover, etc.) that influence a bears decision to cross a road corridor or use a crossing structure (bridge or culvert) it is not possible to predict the optimum structure for grizzly bear or other wildlife use in the project corridor. All of the major structure options proposed for the action alternatives, including those proposed for the Preliminary Preferred Alternative, include a range of structure types (short bridges, extended bridges, and enlarged culverts) to accommodate passage by large animals.

The *Biological Assessment: US 93 SEIS Ninepipe/Ronan Improvement Project* (Herrera 2005b) provides additional analysis of indirect and cumulative impacts, interrelated and interdependent actions, and coordination measures to minimize impacts to grizzly bears. The USFWS determined that the proposed project would not be likely to jeopardize the continued existence of the North Continental Divide Ecosystem population of grizzly bears.

b) Gray Wolf

There are no known den or rendezvous sites in the project corridor and no packs are present in the project vicinity (Soukkala 2001 personal communication; USFWS et al. 2002). Wolves are reported sporadically in the Flathead Valley, although most observations are reported from the vicinity of MT 200 or the base of the Mission Mountains (Becker 2003a personal communication; Soukkala 2001 personal communication).

Wolf use of the Ninepipe Area is not reported (Becker 2003a personal communication; Soukkala 2001 personal communication). Wolves do cross the US 93 corridor and are primarily reported to cross in the Evaro area. However, wolves could use the Post Creek riparian area as a travel corridor and attempt to cross the US 93 corridor at that location.

Construction of the action alternatives would not directly affect wolf packs or denning activities as there are no reports of this type of activity in the project area. Individual wolves may enter the Post Creek area to cross US 93, but crossings by wolves in this area are not currently reported. Construction activities for all action alternatives may deter wolves from the project area should an individual attempt to cross the highway corridor within the Post Creek riparian area.

Gray wolves are not reported to cross the US 93 corridor in the US 93 Ninepipe/Ronan project area; therefore, operation of the action alternatives is not expected to affect wolves. Further, should gray wolves pursue opportunities to cross the US 93 corridor in the project area, proposed crossing structures would facilitate their ability to make a safe and secure crossing.

The sizes and locations of the proposed crossing structures were determined based on structures that are functioning in other locations for similar target species. Therefore, all of the proposed structure options meet the minimum requirements to facilitate wildlife movement through the corridor for the species targeted for the crossing site.

c) Bull Trout

Bull trout may occur in the project area in Post Creek. Historically the Mission Creek drainage, including Post Creek, was one of the most important spawning tributaries for bull trout residing between Flathead Lake and the Clark Fork River (CSKT 2000).

There is little information available on the life history of bull trout residing in Post Creek. It is assumed that bull trout using Post Creek have always been of the migratory form (CSKT 2000). McDonald Reservoir, located at the headwaters of Post Creek, currently supports an isolated, migratory population of bull trout. This population spawns in Post Creek above the reservoir. Redd counts have averaged 23 redds per year since 1986 (MBTSG 1996).

Actual occurrence within Post Creek below the reservoir is not well known. Electroshocking of the mainstem of Post Creek has produced very few bull trout, and less than 50 individuals are assumed to use the stream (CSKT 2000). In general, numbers are thought to increase from the mouth of the creek to the headwaters near McDonald Reservoir (Evarts 2003 personal communication). It is not known if the bull trout present are a result of outmigration from McDonald Reservoir, migrants from the Jocko River population that have entered through the Pablo feeder canal (the Pablo feeder canal is an irrigation canal that intercepts numerous streams in the project vicinity and may transport fish from other systems into Post Creek), or individuals migrating from the Flathead River. Captures of bull trout immediately below the dam suggest that the McDonald Reservoir population exports individuals into Post Creek, but the low numbers found in the stream suggest that bull trout are not successfully spawning below the reservoir (CSKT 2000). Three individuals were captured in 1984 and 1985 moving from the Flathead River into Mission Creek (USDOE 1986), but movement into Post Creek was considered unlikely due to degraded water quality in the lower reaches. There is not enough information to determine the status of the species in Post Creek below the dam, but occurrence of small numbers within the project reach is assumed. Little spawning and rearing habitat occurs in the area of US 93 and use of the stream in this area is most likely limited to migration.

The primary effects of construction on bull trout for all action alternatives are associated with construction of the wildlife crossing structures at Post Creek. The risk of increased deposition of eroded sediments in Post Creek and its tributaries would be greatest for Alternative Rural 7, followed by the other rural action alternatives. This is attributed to the extent of roadway fill that would be removed to construct the multi-span structures. Implementation of BMPs and erosion control methods would reduce but not eliminate sediment input to Post Creek during construction.

The *Biological Assessment: US 93 SEIS Ninepipe/Ronan Improvement Project* (Herrera 2005b) provides additional analysis of indirect and cumulative impacts, interrelated and interdependent actions, and coordination measures to minimize impacts to bull trout. The USFWS determined that the proposed project would not be likely to jeopardize the continued existence of the Columbia Basin distinct population segment of bull trout.

d) Bull Trout Critical Habitat

Bull trout critical habitat was proposed for the Klamath River and Columbia River distinct population segments in November 2002. Within this project's action area, Post Creek was included in the

proposed rule for critical habitat. However, when the final critical habitat designation was issued in October 2004, no critical habitat for bull trout in Montana was included.

On September 26, 2005 the USFWS again designated critical habitat for the Klamath River, Columbia River, Jarbidge River, Coastal-Puget Sound, and Saint Mary-Belly River populations of bull trout in the coterminous United States pursuant to the Act. This final designation totals approximately 6,161 kilometers (3,828 miles) of streams, 57,958 hectares (143,218 acres) of lakes in Idaho, Montana, Oregon, and Washington, and 1,585 kilometers (985 miles) of shoreline paralleling marine habitat in Washington. This rule became effective October 26, 2005 and includes areas in Montana that were not included in the October 2004 designation, including Post Creek.

The *Biological Assessment: US 93 SEIS Ninepipe/Ronan Improvement Project* (Herrera 2005b) was completed prior to the designation of critical habitat within the project area. Consultation was reinstated with the USFWS to address effects of the project on bull trout critical habitat in November 2005.

Critical habitat consists of physical and biological features essential to the conservation of the species (primary constituent elements [PCEs]) and that may require special management considerations or protection. When assessing potential effects on bull trout critical habitat, biologists provide an analysis of effects on the PCEs and related habitat indicators. Eight PCEs have been established for bull trout critical habitat. The proposed action alternatives will impact three of these.

Analysis for the proposed US 93 Ninepipe/Ronan improvement project found that activities associated with this project were likely to result in short-term impacts to the habitat indicators sediment, substrate embeddedness, and streambank conditions but would ultimately maintain or improve these indicators in the long-term. These impacts are anticipated to result in a minor short-term degradation and a long-term restoration of the sediment and substrate embeddedness indicator and subsequent PCE 3, substrates of sufficient amount, size, and composition to ensure success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival. These impacts are also anticipated to result in a minor short-term degradation and a long-term restoration of the streambank conditions at least within the immediate project area. Effects on subsequent PCE 1, water temperatures that support bull trout use, would likely remain unchanged while effects on subsequent PCE 2, complex stream channels with features such as woody debris, side channels, pools, and undercut banks to provide a variety of depths, velocities, and instream structure, would likely improve because fill would be removed from the floodplain at the bridge crossing. The project would also result in long-term degradation of habitat indicator road density and location. However, there are no subsequent PCEs for this indicator. The impacts associated with the proposed action are not discountable, insignificant, or entirely beneficial. As such, the proposed action alternatives *may affect* and are *likely to adversely affect* critical habitat for bull trout in Post Creek.

3.D.3 Effects on Other Animals

The assorted grasslands, wetlands, and uplands in the US 93 SEIS Ninepipe/Ronan project corridor provide excellent habitat for a diversity of mammals, birds, amphibians, and fish species.

The primary effects on animals will result from construction activities. Increased noise, increased human activity, vegetation removal, and operation of large equipment during construction would result in the displacement or elimination of wildlife within the project corridor and adjacent suitable habitats. Roadway reconstruction would also result in the direct loss of upland and wetland wildlife habitat. The majority of habitat affected is within the right-of-way and is already of lesser value to wildlife. The expected benefits of the proposed project for animals include: reduced fragmentation of

upland and wetland habitats in the road corridor; reduced mortality of terrestrial wildlife from vehicular collisions; and increased crossings of the road corridor by wildlife.

Five rare species of birds and one rare species of fish are known to occur within the vicinity of the project area. The common loon has been observed in the project area, but there are no known nesting loons present. The Caspian tern has been observed in the project area, but there are no known breeding terns present. It is anticipated that impacts to both of these species will be limited to avoidance of the project area due to construction activity disturbance. Forster's tern nests in the project area and, in some years, is reported to use the small islands adjacent to the Ninepipe Reservoir bridge on US 93. Initiation of construction activities during the nesting period could cause adult terns to abandon their nest, resulting in the loss of that year's young. Trumpeter swans do not nest in the project area and areas where they are currently concentrating are a sufficient distance from the corridor that construction activities for all action alternatives are not expected to affect them (Becker 2003a personal communication).

A nesting pair of bald eagles occurs approximately 0.8 km (0.5 miles) from the corridor (Morrison-Maierle 1995; Becker 2003b personal communication). Under all of the action alternatives, no direct effects on nesting bald eagles are expected as a result of construction. Nest sites in the project area are a sufficient distance from the corridor that construction activities are not expected to disrupt nesting activities. The wintering period for bald eagles is generally between October 31 and March 31. Construction activities typically shut down for the majority of this time period, although this may vary from year to year. Construction in the winter season, prior to freeze-up, may cause eagles to avoid the immediate project corridor, but is not expected to preclude them from foraging opportunities. Construction activities would cease during the freeze-up period in the winter season; therefore, no effect on wintering bald eagles is expected during this time period. Construction may resume once the region has largely thawed, but by this time eagles are expected to be returning to their nesting territories and are not expected to be affected by construction activities. While the species of concern designation affords no protection, the bald eagle is protected under the Bald and Golden Eagle Protection Act. Newly issued National Bald Eagle Management Guidelines (USFWS 2007) will be followed to protect this species.

Westslope cutthroat trout are not known to occur in the project area, but are present in the headwaters of Crow Creek. If these species are present downstream of the project corridor, they could be affected by sediment loading and increases in turbidity.

The *Biological Resources Report: US 93 Ninepipe/Ronan Improvement Project* (Herrera 2005a) provides additional information on project area animals and their habitat.

3.D.4 Effects on Terrestrial Plants

Portions of plant communities will be lost as a result of wetland filling, which will locally reduce forage production and photosynthesis (primary production). This reduction will have a negligible impact on wildlife and livestock given the small acreage of plant communities that will be disturbed or destroyed, and the dispersal of the disturbance sites throughout the corridor.

Surveys for 14 rare plants were conducted in July 2002 and results were reported in *Rare Plant Survey: US 93 Ronan to St. Ignatius* (Ecosystem Research Group 2002). Only one rare species was identified in the project corridor: Oregon checker-mallow. All of the action alternatives will have a direct impact on identified populations. It has been recommended that where impacts on these plants are unavoidable, they should be excavated, preserved, and replaced after construction.

Increases in disturbed roadside areas from increases in right-of-way may provide additional habitat for noxious or invasive weeds. Exposed soils in uplands or wetlands would be susceptible to colonization by noxious and invasive weeds.

3.D.5 Actions Taken to Avoid and Minimize Impacts

This section summarizes actions taken to avoid and minimize impacts on aquatic ecosystems and organisms. The actions summarized in Sections 3.A.6, 3.B.5, and 3.C.4 are also applicable.

a) Avoidance and Minimization Measures Included in Design

Numerous measures have been incorporated into the preliminary roadway design to minimize impacts on wetland habitats in the project corridor. These measures include:

- All of the proposed wildlife crossing structures would enhance fisheries resources by opening a greater portion of the floodplain and allowing areas to be restored, which would improve hydrologic connections and provide greater vegetative cover on the stream banks and in riparian wetlands.
- The proposed preliminary design reviewed the possibility for steepened roadway slopes to minimize impacts on key features in the project corridor. Proposed approximate locations are shown in Appendix A. During final design, the areas will be further investigated to determine if the proposed preliminary design is practicable and feasible. If during final design there are areas that slopes can be safely steepened, they would be incorporated into the proposed project's plans. (Note: Slope steepening would require approval from the MDT Highways Engineer and FHWA through the design exceptions process). These steeper slopes would reduce the width of the roadway footprint and consequently reduce impacts on wetlands.
- The proposed project would add culverts and increase bridge lengths and culvert sizes at major wetland and stream crossings to improve hydrologic connections.
- Retaining walls are proposed in the preliminary design through the center of the two kettle ponds to minimize impacts.
- The proposed project would implement wetland and stream restoration at wildlife crossing structures.

b) Additional Mitigation Measures Required

MDT requires that all construction activities within and adjacent to wetlands adhere to the BMPs outlined in the MDT standard specifications and described in the SWPPP, which is prepared for all projects disturbing more than 0.4 hectares (1 acre) of land area.

The MDT standard specifications place numerous restrictions on the contractor's activities in an attempt to avoid and minimize impacts on aquatic resources. For example, avoidance is achieved by limiting certain activities to upland areas rather than wetlands when feasible.

Minimization of impacts is achieved in many ways including limiting the total area that may be disturbed at any one time and seeding exposed soils as soon as practicable after work is complete, which minimizes the potential for increased deposition of eroded sediments in wetlands.

MDT and their contractor are required to prepare a SWPPP to be implemented during construction. This plan requires a description of BMPs to reduce soil erosion, to reduce site sediment loss, and to manage construction generated wastes, thereby reducing the risk to water quality in project area wetlands.

Additional mitigation measures can be added to the special provisions for the contractor to minimize project impacts on wetlands and streams including the following:

- Install preservation fencing to prevent unnecessary vegetation clearing and minimize intrusion into surrounding habitats
- Conform to the invasive weed plan prior to initiating any construction activity
- Where appropriate, salvage wetland vegetation from construction areas and store for use in revegetation activities.
- Work in project area streams would comply with appropriate work windows as determined by the United States Fish and Wildlife Service (USFWS) and CSKT biologists.

Permits for unavoidable placement of fill in wetlands would be required from CSKT under the Aquatic Lands Conservation Ordinance 87A and from the USACE, under Section 404 of the federal Clean Water Act. As part of the permitting process, compensatory mitigation is required to compensate for unavoidable impacts. Where impacts are unavoidable, mitigation could be provided by creating, enhancing, and/or restoring wetland habitat of a similar type and function to what was lost. The USACE requires that all wetland impacts be compensated at a minimum ratio of 1:1 for restoration and creation of wetlands. The USACE does not regulate impacts on isolated wetlands (i.e., those wetlands that are hydrologically isolated from waters of the United States). The CSKT Shoreline Protection Office regulates activities that have the potential to impact surface waters and wetlands of the Flathead Indian Reservation. The CSKT Shoreline Protection Office requires unavoidable impacts on wetlands to be compensated at a greater than 1:1 ratio by preserving, restoring, creating, or enhancing wetlands. Minimum compensation ratios required by CSKT for unavoidable impacts are shown in Table 8. Regardless of jurisdiction, Executive Order 11990 requires MDT to account for all wetland losses. Therefore, MDT would ultimately seek to replace all wetlands affected by the proposed project. Precise wetland impact quantities and final wetland mitigation strategy will be determined in the final design phase of this project.

Table 8. Minimum compensation ratios required by CSKT for unavoidable wetland impacts.

<i>Impacted Wetland Type</i>	<i>Preservation</i>	<i>Restoration</i>	<i>Enhancement</i>	<i>Creation</i>
Forested and Shrub	Pre-project 3:1	Pre-project 2.5:1	Pre-project 4:1	Pre-project 4:1
	Post-project 4:1	Post-project 3.5:1	Post-project 5:1	Post-project 5:1
Emergent and Open Water	Pre-project 2:1	Pre-project 1.5:1	Pre-project 3:1	Pre-project 3:1
	Post-project 3:1	Post-project 2.5:1	Post-project 4:1	Post-project 4:1

Source: CSKT 1999

3.D.6 Compensatory Actions Taken to Minimize Impacts

Permits for unavoidable placement of fill in wetlands would be required from CSKT under the Aquatic Lands Conservation Ordinance (ALCO) 87A and from the USACE, under Executive Order 11990, and section 404 of the federal Clean Water Act. As part of the permitting process, compensatory mitigation is required when avoidance or minimization is infeasible through project design. Where impacts are unavoidable, mitigation could be provided by creating, enhancing, and/or restoring wetland habitat of a similar type and function to what was lost. The Corps of Engineers requires that all wetland impacts be compensated at a ratio of 1:1 for restoration and creation of wetlands. The USACE does not regulate impacts on isolated wetlands (i.e., those wetlands that are hydrologically isolated from waters of the United States). The CSKT ALCO program regulates all wetland types on the reservation. Minimum compensation ratios required by CSKT for unavoidable impacts are shown in Table 8. Regardless of jurisdiction, Executive Order 11990 requires MDT to account for all wetland losses. Therefore, MDT would ultimately seek to replace all wetlands affected by the proposed project.

Compensation for unavoidable impacts to wetlands would involve mitigation activities to develop wetland credits to offset the impacts. A wetland mitigation effort is underway for the remainder of the US 93 Evaro to Polson corridor and it could be used as a model for the proposed project. Onsite opportunities for wetland mitigation, such as those associated with the proposed crossing structures, could be pursued first to increase permeability across the roadway corridor, restore wetland systems, and restore overall wetland connectivity in the project area. CSKT planting plans for areas at wildlife crossings would include appropriate (shade-tolerant) species for planting adjacent to any bridges. Offsite wetland mitigation opportunities could be pursued if additional replacement wetlands are needed after all onsite mitigation opportunities are considered. Offsite wetland mitigation sites established through wetland mitigation reserve agreements between CSKT and MDT for the US 93 Evaro to Polson may provide suitable offsite mitigation for the proposed project as well.

3.D.7 Monitoring of Mitigation Actions

Monitoring and maintenance of mitigation sites would be completed in accordance with the standard MDT Monitoring Plan.

3.E. POTENTIAL EFFECTS ON HUMAN USE CHARACTERISTICS

Access to the Ninepipe recreational fishing access would be temporarily affected during construction. No long-term effects on fishing grounds as habitat are expected.

The proposed project will not adversely affect municipal, private, or potential water supplies. Private wells are used for domestic and agricultural purposes within the project area. The proposed action will not affect the quality or productivity of these water supplies.

While the proposed project may require the acquisition of some Ninepipe National Wildlife Refuge or adjacent wildlife management lands, it will not decrease the value of these lands. The proposed wildlife crossing structures are expected to enhance the overall value of these lands by increasing connectivity and wildlife movement between each side of the corridor.

Construction activities would affect the aesthetic value of the corridor. Operation of the widened roadway is not expected to affect the aesthetic view from the roadway. Views of the roadway would be affected by a widened roadway, with wider lane configurations having a greater effect than narrower lane configurations.

3.F. DETERMINATION OF CUMULATIVE EFFECTS ON THE AQUATIC ECOSYSTEMS

The geographic area considered for the analysis of cumulative effects on wetlands and stream habitats includes all watersheds in the project area, which support wetlands in the project corridor. This includes the Mission Creek watershed and the Crow Creek watershed.

Most past actions have contributed to some degree of loss of wetland area and decreases in wetland functions. Some of these past losses have been offset by the preservation of the Ninepipe National Wildlife Refuge and the subsequent protection of adjacent lands. Present actions, as well as future actions, would also likely result in incremental losses in wetland habitat in the project area, with the exception of abandonment of Duck Road, which could yield a net increase in wetlands if the area is used for compensatory wetland mitigation. The US 93 Ninepipe/Ronan project would minimize and avoid impacts on wetlands to the extent feasible and would restore hydrologic connectivity in numerous wetland systems, including connectivity with streams and floodplains. However, the project would also result in the cumulative loss of wetland habitat within the project corridor. Adverse impacts on wetlands would be mitigated through wetland compensation to restore or create additional wetland acreage.

Past road construction has resulted in poorly placed culverts and undersized culverts in the project corridor. The proposed action along with the US 93 Evaro to Polson project would rectify impacts on streams from past actions by replacing several culverts with bridges or enlarged culverts to improve hydrologic connectivity in the system and by restoring streams in the highway right-of-way.

All of these construction projects may contribute to cumulative downstream sedimentation in project area streams during construction. With implementation of the improved structures, the cumulative effect of these projects on fisheries resources is expected to be an improvement in the existing condition.

3.G. DETERMINATION OF SECONDARY EFFECTS ON THE AQUATIC ECOSYSTEMS

Secondary effects are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials but do not result from the actual placement of the dredged or fill material. The most significant secondary effect with the proposed project would result from surface runoff. In order to comply with the requirements of the Clean Water Act, MDT and the contractor would obtain an NPDES General Permit for Discharge from Large and Small Construction Activities regulated by U.S. EPA and CSKT to control sediment discharge and erosion during construction projects. This permit is required to protect water quality and requires the completion of a SWPPP. The SWPPP requires a description of BMPs and stormwater management controls appropriate for the construction site including measures to reduce soil erosion, reduce site sediment loss, and manage some of the more common construction-generated wastes and construction-related toxic materials. In addition, stormwater facilities would be included in the final design for the proposed project to reduce the long-term impact of roadway runoff pollutants on sensitive receiving waters. Stormwater facilities would be maintained to ensure their continued intended function.

Another secondary effect is the possibility of accidental spills of hazardous materials during construction activities or during the subsequent use of the facility. However, MDT standard specifications would require the contractor to establish staging areas a minimum of 15 meters (50 feet) from streams and to implement spill prevention measures during construction near streams. Any improvements to the existing highway that increase capacity and reduce congestion would decrease

the chance of these accidental spills resulting from the use of the highway by vehicles transporting hazardous materials.

LEAST DAMAGING PRACTICABLE ALTERNATIVE

Rural Alternatives

Three alternatives have fewer total wetland impacts than the preferred alternative (PA): Alternatives Rural 1, Rural 2, and Rural 10. Alternative Rural 4 has the same overall impact, but slightly higher permanent and slightly lower temporary impact. Although the Rural 7 alternative has the fewest permanent impacts on wetlands, it is estimated to cost \$147 million dollars more than the next most expensive alternative (Rural 9) and \$162 million more than Rural 3 (PA) (The inclusion of a separated bike path would add an additional \$12 million to the cost of Alternative Rural 3.). If Rural 7 was selected, the additional cost of \$162 million could delay the proposed project a minimum of 6 years because there is insufficient funding in the current National Highway System budget for the local MDT district to support the additional cost. One of the key objectives in the corridor is to improve safety and delaying the proposed project an additional 6 years would mean the current high rate of accidents and accident severity in this corridor would continue. Also, the additional cost for the Rural 7 alternative would delay reconstruction of another 20 to 30 miles of roadway within the local MDT district, which could also affect the safety of the traveling public. Mitigating an acre of wetland impact costs an average of \$16,000 to \$25,000. Assuming the cost is \$25,000, the mitigation savings for the Rural 7 alternative would be \$95,000 (for 3.8 acres fewer permanent impacts). However, the projected savings does not approach the extra cost for constructing the Rural 7 alternative.

Alternatives Rural 1, 2, 7, and 10 have the potential to reduce accidents by 16%, 17.2%, 18.6%, and 20.1% respectively, while Rural 3 (PA) has the potential for reducing accidents by 20.4%. The projected levels of service (LOS) for Alternatives Rural 1, 2, 7, and 10 are D-, D, D+, and D+, respectively, while the projected LOS for the Rural 3 (PA) is D. The LOS for Rural 3 (PA) and Rural 10 wouldn't deteriorate to LOS D+ until after 2020, whereas the LOS for Alternatives Rural 1, 2, and 7 would deteriorate more rapidly.

Alternatives Rural 1, 2, 3 (PA), and 10 have similar costs and similar wetland impacts. However, Alternative 1 does not address the operational or safety needs associated with slow moving vehicles northbound on Post Creek Hill. Nor does it address the need for southbound passing opportunities throughout the proposed project and the capacity and safety needs for traffic volumes between Innovation Lane and the south city limits of Ronan. Alternative Rural 2 addresses the slow moving vehicle issue northbound on Post Creek Hill but not the need for southbound passing opportunities throughout the proposed project and the capacity and safety needs for traffic volumes between Innovation Lane and the south city limits of Ronan. Alternative Rural 10 would address both the slow moving vehicle issue northbound on Post Creek Hill as well as the need for southbound passing opportunities while decreasing wetland impacts by approximately 0.2 acre from Alternative Rural 3 (PA); however, following publication of the draft SEIS, 43 agency and public comments were received that objected to the inclusion of a southbound passing lane through the Ninepipe Wildlife Refuge. The majority of the comments received cited concerns over wildlife as the reason for objecting to the passing lane. Alternative Rural 3 (PA) would address both the slow moving vehicle issue northbound on Post Creek Hill as well as the need for southbound passing opportunities while increasing wetland impacts by approximately 0.2 to 0.5 acres over Alternatives Rural 1, 2, and 10. In addition, Alternative Rural 3 would avoid the wildlife concerns associated with Alternative Rural 10.

Alternative Rural 7 has the least permanent wetland impacts of the considered alternatives; however, the additional cost of \$162 million could delay the proposed project a minimum of 6 years resulting in ongoing safety concerns in the corridor. The project proponents feel the additional costs of this alternative make it not practicable. Of the other Rural Alternatives, 1, 2, and 10 have slightly lower wetland impacts than Alternative Rural 3 (PA); however, Alternative 1 and 2 do not address the capacity and safety needs of the corridor and Alternative 10 received numerous objections during the public comment period from agencies and the public citing concerns about impacts to wildlife in the Ninepipe Wildlife Refuge. For these reasons Alternative 3, the Preferred Alternative, has been chosen as the least damaging practicable alternative for rural portion of the project.

Ronan Alternatives

Ronan Alternatives 1, 2, 3, and 4 would have approximately the same wetland impacts (0.02 to 0.03 acres), while Ronan Alternative 5 would not result in wetland impacts.

The projected level of service (LOS) in 2024 for Alternatives Ronan 1 and 2 is C for both northbound and southbound traffic, for Alternatives Ronan 3 and 4 is B for northbound traffic and C for southbound traffic, and for Alternative Ronan 5 is D for both northbound and southbound traffic. Under Alternative Ronan 5, some accident reduction could occur, but most likely it would have the same effect as the No-Action Alternative and there would be no significant reduction of accidents.

Alternative Ronan 5 has less wetland impacts than the other Ronan alternatives; however, it does not address the operational or safety needs within the city of Ronan. Alternatives Ronan 1, 2, 3, and 4 (PA) have similar wetland impacts (approximately 0.02 to 0.03 acres); however, Alternatives Ronan 3 and 4 better address operational and safety concerns within the city of Ronan. For these reasons Alternative Ronan 4, the Preferred Alternative, has been chosen as the least damaging practicable alternative for the Ronan section of this project.

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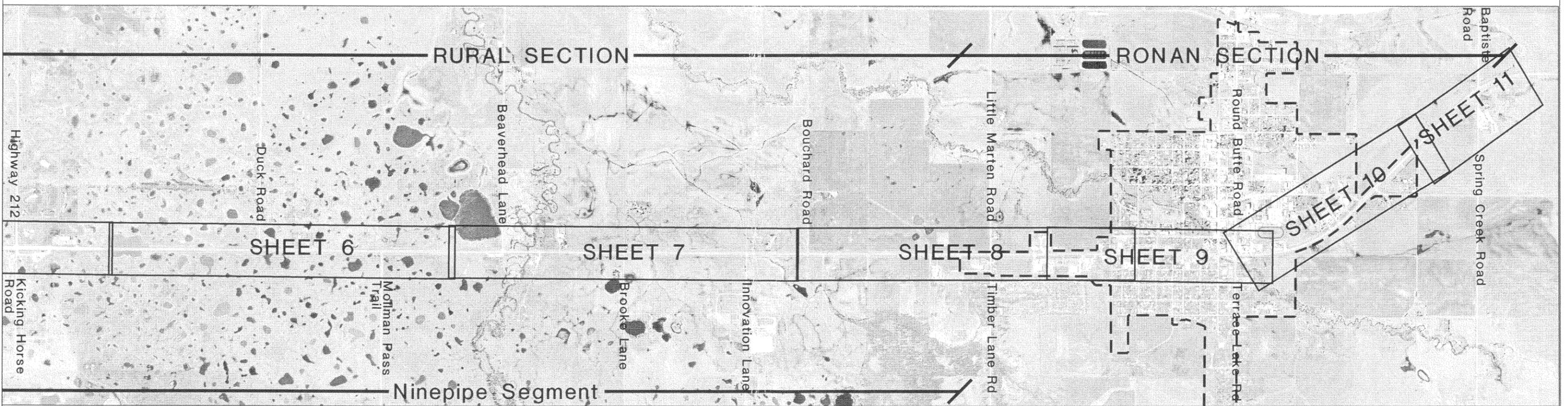
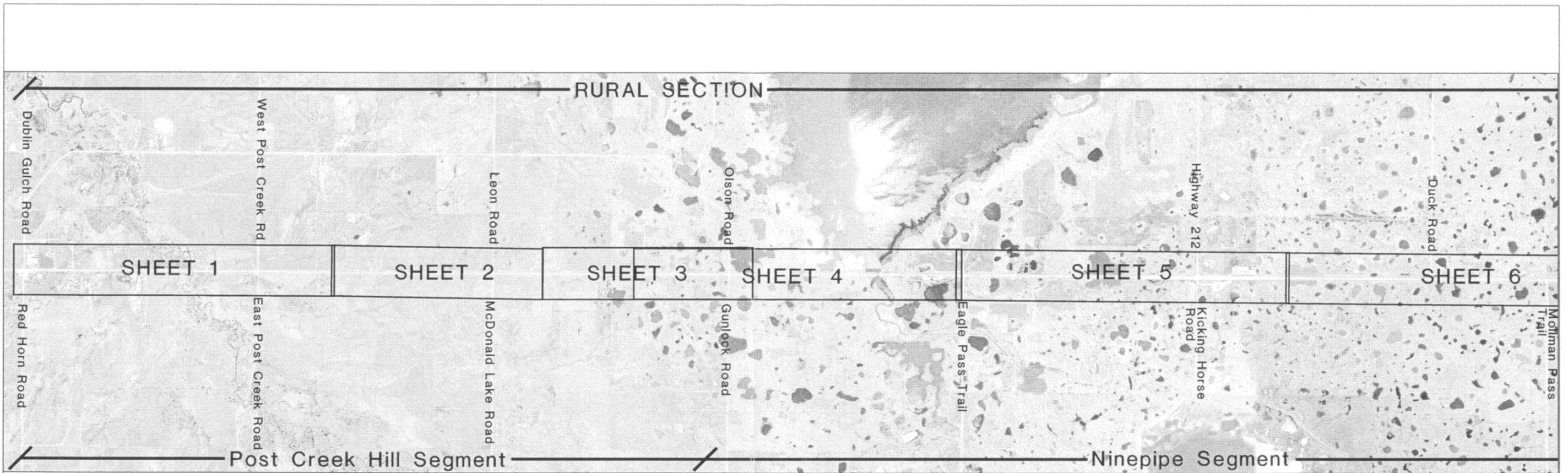
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APPENDIX E

Maps

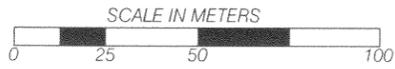
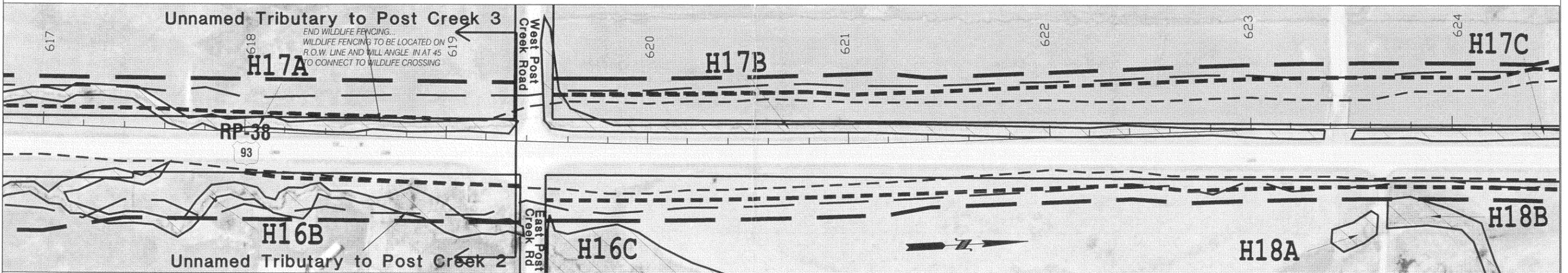
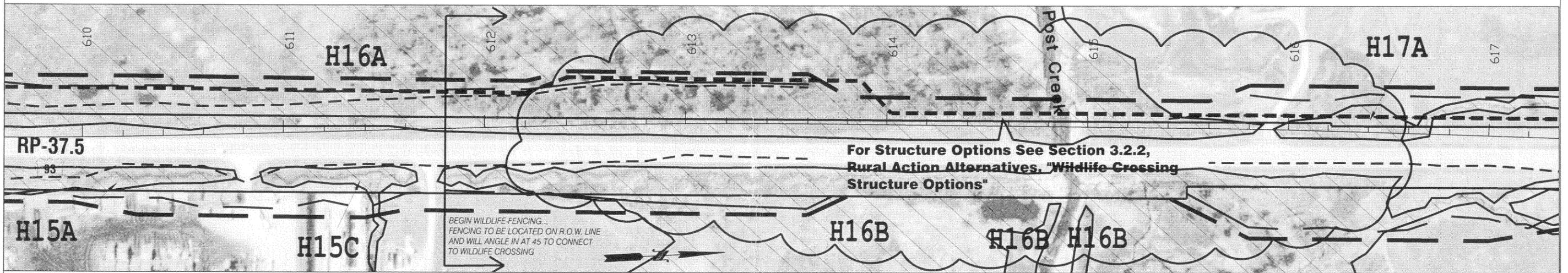
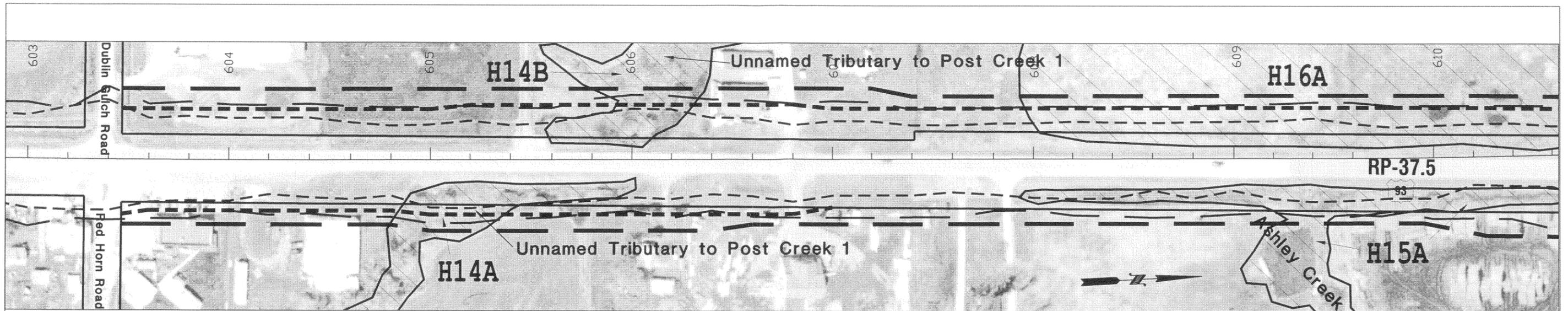


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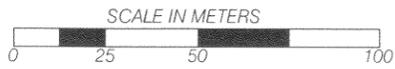
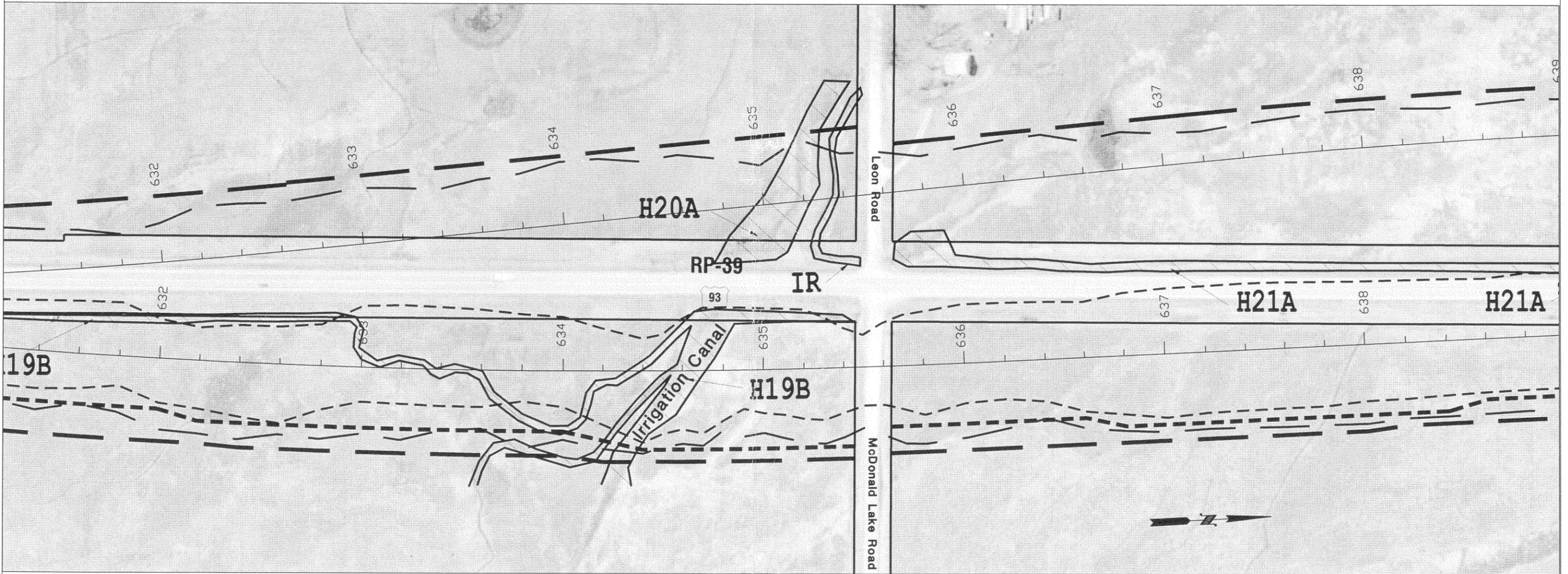
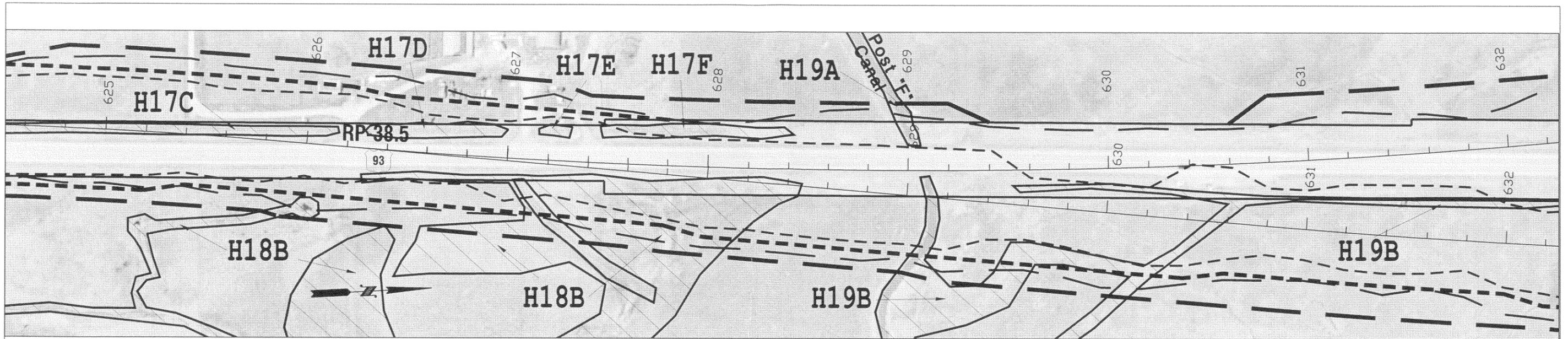
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Narrowest Limits of Disturbance (ROW Boundary)	—————
LIMITS OF CUT AND FILL	
WIDEST	—————
NARROWEST	—————

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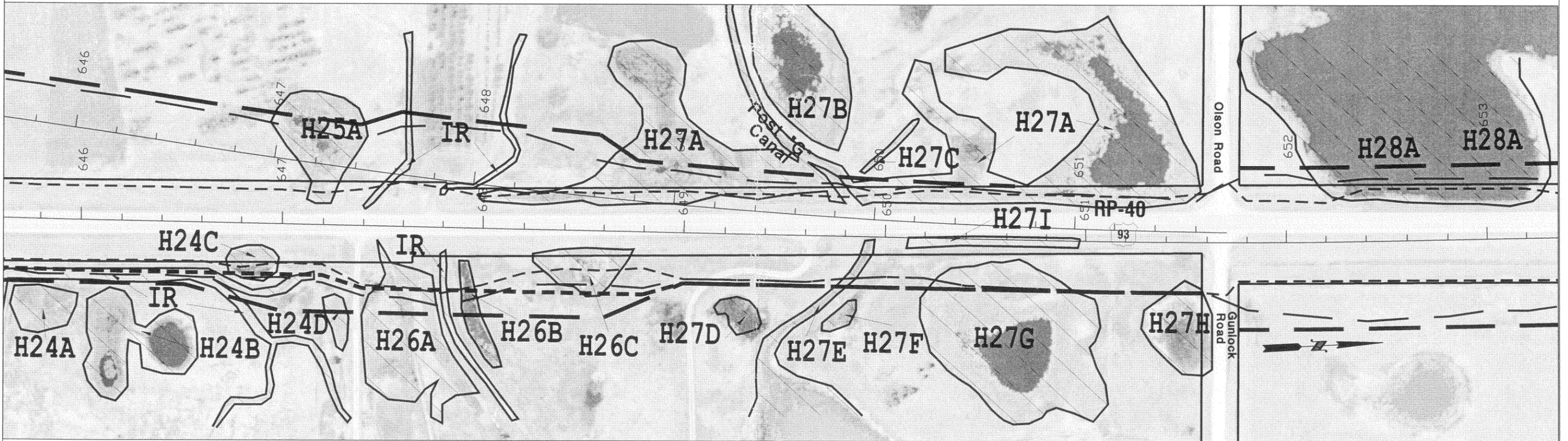
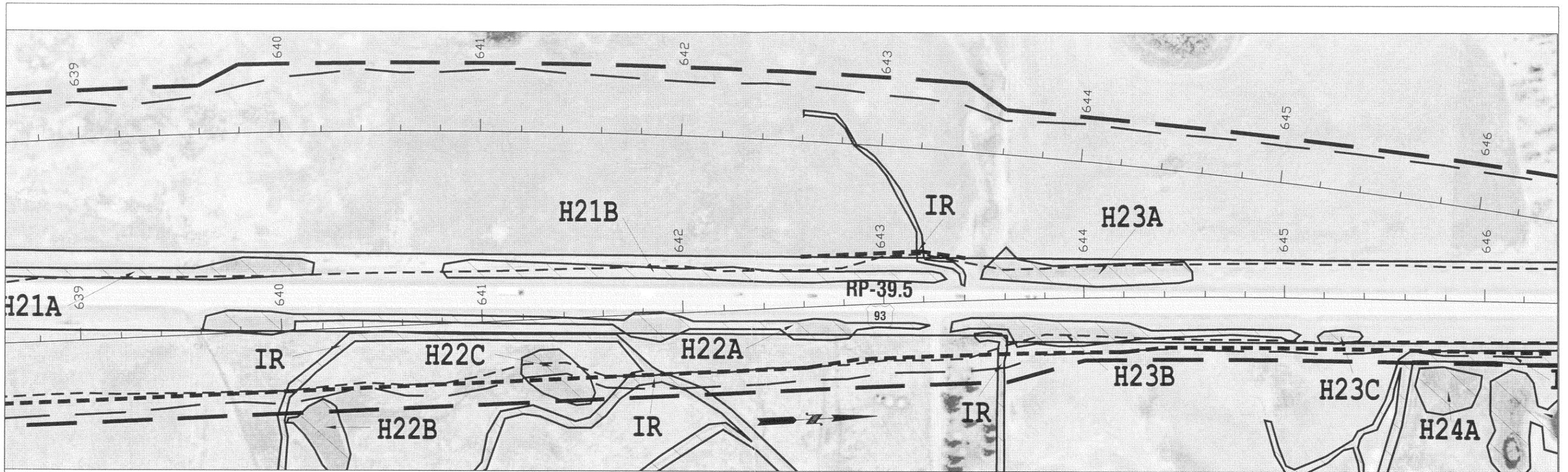
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- LIMITS OF CUT AND FILL
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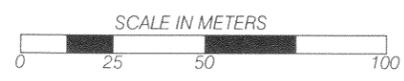
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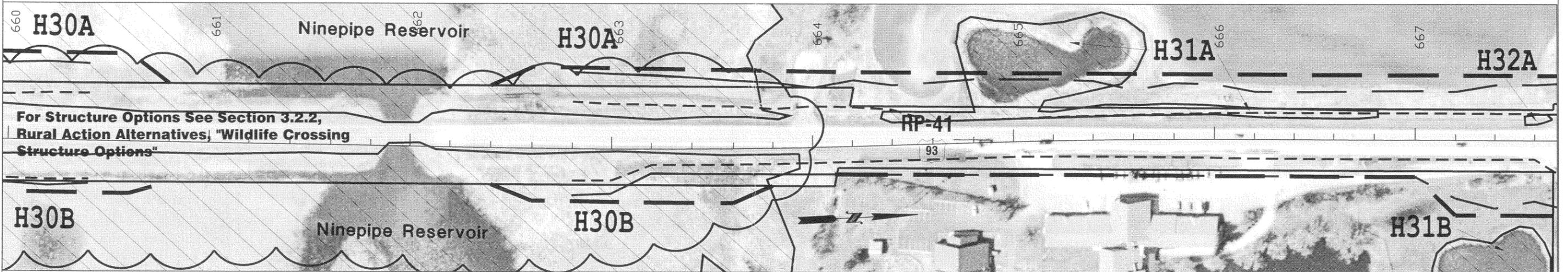
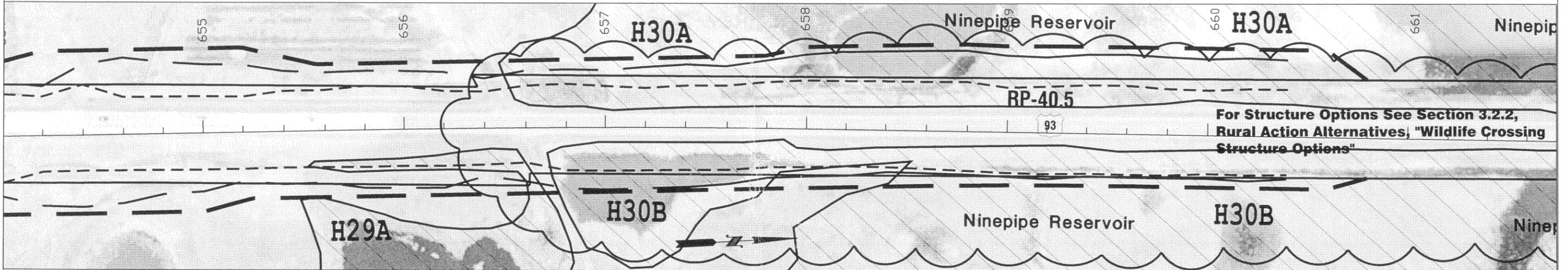
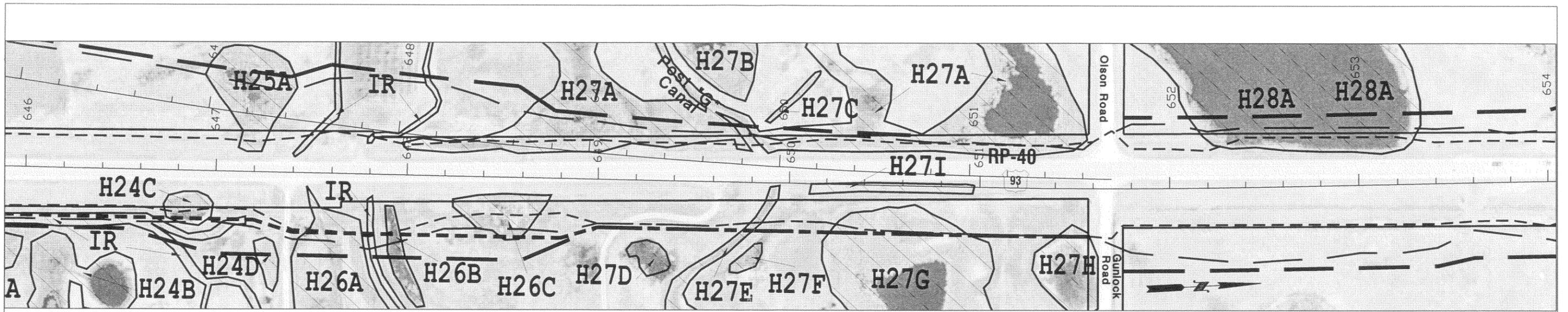
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- Narrowest Limits of Disturbance (ROW Boundary)
- LIMITS OF CUT AND FILL
- WIDEST
- NARROWEST

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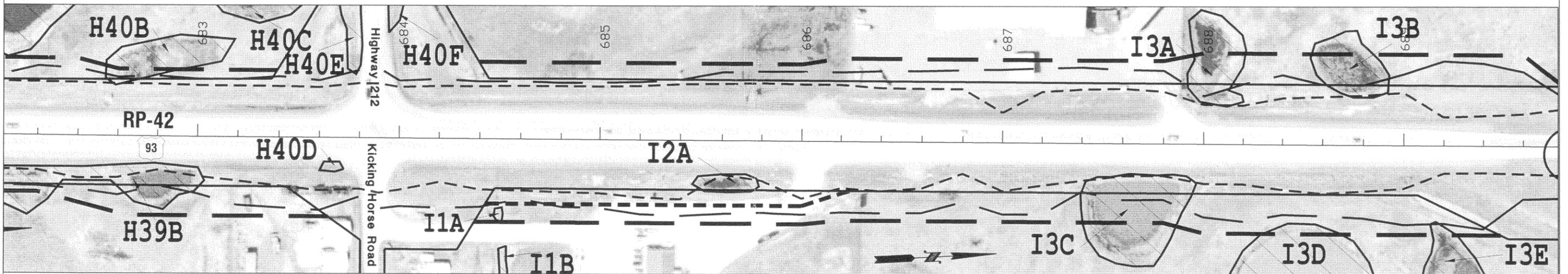
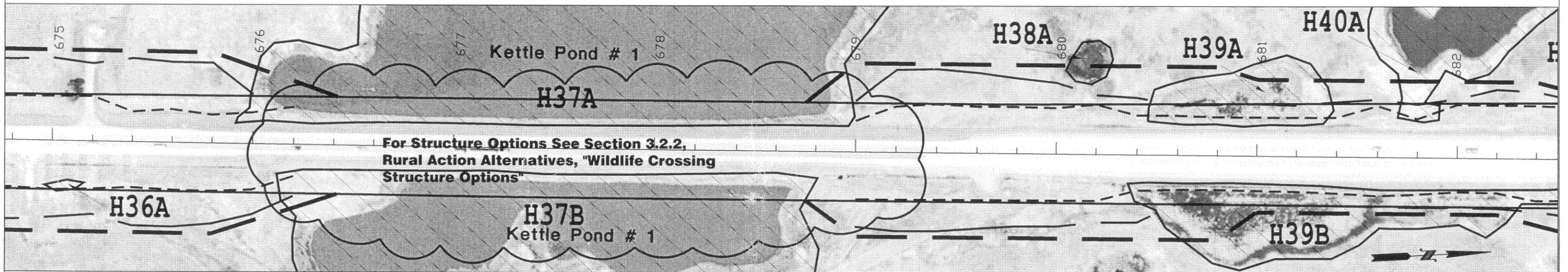
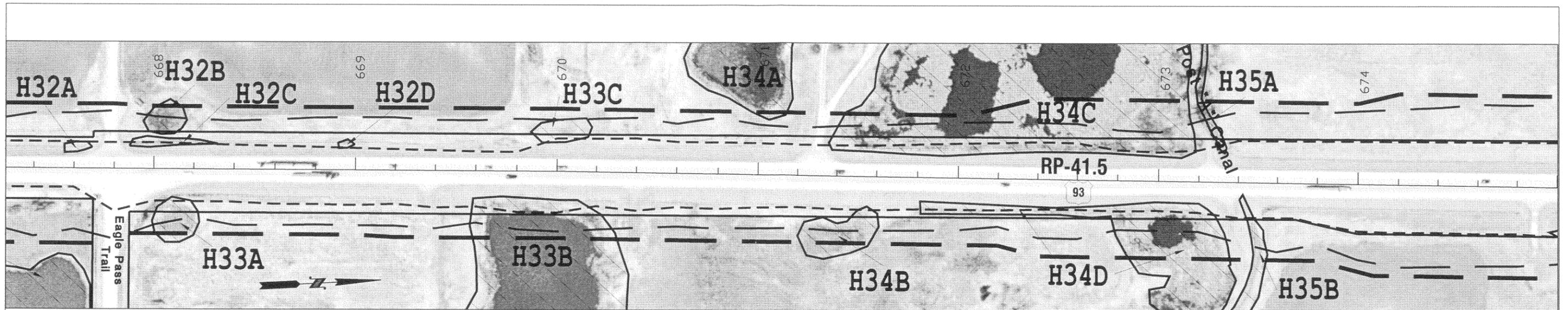
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- NARROWEST

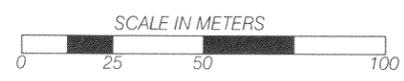
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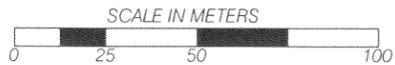
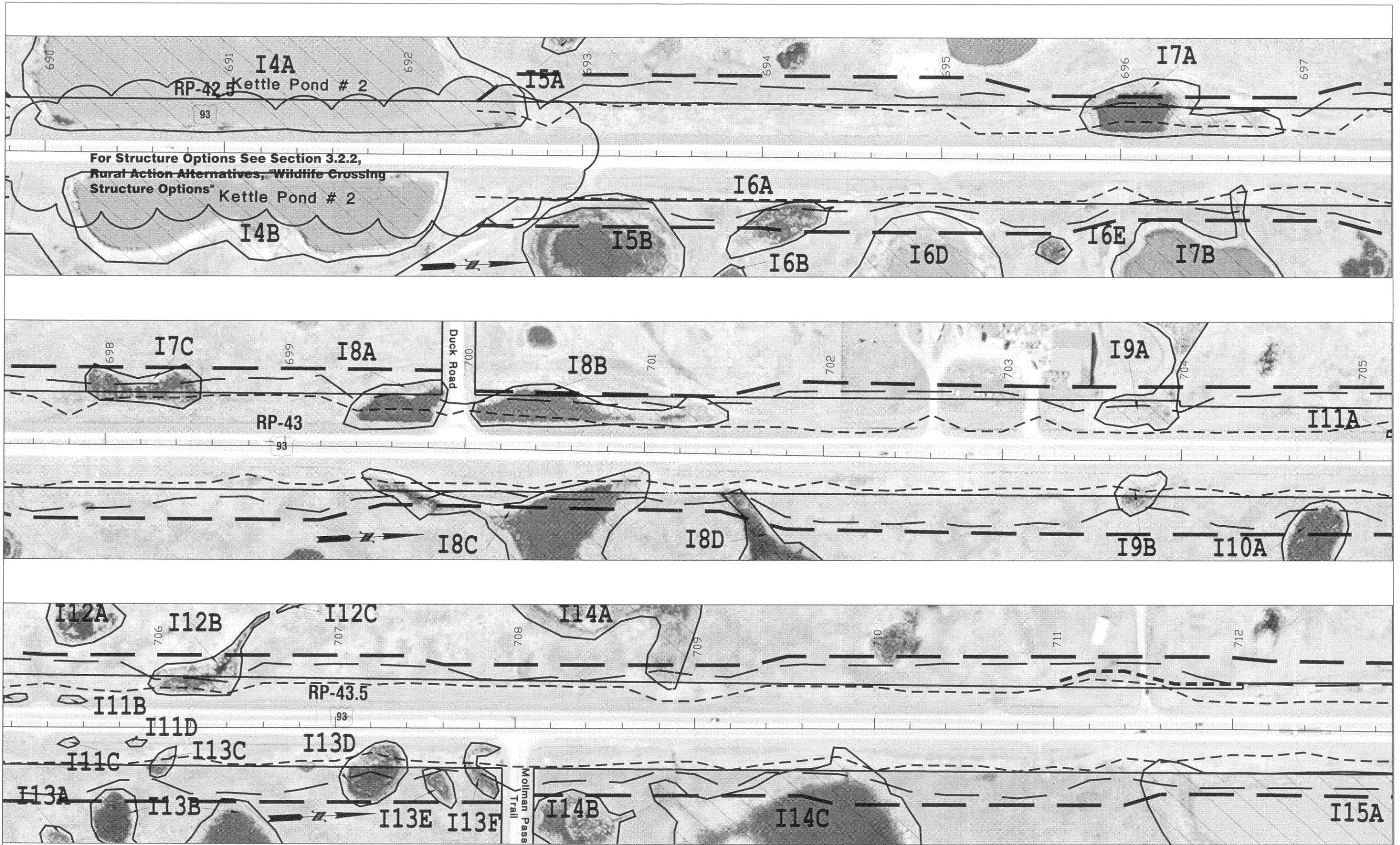
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- Narrowest Limits of Disturbance (ROW Boundary)
- LIMITS OF CUT AND FILL
- WIDEST
- NARROWEST

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LEGEND

- Existing ROW
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- Narrowest Limits of Disturbance (ROW Boundary)
- LIMITS OF CUT AND FILL
- WIDEST
- NARROWEST

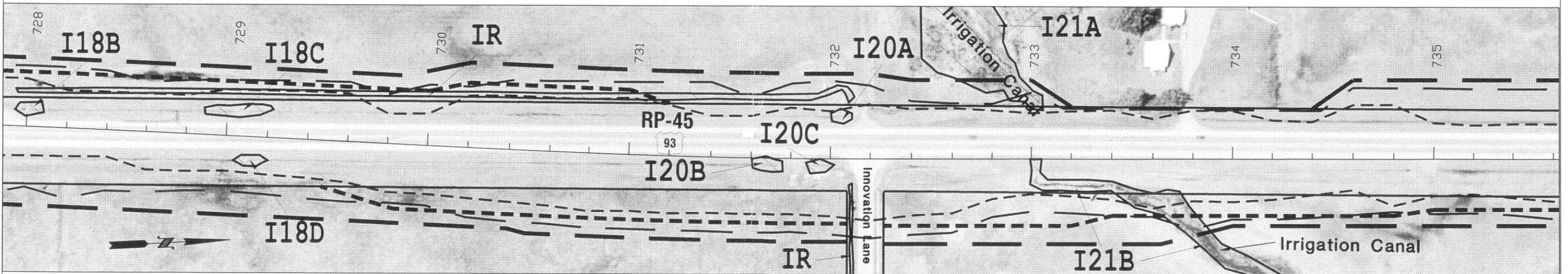
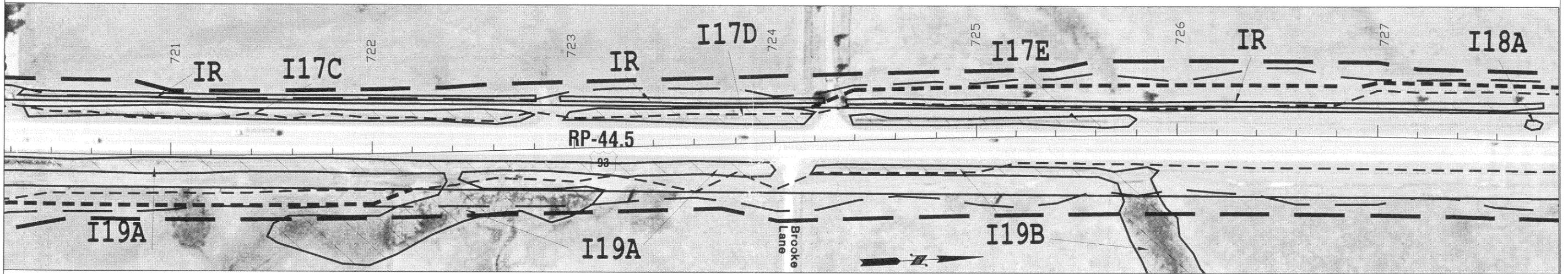
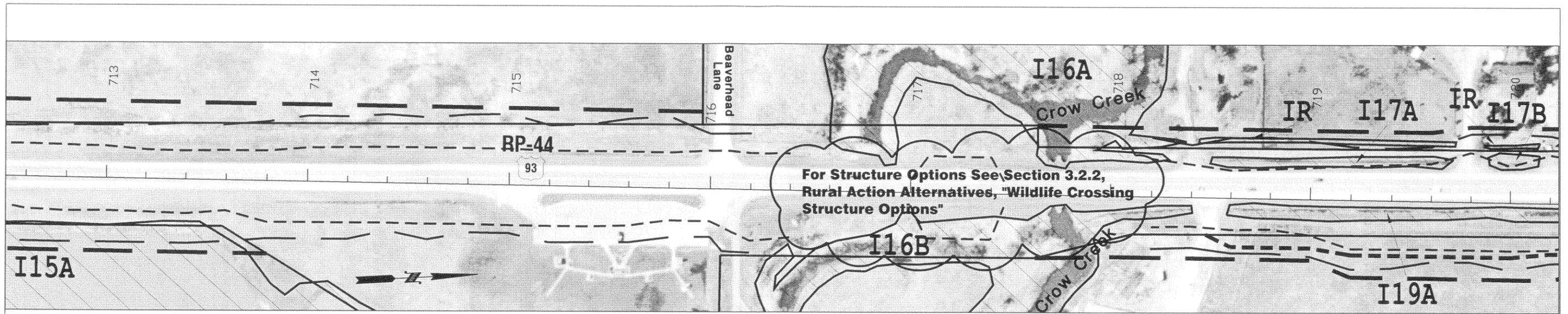
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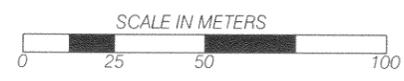
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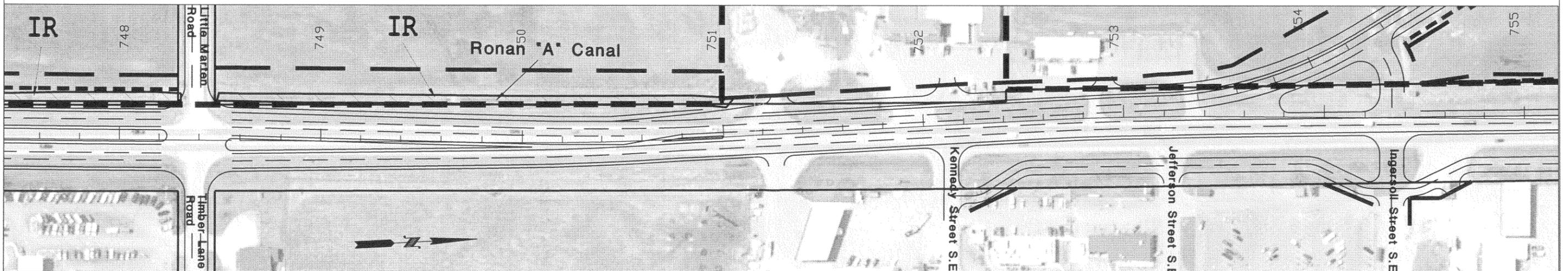
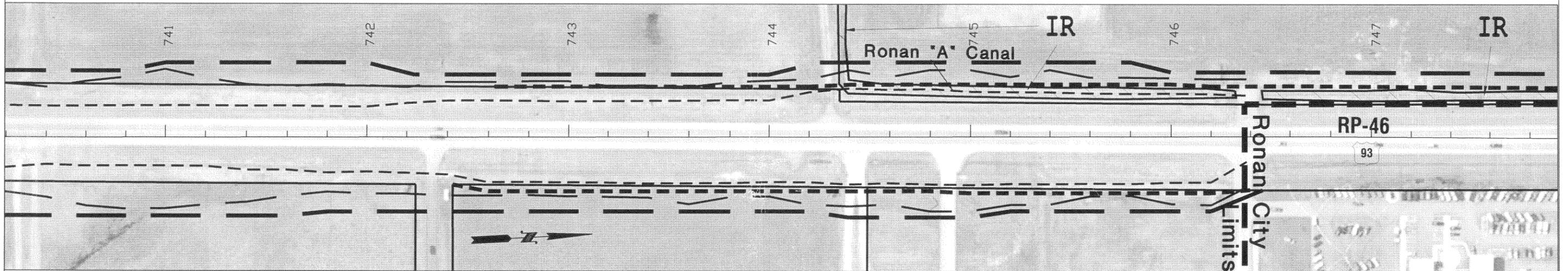
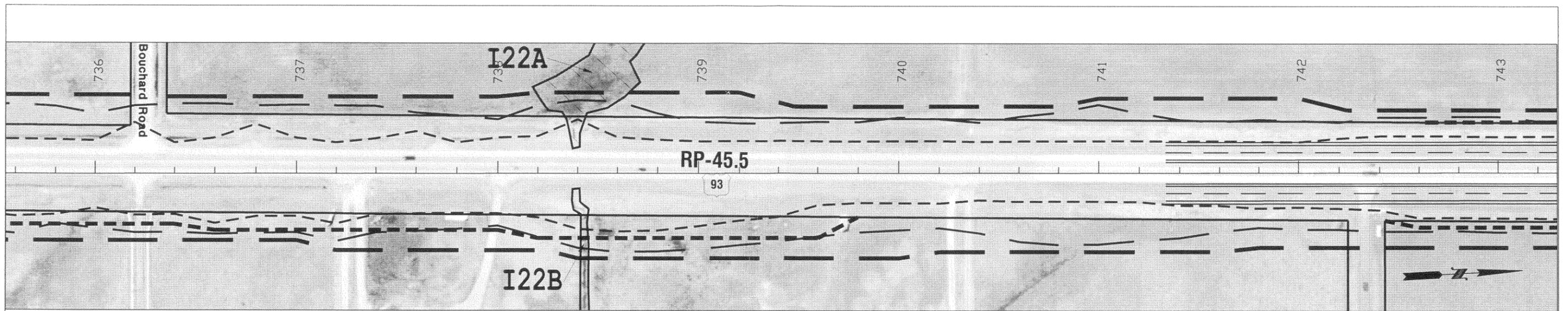
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- Narrowest Limits of Disturbance (ROW Boundary)
- LIMITS OF CUT AND FILL
- WIDEST
- NARROWEST

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Wetlands ID Number from
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Wetlands



RURAL LEGEND

- Existing ROW
- Widest Limits of Disturbance (ROW Boundary)
- Narrowest Limits of Disturbance (ROW Boundary)
- LIMITS OF CUT AND FILL
- WIDEST
- NARROWEST

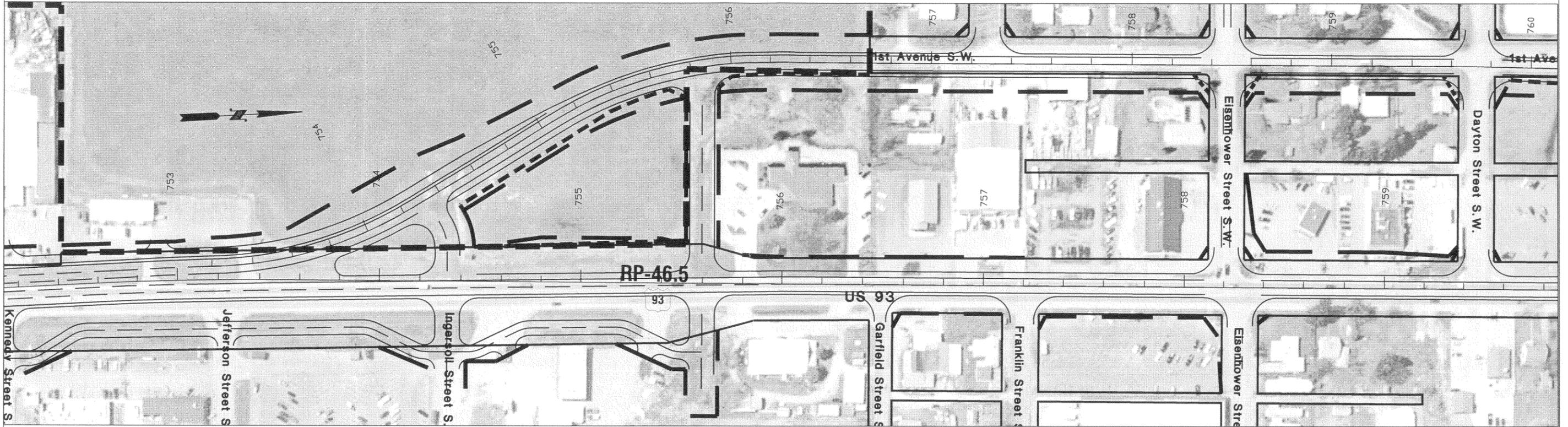
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- Existing ROW
- Widest Limits of Disturbance (ROW Boundary)
- Narrowest Limits of Disturbance Beyond Existing ROW (ROW Boundary)
- Ronan City Limits

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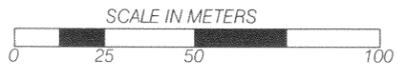


RONAN LEGEND

- Existing ROW
- Widest Limits of Disturbance (ROW Boundary)
- Narrowest Limits of Disturbance Beyond
- Existing ROW (ROW Boundary)
- Ronan City Limits

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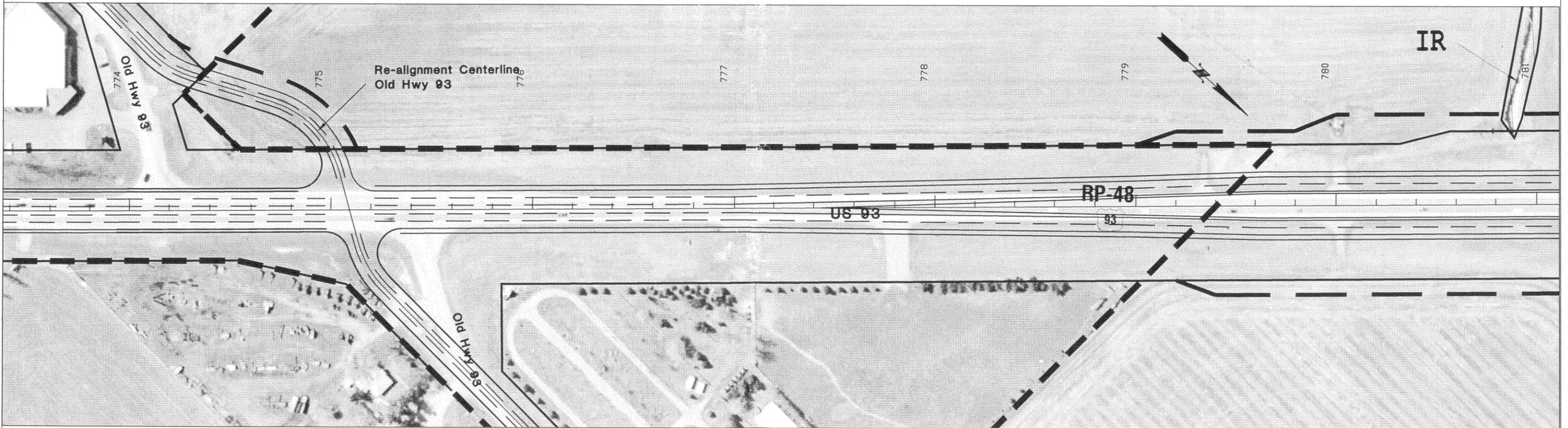
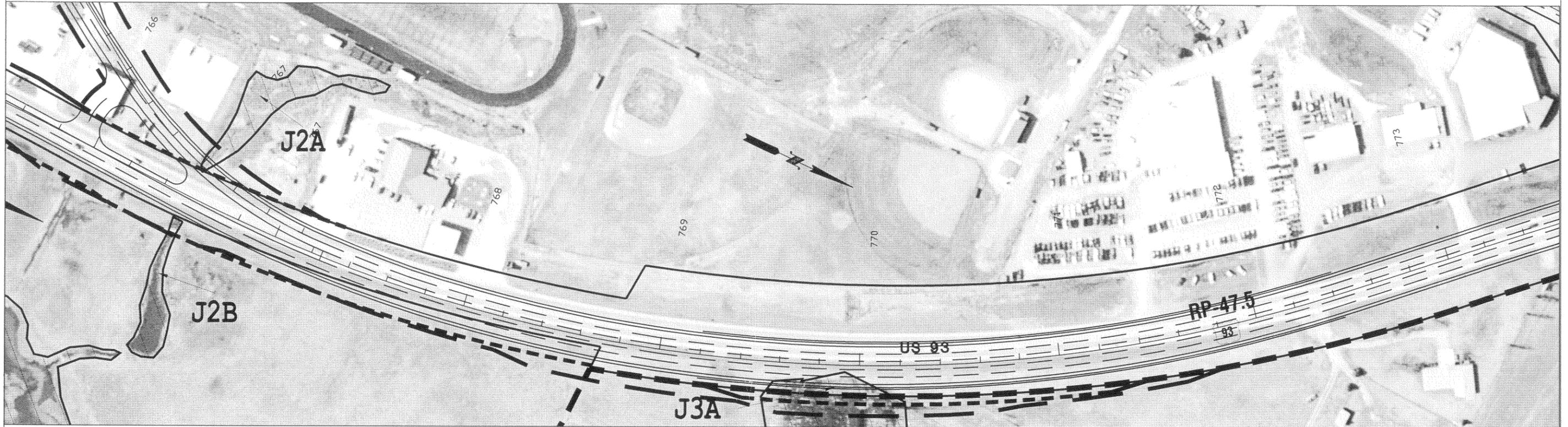
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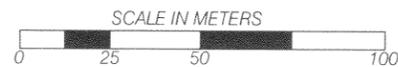
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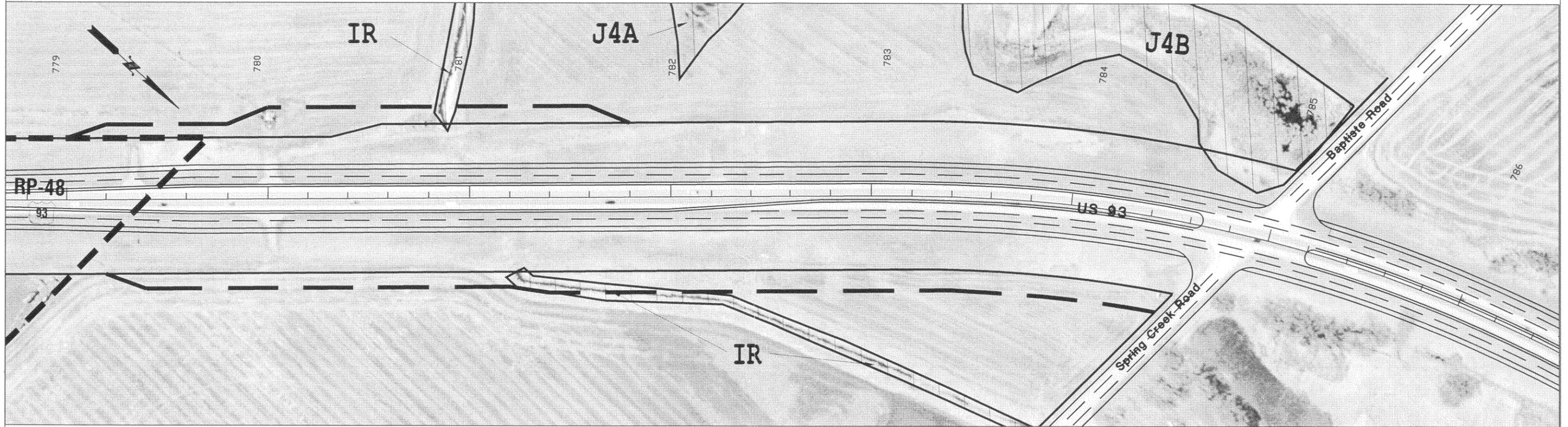
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- Existing ROW
- Widest Limits of Disturbance (ROW Boundary)
- Narrowest Limits of Disturbance Beyond Existing ROW (ROW Boundary)



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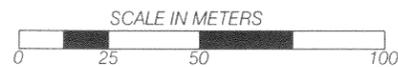




Ronan City Limits 

LEGEND

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 Widest Limits of Cut and Fill 

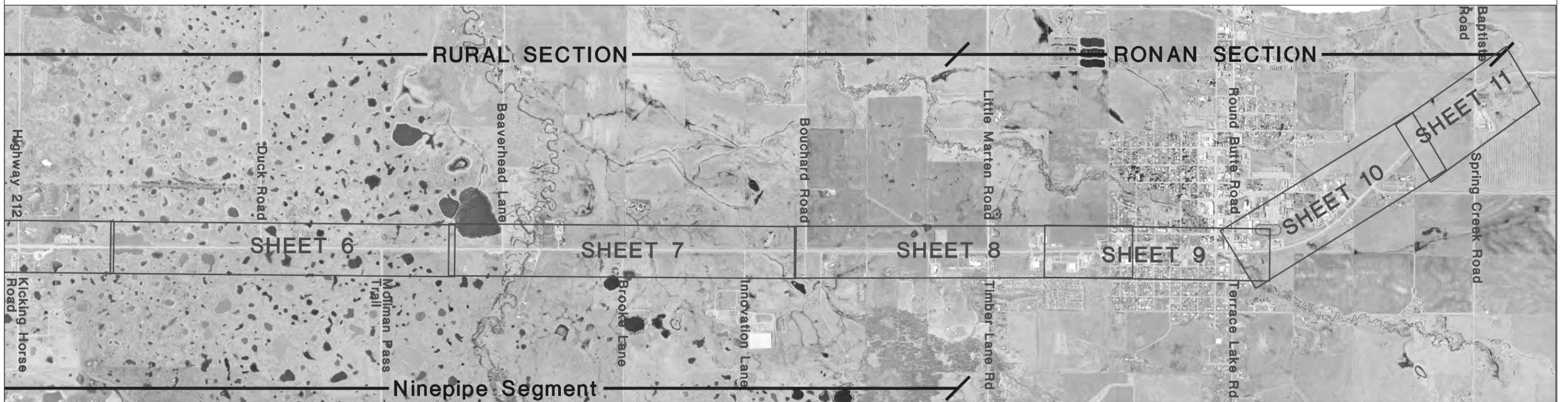
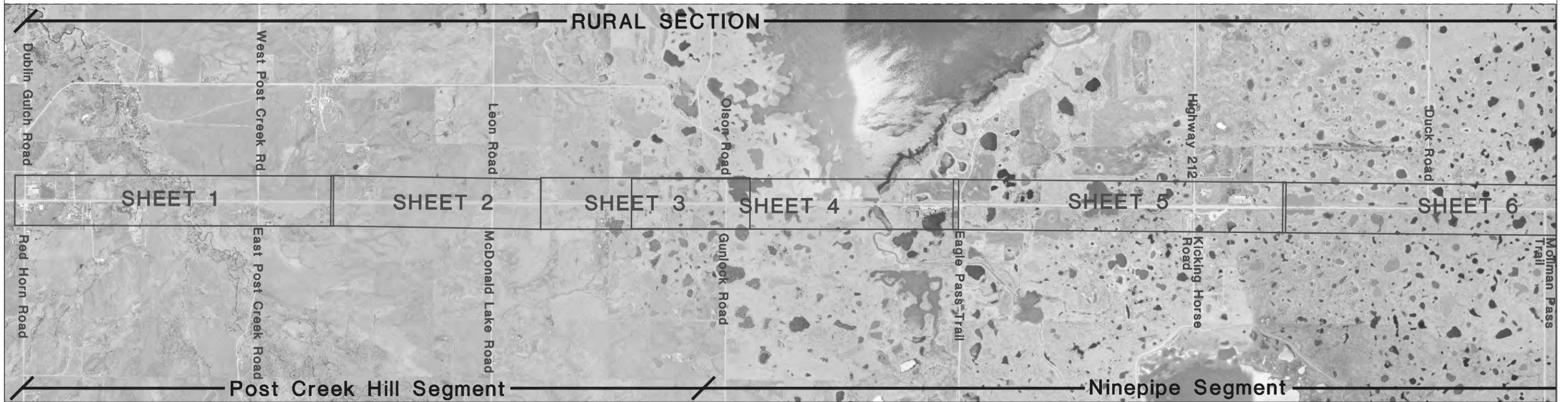


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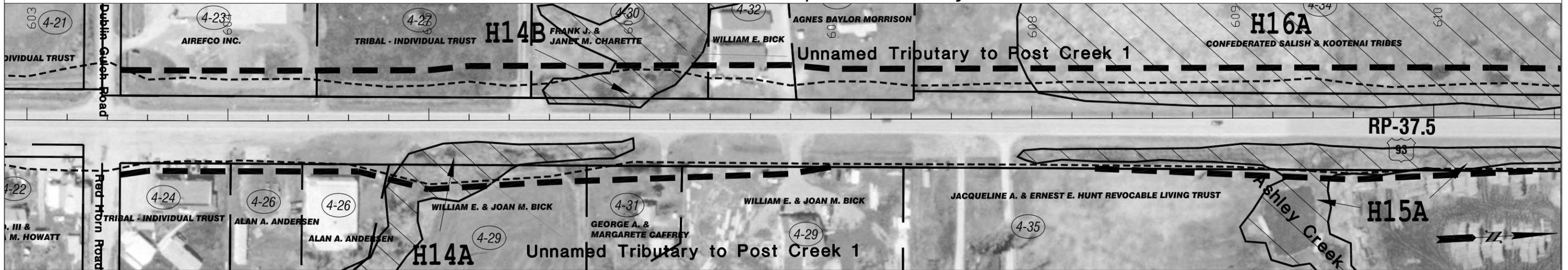
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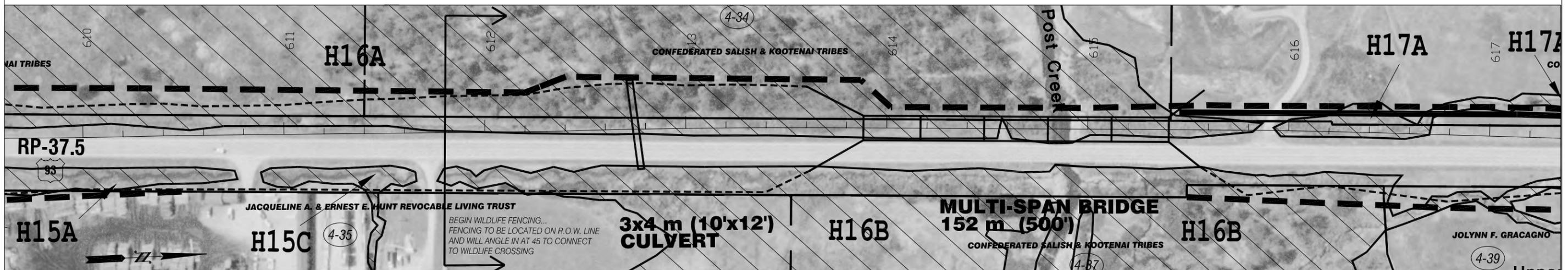
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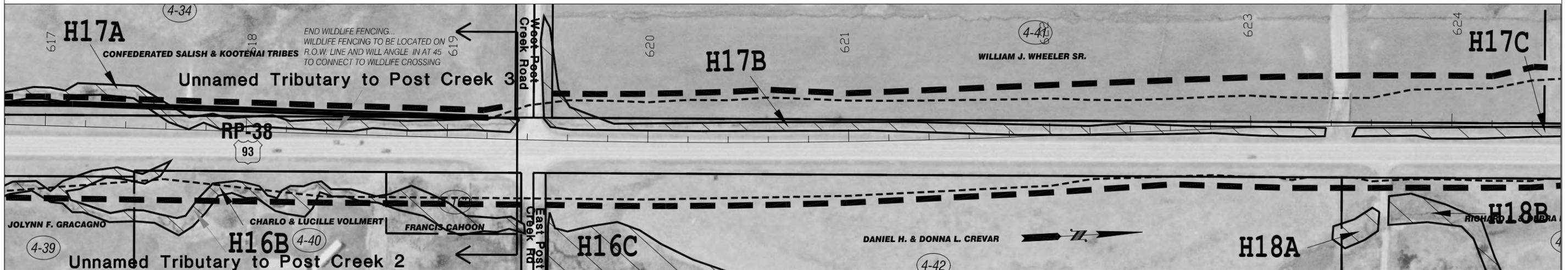
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Preferred Alternative - With Separated Bicycle/Pedestrian Path



Preferred Alternative - With Separated Bicycle/Pedestrian Path



H30B Wetlands ID Number from Table 4.10-2, Characteristics of Wetlands

LEGEND

- Existing ROW
- Construction Limits
- Proposed ROW

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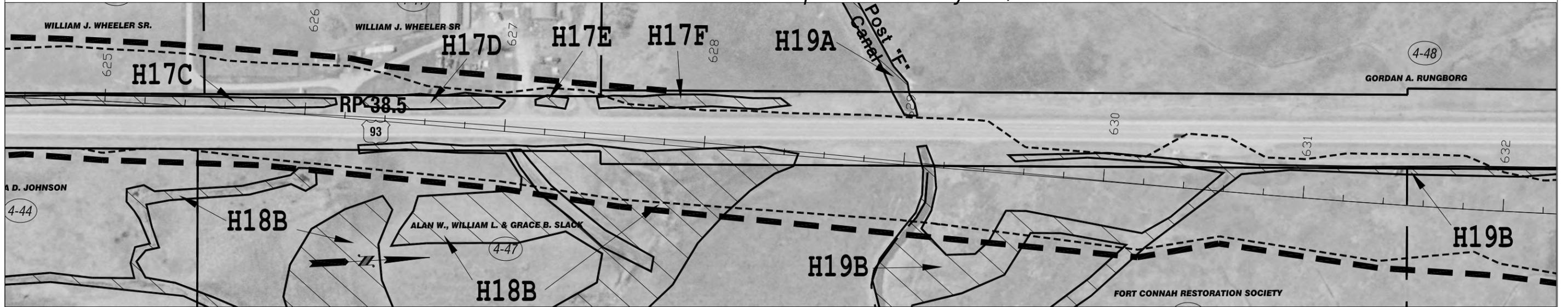
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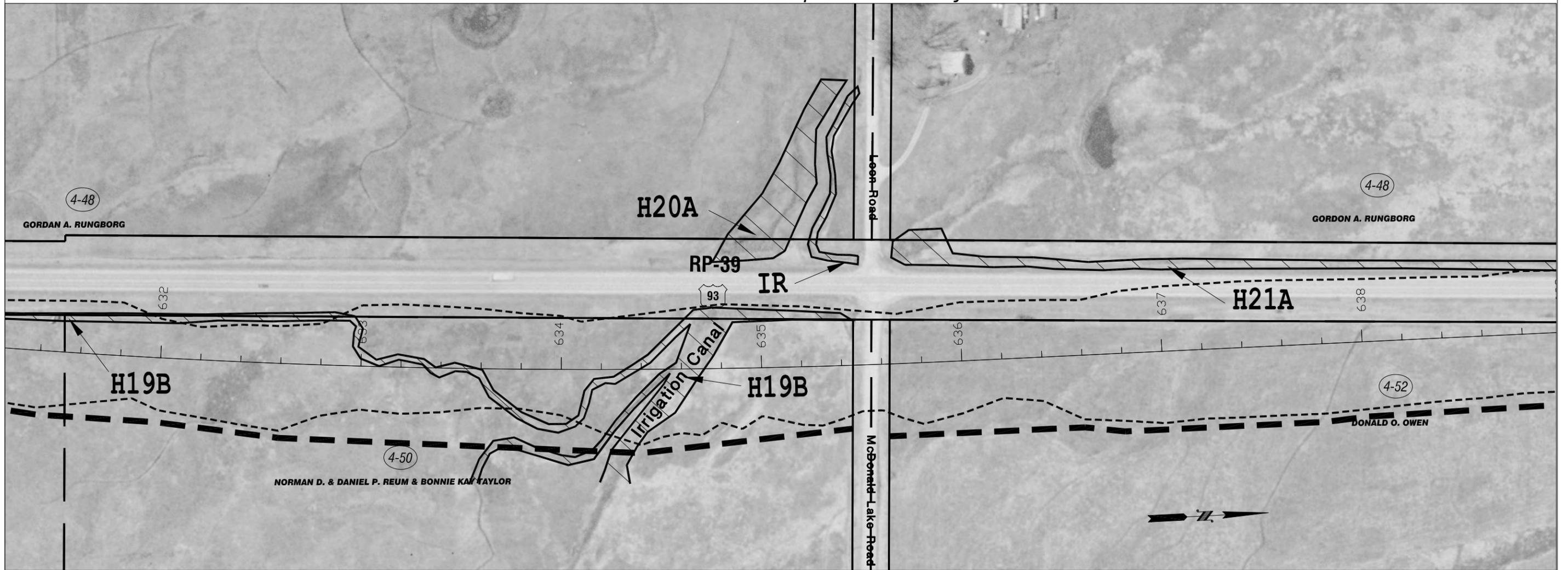
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Preferred Alternative - With Separated Bicycle/Pedestrian Path



Preferred Alternative - With Separated Bicycle/Pedestrian Path



H30B

Wetlands ID Number from Table 4.10-2, Characteristics of Wetlands

REFERENCE POST

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LEGEND

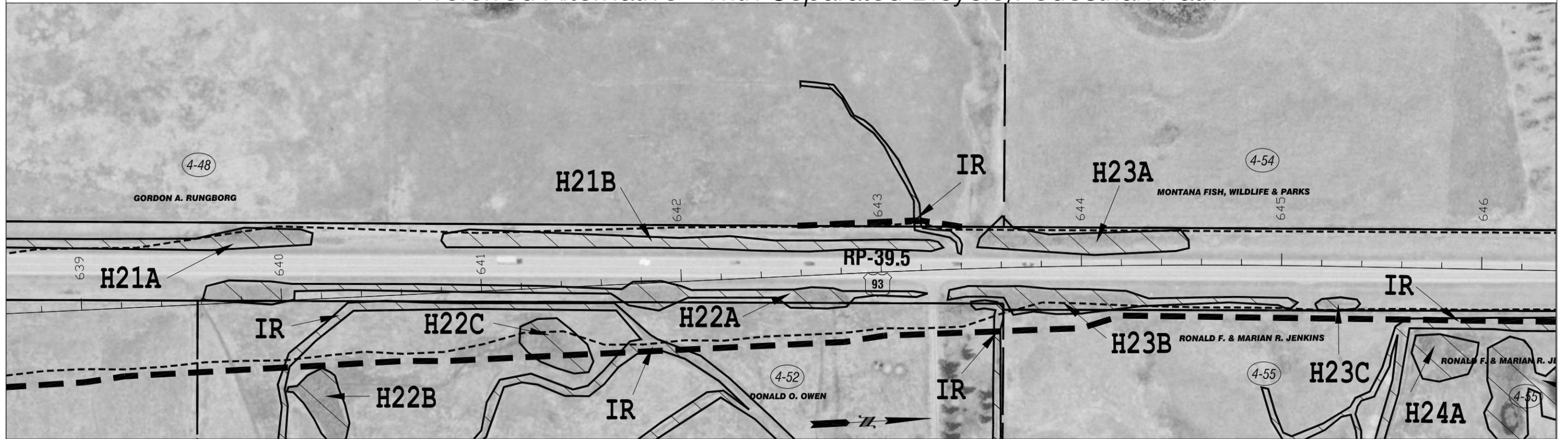
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- Construction Limits
- Proposed ROW

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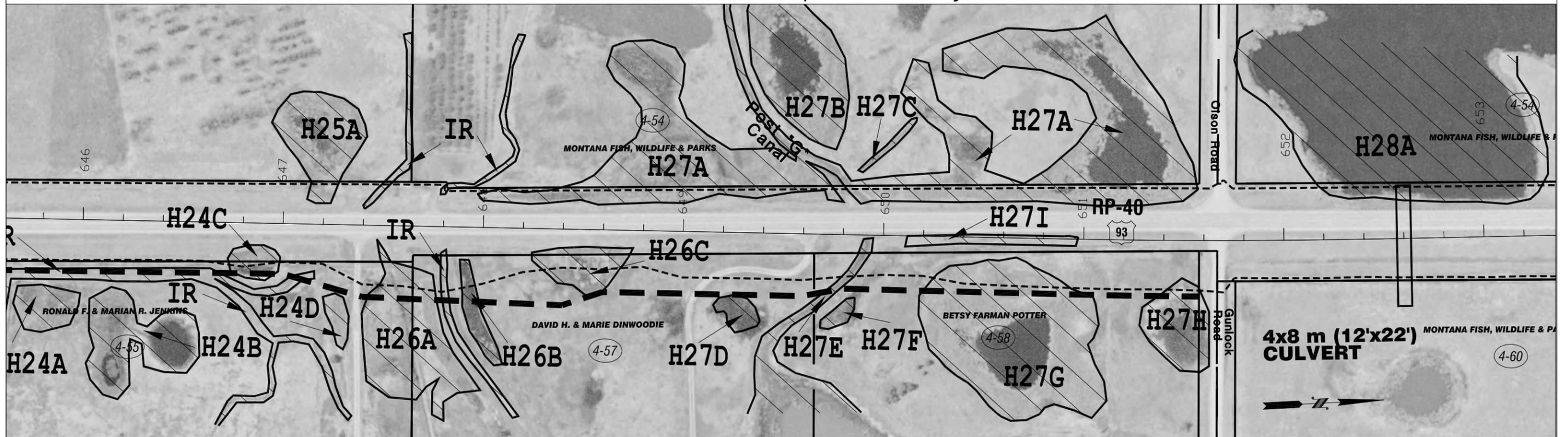
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Preferred Alternative - With Separated Bicycle/Pedestrian Path



Preferred Alternative - With Separated Bicycle/Pedestrian Path



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REFERENCE POST **RP-48**

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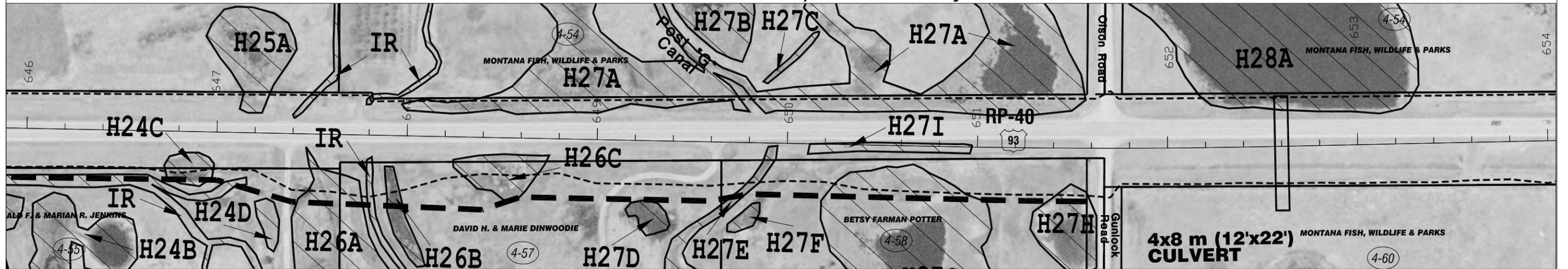
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- Construction Limits
- Proposed ROW

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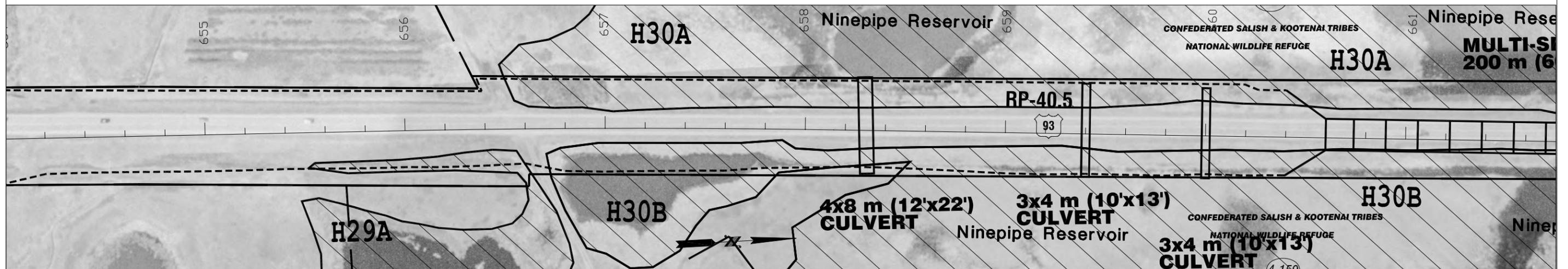
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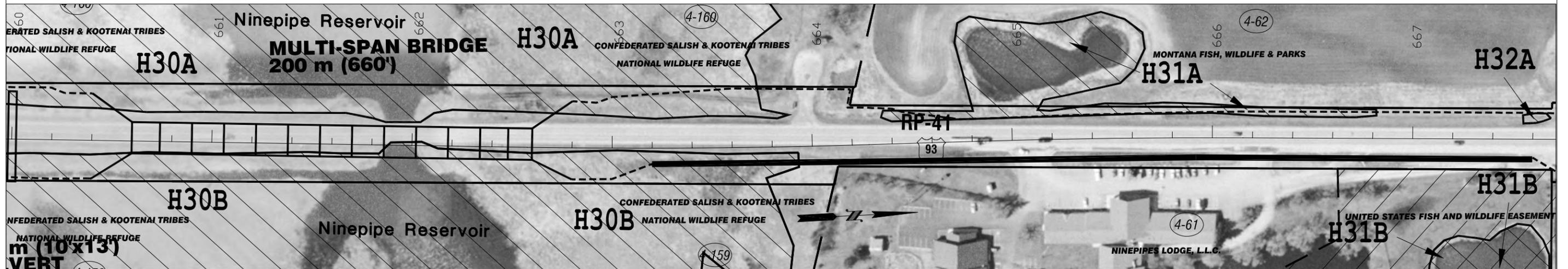
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Preferred Alternative - With Separated Bicycle/Pedestrian Path



Preferred Alternative - With Separated Bicycle/Pedestrian Path



H30B Wetlands ID Number from Table 4.10-2, Characteristics of Wetlands

LEGEND

- Existing ROW
- Construction Limits
- Proposed ROW

DATE:
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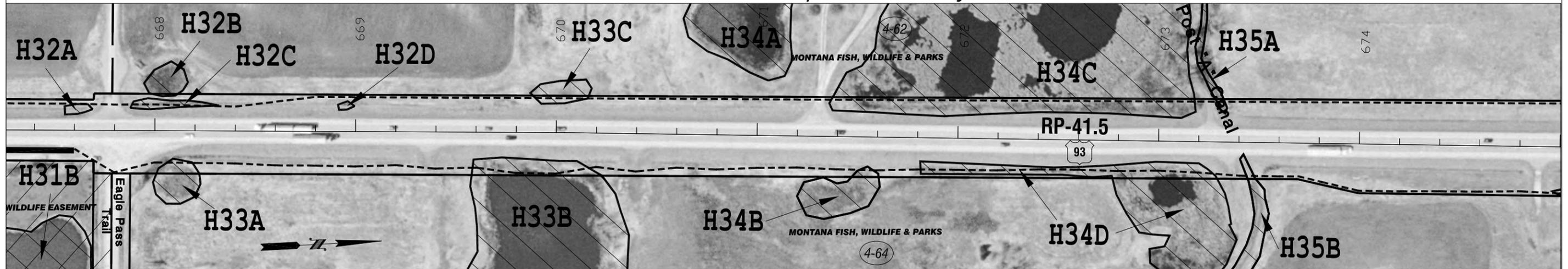
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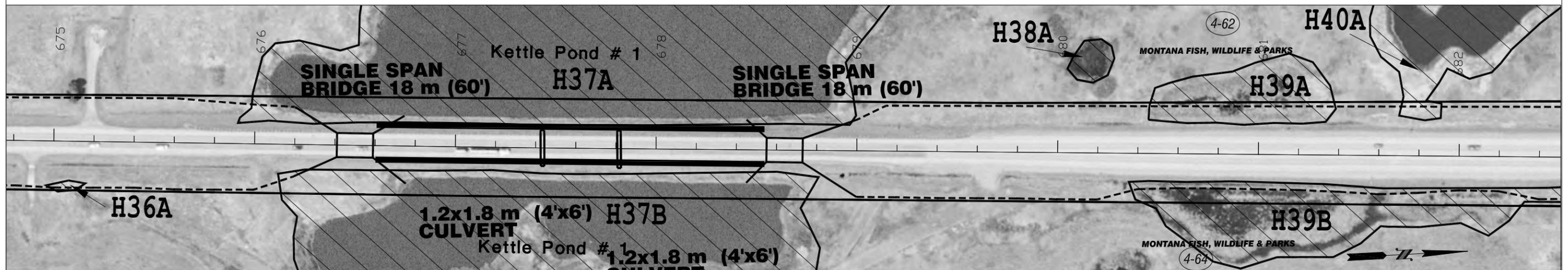
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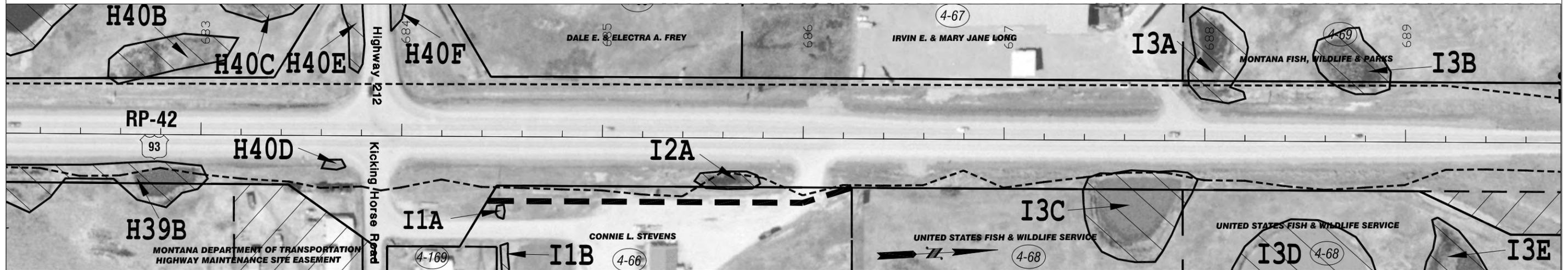
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Preferred Alternative - With Separated Bicycle/Pedestrian Path



Preferred Alternative - With Separated Bicycle/Pedestrian Path



H30B Wetlands ID Number from Table 4.10-2, Characteristics of Wetlands

LEGEND

- Existing ROW
- Construction Limits
- Proposed ROW

DATE:
JUN 2007
SHEET NUMBER
5 OF 11

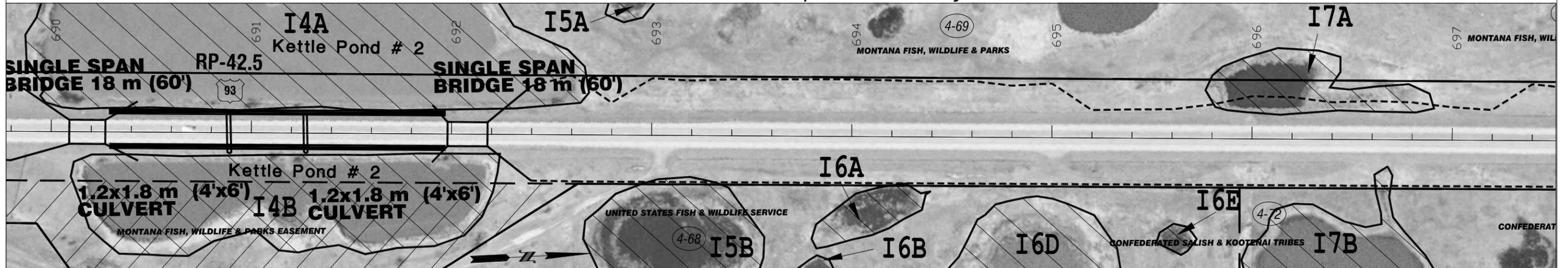
US 93 NINEPIPE/RONAN SEIS
US 93 Ninepipe/Ronan Improvement Project



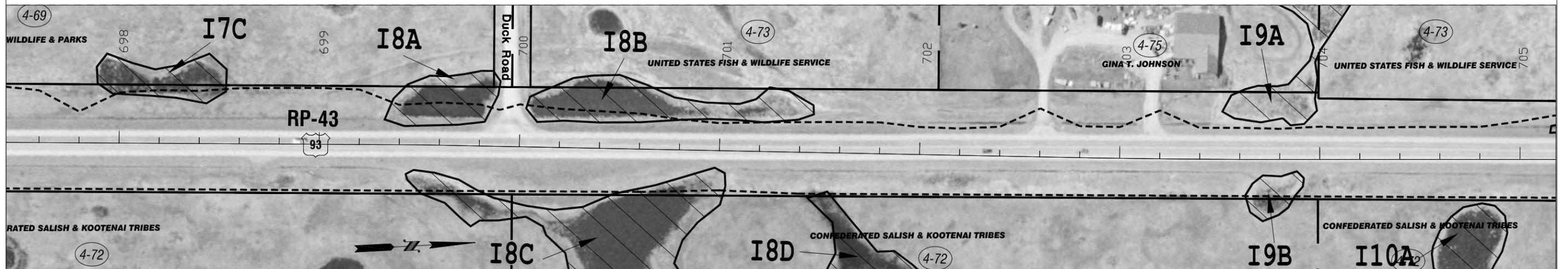
REFERENCE POST **RP-48**



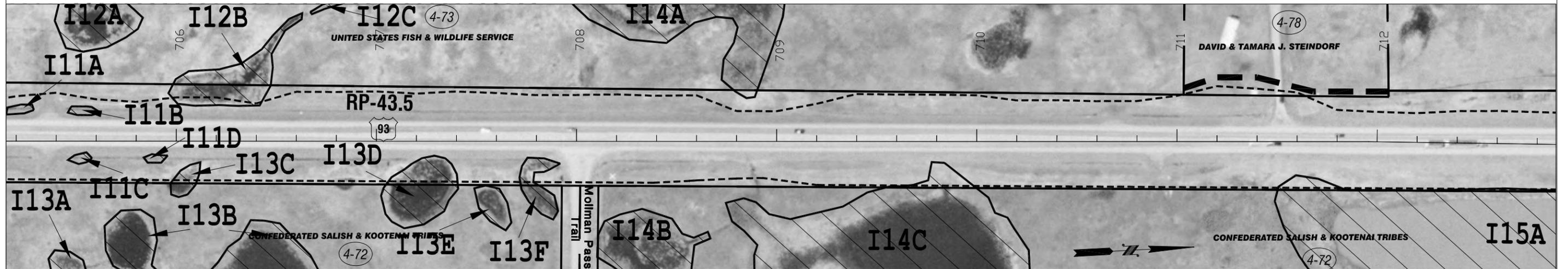
Preferred Alternative - With Separated Bicycle/Pedestrian Path



Preferred Alternative - With Separated Bicycle/Pedestrian Path



Preferred Alternative - With Separated Bicycle/Pedestrian Path



H30B Wetlands ID Number from Table 4.10-2, Characteristics of Wetlands

REFERENCE POST **RP-48**

LEGEND

- Existing ROW
- Construction Limits
- Proposed ROW

DATE:
JUN 2007
SHEET NUMBER
6 OF 11

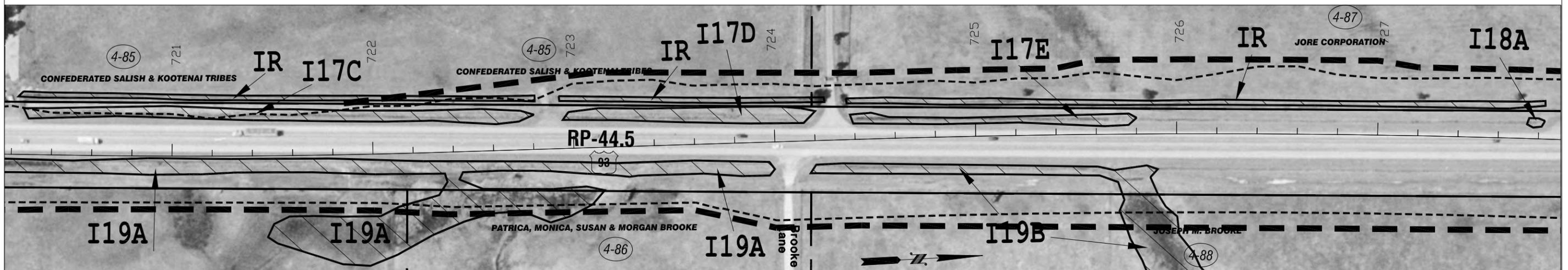
US 93 NINEPIPE/RONAN SEIS
US 93 Ninepipe/Ronan Improvement Project



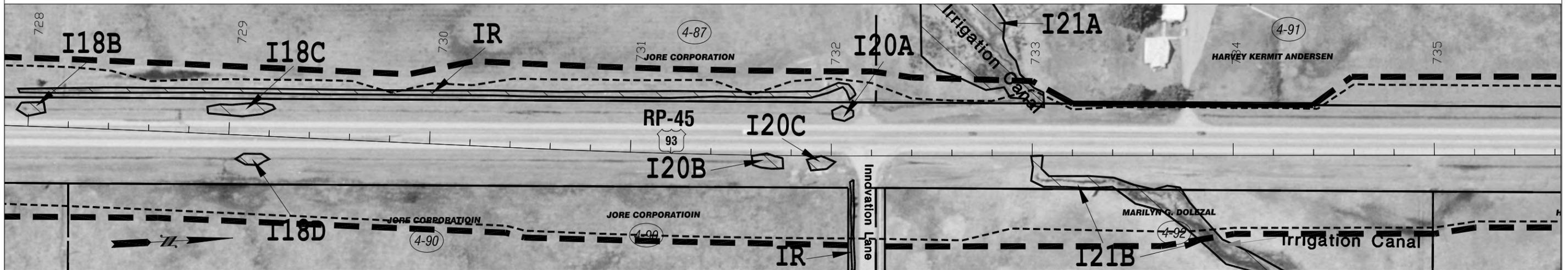
Preferred Alternative - With Separated Bicycle/Pedestrian Path



Preferred Alternative - With Separated Bicycle/Pedestrian Path



Preferred Alternative - With Separated Bicycle/Pedestrian Path



H30B

Wetlands ID Number from Table 4.10-2, Characteristics of Wetlands

LEGEND

- Existing ROW
- Construction Limits
- Proposed ROW

DATE:
JUN 2007
SHEET NUMBER
7 OF 11

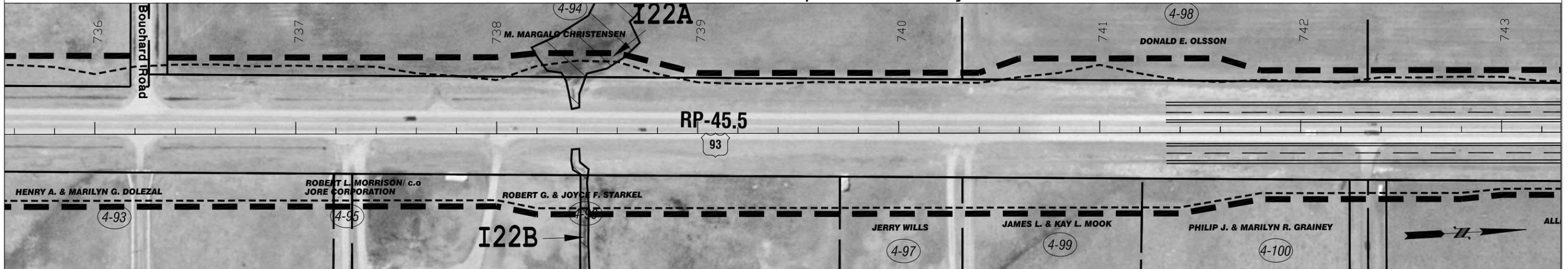
US 93 NINEPIPE/RONAN SEIS
US 93 Ninepipe/Ronan Improvement Project



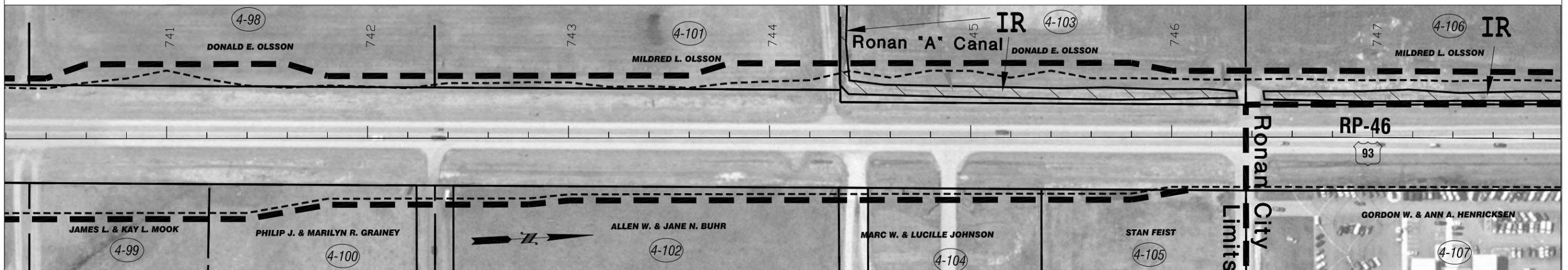
REFERENCE POST **RP-48**



Preferred Alternative - With Separated Bicycle/Pedestrian Path



Preferred Alternative - With Separated Bicycle/Pedestrian Path



Preferred Alternative - With Separated Bicycle/Pedestrian Path



H30B

Wetlands ID Number from Table 4.10-2, Characteristics of Wetlands

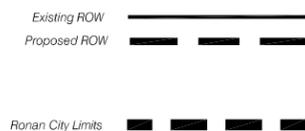


REFERENCE POST RP-48

RURAL LEGEND



RONAN LEGEND



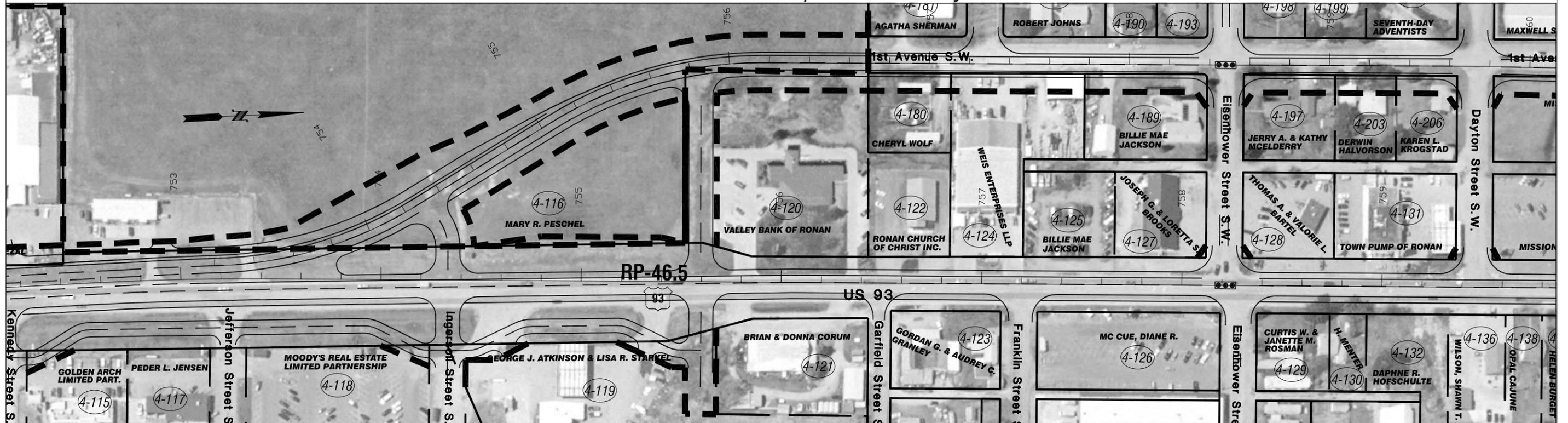
DATE: JUN 2007
SHEET NUMBER 8 OF 11

US 93 NINEPIPE/RONAN SEIS

US 93 Ninepipe/Ronan Improvement Project



Preferred Alternative - With Separated Bicycle/Pedestrian Path



Preferred Alternative - With Separated Bicycle/Pedestrian Path



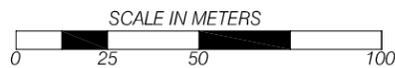
H30B Wetlands ID Number from Table 4.10-2, Characteristics of Wetlands

RONAN LEGEND

- Existing ROW
- Proposed ROW
- Ronan City Limits

DATE:
JUN 2007
SHEET NUMBER
9 OF 11

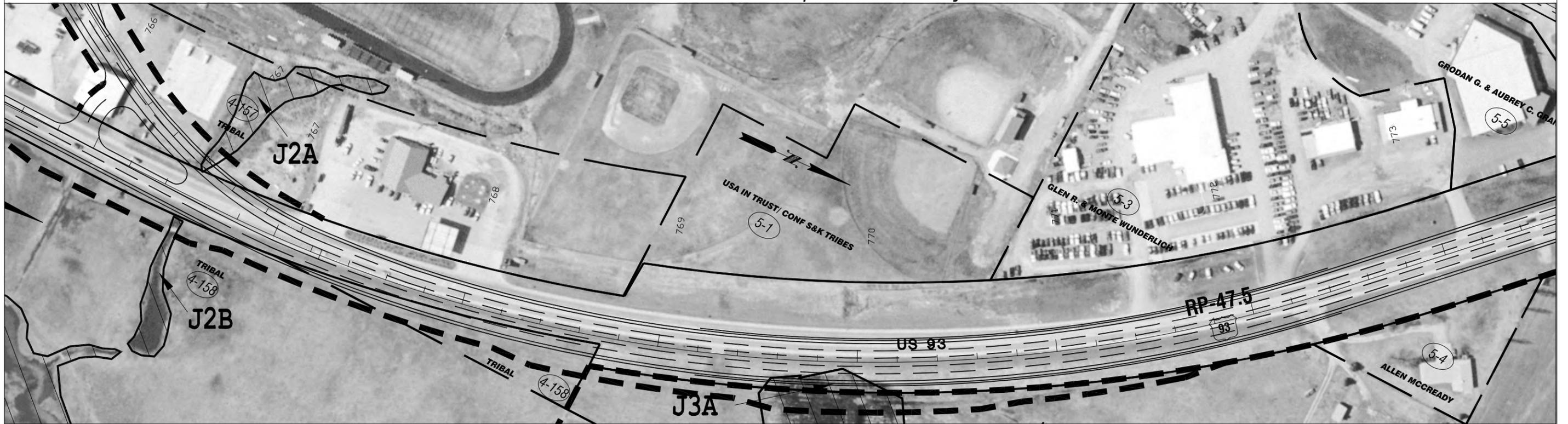
US 93 NINEPIPE/RONAN SEIS
US 93 Ninepipe/Ronan Improvement Project



REFERENCE POST **RP-48**



Preferred Alternative - With Separated Bicycle/Pedestrian Path



Preferred Alternative - With Separated Bicycle/Pedestrian Path



Ronan City Limits

H30B

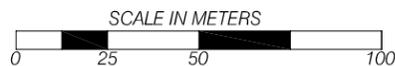
Wetlands ID Number from Table 4.10-2, Characteristics of Wetlands

RONAN LEGEND

Existing ROW
Proposed ROW

DATE:
JUN 2007
SHEET NUMBER
10 OF 11

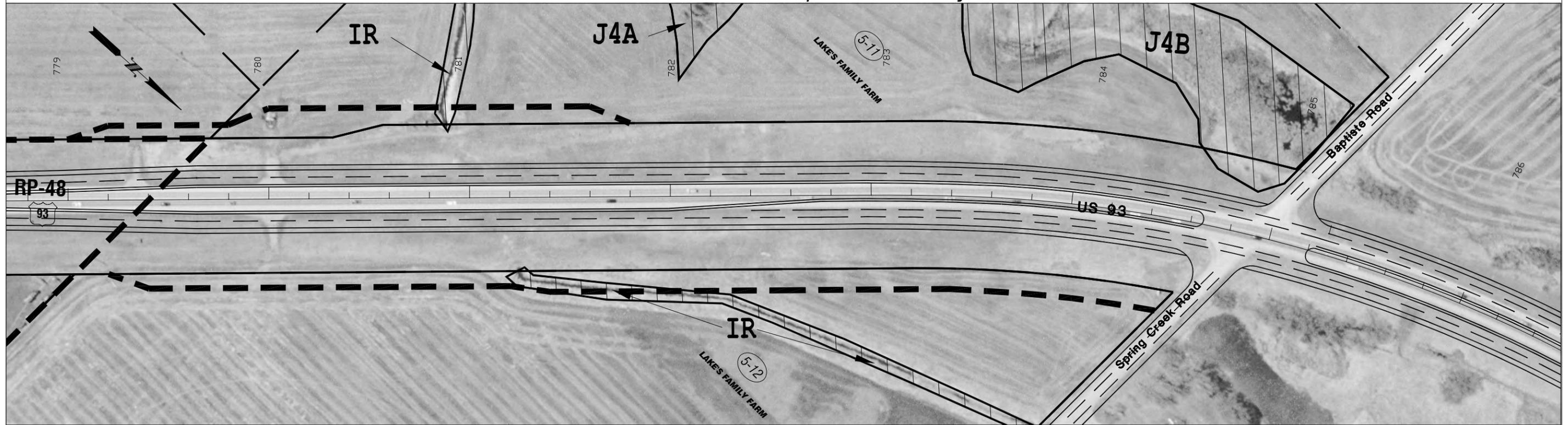
US 93 NINEPIPE/RONAN SEIS
US 93 Ninepipe/Ronan Improvement Project



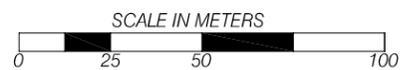
REFERENCE POST **RP-48**



Preferred Alternative - With Seperated Bicycle/Pedestrian Path



Ronan City Limits



H30B Wetlands ID Number from Table 4.10-2, Characteristics of Wetlands

REFERENCE POST **RP-48**

LEGEND
Existing ROW
Proposed ROW

DATE:
JUN 2007
SHEET NUMBER
11 OF 11

US 93 NINEPIPE/RONAN SEIS
US 93 Ninepipe/Ronan Improvement Project



APPENDIX F

Table of Impacts on Individual Wetlands

US 93 SEIS Study
Wetlands - Permanent and Temporary Impacts (acres)

Wetland ID	Rural 1		Rural 2		Rural 3		Rural 4		Rural 5		Rural 6		Rural 7		Rural 8		Rural 9		Rural 10	
	Perm	Temp																		
I 6 D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
I 7 A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.4	0.2	0.2	0.4	0.1	0.2	0.2
I 7 B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 7 C	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.0	0.1
I 8 A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.2	0.1	0.2	0.1	0.1
I 8 B	0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.1	0.4	0.0	0.5	0.2	0.2	0.4	0.1	0.1	0.4
I 8 C	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.1	0.2	0.3	0.1	0.1	0.1
I 8 D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 9 A	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.1	0.1	0.0	0.2
I 9 B	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0
I 10 A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
I 11 A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 11 B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 11 C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 11 D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 12 B	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1
I 13 B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 13 C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 13 D	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1
I 13 E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
I 13 F	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
I 14 A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 14 B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 14 C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.3	0.0	0.0
I 15 A	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.2	0.0	0.1	0.5	0.2	0.0	0.1
I 16 A CC	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.1	0.3	0.0	0.2
I 16 B CC	0.1	0.5	0.1	0.5	0.1	0.5	0.1	0.5	0.1	0.5	0.1	0.5	0.0	0.7	0.2	0.5	0.3	0.4	0.1	0.5
I 17 A	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1
I 17 B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 17 C	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.2	0.0	0.3	0.2	0.2	0.3	0.0	0.1	0.2
I 17 D	0.1	0.1	0.1	0.1	0.2	0.0	0.2	0.0	0.1	0.1	0.1	0.1	0.2	0.0	0.2	0.0	0.2	0.0	0.1	0.1
I 17 E	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0
I 18 A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 18 B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 18 C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 18 D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 19 A	0.9	0.0	0.9	0.0	0.9	0.2	0.9	0.2	0.9	0.0	0.9	0.0	0.9	0.0	0.9	0.1	1.1	0.1	0.9	0.0
I 19 B	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.0	0.2	0.1	0.2	0.1	0.1	0.2
I 20 A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 20 B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 20 C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I 21 A	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1
I 21 B	0.1	0.0	0.1	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.2	0.0	0.2	0.0
I 22 A	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
I 22 B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	14.8	17.0	14.9	16.9	15.5	16.8	16.1	16.2	15.8	18.2	15.4	11.7	21.4	18.8	17.6	29.8	15.6	15.1	17.0	32.1
Total Perm and Temp	31.8		31.8		32.3		32.3		32.6		33.6		33.1		36.4		45.4		32.1	

APPENDIX G

Farmland Conversion Impact Rating Forms

**FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS**

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request	12/15/04	4. Sheet 1 of 4
1. Name of Project	US 93-Ninepipe/Ronan Improvement Project	5. Federal Agency Involved	USDOT - FHWA	
2. Type of Project	Highway right-of-way	6. County and State	Lake County, Missouri	

PART II (To be completed by NRCS)		1. Date Request Received by NRCS	12/29/04	2. Person Completing Form	Neal R. Svendsen
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form).		YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	4. Acres Irrigated	110,000
5. Major Crop(s)		6. Farmable Land in Government Jurisdiction	Acres: 289,200	Average Farm Size	590 ac
8. Name Of Land Evaluation System Used		7. Amount of Farmland As Defined in FPPA	Acres: 280,511	%	38.3
Productivity Index From Soil Survey		9. Name of Local Site Assessment System	N/A	10. Date Land Evaluation Returned by NRCS	1/5/05

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment				
	Rural 1	Rural 2	Rural 3	Rural 4	
	A. Total Acres To Be Converted Directly	30	31	42	42
	B. Total Acres To Be Converted Indirectly, Or To Receive Services	0	0	0	0
C. Total Acres In Corridor	30	31	42	42	

PART IV (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland	1.1	1.1	1.6	1.6	
B. Total Acres Statewide And Local Important Farmland	28.4	30.3	40.6	40.7	
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.50	0.01	0.015	0.015	
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	90	90	90	90	

PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)					
	17	17	17	17	

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))					
	Maximum Points				
1. Area in Nonurban Use	15	15	15	15	15
2. Perimeter in Nonurban Use	10	9	9	9	9
3. Percent Of Corridor Being Farmed	20	20	20	20	20
4. Protection Provided By State And Local Government	20	0	0	0	0
5. Size of Present Farm Unit Compared To Average	10	10	10	10	10
6. Creation Of Nonfarmable Farmland	25	0	0	0	0
7. Availability Of Farm Support Services	5	5	5	5	5
8. On-Farm Investments	20	20	20	20	20
9. Effects Of Conversion On Farm Support Services	25	0	0	0	0
10. Compatibility With Existing Agricultural Use	10	5	5	5	5
TOTAL CORRIDOR ASSESSMENT POINTS	160	84	84	84	84

PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100	17	17	17	17
Total Corridor Assessment (From Part VI above or a local site assessment)	160	84	84	84	84
TOTAL POINTS (Total of above 2 lines)	260	101	101	101	101

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>
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5. Reason For Selection:

Signature of Person Completing this Part: _____ DATE _____

NOTE: Complete a form for each segment with more than one Alternate Corridor

FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request 12/15/04	4. Sheet 2 of 4
1. Name of Project US 93-Ninepipe/Ronan		5. Federal Agency Involved USDOT - FHWA	
2. Type of Project Highway right-of-way		6. County and State Lake County, Montana	
PART II (To be completed by NRCS)		1. Date Request Received by NRCS	2. Person Completing Form
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES <input type="checkbox"/> NO <input type="checkbox"/>		4. Acres Irrigated Average Farm Size	
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: %	7. Amount of Farmland As Defined in FPPA Acres: %	
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS	

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment			
	Rural 5	Rural 6	Rural 7	Rural 8
A. Total Acres To Be Converted Directly	38	72	43	59
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	38	72	43	59

PART IV (To be completed by NRCS) Land Evaluation Information	Rural 5	Rural 6	Rural 7	Rural 8
A. Total Acres Prime And Unique Farmland	1.6	1.6	1.5	1.3
B. Total Acres Statewide And Local Important Farmland	22.9	69.9	41.8	56.0
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.01	0.025	0.015	0.02
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	90	90	90	90
PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)	17	17	17	17

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))	Maximum Points	Rural 5	Rural 6	Rural 7	Rural 8
1. Area in Nonurban Use	15	15	15	15	15
2. Perimeter in Nonurban Use	10	9	9	9	9
3. Percent Of Corridor Being Farmed	20	20	20	20	20
4. Protection Provided By State And Local Government	20	0	0	0	0
5. Size of Present Farm Unit Compared To Average	10	10	10	10	10
6. Creation Of Nonfarmable Farmland	25	0	0	0	0
7. Availability Of Farm Support Services	5	5	5	5	5
8. On-Farm Investments	20	20	20	20	20
9. Effects Of Conversion On Farm Support Services	25	0	0	0	0
10. Compatibility With Existing Agricultural Use	10	5	5	5	5
TOTAL CORRIDOR ASSESSMENT POINTS	160	84	84	84	84

PART VII (To be completed by Federal Agency)	Maximum Points	Rural 5	Rural 6	Rural 7	Rural 8
Relative Value Of Farmland (From Part V)	100	17	17	17	17
Total Corridor Assessment (From Part VI above or a local site assessment)	160	84	84	84	84
TOTAL POINTS (Total of above 2 lines)	260	101	101	101	101

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>
5. Reason For Selection:			

Signature of Person Completing this Part: _____

DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request	12/15/04	4. Sheet <u>3</u> of <u>4</u>
1. Name of Project US 93-Ninepipe/Ronan		5. Federal Agency Involved USDOT - FHWA		
2. Type of Project Highway right-of-way		6. County and State Lake County, Montana		
PART II (To be completed by NRCS)		1. Date Request Received by NRCS	2. Person Completing Form	
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form).		YES <input type="checkbox"/> NO <input type="checkbox"/>		4. Acres Irrigated Average Farm Size
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: %		7. Amount of Farmland As Defined in FPPA Acres: %	
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System		10. Date Land Evaluation Returned by NRCS	

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment			
	Rural 1	Rural 1B (PPA)	Ronan 1	Ronan 2
A. Total Acres To Be Converted Directly	89	38	8	7
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	89	38	8	7

PART IV (To be completed by NRCS) Land Evaluation Information	Rural 1	Rural 1B (PPA)	Ronan 1	Ronan 2
A. Total Acres Prime And Unique Farmland	2.6	1.6	1.4	1.3
B. Total Acres Statewide And Local Important Farmland	35.0	14.8	6.1	5.7
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.01	0.006	0.003	0.002
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	90	90	90	90
PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)	17	17	17	17

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))	Maximum Points	Rural 1	Rural 1B (PPA)	Ronan 1	Ronan 2
1. Area in Nonurban Use	15	15	15	10	10
2. Perimeter in Nonurban Use	10	9	9	6	6
3. Percent Of Corridor Being Farmed	20	20	20	20	20
4. Protection Provided By State And Local Government	20	0	0	0	0
5. Size of Present Farm Unit Compared To Average	10	10	10	10	10
6. Creation Of Nonfarmable Farmland	25	0	0	0	0
7. Availability Of Farm Support Services	5	5	5	5	5
8. On-Farm Investments	20	20	20	20	20
9. Effects Of Conversion On Farm Support Services	25	0	0	0	0
10. Compatibility With Existing Agricultural Use	10	5	5	5	5
TOTAL CORRIDOR ASSESSMENT POINTS	160	84	84	76	76

PART VII (To be completed by Federal Agency)	Rural 1	Rural 1B (PPA)	Ronan 1	Ronan 2
Relative Value Of Farmland (From Part V)	100	17	17	17
Total Corridor Assessment (From Part VI above or a local site assessment)	160	84	84	76
TOTAL POINTS (Total of above 2 lines)	260	101	101	93

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>
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5. Reason For Selection:

Signature of Person Completing this Part:

DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request	12/15/04	4. Sheet <u>4</u> of <u>4</u>
1. Name of Project US 93-Ninepipe/Ronan		5. Federal Agency Involved USDOT - FHWA		
2. Type of Project Highway right-of-way		6. County and State Lake County, Montana		
PART II (To be completed by NRCS)		1. Date Request Received by NRCS	2. Person Completing Form	
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form).		YES <input type="checkbox"/>	NO <input type="checkbox"/>	4. Acres Irrigated Average Farm Size
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: _____ %	7. Amount of Farmland As Defined in FPPA Acres: _____ %		
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS		

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment			
	Ronan 3	Ronan 4 (PPA)	Ronan 5	
A. Total Acres To Be Converted Directly	11	11	3	
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	11	11	3	0

PART IV (To be completed by NRCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	1.5	1.5	0.8	
B. Total Acres Statewide And Local Important Farmland	9.2	9.7	2.7	
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.004	0.004	0.001	
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	90	90	90	

PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)				
	17	17	17	F

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))		Maximum Points			
1. Area in Nonurban Use	15	10	10	10	
2. Perimeter in Nonurban Use	10	6	6	6	
3. Percent Of Corridor Being Farmed	20	20	20	20	
4. Protection Provided By State And Local Government	20	0	0	0	
5. Size of Present Farm Unit Compared To Average	10	10	10	10	
6. Creation Of Nonfarmable Farmland	25	0	0	0	
7. Availability Of Farm Support Services	5	5	5	5	
8. On-Farm Investments	20	20	20	20	
9. Effects Of Conversion On Farm Support Services	25	0	0	0	
10. Compatibility With Existing Agricultural Use	10	5	5	5	
TOTAL CORRIDOR ASSESSMENT POINTS	160	76	76	76	0

PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100	17	17	17	
Total Corridor Assessment (From Part VI above or a local site assessment)	160	76	76	76	0
TOTAL POINTS (Total of above 2 lines)	260	93	93	93	

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>
5. Reason For Selection:			

Signature of Person Completing this Part: _____

DATE _____

NOTE: Complete a form for each segment with more than one Alternate Corridor

APPENDIX H

Ronan Regional Air Quality Analysis

**US 93 Supplemental Environmental Impact Statement
Ninepipe/Ronan Improvement Project
Lake County, Montana**

Regional and Hotspot Air Quality Analysis

Background

This appendix documents the detailed air quality analysis to satisfy three requirements of the Clean Air Act and Federal Highway Administration (FHWA) guidance: a mobile source air toxics analysis, a regional emissions analysis for transportation conformity, and a PM₁₀ hotspot analysis for transportation conformity.

The 1996 US 93 Evaro-Polson Final Environmental Statement and Section 4(f) Evaluation contains a Polson and Ronan Conformity Determination. A finding of conformity was made by FHWA on January 31, 1996, based on the analysis contained in a November 24, 1995, Montana Department of Transportation (MDT) memorandum.

In addition to a regional emissions analysis, the conformity rule requires a project-level hotspot analysis for PM₁₀, in order to determine whether localized violations of the PM₁₀ standard are likely. This appendix includes a hot-spot analysis and a revised conformity analysis based on the preferred alternative for improvement of US 93 through Ronan.

Acronyms Used

ADT – average daily traffic

DHV – design hour volume

DVMT – daily vehicle miles of travel

MSATs – mobile source air toxics

PM₁₀ – particulate matter of 10 microns or smaller

PA – preferred alternative

VMT – vehicle miles of travel

Mobile Source Air Toxics (MSAT) Analysis

In 2006, FHWA released its *Interim Guidance on Air Toxic Analysis in NEPA Documents*. This guidance spells out procedures for analysis of mobile source air toxics (MSAT) pollutants. Under the guidance, a qualitative analysis of likely MSAT impacts is conducted for roadway projects where the design year traffic volumes are lower than 140,000 vehicles per day. The traffic volumes associated with this project are well below the 140,000 ADT threshold (**see table 4.1-1**). The following discussion documents FHWA's MSAT analysis.

What are Mobile Source Air Toxics?

Mobile Source Air Toxics (MSATs) are compounds in both gaseous and ultra fine particle form emitted from vehicles that travel on highways and non-road equipment like bull dozers, loaders, and diesel generators. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline (EPA420-R-00-023, December 2000).

Health, Federal Regulations and the Reduction of Pollution Over Time

The US Environmental Protection Agency (EPA) is the lead Federal Agency for administering the Clean Air Act and has certain responsibilities regarding the health effects of MSATs (EPA400-F-92-004, August 1994). In 2001 EPA issued a Final Rule on Controlling Emissions of Hazardous Air Pollutants from Mobile Sources (66 FR 17229, March 29, 2001). This rule was issued under the authority in Section 202 of the Clean Air Act, and the rule's preamble provides information regarding the effects and control of MSATs. EPA updated this rule in 2007 (72 FR 8427, February 26, 2007).

In the 2001 rule, EPA listed 21 compounds emitted from motor vehicles that are known or suspected to cause cancer or other serious health effects. EPA identified six of these pollutants as being responsible for most of the adverse health risk, and FHWA refers to these pollutants as the "priority" MSATs. Between 1990 and 2020 EPA predicts that national control programs will reduce on-highway emissions of benzene, formaldehyde, 1,3-butadiene, acrolein, and acetaldehyde by 67 to 87 percent, and will reduce on-highway diesel particulate matter (DPM) emissions by 90 percent. These reductions are due to the benefits of national mobile source control programs, including requirements for reformulated gasoline program, a new cap on the toxics content of gasoline, the national low emission vehicle standards, the Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and the heavy-duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. These are net emission reductions, that is, the reductions that will be experienced even after growth in vehicle miles traveled is taken into account.

National Health and Risk

EPA is in the process of assessing the risks of various kinds of exposures to these pollutants. The EPA Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment. The IRIS database is located at <http://www.epa.gov/iris>. The following toxicity information for the six prioritized MSATs was taken verbatim from the IRIS database *Weight of Evidence Characterization* summaries and represents the EPA's most current evaluations of the potential hazards and toxicology of these chemicals or mixtures.

- Under the proposed revised Carcinogen Risk Assessment Guidelines (U.S. EPA, 1996), **benzene** is characterized as a known human carcinogen.
- Under the Draft Revised Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1999), the potential carcinogenicity of **acrolein** cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.
- **Formaldehyde** is a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.
- Under EPA's 1999 Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1999), **1,3-butadiene** is characterized as carcinogenic to humans by inhalation.
- **Acetaldehyde** is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.
- Using U.S. EPA's revised draft 1999 Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1999), **diesel exhaust** (DE) is likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases.

MSAT Study Limitations and Limitations

This appendix includes a basic analysis of the likely MSAT emission impacts of this project. However, available technical tools do not enable us to predict the project-specific health impacts of the emission changes associated with the alternatives in this report. Due to these limitations, the following discussion is included in accordance with CEQ regulations (40 CFR 1502.22(b)) regarding incomplete or unavailable information:

Information that is Unavailable or Incomplete. Evaluating the environmental and health impacts from MSATs on a proposed highway project would involve several key elements, including emissions modeling, dispersion modeling in order to estimate ambient concentrations resulting from the estimated emissions, exposure modeling in order to estimate human exposure to the estimated concentrations, and then final determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the MSAT health impacts of this project.

- **Emissions:** The EPA tools to estimate MSAT emissions from motor vehicles are not sensitive to key variables determining emissions of MSATs in the context of highway projects. While MOBILE 6.2 is used to predict emissions at a regional level, it has limited applicability at the project level. MOBILE 6.2 is a trip-based model--emission factors are projected based on a typical trip of 7.5 miles, and on average speeds for this typical trip. This means that MOBILE 6.2 does not have the ability to predict emission factors for a specific vehicle operating condition at a specific location at a specific time. Because of this limitation, MOBILE 6.2 can only approximate the operating speeds and levels of congestion likely to be present on the largest-scale projects, and cannot adequately capture emissions effects of smaller projects. For particulate matter, the model results are not sensitive to average trip speed, although the other MSAT emission rates do change with changes in trip speed. Lastly, in its discussions of PM under the conformity rule, EPA has identified problems with MOBILE6.2 as an obstacle to quantitative analysis.

These deficiencies compromise the capability of MOBILE 6.2 to estimate MSAT emissions. MOBILE 6.2 is an adequate tool for projecting emissions trends, and performing relative analyses between alternatives for very large projects, but it is not sensitive enough to capture the effects of travel changes tied to smaller projects or to predict emissions near specific roadside locations.

- **Dispersion.** The tools to predict how MSATs disperse are also limited. The EPA's current regulatory models, CALINE3 and CAL3QHC, were developed and validated more than a decade ago for the purpose of predicting episodic concentrations of carbon monoxide to determine compliance with the NAAQS. The performance of dispersion models is more accurate for predicting maximum concentrations that can occur at some time at some location within a geographic area. This limitation makes it difficult to predict accurate exposure patterns at specific times at specific highway project locations across an urban area to assess potential health risk. The National Cooperative Highway Research Program (NCHRP) is conducting research on best practices in applying models and other technical methods in the analysis of MSATs. This work also will focus on identifying appropriate methods of documenting and

communicating MSAT impacts in the NEPA process and to the general public. Along with these general limitations of dispersion models, FHWA is also faced with a lack of monitoring data in most areas for use in establishing project-specific MSAT background concentrations.

- **Exposure Levels and Health Effects.** Finally, even if emission levels and concentrations of MSATs could be accurately predicted, shortcomings in current techniques for exposure assessment and risk analysis preclude us from reaching meaningful conclusions about project-specific health impacts. Exposure assessments are difficult because it is difficult to accurately calculate annual concentrations of MSATs near roadways, and to determine the portion of a year that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for 70-year cancer assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over a 70-year period. There are also considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population. Because of these shortcomings, any calculated difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with calculating the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against other project impacts that are better suited for quantitative analysis.

Relevance of Unavailable or Incomplete Information to Evaluating Reasonably Foreseeable Significant Adverse Impacts on the Environment, and Evaluation of Impacts Based upon Theoretical Approaches or Research Methods Generally Accepted in the Scientific Community.

Because of the uncertainties outlined above, a quantitative assessment of the effects of air toxic emissions impacts on human health cannot be made at the project level. While available tools do allow us to reasonably predict relative emissions changes between alternatives for larger projects, the amount of MSAT emissions from each of the project alternatives and MSAT concentrations or exposures created by each of the project alternatives cannot be predicted with enough accuracy to be useful in estimating health impacts. Therefore, the relevance of the unavailable or incomplete information is that it is not possible to make a determination of whether any of the alternatives would have "significant adverse impacts on the human environment."

To date, EPA has not issued specific health impacts based emissions or exposure level standards. They also have not provided national project level guidelines or guidance to study MSATs under various climatic and geographic situations. Such limitations make the study of MSAT concentrations, exposures, and health impacts difficult and uncertain. Thus, accurate and reliable estimates of actual human health or environmental impacts from transportation projects and

mobile source air toxics are not scientifically possible at this time. EPA has also not established toxicity factors for diesel particulate matter, although one study asserts that this pollutant accounts for a large portion of MSAT health risk in certain situations, using toxicity factor that is unique to California.

The analysis of air toxic emissions is an emerging field. The U.S. Department of Transportation (US DOT) and EPA are currently working to develop and evaluate the technical tools necessary to perform air toxics analysis, including improvements to emissions models and air quality dispersion models. Limitations with the existing modeling tools preclude performing the same level of analysis that is typically performed for other pollutants, such as carbon monoxide. FHWA's ongoing work in air toxic emissions includes a research program to determine and quantify the contribution of mobile sources to air toxic emissions, the establishment of policies for addressing air toxics in environmental reports, and the assessment of scientific literature on health impacts associated with motor vehicle toxic emissions.

Project Level MSAT Emissions Impacts

This project is designed to provide additional roadway capacity to address future growth in traffic volumes. Because most of the project corridor is rural in nature and serves travel between different locations in Montana, the project improvements are not expected to result in a difference in total traffic volumes between the No-Action and preferred alternatives.

MSAT emissions are generally sensitive to vehicle speed, with higher emissions rates associated with low speeds. The congestion relief benefits of this project **(see Table 5.1-6)** significantly improve future speeds in Ronan, resulting in lower MSAT emissions. Traffic signals will be installed in up to four locations in the future as traffic signal warrants are met; these signals will create some vehicle idling, which would increase MSAT emissions compared to unsignalized intersections. However, signals would likely be needed in the future under the No-Action Alternative as well.

The couplet design, because it divides the total traffic volume onto two separate roadways, will tend to increase emissions along First Avenue SW and decrease emissions along the existing Highway US 93 corridor relative to the No-Action Alternative. The one-way street design associated with the couplet will also reduce idling time associated with vehicles waiting for opportunities to make left turns. Finally, the wide buffers associated with Alternative Ronan 4 (PA) will result in lower concentrations of MSATs and other pollutants on the sidewalks, reducing exposure to these pollutants.

Regardless of which alternative is chosen, FHWA expects lower MSAT emissions in the future due to EPA's national vehicle and fuel control programs, as noted above.

Regional PM₁₀ Analysis

Since Ronan is a rural PM₁₀ nonattainment area and does not have a state implementation plan (SIP) with emissions budgets for transportation conformity, FHWA's project-level conformity determination for the project must be accompanied by a regional emissions analysis demonstrating that emissions resulting from construction of the project, along with emissions from existing roadways, must be no greater than 1) emissions associated with not building the project (e.g., the No-Action alternative) or 2) emissions in calendar year 1990. The first option was chosen for this analysis. The analysis years include 2030 (the horizon year of the recently-updated statewide transportation plan, 2012 (near-term year), and 2020 (interim year).

A series of observations and calculations have been used in this analysis. Since Ronan is a small community with no regular program of traffic counts, collector and local street VMT have been projected using population and VMT data from Columbia Falls, which is a nearby PM₁₀ area with permanent traffic count stations. US 93 VMT was calculated directly from data in the EIS. Information on PM₁₀ emissions was taken from the recent Missoula conformity determination, since it represents the most recent conformity determination in the western part of Montana.

General requirements: Latest planning assumptions: This analysis relies on the most recent available data for the Ronan area. In some cases data for other locations have been substituted because such data are not collected in Ronan (for example, road dust emissions factors). In many cases, the data in the SEIS represent the latest planning assumptions for the area, since it is the most recent analysis conducted for the area.

General requirements: Latest emissions model: The motor vehicle exhaust, brake and tire wear emissions rates are based on EPA's MOBILE6.2 emissions model and inputs appropriate for Ronan. In some cases, national defaults were used in the model (e.g., age distributions, fleet mix) because local Ronan data were not available. The road dust emissions rates are based on factors from Missoula, which in turn are based on EPA's latest AP42 emission factors.

Step 1: Calculate 2000 Ronan Collector and Local VMT Based on Columbia Falls VMT

This information was calculated by the Montana Department of Transportation from three permanent traffic counters in Columbia Falls and prorated to Ronan by population.

	2000 Population	2000 Collector DVMT	2000 Local DVMT
Columbia Falls	3645	40953	30255
Ronan	1812	20359	15040

Step 2: Adjust to 2012, 2020 and 2030 VMT

The 2000 daily VMT estimates were grown to represent future values based on the 2.8 percent annual traffic growth rate used in the SEIS (page 2-12 of the draft SEIS)

	2000 Ronan VMT	Annual Growth Factor	2012 Ronan VMT	2020 Ronan VMT	2030 Ronan VMT
Collector	20359	.028	27200	31760	37461
Local	15040	.028	20093	23462	27674

Step 3: Calculate Ronan 2012, 2020 and 2030 Collector and Local Emissions

Since Ronan is a Tribal nonattainment area and has not generated road dust emissions estimates for use in SIP development, emission rates were taken from the most recent Missoula conformity analysis. These emission rates are based on the latest version of EPA's AP42 emission factor equations for estimating road dust emissions. Road dust rates are the "unwashed sand" rates from Missoula, which were considered most representative of conditions in Ronan. Emissions rates for vehicle exhaust, brake and tire wear for calendar years 2012, 2020 and 2030 were generated using the MOBILE6.2 emissions model.

Emission rates	Collectors lb/VMT	Locals lb/VMT
Road dust	0.02336	0.03040
Exhaust/brake/tire wear (2012)	0.00008	0.00008
Exhaust/brake/tire wear (2020)	0.00006	0.00006
Exhaust/brake/tire wear (2030)	0.00006	0.00006
Total emissions lb/day (2012)	637.6	612.4
Total emissions lb/day (2020)	743.8	714.7
Total emissions lb/day (2030)	877.3	842.9

In addition, a 1991 air quality analysis for Ronan included an emissions estimate of 144.4 pounds per day for unpaved streets. According to EPA's AP42 emissions inventory guidance, these estimates include vehicle exhaust, brake

and tire wear at 1980 emissions rates, which are conservative (high) compared to emissions in the calendar years examined in the current analysis. The 1991 estimate was adjusted upward to reflect future travel activity using the 2.8 percent traffic growth rate from the SEIS:

2012 PM₁₀ from unpaved Ronan streets = 229.4 lb/day
 2020 PM₁₀ from unpaved Ronan streets = 261.8 lb/day
 2030 PM₁₀ from unpaved Ronan streets = 302.3 lb/day

Step 4: Calculate US 93 Emissions in 2012, 2020 and 2030

Calendar year 2000 traffic volumes from table 4.1-1 of the SEIS were used in conjunction with the corridor traffic growth rate to calculate future year emissions from US 93 itself. To be conservative, the highest reported design hour volume (1710 vehicles per hour) was used.

Assumptions:

DHV = 10 percent of ADT
 Growth rate for US 93 = 2.8 percent per year

2000 ADT = 10 (2000 DHV) = 17100 vehicles per day
 2012 ADT = 22846 vehicles/day
 2020 ADT = 26676 vehicles/day
 2030 ADT = 31464 vehicles/day

Emissions are determined based on VMT, not ADT, so the lengths of the various roadway segments need to be applied to calculate daily VMT. The VMT estimates for the couplet sections are estimated separately to account for the application of mitigation in the build scenario (see below). The ADT estimates are divided by two for the one-way couplet sections.

Segment	Length, mi	2012 VMT	2020 VMT	2030 VMT
South Corporate Limits to Garfield St	0.5	11423	13338	15732
SB Couplet	0.53	6054	7069	8338
NB Couplet	0.49	5597	6536	7709
Round Butte Road to North Corporate Limits	0.25	5711	7866	7866

The preferred alternative (PA) is a couplet through Ronan. The PA and all other alternatives would improve the existing highway by replacing existing curbs, gutters, paved shoulders, and approaches. The PA also adds these improvements to First Avenue SW. Curbs, gutters, paved shoulders, and approaches will be added in these areas:

South Corporate Limits to Garfield Street
 SB Couplet Round Butte Rd to Garfield
 Round Butte Rd to North Corporate Limits

These improvements will substantially reduce carry-on or background emissions caused by vehicles tracking road dust from adjacent unpaved surfaces onto the highway.

Previous regional analyses and conformity determinations in Kalispell and Whitefish have estimated a conservative 60 percent reduction in background emissions attributable to similar design features based on information provided by the Montana Department of Environmental Quality (formerly the Montana Department of Health and Environmental Sciences). Emissions (based on 0.02025 lb/VMT from 11/24/95 Conformity Analysis) and expected reductions would be:

Segment	2012		2020		2030	
	No Action	Build	No Action	Build	No Action	Build
South Corporate Limits to Garfield St	234.2	93.7	273.4	109.4	322.5	129.0
SB Couplet	124.1	49.6	144.9	58.0	170.9	68.4
NB Couplet	114.7	114.7	134.0	134.0	158.0	158.0
Round Butte Rd to North Corporate Limits	117.1	46.8	161.3	64.5	161.3	64.5
Total US 93 emissions	590.1	304.9	713.6	365.8	812.7	419.9

Step 5: Assemble Regional Emissions Analysis

Source	2012		2020		2030	
	No Action	Build	No Action	Build	No Action	Build
US 93 emissions	590.1	304.9	713.6	365.8	812.7	419.9
Collectors	637.6	637.6	743.8	743.8	877.3	877.3
Locals	612.4	612.4	714.7	714.7	842.9	842.9
Unpaved Roads	229.4	229.4	261.8	261.8	302.3	302.3
Total	2069.5	1784.3	2433.9	2086.1	2835.2	2442.4

The regional emissions analysis shows that emissions associated with building the project in each year are lower than emissions associated with the No-Action Alternative, thus satisfying the conformity test that emissions in the build scenario be no greater than emissions in no-build.

Qualitative PM₁₀ Hot Spot Analysis

The qualitative analysis follows the March 2006 EPA/FHWA guidance, “*Transportation Conformity Guidance for Qualitative Hot-spot Analysis in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas.*” The guidance requires that PM₁₀ hotspot analyses address the following elements:

- o Description of project (location, design and scope; date project is expected to be open)
- o Description of existing conditions and changes resulting from project
- o Contributing Factors
 - o Air Quality
 - o Transportation and traffic conditions
 - o Built and natural environment
 - o Meteorology, climate and seasonal data
 - o Adopted emissions control measures
- o Description of analysis method chosen
- o Description of type of emissions considered in the analysis (e.g., exhaust, road dust, construction emissions)
- o Description of analysis years; consider full time frame of area’s LRTP, and examine year or years in which emissions are expected to peak
- o Professional judgment of impact
- o Discussion of any mitigation measures
- o Written commitments for mitigation
- o Conclusion on how project meets 40 CFR 93.116 and 93.123

Section 93.123(b)(1) of the conformity rule only requires PM hotspot analysis for “projects of air quality concern”, which are generally defined as projects which feature a large volume of diesel traffic. However, this provision does not apply in Montana; the state of Montana conformity requirements are based on an older version of the federal transportation conformity rule and do not reflect this provision. Thus, PM hotspot analyses are required for all non-exempt federal projects in Montana’s PM₁₀ nonattainment and maintenance areas, and the question of whether this project would be considered a “project of air quality concern” is not relevant. Section 93.123(b)(1) of the federal rule will only apply in Montana once the state of Montana conformity requirements have been revised to reflect the most recent federal requirements, and this revision has been approved by EPA.

Description of project (location, design and scope; date project is expected to be open)

This information is included in Part 1 (Summary) of this SEIS, with more detailed discussion in other sections of the SEIS. The differences in project design under the various alternatives are discussed in Part 3 of the SEIS. The PM hotspot analysis covers only the preferred alternative; if some other alternative is

ultimately selected, that alternative will need to comply with the PM hotspot requirement and other project-level conformity requirements prior to issuance of a Record of Decision.

Description of existing traffic conditions and changes resulting from project

This information is included in chapters 4.1 and 5.1 of the SEIS.

Contributing Factors: Air Quality, Transportation and traffic conditions, Built and natural environment, Meteorology, climate and seasonal data, and Adopted emissions control measures

Much of this information is provided in other sections of this SEIS, including section 4.7 (air quality, meteorology, and climate data), sections 4.1 and 5.1 (transportation and traffic data), and sections 4.2 and 5.2 (built and natural environment). The above factors would be largely the same regardless of which alternative is selected, except that roadway configurations and travel speeds would change. Traffic volumes are not expected to change if the project is built. Ronan does not implement any control measures for PM₁₀.

Five emission source categories of priority air pollutants in the project area were identified in the US 93 Evaro to Polson FEIS. These include automobile exhaust from vehicular traffic on roadways, residential heating (typically wood burning), agricultural activities, and road construction. These sources are still active today and industrial sources may be an additional source of emissions (Wahl 2003). Vehicular traffic also generates fugitive particulate emissions by causing small particles of soil and winter sanding material on the roadway to become suspended in the air.

Ronan is a Tribal nonattainment area. No state implementation plan has been developed for the area. The most recent comprehensive air quality emissions inventory for the area was conducted in 1991. This inventory indicated that approximately 80 percent of the PM₁₀ emissions in Ronan were attributable to on-road mobile sources.

PM₁₀ air quality is monitored in Ronan Park. There have been no exceedances of the PM₁₀ standard at this station for the period 2002-2006; the last recorded exceedance was in November 1999. One exceedance per year is allowed under the PM₁₀ standard, so compliance is based on the second highest value. As can be seen from the table below, recent second high values in Ronan are around one third of the 150 microgram per cubic meter PM₁₀ standard.

<u>Year</u>	<u>Readings</u>	<u>1st Max</u>	<u>2nd Max</u>	<u>3rd Max</u>	<u>4th Max</u>
2002	226	55	53	52	46
2003	226	58	52	50	47
2004	159	66	49	48	44
2005	53	61	56	36	33
2006	46	55	48	38	37

Description of analysis method chosen

This analysis uses the “monitor comparison approach” outlined in the March 2006 EPA/FHWA guidance. Under this approach, an air quality monitor is identified that has similar traffic volumes, truck activity and surrounding sources and land use as those in the project area, and PM₁₀ monitored air quality from this comparison monitor is used to evaluate the likely PM₁₀ conditions in the project area.

FHWA reviewed calendar year 2005 air quality and traffic data in two nearby communities where PM₁₀ is monitored (Kalispell and Missoula). 2005 was chosen as it is the latest year for which traffic counts have been published. The monitor locations were identified, and then traffic counts on nearby streets were summarized. The comparison is discussed in more detail below.

This comparison assumes that truck travel fractions are the same on all comparison roadways. Complete truck percentage data were not available as part of the SEIS or for the comparison locations. MDT’s 2005 traffic flow map shows that the truck percentages on US highways in Ronan, Kalispell and Missoula are roughly similar, and it was assumed that truck percentages on local streets would also be similar. The one exception is the Missoula Health Department monitor; this monitor is near I-90, which has a much higher truck percentage. Overall, since vehicle exhaust, brake and tire wear emissions are a very small fraction of total PM₁₀ emissions (road dust is by far the major component in Ronan, making up 99.7 percent of total roadway emissions), the assumption that truck percentages are similar would not have any meaningful impact on the monitoring data comparison.

The comparison also assumes land use is similar in the three monitoring locations, when in fact Ronan has a smaller population and correspondingly less development and activity near the monitor than Kalispell or Missoula. The nearby community of Polson also monitors for PM₁₀, and has land use that is more

comparable to Ronan. However, the traffic volumes in Polson are lower than those expected in 2030 in the Ronan area, which prevented use of this monitoring site to evaluate the potential PM₁₀ impacts of the projected traffic volumes in Ronan.

Description of type of emissions considered in the analysis (e.g., exhaust, road dust, construction emissions)

This hotspot analysis includes all sources of direct mobile source emissions, including road dust, tailpipe exhaust, brake and tire wear emissions. The conformity rule only requires consideration of construction emissions in cases where construction activity lasts longer than five years at any individual location, which is not the case for this project.

Description of analysis years

The conformity rule and the EPA/FHWA guidance require that PM hotspot analyses 1) cover the entire timeframe of the area's regional transportation plan, and 2) be based on the year or years in which peak emissions are expected. Ronan is not covered by a metropolitan planning organization and has no regional transportation plan. The air quality analysis for the project was designed to cover the timeframe of the recently-updated TranPlan 21 statewide transportation plan, which has a horizon year of 2030.

In order to identify the year or years of peak emissions, both mobile source trends and trends in background emissions need to be considered. The regional PM₁₀ air quality analysis described in the previous section demonstrates that 2030 is the year of highest emissions from roadways in the nonattainment area. The contribution of background concentrations to total local PM₁₀ concentrations is unknown, so these concentrations were assumed to be constant over time. National control programs to control fine particulate will tend to reduce transport of PM₁₀ into the nonattainment area, but population growth in western Montana will tend to increase background PM₁₀ over time. Therefore, it was concluded that 2030 represents the year of peak emissions.

Professional judgment of impact

As noted above in the regional air quality analysis, the traffic volume on US 93 in Ronan in the expected year of peak emissions (2030) is projected at 31464 vehicles per day. In the monitor comparison approach, FHWA compared this projected traffic volume to current (2005) traffic volumes and PM₁₀ levels in Kalispell and Missoula to determine whether 31464 vehicles per day were likely to lead to a violation of the PM₁₀ standard.

Monitoring data for the Kalispell and Missoula PM₁₀ monitoring sites were obtained from EPA's AirData web site. Maps of the monitor locations were

obtained from Montana DEQ, and traffic volumes near the monitors were determined by reviewing MDT 2005 traffic volume maps. The traffic volumes affecting the monitors are summarized in the following table.

Location/Nearby Streets	Volume	Total Volume
Kalispell (Flathead Electric)		
US 93	16830	
US2	28940	
4th Ave	6000	
Woodland Ave	3190	
2nd St	4460	59420
Missoula (Boyd Park)		
US 93	29260	
Russell St	15020	
Brooks St	23880	
Fairview Ave	4370	
Ernest Ave	930	
South Ave	14400	87860
Missoula (Health Dept.)		
I-90	21850	
Broadway	14140	
Spruce St	5970	
Higgins Ave	14770	
Orange St	16770	
Ryman St	2440	75940

Next, these traffic volumes for 2005 and the 2005 2nd maximum PM₁₀ values were compared to the estimated 2030 traffic volume for US 93 in Ronan.

Monitor Location	City	2005 2nd max PM ₁₀	2005 Traffic Impact	2030 Projected Traffic
Flathead Electric	Kalispell	78	59420	
Boyd Park	Missoula	58	87860	
Health Department	Missoula	52	75940	
Ronan Park	Ronan	56		31464

The monitor locations in Kalispell and Missoula are impacted by much higher traffic volumes than those expected in Ronan in 2030. At the same time, each of these monitor locations is currently measuring PM₁₀ values well below the 150 microgram per cubic meter standard. Therefore, since these higher traffic volumes do not appear to be contributing to violations of the PM₁₀ standard at the Kalispell and Missoula comparison monitors, the lower traffic volume of 31464 vehicles per day in 2030 would not be expected to cause or contribute to a violation of the PM₁₀ standard in Ronan.

In addition to the monitor comparison, there are other factors that contribute to FHWA's conclusion that the project would not be likely to lead to violations of the PM₁₀ standard. First, the regional emissions analysis shows that mobile source PM₁₀ emissions are likely to increase by approximately 40 percent over the timeframe of the air quality analysis. This emissions increase will tend to increase PM₁₀ concentrations over time. However, since current PM₁₀ air quality values at the Ronan monitor are around one third of the PM₁₀ standard, emissions could theoretically almost triple before the area would be at risk of violating the standard.

Also, the design features of the project will tend to reduce PM₁₀ concentrations immediately adjacent to the roadway compared to the No-Action Alternative. The couplet design effectively cuts traffic volumes in half on the affected segments, which will result in lower PM₁₀ concentrations along the central portion of US 93 compared to the No-Action Alternative. Other design elements that will reduce PM₁₀ emissions compared to the No-Action Alternative include surfacing shoulders, adding curbs and gutters, and consolidating and surfacing gravel and dirt approaches. The PA will also pave 1st Avenue SW, which currently has minimal pavement.

Conclusion on how project meets 40 CFR 93.116 and 93.123

FHWA concludes that the preferred alternative will not cause or contribute to a violation of the PM₁₀ standard for the following reasons:

- 1) Monitors in other communities near Ronan are impacted by much higher traffic volumes than those associated with the peak year of the US 93 project in Ronan, and are not violating the PM₁₀ standard.
- 2) Current PM₁₀ values in Ronan are approximately one-third of the PM₁₀ standard, and emissions are not expected to increase enough to lead to a violation.
- 3) The preferred alternative includes design features that will reduce dust trackout and emissions compared to the No-Action Alternative.

Discussion of any mitigation measures; written commitments for mitigation

As noted above, the preferred alternative is not expected to cause or contribute to violations of the PM₁₀ NAAQS. Part of this conclusion is based on the mitigating effects of dust trackout controls. The project includes commitments for design elements that will reduce PM₁₀ emissions, including surfacing shoulders, adding curbs and gutters, and consolidating and surfacing gravel and dirt approaches. The PA will pave First Avenue SW, currently with minimal pavement, as the southbound couplet. These commitments for design improvements are enforceable under section 93.125 of the conformity rule and the Administrative Rules of Montana (ARM 17.8.1402).

APPENDIX I

Duck Road Correspondence

LAKE COUNTY
106 Fourth Avenue East
Polson, Montana 59860

U.S. FISH AND WILDLIFE SERVICE
National Bison Range
132 Bison Range Road
Moiese, Montana 59824

**MONTANA DEPARTMENT OF
FISH, WILDLIFE & PARKS**
Region 1
490 North Meridian Road
Kalispell, Montana 59901

**CONFEDERATED SALISH &
KOOTENAI TRIBES**
P.O. Box 278
Pablo, Montana 59855

August 12, 2005

Ms. Janice W. Brown
Division Administrator
Federal Highway Administration, Montana Division
2880 Skyway Drive
Helena, MT 59602

Mr. Jim Lynch
Director
Montana Department of Transportation
P.O. Box 201001
Helena, MT 59620

**Re: US93 Ninepipe/Ronan Segment Environmental Mitigation – Abandonment
of Duck Road**

Dear Ms. Brown and Mr. Lynch:

The Lake County Board of Commissioners, the U.S. Fish and Wildlife Service – National Bison Range (USFWS), the Montana Department of Fish, Wildlife and Parks (MtFWP), and the Confederated Salish and Kootenai Tribes' (Tribes) Tribal Council requests the consideration of abandoning and restoring Duck Road, as a potential mitigation site for unavoidable impacts to wetlands caused by construction of the US93 Ninepipe/Ronan Improvement Project.

It is our joint understanding that planning for the Ninepipe/Ronan Improvement Project is in the pre-design environmental analysis phase and that you intend to release a draft Supplemental Environmental Impact Statement (SEIS) this year. Two outstanding

issues regarding the Project are mitigation for impacts to wetlands, and mitigation for impacts to wildlife/waterfowl refuges of national, state or local significance. We want you to include the Duck Road concept as one of a suite of potential mitigation projects that will be evaluated during the design and environmental permitting phases of the Project. We want you to include a copy of this letter and a statement in the SEIS acknowledging our joint interest in future utilization of Duck Road as a potential mitigation site.

It is also our joint understanding that further governmental action by Lake County will be required prior to abandoning Duck Road in the event that abandonment is selected by the SEIS decision maker as a component of the preferred alternative. The other government signatories will support Lake County as necessary to comply with the process requirements of Montana Code Annotated §§ 7-14-2601 – 2615 in the event that abandonment is the preferred alternative and we agree on a mutually acceptable conceptual restoration plan.

A synopsis of the Duck Road issue, as we understand it is as follows:

Purpose and Need

Mitigate impacts caused by construction of US93.

Geographic Scope

Abandonment is proposed for a 2.0 mile segment of Duck Road between the easterly intersection with US93 and the westerly intersection with Piedalue Road (boundary between sections 22/23 and 26/27, T. 20N., R. 20W.).

Potential Benefits

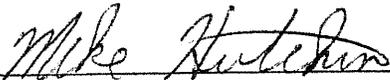
- Eliminate one public road intersection at US93 which yields safety improvements (i.e. access-related accidents) and cost savings (i.e. no auxiliary lanes, no signage, no overhead lighting)
- Eliminate 2.0 miles of road that is inconsistent with predominant land use in the area (i.e. publicly-owned wetland and wildlife habitat)
- Restore full ownership of area underneath Duck Road with USFWS and MtFWP upon abandonment of road right of way by Lake County
- Reduce Lake County maintenance burden/cost for rural road that is used sparingly
- Procure road-building and wetlands-reconstruction materials from existing roadbed
- Provide on-site and in-kind wetlands mitigation for the US93 Project as required by the Tribes' Aquatic Lands Conservation Ordinance 87A and by Section 404 of the federal Clean Water Act
- Enhance mitigation required by National Highway Act § 4(f)
- Acquire asphalt road millings from US93 Project for use on improving local County roads within five mile haul distance, including Rocky Butte Road (material + transport + stockpile in windrows)
- Construct two public access trailheads with parking lots, one at Duck Rd./Piedalue Rd. intersection, the other at US93/Duck Rd. intersection

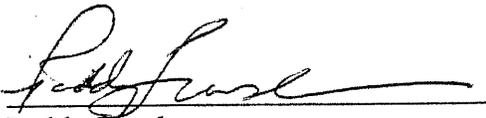
Known Issues/Costs

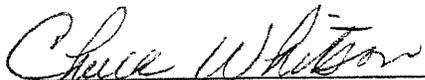
- Added cost to US93 project (slightly however, because mitigation is required for ALCO, CWA and 4(f) even if not done at Duck Road)
- Diminished access to recreational users of Ninepipe wetlands complex (mitigated by construction of trailheads with parking lots at two access points)
- Diminished access to one fee parcel (S½Sw¼ Sec. 22) (mitigated by reasonable access being available from Piedalue Road)
- Elimination of 2.0 miles of County Road that directly accesses US93 (mitigated by existing access to NHS system at State Route 212 only 1.0 miles from Piedalue Rd./Duck Rd. intersection) (mitigated by improved driving surface on Rocky Butte Road).

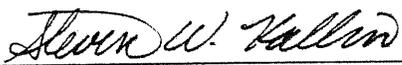
We applaud you for your recent work in redesigning and constructing those portions of the US93 Project covered in the December 2000 MOA. We look forward to similar effort and success for the Ninepipe/Ronan segment and look forward to working with you regarding abandonment and reclamation of Duck Road.

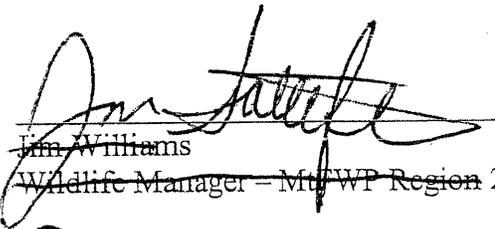
Sincerely,

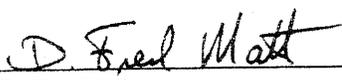

Mike Hutchin
Chairman – Lake County Commission


Paddy Trusler
Member – Lake County Commission


Chuck Whitson
Member – Lake County Commission


Steve Kallin
Manager – USFWS National Bison Range


Jim Williams
Wildlife Manager – Mt. WFP Region 2
SUPERVISOR
MFWP R-1
Jim Williams


D. Fred Matt
Chairman – Tribal Council

APPENDIX J

Public and Agency Comments on the Draft SEIS and Responses

Public and Agency Comments on the Draft SEIS and Responses

Introduction

This appendix describes the activities conducted during the 45-day public comment period for the draft SEIS and contains the comments received during that time period as well as the project proponents' responses to those comments.

The public had numerous opportunities to comment on the draft SEIS. Two open houses provided the opportunity for the public to learn more about the project and to obtain comment forms that could be submitted at the open house or by mail. In addition, the public hearing provided the opportunity for the public to submit written or oral comments. Oral comments were recorded during the public hearing. Additional comments were received during the comment period via email or regular mail submitted to MDT. Written letters were received from the resource agencies.

The appendix describes the public open house and hearing formats and contains the public hearing comments along with responses to those comments (pages J-5 through J-329). This is followed by written comments received from the public and resource agencies via email or letter. Commenting resource agencies included:

- Department of the Army Corps of Engineers, Allan Steinle, Montana Program Manager (letter 39)
- Montana Fish Wildlife & Parks, John Grant, Wildlife Area Manager (letter 117)
- Montana Fish, Wildlife & Parks, Doug McDonald, Stream Protection Coordinator (letter 118)
- U.S. EPA, John G. Wardell, Director, Montana Office (letter 169).

Public Open House and Hearing Summary

The Federal Highway Administration, the Montana Department of Transportation, and the Confederated Salish and Kootenai Tribes, referred to as the project proponents, propose to improve 18 kilometers (11.2 miles) of roadway in the Ninepipe/Ronan section of the existing U.S. Highway 93 (US 93) corridor in Montana.

In August 2006 the draft SEIS for the US 92 Ninepipe/Ronan Improvement project was released for review and comment.

An essential part of the environmental review process is public involvement. The Montana Department of Transportation hosted two open houses and a public hearing to gather comment on the draft SEIS. The first open house was held from 6:00 to 8:00 pm in St. Ignatius at the Tribal Fitness Center on September 18, 2006. The second open house was held from 4:00 to 7:00 pm in Ronan Community Center on September 19, 2006 and was followed by a formal public hearing from 7:00 to 9:00 pm at the same location. Attendees at both open houses were encouraged to voice their opinions by submitting written comments during the open house, recording their comments during the formal hearing, mailing in comment forms, or submitting their comments online before the close of the comment period on October 6, 2006.

Display and Handout Materials

Several displays were posted at the open houses and public hearing, including presentation boards on the roadway alternatives under consideration and extent of construction and right-of-way acquisition limits. Handout materials consisted of figures depicting each of the alternatives considered as well as tables summarizing project costs and impacts for each alternative. In addition, comment forms were available at both the open houses and the public hearing that could be submitted at the open houses or by mail

Publicity and Notification

- The availability of the draft SEIS for public comment was posted in the Federal Register on August 18, 2006.
- The locations where the document was available; locations, dates and times of the open houses; and location date and time for the public hearing were advertised on local radio and by paid advertisements in local and regional newspapers (including the Missoulian, the CharKoosta News, the Lake County Leader, and the Valley Journal).
- Copies of the draft SEIS were distributed to agencies with jurisdiction, to individuals and organizations known to have an interest in the project and to individuals and organizations that specifically requested a copy. In addition, over 1,500 notices were mailed to names on the general project interest list advising of the document's availability.
- The project website was updated:
<http://www.skillings.com/US93/SEIS.htm>. (This website will be maintained through the publication of the Record of Decision).

Project Proponent Participants

Duane Kailey, MDT
Craig Genzlinger, Federal Highway Administration
Lewis Yellowrobe, CSKT
Lyle Renz, Skillings-Connolly

Comments Gathered at the Hearings

The comments gathered at the open houses and public hearing are contained on pages J-5 through J-329 and include verbal comments recorded on tape at the September 19th public hearing; written comment forms submitted at both open houses and the public hearing; and comments received via email and letter. Written comments are organized alphabetically by last name. Oral comments appear in the order they were recorded.

Nearly all of the comments summarized on page J-5 through J-329 are direct transcriptions, however in some cases, minor edits were made for clarity and spelling.

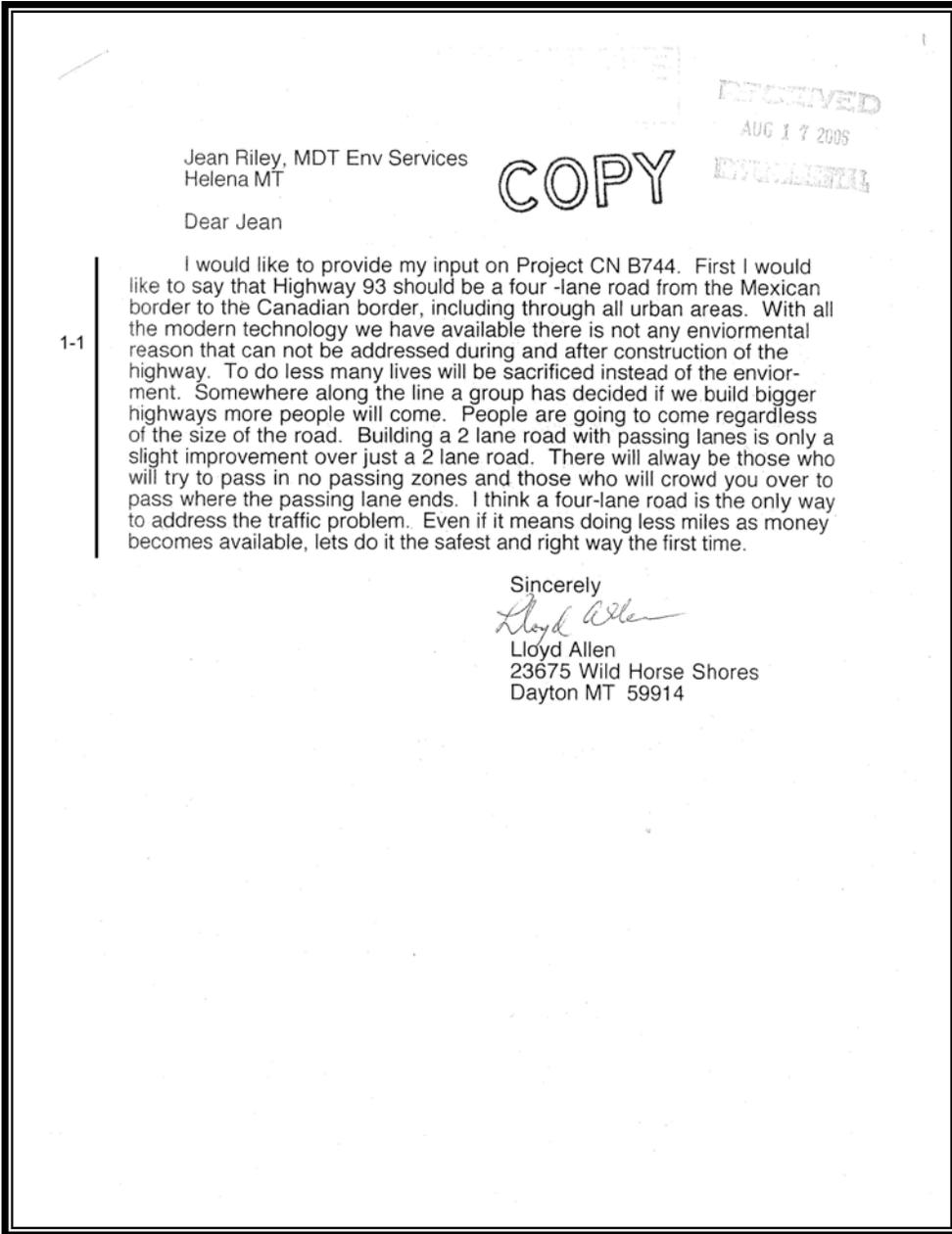
Summary of Comments

Approximately 190 commenters submitted written or oral comments during the 45-day public comment period for the draft SEIS. A summary of the comments received is included below:

- One hundred and ten (110) commenters (approximately 60%) requested the inclusion of a separated bicycle/pedestrian path as part of the project.
- Forty-six (46) commenters objected to a southbound passing lane through the Ninepipe Wildlife Refuge which was included in the preliminary preferred alternative (Alternative Rural 10). The USFWS and MFWP also opposed a passing lane at this location.
- Thirty-three (33) commenters supported the raised parkway alternative (Alternative Rural 7).
- Fifteen (15) commenters asked for slower speeds through the Ninepipe area.
- Four (4) commenters supported Alternative Rural 10.
- Ten (10) commenters supported a 4-lane road throughout the project.
- Two (2) commenters objected to closing Duck Lane.
- Six (6) commenters commented on turtle crossing issues.

- There were few (7) comments on the Ronan section with 2 favoring Alternative Ronan 4, the preliminary preferred alternative, which is the wider couplet; one favoring Alternative Ronan 1, the 4-lane with raised median alternative; and 4 favoring Alternative Ronan 5, the improved 3-lane alternative.

- Approximately 40 other aspects of the project that received a one or two comments.



Jean Riley, MDT Env Services
Helena MT

Dear Jean

COPY

RECEIVED
AUG 17 2005
MONTANA

1-1

I would like to provide my input on Project CN B744. First I would like to say that Highway 93 should be a four-lane road from the Mexican border to the Canadian border, including through all urban areas. With all the modern technology we have available there is not any environmental reason that can not be addressed during and after construction of the highway. To do less many lives will be sacrificed instead of the environment. Somewhere along the line a group has decided if we build bigger highways more people will come. People are going to come regardless of the size of the road. Building a 2 lane road with passing lanes is only a slight improvement over just a 2 lane road. There will always be those who will try to pass in no passing zones and those who will crowd you over to pass where the passing lane ends. I think a four-lane road is the only way to address the traffic problem. Even if it means doing less miles as money becomes available, lets do it the safest and right way the first time.

Sincerely

Lloyd Allen
23675 Wild Horse Shores
Dayton MT 59914

Letter 1, Lloyd Allen

1-1.—Reconstruction of US 93 requires the project’s decisionmakers to balance highway improvements with, among many others, wildlife impacts and protection of the environmentally sensitive areas such as the Ninepipe glacial pothole wetland complex. Alternates Rural 3 and Ronan 4 have been selected as the Preferred Alternatives (PA’s). These alternatives provide a divided 4 lane highway from Brooke Lane (RP 44.6) through Ronan to the Baptiste Road/Spring Creek Road intersection (RP 48.3). South of Brooke Lane the highway will be 2 lanes with an uphill truck climbing/passing lane on Post Creek Hill. The project decision makers believe they have selected the alternatives with the appropriate balance of providing for additional capacity in the highest traveled portions, improved vehicular safety, and minimized adverse impacts to wildlife and to the very sensitive environmental features of the project area.

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

2-1 | *PROPERTY LISTED AS DONDA MATCHETT*

BELONGS TO

Alan A. Anderson

3754 Highway 93

St. Ignace, MT 59665

Please provide your name and address:

Name: *Alan Anderson*

Address: *3754 Highway 93*
St. Ignace, MT

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

Letter 2, Alan Anderson

2-1.—Thank you for that information, the appropriate change has been made.

[Following are notes from a meeting with Mr. Anderson on 9/19/06]

2a-1 Mr. Anderson met with us to voice his comment that if there was to be a 4-lane divided roadway in front of his farm, with right-in, right-out access, he would volunteer to have his existing access closed with future access to be constructed as an access road north to Bouchard Road. He would then have access only off Bouchard Road. Bouchard Road is scheduled to have turn bays constructed in all build alternatives including those which are 4-lane divided. His reasoning is that if he wanted to go north from his farm and he was limited to right-in, right-out access, he would have to turn right then immediately cross 2 lanes of traffic to get in the left turn lane at Innovation Lane so he could make a U-turn to go north. During shift changes at the Jore manufacturing facility his observations have been that this left turn lane is full and so he would have to go further south to make a U-turn. He wants to avoid all conflicts with the intersection at Innovation Lane.

Letter 2a, Kermit Anderson

2a-1.—It is too early in the project development process to finalize an agreement for eliminating this access. Mr. Anderson will be contacted during the final design and right-of-way acquisition phase to work out an agreement for closing his existing access.

3-1 |

From: Sally Baskett [mailto:sbaskett@blackfoot.net]
Sent: Friday, October 06, 2006 7:24 PM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

Bike path Bike path Bike path bike path bike path BIIIIIIIIKKKEEE PPPPAAAAATTTTHHHHHH
PLEEEEEEEEEEEEEEEEEEEEEZEIIIIIIIIIIII What an asset this would be to the area, both local
and for tourists which are a large income producer. My husband and I go to other areas that have well
developed bike paths both to bike and to roller blade. It's fun, it's low impact and maintenance, and it's
great fun. There should be one through and AROUND the ninepipes area. Wouldn't that be
GREAT!!!!!!!!!!!!!! Sal

Letter 3, Sally Baskett

3-1.—Following publication of the draft SEIS more than 100 comments requesting the addition of a separated bicycle/pedestrian path were received. As a result of these comments, several options were examined to provide a separated bicycle/pedestrian path for portions of the project south of Buchanan Street in Ronan. After review of the proposed options the project proponents endorsed the inclusion of a bike path from Red Horn/Dublin Gulch Road to Buchanan Street in Ronan in the final PA.

The preliminary designs presented in the draft SEIS incorporated a separate bicycle/pedestrian path for the north portion of the project from Baptiste Road/Spring Creek Road (where it would connect to the path extending south from Polson and Pablo) to Ronan at US 93 and Buchanan Street. As a result of comments received on the draft SEIS a separated path south to Timber Lane Road was endorsed by the Project Oversight Group to be added to the preferred urban alternative, Ronan 4, and a connecting separated path throughout the remainder of the project corridor was also added to the rural preferred alternative, Rural 3.

In the final SEIS Alternative Ronan 4 includes a separated 3-meter (10-foot) wide pedestrian/bicycle pathway from the southern Ronan city limit, near Timber Lane Road, north to Baptiste Road/Spring Creek Road. The portion of the path within the Ronan segment (Figure 3.2-20) would begin on the east side of US 93 at the southern Ronan city limit near Timber Lane Road and follow the east side of US 93 north to Buchanan Street. At Buchanan Street near the Ronan City Park, the pedestrian/bicycle pathway would turn and follow along the north side of Buchanan Street westerly to Third Avenue SW and then extend north along the west side of Third Avenue SW to the Ronan north city limit, where Third Avenue SW becomes Old Highway 93. The pathway would continue north on the west side of Old Highway 93 within the right-of-way to Baptiste Road/Spring Creek Road (the northern terminus of the improvement project). This portion north of the junction with Old Highway 93 would be common to all urban action alternatives. Ultimately, the pedestrian/bicycle pathway would extend north to Polson. The northern portion, north of Ronan, is being designed and constructed under a separate project now underway to reconstruct US 93 between Ronan and Polson.

In addition, a 3.0-meter (10 feet) wide separated bicycle/pedestrian path has been added throughout the entire rural portion of the project.

See FSEIS Sections 3.1.4 and 3.2.3.

From: Guy Dean Bateman [mailto:gdbateman@blackfoot.net]
Sent: Thursday, October 05, 2006 4:54 PM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

5-1 | In regard to the US 93 highway reconstruction project from the 44 Bar (at the intersection of US 93 and Redhorn Road) up to Ronan and especially including the wetlands around the Ninepipes area, there are two vitally important factors that need to be accomplished: Facilitating the safe, fast, and effective flow of traffic, and protecting the wildlife in the area. I am especially concerned about the turtles and the grizzly bears.

There is only one alternative that accomplishes both of these goals: The construction of an elevated, limited access, four-lane highway through this area. We need four lanes to expedite the SAFE flow of traffic in this area. The "high-speed passing lanes" such as the ones recently constructed between Ravalli and Arlee are a dangerous joke, because they are so short that there is little opportunity to pass slow-moving lanes of cars, and people end up speeding to try to get past them. We need four lanes of traffic the entire length of the highway from Hamilton to Whitefish to accommodate the high volume of traffic on the highway. In the Ninepipes area we need an elevated highway to protect the wildlife.

5-2 | A secondary consideration is bicycle traffic: We need a bike lane south of Ronan that is separated from the highway. I would ride my bike to Ronan more often if I didn't feel like I was taking my life in my hands doing so.

--
Guy Dean Bateman, Ph.D.
Licensed Psychologist
55619 Delaney Way
St. Ignatius, MT 59865
406-745-4414

Letter 5, Guy Dean Bateman, Ph.D.

5-1.—Alternative Rural 7 would provide an elevated highway through the Ninepipe area with less permanent wetland impacts, but would have more access and visual impacts, and more temporary wetland impacts due to detours necessary for construction and would cost over three times as much as the alternative selected. The project's decision makers need to balance multiple factors, including vehicular safety and wildlife impacts among many others, in choosing the final preferred alternative. Alternative Rural 7 costs an estimated \$162 million more than the final preferred alternative. This additional cost would likely delay the project a minimum of 6 years in which time the current high rate of accidents would continue. The project's decision makers have concluded that Alternative Rural 7 cannot be selected because the need to improve vehicular safety along the project corridor would not be met in an acceptable time frame.

See also Response #11-1.

5-2.—See Response #3-1

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN 8744.

6-1 *The preservation of wildlife along this corridor is very important. Equally important is planning for the future. A separate bike lane is needed, not only for safety, but to encourage more people to ride bikes and use alternative transportation. Now is the time to do it.*

6-2 *Also, it's not clear on the legends that there will be turning lanes at intersections. It is really scary to sit in the middle of the highway, waiting to turn left, while cars speed around you on the shoulder. Also, people will pass while going through the intersection, even with a double yellow line. We, on Eagle Pass Trail, desperately need a turn lane.*

Please provide your name and address:
 Name: Susan Bearse
 Address: 1152 Eagle Pass Tr. Charlo, MT 59824
 Email: sjbearse@yahoo.com

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:
 Jean A. Riley, PE
 Bureau Chief
 Environmental Services Bureau
 Montana Department of Transportation
 PO Box 201001
 Helena, MT 59620-1001
 (406) 444-7228

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006




OPEN HOUSES
 Monday
 September 18, 2006
 6:00 - 8:00 pm
 Tribal Fitness Center
 St. Ignatius, MT

Tuesday
 September 19, 2006
 4:00 - 7:00 pm
 Ronan Community Center
 Ronan, MT

PUBLIC HEARING
 Tuesday
 September 19, 2006
 7:00 - 9:00 pm
 Ronan Community Center
 Ronan, MT

Letter 6, Susan Bearse

6-1.—See Response #3-1.

6-2.—As noted on draft SEIS page 5-3 left-turn lanes will be added at major intersections including at Eagle Pass Trail.

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Please indicate comments are for project CN B744.

7-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Melissa Berger

Please provide your name and address:
Name: Melissa Berger
Address: 305 Loughton Road
Ronan, MT 59864
Email: _____

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Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
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Letter 7, Melissa Berger

7-1.—See Response #3-1.

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Please indicate comments are for project CN B744.

8-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Please provide your name and address:

Name: Bobette Bertsch

Address: 35679 Memory Ln.
Polson MT
59860

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

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Bureau Chief
Environmental Services Bureau
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PO Box 201001
Helena, MT 59620-1001
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Ronan, MT




Letter 8, Bobette Bertsch

8-1.—See Response #3-1.

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 Please indicate comments are for project CN B744.

9-1 | As a resident of Mission Valley,
 I want a BIKE/WALKING PATH,
 separate from traffic, on Hwy 93
 connecting ALL communities
 from Polson to Arlee.

Please provide your name and address:

Name: *Charles Bertsch*

Address: *30679 Memory Lane
 Polson MT 59860*

Email: _____

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 Connolly or Herrera staff at the meeting, or mail to:

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 Ronan Community
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 Ronan, MT

Letter 9, Charles Bertsch

9-1.—See Response #3-1.

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN 8744.

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10-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Please provide your name and address:

Name: Curt Bertsch
Address: 35679 Memory Lane
Polson MT 59860
Email: _____

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
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Tuesday
September 19, 2006
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Ronan Community Center
Ronan, MT

Letter 10, Curt Bertsch

10-1.—See Response #3-1.

Letter 12, Les Bigcrane

12-1.—See Response #3-1.

From: Les Bigcrane [mailto:lesterb@cskt.org]
Sent: Friday, October 06, 2006 5:50 PM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

I submit the following:

Comments on US93 Ninepipe/Ronan EIS

12-1

I support the inclusion of a paved separated bicycle/pedestrian path in the Ninepipe/Ronan section, Spring Creek Road - Red Horn Road section, and along the entire length of Highway 93 from Evaro to Polson.

The US 93 Ninepipe/Ronan Draft SEIS, Section 4.6.2 Regulations and Standards, states that FHWA regulations include a policy stating that "**The safe accommodation of pedestrians and bicyclists should be given full consideration during the development and construction of federal-aid highway projects**" and "**Where current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort shall be made to minimize the detrimental effects on all highway users who share the facility.**"

My opinion is that new construction in the Spring Creek Road - Red Horn Road (Ninepipe/Ronan section inclusive) should include separate bicycle/pedestrian paths as were constructed in the Minesinger Trail Road - MT 35 section and to be constructed in the Spring Creek Road - Minesinger Trail Road section. The same considerations on pedestrian/bicycle use apply to the remaining sections to Evaro. My concerns are:

1. Bicycle/pedestrian paths instituted through "widened highway shoulders" may improve current conditions but I still considered this alternative to be unsafe. These shoulders would put the bicyclist/pedestrians in relatively close proximity to large and high speed vehicles in all portions of the highway be it in the urban or rural setting, intersections, turn-lanes, two-lane, three-lane, four-lane or five-lane (four-lane with turn-lanes). Separation of the bicyclist/pedestrians from motorcycles, vehicles, farm equipment, logging trucks, semis, etc. would be the safest alternative for all users from youth to elderly.
2. Separated bicycle/pedestrian path is important for current and future transportation between communities. Highway 93, backroads, paved roads and gravel roads can be hazardous with agricultural, residential, commuter and tourist traffic and impaired drivers. A separate paved path is the safest alternative. This will serve all age brackets from youth to elderly.
3. Darkness, bad weather, heavy traffic, wildlife, accidents, emergency vehicles and impaired drivers can contribute to a moment of distraction. Separated bicycle/pedestrian paths reduce hazards drivers have to navigate through when conditions are less than ideal.
4. Continual increase in populations and subdivisions create more highway traffic. Alternative transportation is a way to reduce energy consumption, highway traffic and pollution.
5. The area's high levels of unemployment and persons with income at or below the poverty line can demonstrate a need for low cost, alternative transportation opportunities. A separated bicycle/pedestrian path would help provide a safe alternative.
6. In an area with high levels of health problems, i.e. smoking, obesity, diabetes, cancer, etc. a bicycle/pedestrian path will improve opportunities for all age groups for physical, mental and emotional fitness and provide facilities for the promotion of healthy lifestyles.

Thank you for your considerations to make the Flathead Indian Reservation and Highway 93 a safe place to live and travel.

Les Bigcrane
 Ronan, MT

From: cbicreek@accessmontana.com [mailto:cbicreek@accessmontana.com]
Sent: Friday, October 06, 2006 8:31 AM
To: MDT EIS Comments Ninepipe
Subject: Comments on Hwy 93 Ninepipe DSEIS

- 13-1 | In the rural segment of the project, I would advocate for a combination of Alternative 2 and, for the section between Eagle Pass Road and Crow Creek, Alternative 7. The combination of these two designs would result in a two-lane design except for a northbound passing lane on Post Creek hill. There would be a raised-highway design for the most sensitive section, but I would suggest that this begin just north of Ninepipes Lodge. In this design, I would also advocate for the longest and highest bridge design at Post Creek, which is probably the most important east-west corridor for large animals in the entire Mission Valley. In addition, an integral part of this design would have to be clear visual demarcation of this part of the highway as a distinct parkway, which would have a slower speed limit -- perhaps 50 mph.
- 13-2 | The international importance of the habitat of the Ninepipe area, its cultural importance to Salish, Pend d'Oreille, and Kootenai people and also to local non-Indians, and the enormous investment already made in the area by the Tribes, the federal government, and the state, merit the exceptional treatment of this section. It is noted in the DSEIS that while most options are estimated to cost \$35 to \$40 million, Alternative 7 would cost an estimated \$114 million. It is worth noting that the United States is currently spending that much money every nine hours in Iraq. We must build this highway the right way, even if it costs more to do so.
- 13-3 | It would be good to look into some design to help de-ice bridging and other raised surfaces, and
 13-4 | to add to such structures some kind of muffling material to counteract noise impacts.
- 13-5 | Wherever passing lanes reconverge, there needs to be much more aggressive, prominent, and weatherproof signage, including not only strict marking of the point beyond which people must not pass, but also the distance to the next passing opportunity. I would also advocate the
 13-6 | establishment of higher fines or tougher penalties for unsafe passing and posting notice of those fines/penalties. It would be wise to increase funding for enforcement, if that can be included in the project.
- 13-7 | If the PPA remains Alternative 10, I would strongly advocate the elimination of the southbound passing lane through the Ninepipe area. If the parties insist that a southbound passing lane is necessary -- a highly dubious assertion -- I would urge that it be placed just north of the Highway 212 intersection, rather than south, and incorporated into a full bridging of the ponds north of that intersection. In this way, some environmental benefit could be gotten from what would otherwise be an environmental detriment.
- 13-8 | For Ronan, I strongly urge the parties, and the city of Ronan, to reconsider whether four traffic lanes are truly necessary to carry the projected volumes of traffic. There are numerous studies available on the internet, including several that can be accessed at www.walkablecommunities.org, that show three-lane designs safely and smoothly handling well

Letter 13, Catherine L. Billie

13-1.— The combination of the structures in the Ninepipe Area in Alternative Rural 2 and the long structure suggested from Eagle Pass Trail to Crow Creek is very similar to what was proposed for the structures for Alternative Rural 7. The project proponents considered the longer structure sections proposed in Alternative Rural 7 and determined they were too expensive, and even though Alternative Rural 7 had less permanent wetland impacts, there were more temporary wetland impacts due to construction detours, and more access and visual impacts. This decision is directly applicable to the suggested structure, as well.

The longest and highest bridge design at Post Creek was likewise considered too expensive for the amount of connectivity of the riparian area gained and even though it had less permanent wetland impacts, there were more temporary wetland impacts due to construction detours, and more access and visual impacts. The bridge and culvert combination selected at Post Creek as the preferred alternative is considered to provide an appropriate balance between function, impacts, and cost.

See Responses #5-1, 11-1, and 41-1.

13-2.—See Responses #5-1 and 11-1.

13-3.—There are some design remedies such as heated bridge decks; however, these are very expensive and considered cost prohibitive for most rural applications.

13-4.—We are not aware of any muffling material that could be added to structures to reduce noise, that would not also block the view of the countryside from the highway. Because of the visual impacts the project proponents have been reluctant to use such noise reduction features. There is a possibility of using alternative pavement materials that reduce tire noise, and these materials will be considered during the final design phase.

13-5.—All signing will conform to the most current federal and state standards.

13-6.—Enforcement of traffic regulations is a valid concern, but it is not an environmental issue. The road improvements would bring the roadway up to current design standards and improve safety.

13-7.—See Response #11-1.

13-8.—The project proponents have selected Alternative Ronan 4 as the urban preferred alternative. This alternative provides a two-lane one-way northbound roadway on existing US 93 and a two-lane one-way southbound roadway on First Avenue SW, with transitions to the four-lane sections north and south of Ronan. As shown in Section 5.12 of the final SEIS, the 3-lane section in Ronan, represented by Alternative Ronan 5, would function at a predicted Level of Service of D versus Levels of Service of B and C for the couplet alternative, Ronan 4 (PA). The project proponents have opted for the alternative with the highest projected level of service within Ronan.

13-9 | over 20,000 ADT, and in some cases approaching 30,000. I would also urge the parties and the city to consider replacing the traffic lights with roundabouts, which can reduce accidents, improve traffic flow, and improve pedestrian safety.

13-10 | Lastly, I would urge that a separate bike path be considered for the entire project, if this can be done without significant additional harm to the environment.

[Received from:
Catherine L. Billie
P.O. Box 369 (60 Telcostair Ln.)
St. Ignatius, MT 59865]

Letter 13, Catherine L. Billie (continued)

13-9.—Roundabouts have been discussed for application at the signalized intersections in Ronan; however, the adverse impacts to the businesses at those locations by the additional right-of-way needs of such roundabouts was not considered acceptable.

13-10.—See Response #3-1.

Letter 14, Edd Blackler

14-1.—Thank you for your comment.

From: blackler [<mailto:blackler@acrossmontana.net>]
Sent: Friday, October 06, 2006 1:20 PM
To: MDT EIS Comments Ninepipe
Subject: input for the record on Montana Hwy 93 near Ninepipes

To Whomever:

14-1

Please accept by reference this endorsement of the input provided by Thompson Smith as my input. I think he has given the situation special consideration, and I concur with his findings. Edd Blackler, POB 555, Bigfork Mt, 59911 ph. 837-5196

Letter 15, Jim Blow

15-1.—See Response #3-1.

From: Jim Blow [mailto:jimblow@ronan.net]
Sent: Monday, October 02, 2006 11:19 AM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

15-1 | With all that is to be considered in such a complicated project, there is a glaring lack of planning for non-vehicular traffic along this popular roadway. Specifically, a walking/jogging/bicycle path should accompany the redesign of the highway throughout the complete section covered by this project. It is not only a scenic area that is increasingly travelled by visitors, it is also a pathway for many who live south of Ronan who need a safe surface and pathway to travel down the corridor 12 months a year.

Jim Blow
Ronan

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

16-1

I am concerned about parking on the WEST side of 93 in ~~the~~ the "preferred" alternative northbound. I think it would be extremely dangerous for passengers - little children to get onto the major highway.

Perhaps additionally, I don't see any reason for parking on the northbound segment at all - We don't have it now - and it is NOT needed.

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Ronan Community Center
Ronan, MT

PUBLIC HEARING
Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

1 Eisenhower SW

Please provide your name and address:

Name: JULIA BORDEN
Address: THE RED POPPY
(mailing) PO Box 1, RONAN 59864
Email: jborden99@aol.com

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

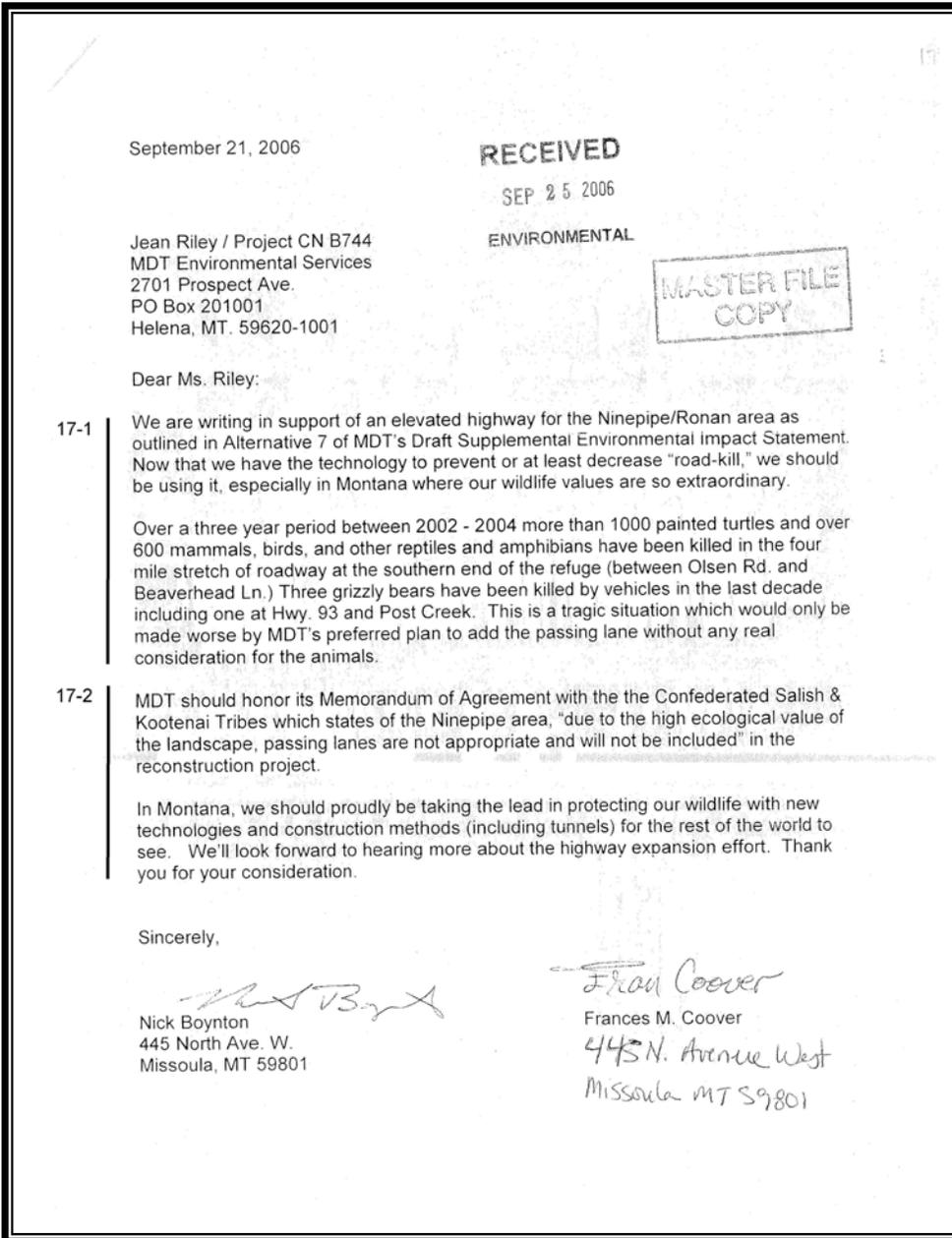
Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228



Letter 16, Julie Borden

16-1.—Safety issues concerning parking on the northbound leg of the couplet in Ronan will be further discussed with the city during final design.



Letter 17, Nick and Frances Coover

17-1.—See Responses #5-1 and 11-1.

17-2.— CSKT is one of the three project proponents and as such participated fully in the design and selection of the alternatives. The preferred alternative selected for the final SEIS, Alternative Rural 3, does not include passing lanes through the Ninepipe area.

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Please indicate comments are for project CN B744.

18-1 | I represent Five Valleys Audubon Society in Missoula. Our members often go to the Ninepipe Area to view wildlife. We are very concerned that the proposed highway project will unnecessarily harm wildlife simply to create a wider road for poor speeds. The road through the Ninepipe Area should be kept at 2 lanes with turnout lanes. The wildlife resource in the Ninepipe Area, especially the variety of birds, is of immense value and importance. It should not be jeopardized just to move traffic faster. A plan should be exercised that will slow traffic speed demand to other areas and provide safe conditions.

18-2 |

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Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Please provide your name and address:

Name: James K Porcun

Address: 1504 Woods Gulch
Missoula MT 59802

Email: wcsby@onewest.net

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228




Letter 18, James K. Brown

18-1.—See Response #11-1.

18-2.—Speeds on State Highways are set by the State Legislature. US 93 already has a reduced speed limit of 65 mph (versus 70 mph on other comparable highways).

Letter 19, Allen and Janet Buhr

19-1.—See Response #3-1.

From: Janet Buhr [mailto:abuhr@ronan.net]
Sent: Monday, October 02, 2006 9:25 AM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

Department of Transportation,

Comments concerning Highway 93 CN B744 project

19-1 | Al and I are 30+ year residents and business owners in Ronan, Montana. I taught in the Mission Valley for 25 years. My husband started the Valley Banks in the valley. We have resided on Highway 93, just south of Ronan for more than 22 years.

The most important fact is that we had six children that we raised without any bicycle or walking access paths. We have always coveted cities that offered this wonderful feature in their towns. We have a small path that leads west of Ronan. It is heavily used and we walk on it daily.

Living in this beautiful valley and not offering a walking, bicycle path to both residents and visitors would be lacking sightfulness.

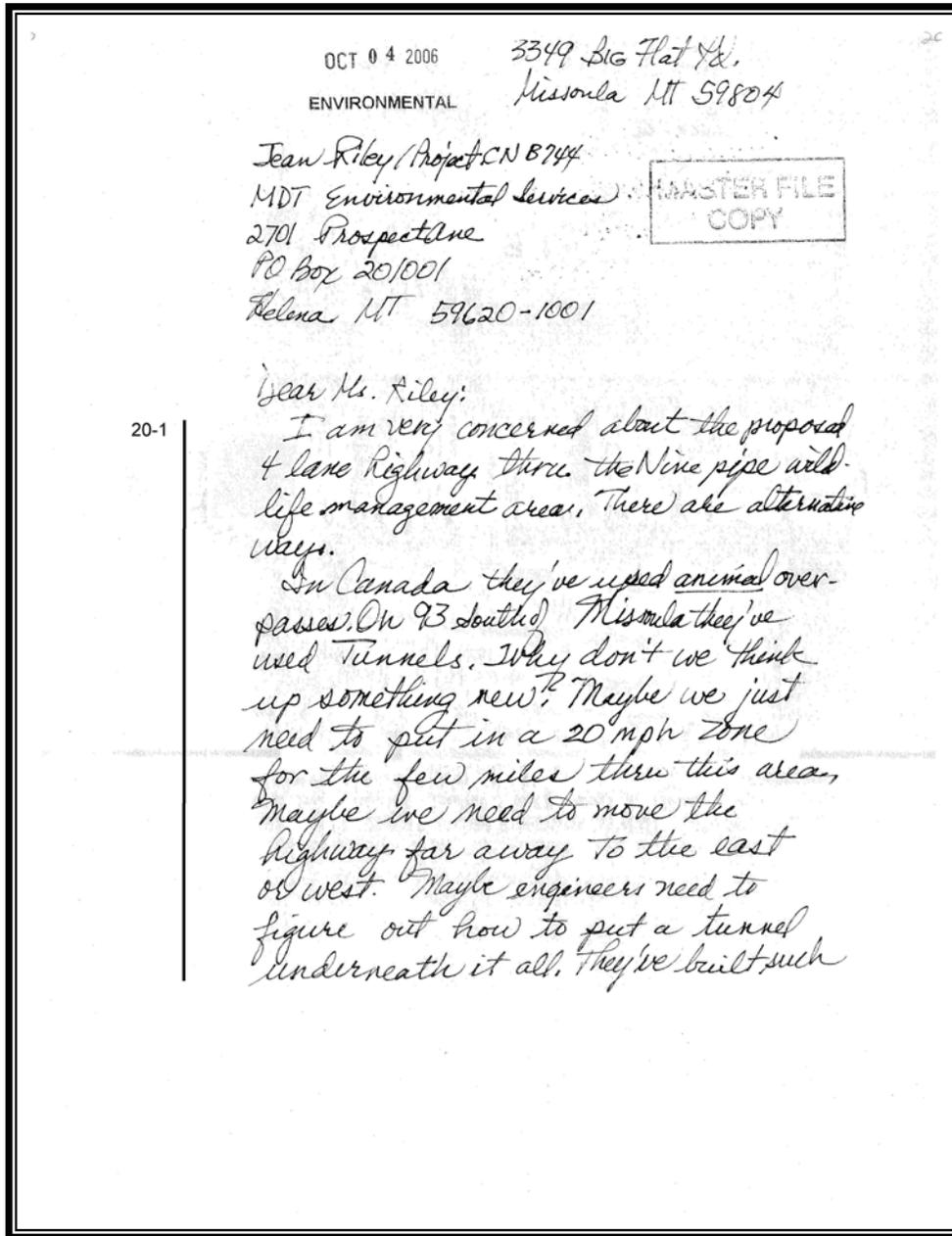
We would love to have the opportunity to safely walk and bike along the highway both for the aesthetics and exercise.

If you would like to contact us regarding this project please feel free to call or email:

Allen or Janet Buhr
Box 4, Ronan, MT 59864
406-676-2274
abuhr@ronan.net

Thanks for your consideration,

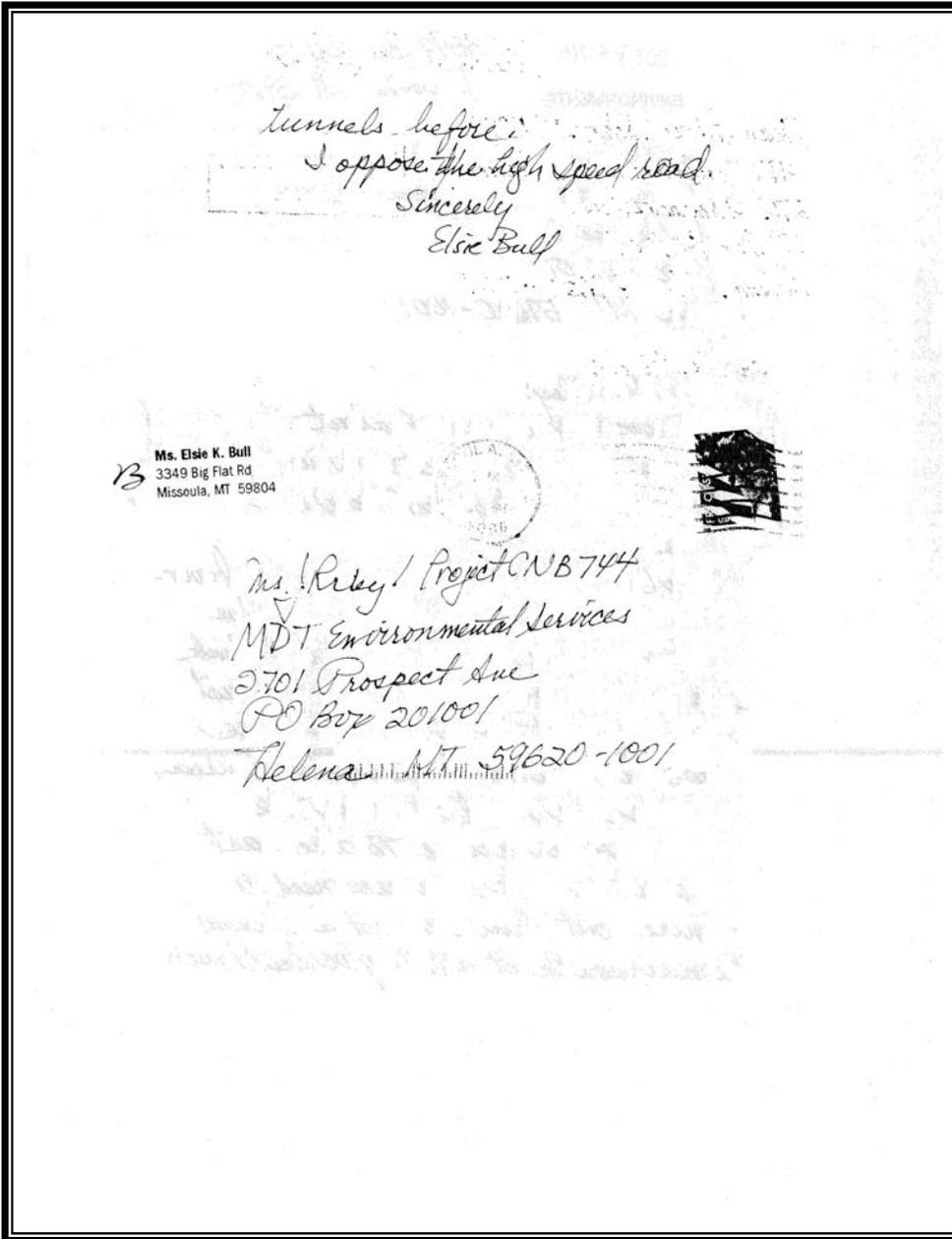
Al and Janet Buhr



Letter 20, Elsie Bull

20-1.—Alternative Rural 3, selected as the Preferred Alternative, is a 2-lane highway through the Ninepipe Wildlife Management area. The reconstruction of US 93 outside the limits of this SEIS includes a wildlife overcrossing at Evaro Hill, approximate RP 10.4. The use of structures, culverts, or overcrossings is based on terrain as well as the identification of wildlife migration routes and patterns. All of the proposed alternatives for this project include at least 5 crossings (bridges and culverts) at major systems in the corridor and approximately 12 additional wildlife crossing culverts within the 11.2 mile project length.

Letter 20, Elsie Bull (continued)



Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

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21-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
separate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

21-2 | We do not need passing lanes through
Ninepipe. The signage at Ravalli, indicating
when the next passing opportunity
will be, would be sufficient.
Wildlife preservation through this
stretch is more important than
capacity and level of service.

Please provide your name and address:

Name: JANET CAMEL
Address: P.O. Box 608
ST. IGNATIUS, MT
59865
Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings
Connolly or Herrera staff at the meeting, or mail to:

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Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
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Helena, MT 59620-1001
(406) 444-7228

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September 19, 2006
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Letter 21, Jane Camel

21-1.—See Response #3-1.

21-2.—See Response #11-1.

Letter 22, Robert L. Camel

22-1.—See Response #3-1.

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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22-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

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Please provide your name and address:

Name: Robert L. Camel

Address: P.O. Box 608
St. Ignace, MT
59865

Email: robcamel@blackfoot.net

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Please indicate comments are for project CN B744.

23-1 *I am submitting this comment in support of alternative Rural 3. There is a need for an uphill passing lane (N-bound) on Post Creek Hill. I oppose a south bound passing lane in the Post Creek area. This is an area of frequent animal crossings. Slower speeds are necessary to reduce the potential for AVCs (Animal Vehicle Collisions). I also oppose the south bound passing lane from Eagle Pass Trail to Olson Rd, suggested in Alt. 10. Avian species are always in that area, and from a wildlife conservation standpoint, though I love the wildlife crossing structures, they don't accomodate Avian spp. A passing lane will increase speed, and possibly create a disturbance for birds leading to them taking flight + colliding w/vehicles. Though I think the elevated*

23-2 *parkway is a nice idea, ecologically, I have concerns for local businesses (Connies Countryside cafe + 9-pipes lodge). Local economy is important to me. I oppose the*

23-3 *four ~~lane~~ lane option. I strongly support the addition of a bike path for recreationalist + road bikers who usually/seasonally ride bikes on the current narrow shoulder.*

23-4

23-5

Please provide your name and address:

Name: Whisper Camel

Address: P.O. Box 24
Polson, MT 59860

Email: WhisperCamel@hotmail.com

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Letter 23, Whisper Camel

23-1.—Thank you for your comment. See Response #11-1.

23-2.—See Response #11-1.

23-3.—Both businesses would retain access and not be displaced by any of the alternatives. See Section 5.5.1 Economics, Rural Portion, and Section 5.18 Relocations in the FSEIS. Also see the Relocation Assistance Conceptual Study, available at the Skillings Connolly project website <http://www.skillings.com/US93/Index.htm> under “publications” (click the second bullet, then Resource Reports/Relocation Assistance Conceptual Study). This website will be maintained at least until the Record of Decision is signed following publication of the final SEIS.

23-4.—Thank you for your comment. See Response #11-1.

23-5.—See Response #3-1.

Letter 24, Hap and Jen Cheff

24-1.—See Response #3-1.

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24-1 | We were very disappointed to hear that Ronan/Charlo would not have the luxury of having the bike path that was provided for the Ronan community. We were under the impression initially that this path was to be centered south on Hwy 93 — but have since discovered this is not the case. With such a busy thru & outdoor activity so popular in this area, it would seem that safety — for animals as well as people — would be of great concern to the planning board. I have 3 sons who would LOVE to go on a bike ride to town, but we would NEVER EVER consider this without a proper area for bicyclists. Please, please reconsider building on to the wonderful bike/walking path that has already been put in place. I have no doubt that it would be widely used & appreciated by the Ronan community.

Hap & Jen Cheff
644-3011

Please provide your name and address:

Name: Hap & Jen Cheff
Address: 52694 Hillside Rd.
Charlo, MT 59824
Email: hjcheff@accessmtwildblue.com

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Please indicate comments are for project CN B744.

25-1 | *If the coupled option is selected I am concerned about the impact on the Maxwell Senior Apartments located between Cleveland & Dayton streets. The Senior population living in unit are all low income and living in these subsidised apartments. They are used to walking across 1st street to shop and down the sidewalk to town and Post office. 1st street is now quiet with limited traffic, upgrading it to 1/2 of Highway 93 is a real change to these 21 senior citizens.*

25-2 | *Have you considered a bike path for this section of highway. Please notice the amazing usage of the bike path running west on the Round Butte Rd.*

Please provide your name and address:

Name: Jan Niemeyer

Address: Executive Director
City of Ronan Housing Authority
407 Main St Ronan

Email: janw@ronan.mt

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

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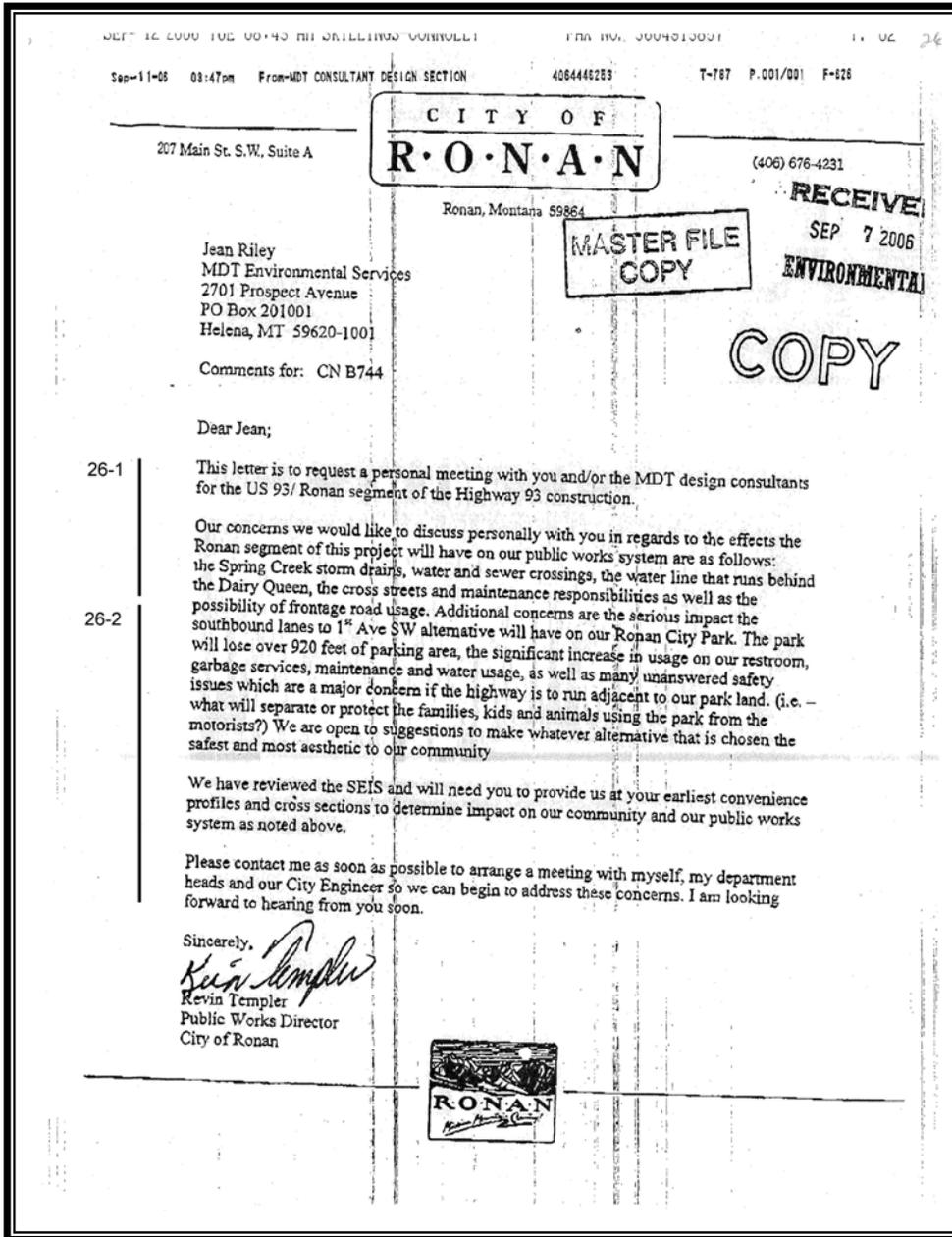
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Ronan, MT

Letter 25, City of Ronan Housing Authority, Jan Niemeyer, Executive Directory

25-1.—Your concern about impacts at the Maxwell Senior Apartments is noted. Crossing First Avenue SW for these residents and others to shop will be facilitated by signalized intersections at Eisenhower Street and Buchanan Street. The addition of pedestrian signal heads at these intersections will provide additional safety for pedestrians crossing the highway. Sidewalks will be provided along First Avenue SW, so pedestrians will have a safe path to town and to the Post Office. Noise impacts are discussed in section 5.8 of the FSEIS. Noise level measurements revealed noise levels in 2000 at this location of 52 dBA, and analysis predicted noise levels under the PPA of 67 dBA in the year 2024. These levels exceed the criteria for residences and also represent an increase of greater than 13 dBA, therefore there would be an anticipated noise impact at the Maxwell Senior Apartments. At locations where noise analysis indicates there will be a noise impact, MDT requires reasonable and feasible noise abatement measures be considered to reduce traffic noise levels. Noise abatement measures include considering alternative pavement materials to reduce tire noise, construction of noise barriers or berms, and traffic management measures such as reducing speed limits. Of these abatement measures, only the use of alternative pavement materials is considered reasonable for this location and will be considered in the final designs.

25-2.—See Response #3-1.



Letter 26, City of Ronan, Kevin Templer, Public Works Director

26-1.—A meeting to discuss these comments with the City of Ronan was held on September 19, 2006. The results of those discussions are shown below:

The project will not present any barriers to flow; in fact, part of the Creek will be placed in an open channel rather than a culvert which could lead to less flooding. Runoff from the project will not directly enter the Spring Creek drainage system but will be collected and released based on prevailing storm water requirements.

For the utilities, the water and sewer crossings and water line behind Dairy Queen, the project will maintain or replace, in accordance with MDT policy, all connections disturbed by the project. MDT’s process, following the Environmental Document approval, is for the Utility Department to use final design project plans to determine all utility impacts and meet with the utility owners to resolve any issues raised. At this point they also determine who is responsible for any work needed.

Cross streets are not on the state system, and maintenance of them will continue to be the responsibility of the City. There is no plan to use City streets as frontage roads. They will remain City streets and the responsibility of the City. Maintenance of US 93 is the responsibility of MDT. There is a waterworks control box near the outlet of the Spring Creek culvert. The preliminary plans appear to jeopardize that control box. If the control is impacted, it will be changed to a new location during the design phase, with City input.

26-2.—The draft SEIS states that the parking for the park will be converted from diagonal parking to parallel parking, which would result in the loss of some parking spaces. Since publication of the draft SEIS, a better plan has been formulated. The existing diagonal parking will be retained in a plan that allows a parking area adjacent to the through lanes, which will be accessed by providing one-way traffic through the parking area. A copy of the plan for this parking was discussed and agreed upon with the City and is discussed and shown in Sections 5.15.4 and 6.1.7. There are no direct impacts to the park land; consequently, there will be no use of parkland for the project. There do appear to be some proximity impacts. It was brought up that the diagonal on-street parking on the other side of the street was originally intended to be part of the overflow parking for the park. This parking will be converted to parallel parking with some loss of parking spaces. The City owns property just south of the park that could be developed for additional parking to mitigate this impact. This is something that MDT agreed they would consider during the design process.

The restroom is further back in the park, and is considered the responsibility of the City. MDT would be unable to use highway funds to improve or maintain restroom facilities. Garbage services and water usage would also be the responsibility of the City. These are items that are integral to maintaining a park.

The safety issues for the park are primarily the potential of children and animals in the park running into the traffic on US 93. This could be handled by placing a fence in the park just inside the parking lot. This would help prevent children and animals from running out into the highway. The fencing and some landscaping screening could be provided by the project, with specific details to be coordinated with the City during the final design process.

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

27-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
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connecting ALL communities
from Polson to Arlee.

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7:00 - 9:00 pm
Ronan Community
Center
Ronan, MT

Please provide your name and address:
Name: Devin Clarimont
Address: 2059 Clarimont Rd
Ronan MT 59864
Email: _____

Please leave your comments with either MDT, Skillings
Connolly or Herrera staff at the meeting, or mail to:
Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
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Letter 27, Devin Clarimont

27-1.—See Response #3-1.

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Please indicate comments are for project CN B744.

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28-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Misty Clary

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Ronan Community
Center
Ronan, MT

Please provide your name and address:
Name: MISTY CLARY
Address: 64822 HWY 93
Ronan, MT 59624
Email: _____

Please leave your comments with either MDT, Skillings
Connolly or Herrera staff at the meeting, or mail to:
Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
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Letter 28, Misty Clary

28-1.—See Response #3-1.

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 Please indicate comments are for project CN 8744.

29-1

As a resident of Mission Valley,
 I want a BIKE/WALKING PATH,
 seperate from traffic, on Hwy 93
 connecting ALL communities
 from Polson to Arlee.

Brenda Cook

Please provide your name and address:

Name: Brenda Cook

Address: 46989 Peach Lane
Ronan mt 59864

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE, OCTOBER 6, 2006

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 Ronan Community Center
 Ronan, MT

Letter 29, Brenda Cook

29-1.—See Response #3-1.

Letter 30, Virginia L. Cornelius

30-1.—See Responses #1-1 and 11-1.

From: Virginia L Cornelius [mailto:ginger1@ronan.net]
Sent: Monday, October 02, 2006 7:33 PM
To: mdteiscommentsninepipe@mt.gov;
kadams@herrerainc.com&Subject=CommentonUS93Ninepipe/RonanEIS
Cc: Irenz@skillings.com
Subject: Peoples way road from Arlee to Ronan

30-1

With great disappointment I write this comment. In traveling the completed road from Ravalli to Arlee, I feel the tax dollars have been used unwisely. When breaking out from the curves near Ravalli going south, the road becomes a racetrack. Who can pass the most slow vehicles first, or the slow vehicle begins to move at a faster pace so those behind do not have an opportunity to pass. It seems to me, and many others I have spoken to that there was ample room to run four lanes of traffic through the area. Why then was this not done at this time?

In attending the community meeting, in Ronan, the 19th of September, it was to my dismay, and others, that the favored proposal is for a two lane raised highway from Post Creek to just past Ninepipes to accommodate the turtle and wildlife population. I realize that the critters need protection, but what about human life? Would it not be more economical to put in four lanes, and slow traffic than to do another two lane road, one which we already have. The sign on the highway, as you come north out of Arlee says something to the affect that your tax dollars have provided this. If this is so, than my tax dollars will be paid under protest. I feel a four lane road from Arlee to Polson would be the only way to go.

Thank for listening.

Virginia Cornelius

Comment Form

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Please indicate comments are for project CN 8744.

31-1 with great disappointment I would like to state about the road from RABBIT ARLES. The passing lane feature in my eyes seems to be more dangerous than had the road been four lanes. THE sign at the beginning of the project out of ARLES heading north states your TAX dollars at work. I feel that our TAX dollars would have been better used with a four lane road. I only hope that the tribe or Montana State Board of Transportation take into consideration human life as well as wild life. The road is here, why not use it now rather than wait and have to do this over. The road into POISON FOUR LANE is great. Our home is in the line of fire IF the couplet is chosen FOR RONAN. I am not happy about this but would go along with what is needed. Thanks

31-2

Please provide your name and address:

Name: Virginia Picken Cornelius
Address: 88 Buchanan St SW
Ronan, MT, 59824
906-676-8129
Email: ginger1@ronan.net

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

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Comment 31, Virginia Picken Cornelius

31-1.—See Responses #1-1, 11-1, and 13-8.

31-2.—Any property owners displaced are entitled to receive fair market value for land or buildings, or damages as defined by law. In addition anyone displaced is eligible for relocation benefits in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.

Jean Riley/Project CN8744
 MDT Environmental Services
 2701 Prospect Ave.
 P.O. Box 201001
 Helena, MT 59620-1001

29 September, 2006

MaJ. George Cote, USA
 500 W Kent Ave
 Missoula, MT 59801-6723

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Dear Mr. Riley:

32-1 The proposed Highway 93 expansion for the Ninepipe/Ronan area is not a good idea. Ninepipe NWR is one of the premier wildlife management areas in the country. More than 190 bird species, deer, bear, ducks & geese, pheasants, grouse, and painted turtles occupy this area. Thousands of the turtles are crushed on the highway by vehicles in the traditional speed of 45 MPH. Many deer, pheasants and other upland bird species are also killed.

I have hunted this area for over 30 years. There is limited parking for vehicles along Highway 93 in the proposed area for a high speed passing lane that is planned. An increased risk for human fatality is indeed possible. The area is just too sensitive for high-speed passing.

32-2 One idea that is possible would be to construct an "elevated highway" as outlined in alternative 7. An underpass is not feasible because of these woody wetlands.

32-3 Of course, the dollar cost of each project will also have to be a consideration. Then too, you should review your Memorandum of agreement with the Confederated Kootenai Tribes which state of the Ninepipe area, "Due the high ecological value of the landscape, passing lanes are not appropriate and will not be included in the reconstruction project."

Sincerely,
 George J. Cote

Letter 32, George L. Cote

32-1.—See Responses #5-1 and 11-1.

32-2.—The objective of the project proponents is to propose a fiscally responsible project. Therefore, the preferred alternative was selected as doing the best job of meeting the project objective of improving the capacity and safety of this highway section while preserving the high environmental values of the area. The cost of the preferred alternative (Rural 3) including the separated bicycle/pedestrian path is \$162 million less than the most expensive alternative, Alternative Rural 7.

32-3.—See Response #17-2.

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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33-1

First, a positive comment about the work between Arlee & Mission. So many are complainings & I think the progress has been great & they have made great efforts not to hold up traffic. I frequently travel to Missoula & delays aren't all that bad. The new stretch from Arlee to Paralli is nice & the passing lanes make a big difference.

I'm hoping "super 2" passing lanes can occur between Mission & Ronan. BUT... the wildlife is most important. I favor elevated roads by ninepipes itself. Please, no 4-lane. That would doom the critters probably result in more traffic accidents. (Stats from 93 south of Msla to Lolo, I understand indicate more wrecks). Please take care of the turtles too.

33-2

More immediate, what are the plans for current work, i.e., Mission area to Paralli, for winter? Will there be 2-way, plowable pavement? Thanks
Repeat: No 4-lane long stretches

Please provide your name and address:

Name: Lynn Couey
Address: P.O. Box 206
St. Ignace, MT
59865
Email: lcouey@blackfoot.net

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Tribal Fitness Center
St. Ignace, MT
Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT
PUBLIC HEARING
Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT



Letter 33, Lynn Couey

33-1.—See Response #11-1.

33-2.—Thank you for your comment.

For more information regarding turtles see Responses #171-1 through 171-8.

For information regarding the construction status of the US 93 project please visit the MDT website (<http://www.mdt.mt.gov/pubinvolve/us93info/>), or contact: Dwane Kailey, MDT, Missoula District Administrator, 2100 W. Broadway, P.O. Box 7039, Missoula, MT 59807, Phone: 406-523-5800.

33a-1

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN 8744.

33a-1

Given the beauty of Eastern, Arbo, Park
Mission, Ronan, what a joy it
would be to have a bike path
of other paths, so people can have
family time, people can ride between
homes & work/businesses.
It's still a country road shape paths
would make it safe & friendly &
continue to let us enjoy the
country & connectedness of communities.
Thank you,
P. Crawford

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OPEN HOUSES

Monday
September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Center
St. Ignace, MT

Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community
Center
Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community
Center
Ronan, MT

Please provide your name and address:

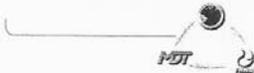
Name: Philippa Crawford
Address: 30830 TwoCrows Ln
Arbo MT 59821

Email: arl3859@blackfoot.net

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings
Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228



Letter 33a, Philippa Crawford

33a-1.—See Response #3-1.

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN 8744.

34-1 *I think the only way to protect wildlife and the ecology of the Ninepipes area is by building the elevated parkway. And, yes, of course the cost is great - you need to do it.*

Any other option, including Alt. 10 (preferred), continues the destruction of this valuable wetland and the remarkable wildlife species that critically depend on it. As the Flattop Valley continues to build up, the Ninepipes area will escalate in its value (including \$) as an uncommon resource.

34-2 *All options need to fully utilize reduced speed limits (like 35 mph) thru the Ninepipes area! And this needs enforcement!*

Thank you. I attended the 9/18 St. Ignace Open House and was disappointed at the scarcity of information available.

Please provide your name and address:

Name: Eleanor Danesh, M.S.
 Address: 1380 W. Nine Mile Rd.
Huson, MT 59846

Email: edonesh@mtvni.net

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006





OPEN HOUSES

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Ronan, MT

PUBLIC HEARING

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7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Letter 34, Eleanor Danesh, M.S.

34-1.—See Responses #5-1 and 11-1.

34-2.—See Responses #13-6 and 18-2.

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ca.shtml
 Please indicate comments are for project CN B744.

35-1 I am so thrilled with the long awaited improvements to Hiway 93! We have had many friends killed during my 50 years of life on the old hiway. I look forward to fewer fatal accidents occurring in the future. I appreciate the care taken with the care of the wild life on our reservation & the critter crossings that have been installed. I would encourage that some respect to many and we may have a bike path continue from Polson to Ronan to the Cherto turn off. As a biker I am well aware of the vast improvement in the Bitterroot south of Missoula for bikers. Thank you for your consideration and this long awaited improvement in our county

35-2

Please provide your name and address:
 Name: Dana Darlington
 Address: 6005 Buchard St SW
Ronan, MT 59864
 Email: Scandors10@aol.com

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:
 Jean A. Riley, PE
 Bureau Chief
 Environmental Services Bureau
 Montana Department of Transportation
 PO Box 201001
 Helena, MT 59620-1001
 (406) 444-7228

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 Tuesday
 September 19, 2006
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 Ronan Community Center
 Ronan, MT

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Letter 35, Dana Darlington

35-1.—Thank you for your comment.

35-2.—See Response #3-1.

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

36-1

As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

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Please provide your name and address:

Name: LINDA DELANEY

Address: 59820 HILLSIDE RD
ST. IGNATIUS, MT
59865

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 261001
Helena, MT 59620-1001
(406) 444-7228

OPEN HOUSES

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Ronan, MT

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Ronan Community Center
Ronan, MT

Letter 36, Linda Delaney

36-1.—See Response #3-1.

Letter 37, George Delie

37-1.—See Response #3-1.

From: Delie/Newman [mailto:funion@ronan.net]
Sent: Wednesday, October 04, 2006 10:08 AM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

37-1 | With the new Highway work it would be seem the right time to add a bike/walking path north of Polson as Close to Missoula as possible. Bike riders have a very dangerous route to travel and most are discouraged From even attempting it given the reputation Hyw 93 has earned for traffic deaths. Please consider this in Your planning.

George Delie
funion@ronan.net

Letter 37a, Nancy Delie

37a-1.—See Response #3-1.

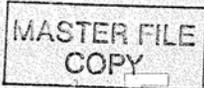
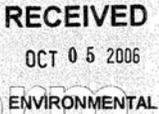
From: Nancy [mailto:catsnmouse@charlo.net]
Sent: Wednesday, October 04, 2006 8:36 PM
To: mdteiscommentsninepipe@mt.gov
Cc: lrenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

37a-1 | The time is now . . . if we neglect to include a bike path along with the improved highway system an opportunity is missed for this much needed facility. Let's not forget the people who travel "along the road" as well.

wp1 - comment 37a nancy delie.doc
July 18, 2007

1

Herrera Environmental Consultants

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

Dear Jean A. Riley:

I am writing to encourage the hiway department to extend the bike pathway that has been developed between Polson and Ronan on past the Ronan area and hopefully onto Missoula.

There are several reasons for the path, the main being of course, the ability of folks to get out and exercise. Our children often have wanted to bike or walk to certain areas and have always been unable to because of the existing hiway dangers.

We live in between Ronan and St. Ignatius and often see bikers along this stretch of road and are concerned about the space they have to ride safely.

Secondly, this area is a beautiful wetland that if it is to be disrupted with construction, I believe that we should do it right the first and hopefully only time. This stretch is so scenic that it would be a shame not to encourage people to use it in an environmentally friendly way.

Thank you for listening and considering our concerns.

Please provide your name and address:

Name: Brenda S. Dennis

Address: 32507 Two Creek Lane
Charlo, MT 59824

Email: chr2339@blackfoot.net
or bsd@commbank.net

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
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(406) 444-7228

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Tuesday
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Ronan Community Center
Ronan, MT




Letter 38, Brenda S. Dennis

38-1.—See Response #3-1.

38-1



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
HELENA REGULATORY OFFICE
10 WEST 15TH STREET, SUITE 2200
HELENA MT. 59626

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September 25, 2006

Helena Regulatory Office
(406) 441-1375 Phone
(406) 441-1380 Fax

Subject: Corps File Number **2006-9-0023**
US93 – Ninepipe/Ronan Improvement Project
NH-F 5-1(9)6F, MDT Control Number B744
Corps Comments on Draft Supplemental Environmental Impact Statement

Ms. Jean A. Riley, P.E., Chief
Environmental Services Bureau
Montana Department of Transportation
2701 Prospect Avenue
PO Box 201001
Helena, Montana 59620-1001

Dear Ms. Riley:

Reference is made to your August 10, 2006 request for comments on the Draft Supplemental Environmental Impact Statement (DSEIS) for the Ninepipe segment of the US93 Evaro – Polson transportation improvement project. The Ninepipe segment is located between the communities of Ronan and Saint Ignatius in Lake County, Montana.

39-1 | 1. **Page 4-75, Section 4.10.3 Wetland Resources:** The jurisdictional status of wetlands, ditches, canals, channels, and other waters is being reviewed. This office will provide a list of waters regulated by the Corps once a jurisdictional determination is complete.

39-2 | 2. **Page 5-67, Section 5.10 Wetlands:** The DSEIS makes it clear that the projected wetland impacts used for comparing alternatives includes temporary, construction-related impacts as well as permanent wetland impacts. Short-term, construction-related wetland impacts should be separated from permanent impacts for the range of alternatives to facilitate informed decision making. The Corps recognizes the difficulty in projecting temporary impacts for the various alternatives, but we believe that it is necessary to take a hard look at temporary impacts in the SEIS, even if the analysis used is qualitative and relies on the best judgment of technical professionals familiar with the proposed project.

39-3 | 3. **Page 5-77, Section 5.10.4 Mitigation Measures:** The Corps noted that “Additional mitigation measures *can* be added to the special provisions for the contractor to minimize project impacts on wetlands” (emphasis added by Corps). Please change the word *can* to *will*, to ensure that appropriate special provisions are added.

Printed on  Recycled Paper

Letter 39, Department of the Army COE, Allan Steinle, Montana Program Manager

39-1.—Thank you for your comment.

39-2.—The short-term construction related impacts have been separated from the permanent impacts in the final SEIS. Please see Section 5.10.

39-3.—This revision has been made. See final SEIS Section 5.10.4.

**Letter 39, Department of the Army COE, Allan Steinle,
Montana Program Manager (continued)**

39-4.—We are aware of that requirement, and the mitigation plan will be included in the permit application.

39-5.—The divider page in the DSEIS said “Draft” and we will add “Draft” to the evaluation as correctly noted.

39-6.—See Response #11-1.

2

- 39-4 | 4. **Page 5-78, Section 5.10.4 Mitigation Measures:** A compensatory mitigation plan that is sufficient to offset unavoidable impacts to Waters of the U.S. must be included in any Application for Department of Army authorization under Section 404. If the Montana Department of Transportation is planning on pursuing the use of available credit from a known off-site compensatory wetland mitigation project in the watershed, it should be clearly stated and the site specifically identified.
- 39-5 | 5. **Appendix D, Draft 404(b)(1) Evaluation:** The cover page and the headers on each page should all include the word “Draft” to make it clear that the document presented is a Draft 404(b)(1) Evaluation.
- 39-6 | 6. **Appendix D, Draft 404(b)(1) Evaluation:** The Clean Water Act requires that the Corps can only issue a permit for the least environmentally damaging practicable alternative that satisfies the project purpose. Practicability takes into account cost, logistics, and technology available to the project proponent. The preliminary preferred alternative presented in the DSEIS (Rural Alternative # 10) appears to be the least environmentally damaging practicable alternative, and sufficient supporting documentation appears to be in the DSEIS.

The Corps appreciates the opportunity to comment on the DSEIS, and if there are any questions concerning these comments please contact myself or Todd Tillinger of my staff at (406) 441-1375, and reference Corps File Number **2006-9-0023**.

Sincerely,

Allan Steinle
Montana Program Manager

Copies Furnished:

- Lewis YellowRobe, - Confederated Salish and Kootenai Tribes Transportation Planner
- Craig Genzlinger – U.S. Federal Highway Administration, Helena
- Steve Potts – U.S. Environmental Protection Agency, Helena
- Scott Jackson – U.S. Fish and Wildlife Service, Helena



Letter 40, DeeAnn DesJarlais

40-1.—See Response #3-1.

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN 8744.

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40-1

As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

DeeAnn DesJarlais

Please provide your name and address:

Name: DeeAnn DesJarlais
Address: 705 5th Ave SW
Roken, MT. 59864
Email: _____

Please leave your comments with either MDT, Skellings
Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

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Ronan Community
Center
Ronan, MT

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

41

Thursday, October 05, 2006

Montana Department of Transportation
 PO Box 201001
 Helena, Montana
 59620-1001

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OCT 11 2006

ENVIRONMENTAL

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Dear Jean Riley,

41-1

I have just recently learned that there are some serious wildlife issues regarding the HWY 93 expansion program through the Ninepipe Ronan areas. I am certainly in favor of improving our transportation needs, but without the higher risk and endangerment of our wildlife.

We need to do all that we can to protect the wildlife wherever we can, especially when this highway goes right through a sensitive area like the Ninepipe NWR. Why do we have such a highway going through a NWR in the first place?

We are always concerned about public safety, but we are not the only creatures that live here. We need to be concerned about our wildlife as well. Any means that it takes to protect both we need to do the right thing. Our wildlife is part of our Natural Heritage and we need to preserve it.

If the proper safeguards, like Alternative 7, are out of the budget then we really can not afford to do anything because it is a package deal.

Sincerely,

Bob & Linda Detmers
 724 Deer Ridge Road
 Victor, Montana
 59875
 <bldimages@earthlink.net>

1

Letter 41, Bob and Linda Detmers

41-1.—The project’s decision makers need to balance multiple factors, including vehicular safety and wildlife impacts among many others, in choosing the final Preferred Alternative. Alternative Rural 7 costs an estimated \$162 million more than the final Preferred Alternative. This additional cost would likely delay the project a minimum of 6 years in which time the current high rate of accidents would continue. The project’s decision makers have concluded that Alternative Rural 7 cannot be selected because the need to improve vehicular safety along the project corridor would not be met in an acceptable time frame.

The final Preferred Alternative, Alternative Rural 3, does not include the southbound passing lane that was part of the preliminary preferred alternative in the draft SEIS. By choosing a preferred alternative that does not include the passing lane in the wildlife refuge and by providing numerous wildlife crossings in the project corridor the project decision makers have attempted to reach the appropriate balance between minimizing adverse impacts to wildlife and minimizing adverse impacts to vehicular safety.

From: Kevin Detwiler [mailto:kevind@ronan.net]
Sent: Thursday, October 05, 2006 5:35 PM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Hwy 93 Ninepipes PPA

Greetings Ms Riley-

42-1 Sorry to have to bother you via email, but I was unable to attend the public comment meeting & realized the time for any comment is drawing to a close, so here we are. I should introduce myself, I am a long time resident of the valley (19 of the last 24 years), I own property adjacent to the route (Mission Valley Veterinary Clinic, P.C., NE corner of Hwy 93 & Timberlane Road), I am an avid cyclist, I drive on Hwy 93 all the time for work & fun. I would propose that the PPA of (alt 10) is not the best idea for numerous reasons. I have been to numerous planing sessions over the years (decades?) and my observation from previous experience and now backed up by current experience is that a 4 lane Hwy 93 will serve the needs of the valley better, with increased safety for all motorists. Is this not the primary overseeing issue (finally being addressed) that we are contending with in this massive reconstruction of Hwy 93? I know there are other issues influencing what the nature of the final project will be, I realize that you do not operate in a vacuum, but functionality of the road seems to be the most important issue to contend with. I would propose that Alt 7 with 4 lanes & a separate bike path would be the best option. I am the person (the genius?) that proposed an elevated roadway at an input meeting many years ago; the idea was pretty much blown off as 'excessively too expensive'. Well yes, it is very much money, but it does meet many of the

requirements for the new road.

42-2 I have watched our valley change over the years. When I was first here in 1982, there were no restaurants in town serving pizza; now we have 2 and a Subway & a McDonald's. I do not propose this is necessarily good, just that things have changed drastically in ~25 years, and so the road that serves as our main artery for the entire valley & places beyond must change. I have watched the construction with awe, the Polson section was done so efficiently last year, now the sections this year are some what less efficient, but much larger in scope, so what do we expect? on both ends we have a new road with smooth pavement, better approaches & clear view of traffic. In Polson we have a 4 lane divided Hwy 93 that works perfectly as envisioned and allows everybody to drive unimpeded with greatly enhanced safety. We have a beautiful bike lane, I am looking forward to the remainder to be completed in the same manner clear to Ronan. On the other hand we have the section from Arlee to the south of Ravalli. The idea of 2 lanes with alternate passing lanes is for lack of a better term idiotic. Please do not try & confuse a clear fact that it is not safe. We live in a hurried up, if you will permit, rude society. This is being carried out on this portion of Hwy 93 right now with the completion of the road as I felt it would. The places where the

42-3 road constricts has become a race track for some of my fellow motorists to try & get ahead at the last second as we merge to a single lane. Many motorists speed up for the 2 lane portion & then slow for the single lane portion and others cannot get by when we can or pass later when we cannot. Who came up with this configuration? I knew it would work this way, and the last month has confirmed my worst fear. We do not need more 'enhanced' 2 lane road (or what ever you

Letter 42, Kevin Detwiler

42-1.—See Response #11-1.

42-2.—See Responses #5-1 and 11-1.

42-3.—See Response #11-1.

Letter 42, Kevin Detwiler (continued)

42-4.—See Responses #5-1 and 11-1.

42-5.—See Response #11-1.

42-3
Con't | wish to call it) We need a road like the one built in Polson for the entire valley, not just north of
42-4 | Ronan. Why the difference? The entire Hwy 93 is subject to the increasing traffic, and the same
42-5 | seasonal increases in traffic volume at certain times, so the differentiation makes no sense. If 4
lane divided was good enough for Polson to Ronan, the same reasoning should apply to the rest
of the corridor. I would therefore propose that Alt 7 with 4 lanes & a bike path would be the best
option. If you look at the location of the passing lanes, you will be having the same 'race track'
episodes in bad locations with Alt 7 as now designed. Hwy 212 intersection is a bad place & the
top of Post Creek Hill is a bad place as the Methodists have built a new church there with Hwy
93 access at or near the crest of the hill. Serious consideration should be given to Alt 7 for these
reasons. Please do not keep the 2 lane or modified 2 lane Alts for Hwy 93 as they will not
address any safety issues (passing lanes worsen it in some respects). Sincerely,

Kevin R. Detwiler, D.V.M.
33 Timberlane Road
Ronan, MT 59864

Mission Valley Veterinary Clinic
phone: (406)676-4251
email: krdetwiler@ronan.net

43

Environmental Services
MDOT
RE: Project CN B744

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Dear Ms Riley:

43-1

Many of us have participated in discussions and meetings for nearly twenty years, hoping to find some remedy for the problems that increased traffic on HWY 93 through Ninepipe will create. I have read the SDEIS quite carefully and will raise some issues that come to mind.

First, there is no doubt that the highway now being constructed is better than the version we were first presented with. The lengthy process has had positive results in the parts that we now see. The segment of the road which includes Ninepipe was given additional attention because of the critical nature of that segment, both as habitat and as an essential corridor for wildlife moving westward from the Mission Mountains. Aerial photos show its very unique, geologic features -the abundance of small ponds which nourish a rich wildlife community. Because of its uniqueness, its value as habitat and role in the movement of wildlife, there has been a substantial public investment in lands at Ninepipe. These lands are used by hunters, scientists, birdwatchers, photographers, as well as Grizzly Bear, Otter, Eagles, Waterfowl - many more are mentioned in the DEIS - maybe you have seen for yourself. The public was led to believe that these characteristics would be protected by the terms of the Memorandum of Agreement.

That is why I was surprised to learn that PPA 10 includes features that will increase speed, width and

Letter 43, Marie Dinwoodie

43-1.— In the final SEIS, Alternative Rural 3 has replaced Alternative Rural 10 as the Preferred Alternative. Under Alternative 3, a south bound passing lane is no longer to be included in the RP 39.4/44.1 area. Because US 93 will continue to be a two-lane road in this area, increases in speed are not anticipated or expected to result from this project. Speed limits are set by the legislature and cited in 61-8-303 of the Montana Code Annotated. Changes in speed limits can be accomplished by the Transportation Commission or by the City of Ronan, but only based on safety concerns and are not expected to be changed in response to this project.

Letter 43, Marie Dinwoodie (continued)

43-2.—Turtle migration is discussed under the Amphibians and Reptiles discussion in Section 4.12.3 of the draft SEIS. In addition, turtles have been considered in the general discussion of wildlife in Section 4.12 and 5.12 of the draft document.

For more information on turtles see Responses #171-1 through 171-8.

43-3.—On page 3-6 of the DSEIS it was stated that “an acceptable LOS would be provided for any of the alternative alignments or for improvements of the existing corridor.” Page 2-16 listed the types of improvements that could reduce accidents by providing passing opportunities – passing lanes, climbing lanes, and four-lane sections. The Preferred Alternative selected by the proponents, based in great part on comments received, is Alternative Rural 3 with no passing lanes in the Ninepipe area.

43-1
Cont
noise, all of which decrease the road's "porousness" regardless of "crossings." The consultants providing information for the DEIS described the area "where most wildlife crosses" (4-108) as beginning at RP 39.4 to 44.1, plus the Post Creek and Crow Creek Crossings. The passing lanes included in the PPA will greatly increase SPEED, noise and width of pavement in the 39.4/44.1 area and deter wildlife from crossing(5-115). I did not find any plan in the document to deal with the migration of turtles.

43-2
43-3
The public was led to believe by the Memorandum of Agreement that Level of Service (LOS) would be suspended in this critical area, and that the value of the area to the community would be paramount. Your document contains conflicting points of view on this. Section 3-6 indicates that LOS standards would be implemented and section 3-8 states that "a required standard for roadway LOS was not stated... " according to the POG. It is implied that "safety" is dependent on the inclusion of passing lanes, that people will die without the passing lanes. I think this is manipulative, both of the reader and of the information on the type and frequency of accidents here.

I want the best that we can do for Ninepipe - I know you do too, But PPA 10, with its passing lanes, is not that plan. Thank you.

Sincerely yours,



Marie Dinwoodie
70274 US HWY 93
Charlo MT 59824

Letter 44, James N. Dixon

44-1.—See Response #3-1.

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN 8744.

44-1 | I wish to comment on the lack of planning for bike and pedestrian traffic on project CN 8744.

I feel the plan needs to accommodate all users as completely as possible.

As our population grows, more people will be biking and walking in this area. It makes sense economically to plan for those needs now, and implement the proper path at this time, rather than make it another costly project in the future.

The need for a safe walking/biking path on 93 is there now, and demand and use will only increase. Other stretches of Hwy 93 with a path safely provide are meeting and encouraging recreational and physical fitness needs of local citizens (i.e. TAXPAYERS!!!) We deserve that safety in our area.

James N. Dixon

Please provide your name and address:

Name: James N. Dixon

Address: 43204 Roullier Rd
Ronan, MT 59864

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

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Monday
September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Center
St. Ignatius, MT

Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING
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September 19, 2006
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Please indicate comments are for project CN 8744.

45-1 *Project CN 8744*
In the interest of safety and increased physical activity and physical fitness, I would love to see a bike/walking path THE FULL LENGTH of Hwy 93, but am especially interested in one between Ravalli and Tolson.

Thank you!
Sheila Dixon

Please provide your name and address:
 Name: Sheila P. Dixon
 Address: 43204 Roullier Rd
Ronan, MT 59864
 Email: codgers2@ronan.net

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Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting or mail to:
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Letter 45, Sheila P. Dixon

45-1.—See Response #3-1.

Letter 46, Brian DuCharme

46-1.—See Response #3-1.

From: Brian DuCharme [mailto:brianfd@cskt.org]
Sent: Wednesday, October 04, 2006 11:09 AM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

To Whom It May Concern:

46-1

I am in support of creating a walking path south of Ronan along with the U.S. 93 road construction. I support the community of Ronan, as I do my own community of Polson, where I have found the walking path there very useful and a healthy compliment to the community as a whole. Please consider adding a walking path to the road construction section south of Ronan.

Thank you,

Brian DuCharme
39833 Hwy. 35
Polson Mt. 59860
406 883-9240

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Please indicate comments are for project CN B744.

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47-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
separate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Andrea Duhman

We all need to ride ~~and~~ our bikes
to work to save gas and improve
our health. Please help us do
that!

Please provide your name and address:
Name: Andrea Duhman
Address: 38100 Mtn View Rd
Polson MT 59860
Email: dahg_duhman@skuedu

Please leave your comments with either MDT, Skellings
Connolly or Herrera staff at the meeting, or mail to:
Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
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Letter 47, Andrea Duhman

47-1.—See Response #3-1.

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Please indicate comments are for project CN 8744.

48-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Lori I. DuMont

Please provide your name and address:
Name: Lori I. DuMont
Address: 36980 Dublin Gulch Rd
St. Ignace, MT 59816
Email: _____

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Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:
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Letter 48, Lori I. DuMont

48-1.—See Response #3-1.

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Jean Riley / Project CN 8744
 MDT Environmental Services
 2701 Prospect Ave.
 P.O. Box 201001
 Helena, MT 59620-1001



October 2, 2006

MDT Environmental Services
 Attn: Jean Riley / Project CN 8744

49-1

I am opposed to the proposed Highway 93 expansion for the Ninepipe/Ronan area. No to high speed passing lanes. Wildlife that move from Mission Mountains and the Flathead River through the Ninepipe Area would risk being killed.

49-2

If there was a Memorandum of Agreement with the Confederated Salish & Kootenai Tribes, honor it!
 Keep Montana 93 safe for people and wildlife!

Yours truly,
 Valley Ellingsen



Ms. Valley Ellingsen
 414 Ponderosa St
 Kalispell, MT 59901

Letter 49, Valley Ellingsen

49-1.—See Response #11-1.

49-2.— Representatives from MDT, FHWA, and CSKT (referred to as the “three governments” or “proponents”) negotiated and signed the Memorandum of Agreement-US 93 Evaro to Polson (MDT, FHWA, and CSKT 2000). CSKT is one of the three project proponents and as such participated fully in the design and selection of the alternatives.

See Response #17-2.

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Please indicate comments are for project CN 8744.

50-1

As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Please provide your name and address:

Name: Kayla Erickson

Address: 335¹ Back Rd
Ronan MT 59804

Email: _____

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Connolly or Herrera staff at the meeting, or mail to:

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Letter 50, Kayla Erickson

50-1.—See Response #3-1.

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The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

51-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Please provide your name and address:

Name: Nick Fell
Address: 57372 Biggerstaff Ln
Email: jksfell@blackfoot.net

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Please leave your comments with either MDT, Skilling's Connolly or Herrera staff at the meeting, or mail to:

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Ronan, MT

Letter 51, Nick Fell

51-1.—See Response #3-1.

From: pat hurley [mailto:phravalli@yahoo.com]
Sent: Wednesday, October 04, 2006 12:47 PM
To: MDT EIS Comments Ninepipe
Subject: Flathead Resource Org comment

Ms Riley:

52-1 | We, the Flathead Resource Organization submit the following comments on the Ninepipe-Ronan
 52-2 | Highway 93 reconstruction Draft SEIS. And while there is much to applaud in the efforts to
 52-3 | reevaluate the design, we are disappointed in the (1) the casual analysis of wildlife use, (2) the
 poor choice of placing a passing lane in critical habitat and (3) the egregious selection of
 Alternative 10 despite the lack of research showing it to be the most viable.
 <!--[if !supportEmptyParas]--> <!--[endif]-->

52-4 | Our organization has been in existence since 1978, and represents some 100 members from the
 Flathead Indian Reservation and surroundings. We have participated in the review process for
 this project since 1988 and had membership on the first IDT and representation on the CAC and
 MDT for the SEIS process.
 <!--[if !supportEmptyParas]--> <!--[endif]-->

After the publication of the MOA in 2000, FRO and most people in the Mission Valley were
 relieved to understand that the highway planners recognized the unique, fragile and regionally
 significant value of the Ninepipe area. State, Federal and Tribal agencies had collaborated in
 assembling tens of thousands of acres of dedicated wildlife management lands in the “kettle”
 terrain between the Mission Mountains and the Flathead River.
 <!--[if !supportEmptyParas]--> <!--[endif]-->

52-5 | Language in the MOA outlining the goals of the SEIS clearly established that “It was imperative
 to look at the Highway within the context of the surrounding landscape”. This intent by the
 framers of the MOA was clear in their demand that the SEIS study the feasibility of realigning
 the highway west to avoid cultural and wildlife conflicts. It was also stated that if it was decided
 to leave the highway on its current alignment, “due to the high ecological value of the landscape,
 passing lanes are not appropriate and will not be included”.
 <!--[if !supportEmptyParas]--> <!--[endif]-->

52-6 | Furthermore, it was clearly established when the IDT and COC committees began meeting, that
 Level of Service standards would not be applied to the Ninepipe area because of the adverse
 effects these standards would impose on 4(f) values and the wildlife management mandate of the
 area.
 <!--[if !supportEmptyParas]--> <!--[endif]-->

After several years of TDC and CAC meetings and public meeting involving hundreds of
 residents, all based on the minimalist pledges of the MOA, we were extremely disappointed
 earlier this year when the PDSEIS changed the ground rules that we had been working under.
 The result of these arbitrary changes is a preliminary preferred alternative calling for a one-mile-

Letter 52, Flathead Resource Organization, Pat Hurley, President

52-1.—This EIS provides analysis of impacts to Fish and Wildlife and Threatened and Endangered Species in Section 5.12 and 5.13. These sections of the document provide analysis of both direct and indirect impacts of the project as well as providing mitigation measures to help minimize the project impacts. Section 5.20 provides an analysis of cumulative effects on wildlife, including the impacts of past, present and future activities. In addition, Sections 5.9, 5.10, and 5.11 discuss project impacts to Water Quality, Wetlands, and Floodplains and Streams, all which directly or indirectly affect wildlife or their habitat. Scientific literature, wildlife managers and other wildlife experts were consulted throughout the preparation of these sections of the document. The preparers of this document have relied on the professional judgment of experts and the best available science.

52-2.—See Response #11-1.

52-3.—Alternative 10 was the preliminary preferred alternative, selected by the 3 lead agencies based on analysis of all impacts and benefits. After consideration of issues addressed in comments received on the DSEIS, the proponents have now selected Alternative Rural 3 as the preferred alternative in the FSEIS. See also comment 39-6 from USACOE.

52-4.— The project proponents have examined the project “within the context of the surrounding landscape”; however, the project proponents need to balance multiple factors, including vehicular safety, cost and wildlife impacts among many others in the final decision.

52-5.—See Response #17-2.

52-6.—The proponents agreed early on that there would be no specific LOS requirements, rather that they would be goals for achievement. No alternative would be screened out solely on LOS.

Letter 52, Flathead Resource Organization, Pat Hurley, President (continued)

52-7.—This EIS is meant to analyze the impacts of this project given the best available science and information available from project design, which is typically at a preliminary stage. It is not meant to be included in the body of scientific literature or as peer-reviewed scientific research. The use of personal communications with resource managers and experts on a particular subject is accepted practice in the preparation of environmental documents in the absence of published data. Wildlife biologists and managers as well as other experts have been consulted throughout the process of preparing this document. Lacking specific research on wildlife corridors in the area, the professional judgment of these experts is the best available science.

52-8.—An analysis of the cumulative effects on wildlife was performed as part of this analysis and is found in section 5.20. As required by NEPA, the analysis includes a discussion of cumulative impacts of past, present, and future actions. The discussion also includes possible mitigation for these impacts.

52-9.—Short bridges at the kettle ponds would span the shoreline of the pond at these locations to provide both wet and dry passage for painted turtles. Length in the preliminary design was approximated based on field observations of low and high water levels. Bridges at the kettle ponds would be designed to provide crossing for turtles at these locations at all water levels. Full length bridges would provide unimpeded aquatic access under the road at the kettle pond locations; however, shorter bridges will provide turtle passage at these sites as well.

52-10.—See Response #11-1.

52-11.—Although fencing was not included in the PPA, it was not our intention to absolutely preclude wing fencing at wildlife crossing structures throughout the Ninepipe segment of the project, and the use of fencing in this segment has not been eliminated from consideration. The placement of fencing in this segment of the project will be determined by wildlife biologists and habitat managers and be subject to agreement by MDT, FHWA, and CSKT. Wildlife fencing placement in the Ninepipe segment will be determined during final design.

The following text has been added to the Wildlife Crossing Structure section of 5.12.1 of the FSEIS: “Although not currently proposed for the Ninepipe segment of the project, the use of fencing in conjunction with the wildlife crossing structures in this segment of the project will be considered in final design. The placement of fencing in this segment of the project will be determined by wildlife biologists and habitat managers and be subject to agreement by MDT, FHWA, and CSKT.”

52-12.—The discussion presented in the SEIS includes the range of impacts that may occur from material extraction at a source site. The source sites for this project have not been identified, nor has the quantity of material to be taken from the site(s)

52-6 | long south-bound passing lane through the “kettle” area and a much heavier-handed treatment
Con't | for Ronan than we believe to be necessary or prudent.
<!--[if !supportEmptyParas]--> <!--[endif]-->

We would first like to point out some glaring omissions in the DSEIS:

52-7 | • The evaluation of impacts on wildlife and endangered species does not include new
information that was not already available at the time of the MOA. The citations are
mostly “personal communications”—an extraordinarily casual approach to wildlife
research. There is still no understanding of how wildlife uses the corridor or the adjacent
kettle area, and how the PPA would affect wildlife access to vital habitat components on
either side of the roadway. There is no analysis of vital habitats, and likely corridors are
only estimated.

52-8 | • There are no studies on the relationship between Highway 93 and other transportation
infrastructure in the area. Wildlife use of Ninepipe bisects several roads, including
Highway 212, Mollmann Pass Road and Eagle Pas Road. The cumulative effect, if not
understood, could pose real jeopardy. For instance, over the past five years, three grizzly
bears have been killed on Highway 93, and at least two others on a county road east of the
highway in the Kicking Horse area. It is not possible to design a permeable road without
knowing this relationship.

52-9 | • The PPA calls for short bridges at the ends of Kettles One and Two, but no rationale as to
how this would protect painted turtles. However there is every reason to believe that full
restoration of the kettles by full-length bridges would resolve the risk.

52-10 | • Both the Montana Department of Fish, Wildlife and Parks and the US Department of Fish
and Wildlife have strongly objected to the south-bound passing lane due to the indirect
effect it would have on their 4 (f) mandate, yet there is no discussion of this in the DSEIS.
These agencies along with the Tribes have the public responsibility for managing wildlife
in the refuge, the WPA’s and the WMA’s, and their concerns should be addressed in detail.

52-11 | • The PPA calls for numerous wildlife crossings in the roadbed but specifically rejects the
inclusion of wing or funnel wildlife fencing. The preponderance of evidence and literature
suggests that wildlife will not use crossing without such fencing. This contradiction must
be resolved before the FEIS is finalized.

52-12 | • The SEIS fails to identify fill quarries, mix and process sites, and disposal areas. We
understand that this is usually considered a separate issue and not addressed in NEPA
documents on most highway projects. But these ancillary activities can have enormous
impacts if they are not located and performed in a way that corresponds to the wildlife
needs of the area. Secondly the current procedure of contracting for and managing these
sites after a ROD has been published has not been particularly successful on the Flathead
Reservation. There are several large abandoned quarries in Lake and Sanders Counties left
over from previous projects, and at least one on Highway 212 north of the Dixon Agency
was operated during the nesting season of listed bald eagles. Oversight of the quarry
restoration has been left to Montana DEQ, which has been immobilized by for funding and
personnel.
These sites should be identified and evaluated as to their effect on wildlife use of the
area before a final draft is approved.
<!--[if !supportEmptyParas]--> <!--[endif]-->

Responses on this page are a continuation from the previous page

been determined. Once the material source sites have been determined, the Contractor would be required to secure all required approvals and comply with all required laws, which would examine potential effects to environmental impacts. In many construction projects the Contractor provides the sites and must secure all required approvals and comply with all required laws. For the other projects in the US 93 corridor from Evaro to Polson, the sites were provided to the Contractor by the project proponents. During the design process all of the required permits were acquired and specifications developed in close coordination with the resource agencies to designate specific BMP's applicable to each site. This process is intended to provide the evaluation of impacts this concern addresses.

Letter 52, Flathead Resource Organization, Pat Hurley, President (continued)

52-13.—We did include some references to accident rates per million vehicle miles, but we were not consistent throughout the discussion. On reevaluation, we believe both accidents per mile and accidents per million vehicle miles should be shown and have made the appropriate modifications to the text.

52-14.—See Responses #5-1 and 11-1.

52-15.—See Responses #5-1 and 11-1.

52-13 | There are also several errors of commission in the DSEIS:

- In its discussion of safety, the DSEIS continues to use a misleading index of highway risk based on accidents, injuries and fatalities per mile of roadway rather than the standard index of accidents per traveler-mile. The only reason this is done is to stir up misinformed passion and to avoid an objective risk analysis. MDOT should be required to use standard measures rather than slewed data for propaganda.

52-14 | • According to the comparative analysis of the alternatives, Alternative 7, the raised parkway better meets all of the goals in the purpose and need than the PPA or any other alternative. Yet earlier this year, there was an effort by FHWA and MDT to have Alternative 7 deleted from the menu on grounds of cost. It was also rejected as a PPA for the same reason.

There are several such projects already existing in the US, such as Glenwood Springs Canyon in Colorado, where the value of the landscape and its community justified the cost. We submit that at Ninepipe, with its 20,000 acres of dedicated wildlife lands worth tens of millions in sportsmen's licenses and tax dollars, is such a place. If this project were put to a meaningful cost-benefit analysis, Alternative Seven would prove a bargain.

52-15 | • Finally, despite the fact that Alternative 7 and at least two other alternatives (3 and 4) exceed or equal Alternative 10 in attaining the goals, it was Alternative 10 that was selected as the PPA. This discounting of the DSEIS's own data seems arbitrary and bull-headed. This is only one example of using the DSEIS process as a continued and concerted effort to justify a pre-existing decision.

<!--[if !supportEmptyParas]--> <!--[endif]-->

In conclusion, although we are disappointed in the Draft, we believe that even the flawed picture presented by the DSEIS provides more than ample reason to reject the PPA and accept a more benign alternative. We strongly urge you to reconsider Alternative Seven or, failing that, mix and match lane configuration and speeds to safely manage traffic and maintain the integrity of the Ninepipe wildlife management area. These need not be mutually exclusive goals.

<!--[if !supportEmptyParas]--> <!--[endif]-->

Respectfully

Pat Hurley, President
Flathead Resource Organization

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Please indicate comments are for project CN 8744.

53-1 | Please consider a bike path south of Ronan. This an area of growth & particularly for people who value the outdoors. With gas prices not acting to decrease much (if any) I am sure more & more people will use bike for transportation. More likely this would be used extensively for recreation & fitness endeavors. If a bike path is not planned from the start it will most likely never happen & certainly would be more expensive as an "add on".

Please provide your name and address:
 Name: John Fleming
 Address: 845 McKeever Rd
St. Ignace, MT 59865
 Email: _____

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:
 Jean A. Riley, PE
 Bureau Chief
 Environmental Services Bureau
 Montana Department of Transportation
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 Helena, MT 59620-1001
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Letter 53, John Fleming

53-1.—See Response #3-1.

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Please indicate comments are for project CN B744.

54-1

I think a bike path would be a great addition to the community. I'm sure it would be well used.

Please provide your name and address:

Name: Louis Fleming

Address: 8545 McKeever Rd.
St. Ignace, MT 59865

Email: Fleming.louis@hotmail.com

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(406) 444-7228

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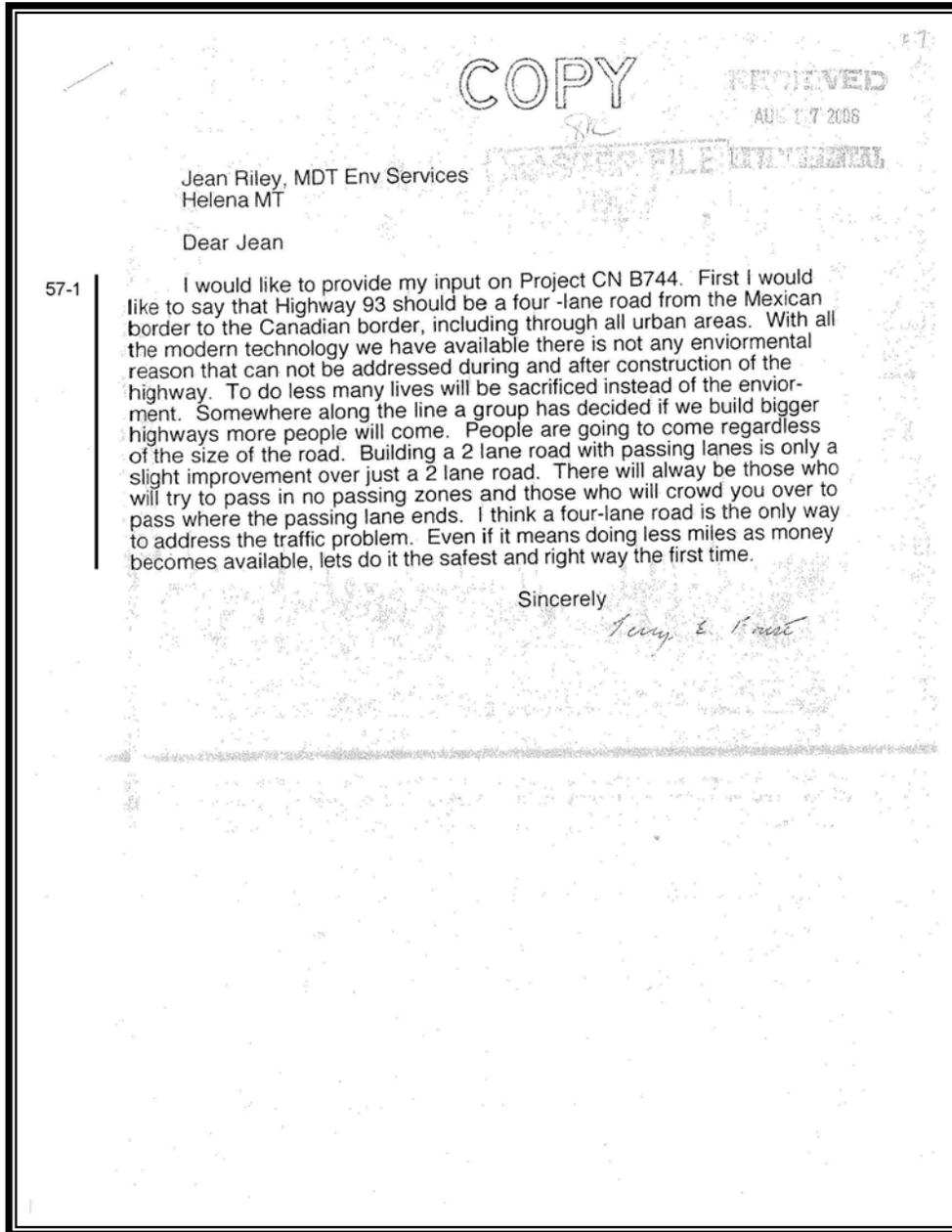
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September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Letter 54, Louis Fleming

54-1.—See Response #3-1.



Letter 57, Terry E. Forst

57-1.—See Responses #1-1, 11-1, and 13-8.

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

58-1 I PREFER RURAL ALTERNATIVE #7.

SIDE NOTE: I ENTER 93 FROM DASH GULCH ROAD —

THE ARCHED BARRIERS IMPROVE VISION NORTH & SOUTH
IF ONE IS DRIVING A CAR; 3/4 TON 4 WHEEL DRIVE
PICK-UP IS BETTER. THOSE BARRIERS CONSTITUTE A
LINE OF SIGHT RISK IN MY JUDGMENT BASED ON
32 YEARS OF USING THAT JUNCTION.

DEFINITELY OPPOSED TO ALT 10 BECAUSE OF
SOUTH BOUND PASSING LANE AT NINEPIPE RESOUR

Please provide your name and address:

Name: DUFF GERRISH

Address: 56850 FISH HATCHERY ROAD
ST IGNATIUS, MT 59865

Email: duffgerrish@blknat.net

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings
Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228




OPEN HOUSES

Monday
September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Center
St. Ignatius, MT

Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community
Center
Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community
Center
Ronan, MT

Letter 58, Duff Gerrish

58-1.—See Responses #5-1 and 11-1. Also, generally on new construction the location of the barriers on the outside of the shoulders allows sufficient sight distance to alleviate any safety concerns for vehicles entering the roadway. The location referenced is a temporary installation and will be referred to the construction section for review and possible modification of placement for improved safety.

59

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Jen Gervais,

59-1

I am writing this letter to oppose high speed passing lanes through the Ninepipe NWR. I know every time I have driven this stretch of highway there are no traffic jams + the birds on both sides are beautiful. An elevated highway may work instead, of course you may have birds flying into cars. I propose a bypass that stretches outside of the NWR (maybe start in St Ignace + end up in Ronan) so we do not have to sacrifice a beautiful bird, painted turtle + other wildlife sanctua

59-2

Sincerely,
Jen Gervais

Letter 59, Jen Gervais

59-1.—See Response #11-1.

59-2.—Bypasses to either the east or west were analyzed in the draft SEIS (Section 3.1.2), and were eliminated due to their substantial adverse impacts to fish and wildlife habitat, and creation of additional barriers to wildlife movement.

Letter 60, Pete Gillard

60-1.—See Response #3-1.

From: Pete Gillard [mailto:peterg@cskt.org]
Sent: Wednesday, October 04, 2006 10:51 AM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

RE: project CN B744

60-1 | I feel there should be a bike path south of Ronan as it would promote exercise and good health for all residents of the Reservation.

Thank you,

Pete Gillard

Letter 61, Steven D. Glow

61-1.—See Response #3-1.

From: Glow, Steven [mailto:sglow@montana.edu]
Sent: Friday, October 06, 2006 4:12 PM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

61-1 | There should be an off road bike path along this section of highway. This is a wonderful place, with great wildlife viewing. It is terrifying to ride a bicycle on this road. Simply widening the highway and shoulders will not make bike riding much safer. The amount of debris on the roadside makes a shoulder dangerous. The bike path from Polson to Ronan will be wonderful. This is a tourist attraction. Just look at the path across the Idaho panhandle and all of the business that has generated. Safety is the number one reason for improving Hwy 93. An off road bike path will enhance safety for all.

Steven D. Glow
Dixon, MT

G2

October 4, 2006
Jean Riley/Project CN B744
MDT Environ. Services
2701 Prospect Ave.
PO Box 201001
Helena, MT 59620

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To: Jean Riley/Project CN B744

- 62-1 | I want to express my grave concern for the delicate and precious Ninepipe/Ronan area, which is home to all manner of wildlife, and serves as a wildlife corridor.
- 62-2 | I believe that the MDP plan to put high-speed passing lanes in this area would be devastating to this sensitive area, to say the least. I would support an "elevated highway" as an alternative.
- 62-3 | I support the honoring of the previous agreement with the Salish/Kootenai tribe to not install increasing roadway and passing lanes, and therefore protect this valuable ecological landscape.

Thank-you for your consideration.



Beverly Beck Glueckert
636 Toole Ave.
Missoula, MT 59802

Letter 62, Beverly Beck Glueckert

- 62-1.**—Comment noted.
- 62-2.**—See Responses #5-1 and 11-1.
- 62-3.**—See Responses #17-2 and 49-2.

Letter 63, Pam Goss

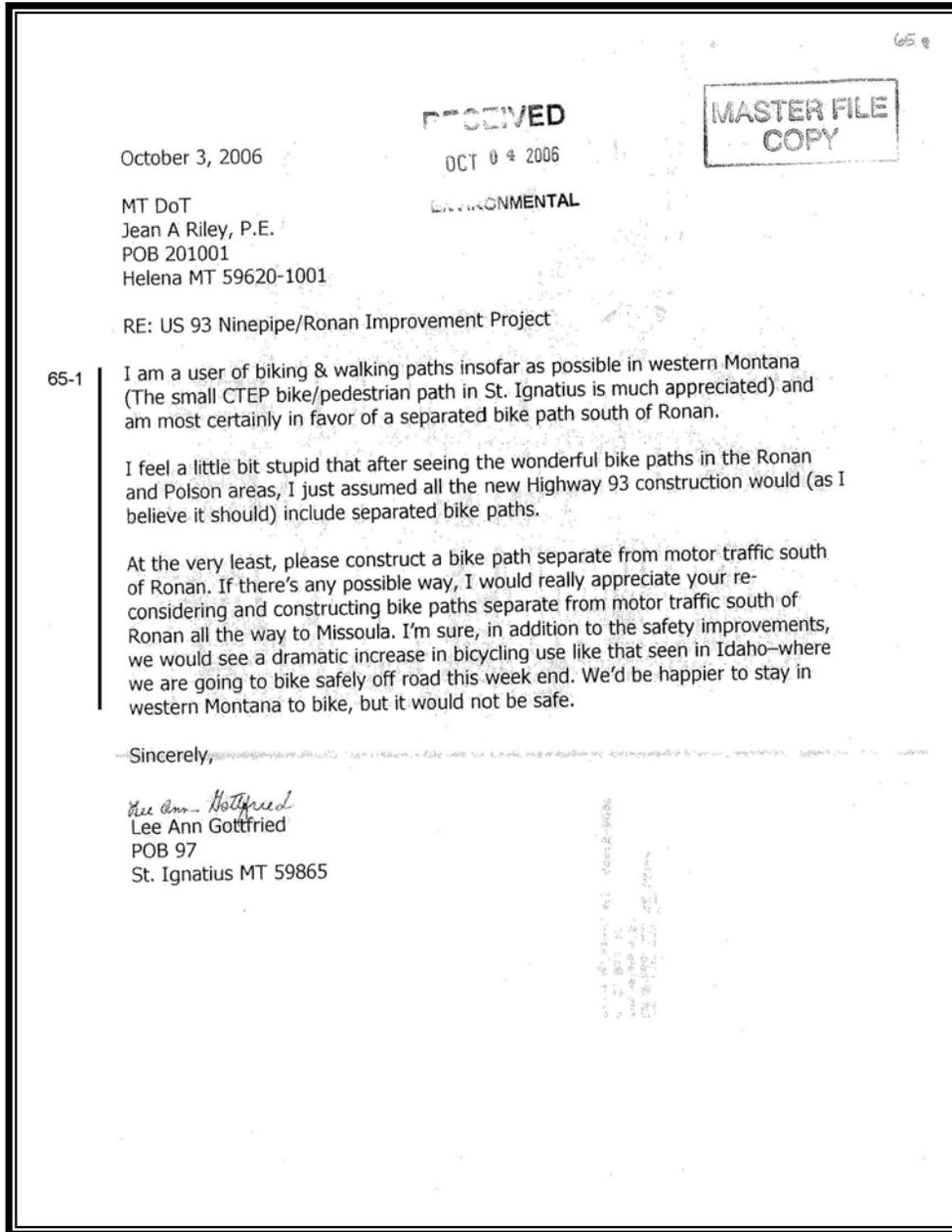
63-1.—See Response #3-1.

From: Pam [mailto:pam0505@centurytel.net]
Sent: Wednesday, October 04, 2006 5:58 PM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

63-1

I am sending my support for a bike path from Polson to Missoula. Biking provides a healthy lifestyle for all, it promotes family activity, provides an economic mode of transportation, it is eco-friendly, and fun for everybody. Let us look to the future in Montana and build this bike path for all of us to enjoy. A narrow shoulder on Highway 93 will not work, it is too dangerous. There are many people now that ride Hwy 93 and are risking their lives. Please consider a healthy alternative and support family activity and build this bike path for all to enjoy.

Thank you,
Pam Goss
Polson



Letter 65, Lee Ann Gottfried

65-1.—See Response #3-1.

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

66-1 | My name is John Scott Graham and I am a Mission Valley resident living near North Crow. I have lived on the Flathead Reservation for 24 years and traveled Hwy. 93 extensively, both commuting to the U of M and other reasons. I would very much advocate putting a bicycle lane all along this corridor from Tolson to Missoula. The bike lane is a sensible viable transportation option for all residents. As a former member of the Missoula Bicycle Club, and bicycle tourist I see great value in offering cycling as a transportation option.

Please consider a bicycle lane along Hwy 93 for the good of everyone!

Please provide your name and address:
 Name: J. Scott Graham
 Address: 43210 Roullier Rd.
 Ronan, MT 59864
 Email: mtgraham@ronan.net

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:
 Jean A. Riley, PE
 Bureau Chief
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 Montana Department of Transportation
 PO Box 201001
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 (406) 444-7228

OPEN HOUSES
 Monday
 September 18, 2006
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 Ronan Community Center
 Ronan, MT

PUBLIC HEARING
 Tuesday
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Letter 66, J. Scott Graham

66-1.—See Response #3-1.

67

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN 8744.

67-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Please provide your name and address:

Name: Warren Graves

Address: 413 Adams St SW
Ronan MT 59864

Email: 1

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

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Connolly or Herrera staff at the meeting, or mail to:

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Ronan, MT

Letter 67, Warren Graves

67-1.—See Response #3-1.

Letter 68, Amy Griffin

68-1.—See Response #3-1.

From: Amy Griffin [mailto:amy.griffin@ronank12.edu]
Sent: Friday, October 06, 2006 10:20 AM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

68-1 | As a resident of Mission Valley, I want a BIKE/WALKING path separate from traffic, on Hwy 93 connecting ALL communities from Polson to Arlee.

Thank you,

Amy Griffin
37185 Little Marten Road
Ronan, MT 59864

Letter 69, W.H. Aaron Griffin

69-1.—See Response #3-1.

From: Amy Griffin [mailto:amy.griffin@ronank12.edu]
Sent: Friday, October 06, 2006 10:21 AM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

69-1 | As a resident of Mission Valley, I want a BIKE/WALKING PATH, separate from all traffic, on HWY 93 connecting ALL communities from Polson to Arlee.
WH Aaron Griffin

From: Kari Gunderson [mailto:END2543@blackfoot.net]
Sent: Friday, October 06, 2006 3:05 PM
To: MDT EIS Comments Redstone
Subject: Public comment on Project CN B744

October 6, 2006

Comments for Project CN B744

- 70-1 | I drive highway 93 through the Mission Valley when I commute to work. For safety considerations I am supportive of highway improvements. However, wildlife considerations should not be overlooked. Regarding the Ninepipes area, I recommend no passing zones through this stretch, and a speed limit of 45 mph, with strict law enforcement. This is an important wetland area for waterfowl, songbirds, and an important grizzly bear travel corridor. Some motorists will still probably exceed the reduced speed limit, but hopefully they will slow down enough to decrease wildlife and motorist injuries and fatalities.
- 70-2 | I also recommend that you put in a bike/walking path in around the communities of Ronan and Pablo where there is frequent pedestrian and bicycling traffic competing with motorists who may not see them. This is also an important safety issue.

Thank you for your consideration of my concerns regarding Project CN B744.

Sincerely,
Kari Gunderson

Letter 70, Kari Gunderson

70-1.—See Responses #11-1 and 13-6.

70-2.—See Response #3-1.

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN 8744.

71-1

We own a home at 516 lot Ave SW in Ronan and are in the process of building a home in Hot Springs, thus the Hot Springs mailing address.

We are retired and had planned to sell our home in Ronan in order to complete our Hot Springs house. The highway has severely impacted our ability to have this occur. Just maintaining the minimal utilities is causing a hardship for us.

We would like to request an early or emergency right-of-way buyout of our property to eliminate our financial burden which is a direct result of this project.

Thank you

Please provide your name and address:

Name: Derwin Halvorson
Address: P.O. Box 189
HOT SPRINGS MT 59845
Email: Kdh@hotsprings.net
PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
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Helena, MT 59620-1001
(406) 444-7228

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Letter 71, Derwin Halvorson

71-1.— There are provisions for advance right of way acquisition in 23 CFR 710.503. Requests for any advance acquisitions need to be sent in writing to the Montana Department of Transportation office in Missoula, Montana.

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

72-1 | I didn't get to hear the early presentation, and I don't know what all the options are from Post Creek to Spring Creek.
I prefer a two lane, no passing lanes and a 55 mile per hour speed limit through this area. This will give wildlife a better chance and be safer for all drivers.

72-2 | I would like to see an elevated section from Hunt's timbers to the top of the hill so wildlife can pass under safely. Other than making it a bit wider I don't see any other special needs for the Ninepipe crossing.

72-3 | The two large Kettles north of Ninepipe and the 212 junction should have all the fill removed to restore the ponds and move the road around the east sides where the once was.

Thank you

Please provide your name and address:
Name: Alan Harriman
Address: 56626 St. Ignace Rd
St. Ignace MT 59865
Email: stignace@blackfoot.net

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

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Ronan, MT

Letter 72, Alan Harriman

72-1.—See Response #11-1.

72-2.—See Responses #5-1 and 11-1.

72-3.—See Response #52-4.

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN 8744.

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73-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.
Sharla Hart

Please provide your name and address:
Name: Sharla Hart
Address: 39734 Keller River Ln
Polson MT 59860
Email: _____

Please leave your comments with either MDT, Skillings
Connolly or Herrera staff at the meeting, or mail to:
Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
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Letter 73, Sharla Hart

73-1.—See Response #3-1.

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Please indicate comments are for project CN B744.

74-1

As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

"It's crazy not to - it makes the roads safer"

School Bus Driver

Please provide your name and address:

Name: *Howard M. Haslam*

Address: *Ronan School District #30*
Ronan, MT 59864

Email: _____

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
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PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Letter 74, Howard M. Haslam

74-1.—See Response #3-1.

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ENVIRONMENTAL COMMENT FORM

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

75-1 | As an out of state student studying at the University of Montana in the major Environmental Studies, I have come to appreciate the beauty of Montana. That is one of the reasons I chose to study in Montana. I am from Washington State and have come to love what the outdoors offer due to protection standards.

75-2 | Even though I have not visited the Ninepipe/Ronan area, I can wax a guess it is just as beautiful as the surrounding Missoula/Bitterroot area. In reviewing MDT's plan to build a high-speed passing lanes through this unique land, I do not think it is for the best. Since there are many species in this area widening the roadway and increasing speeds could damage the valuable wildlife. MDT should honor the Memorandum of Agreement with the Confederated Salish & Kootenai Tribes concerning the danger of passing lanes.

75-3 | If a highway must be built, then I support an elevated highway to lessen the chance of road kill. I hope when considering the construction of this highway, the best environmental choices are made for this example of Montana beauty.

Please provide your name and address:

Name: Belinda Hays

Address: 227A Miller Hall
Missoula, MT 59812

Email: belhays@hotmail.com

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

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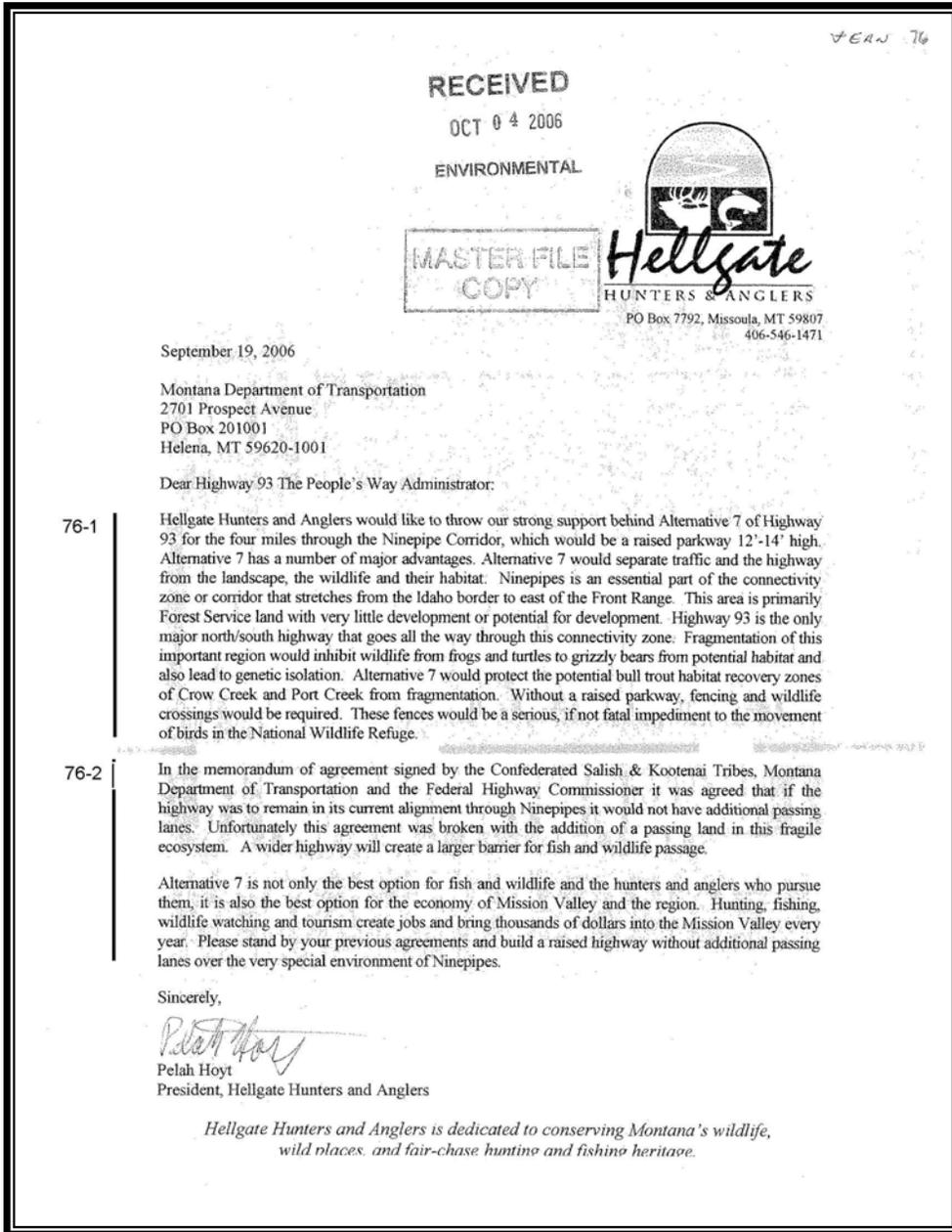



Letter 75, Belinda Hays

75-1.—See Response #11-1.

75-2.—See Responses #17-2 and 49-2.

75-3.—See Responses #5-1 and 11-1.



Letter 76, Hellgate Hunters and Anglers, Pelah Hoyt, President

76-1.—See Responses #5-1 and 11-1.

76-2.—See Responses #17-2 and 49-2.

Letter 77, Nick Herak

77-1.—See Responses #1-1, 11-1, and 13-8.

From: nherak [mailto:nherak@blackfoot.net]
Sent: Friday, October 06, 2006 1:13 PM
To: mdteiscommentsninepipe@mt.gov
Cc: Kathleen Adams; lrenz@skillings.com; Julie Kightlinger; skilcrease@mt.gov
Subject: "Comments on Highway 93 Ninepipe DSEIS,"

To whom it may concern:

77-1 | This message is to urge you to support the following recommendations for Highway 93 in the Ninepipe area:

| Make the highway 4 lane all the way. No suicide passing lane, just 4 lanes.

Thanks

Nick Herak
St Ignatius
Mt 59865

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN 8744.

78-1 | The Highway is a good idea, but there needs to be a walk path to give people who walk a safe place. With semitrucks + lots more traffic. People need to have the feeling of being safe + not putting their life in danger. Not everyone can afford a car to drive. There are alot of Native American + White + many different Races in our Community. - thank you - who need a safe place to travel

Thank you
Donna Hook

Please provide your name and address:
Name: DONNA HOOK
Address: 50907 Crow DAM Rd.
Ronan, mt 59864
Email: _____

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:
Jean A. Riley, PE
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Letter 78, Donna Hook

78-1.—See Response #3-1.

Letter 79, Frank and Bonnie Huber

79-1.—See Response #11-1.

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN 8744.

79-1

Happy to hear the road from Ravalli to (Public) Mulek will be prepared and ready for winter driving. THANKS!

The US 93 DSEIS (Ninepipe/Ronan Rural Alternatives) are well thought out. Approve!

The split road going up past Lost Lake to Olson road. YES! As it is now - one can be blinded by lights (esp. night) going North or South.

The split through Ronan with wider Blvd. is safer and beautiful. The raised median is also super and attractive!

Please provide your name and address:
 Name: *Frank & Bonnie Huber*
 Address: *32414 Allison Rd. St. Ignatius*
 Email: _____

Please leave your comments with either MDT, Skillings, Connolly or Herrera staff at the meeting, or mail to:
 Jean A. Riley, PE
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 Environmental Services Bureau
 Montana Department of Transportation
 PO Box 201001
 Helena, MT 59620-1001
 (406) 444-7228

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We need safety as well as beauty!

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 St. Ignatius, MT

Tuesday
 September 19, 2006
 4:00 - 7:00 pm
 Roman Community Center
 Roman, MT

PUBLIC HEARING
 Tuesday
 September 19, 2006
 7:00 - 9:00 pm
 Roman Community Center
 Roman, MT

Hunt's Timbers, Inc.

72682 HWY 93
ST. IGNATIUS, MT 59865
PHONE: 406-745-4375 FAX: 406-745-4044
huntsttimbers@blackfoot.net

October 6, 2006

Jean A. Riley, PE - Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
P.O. Box 201001
Helena, MT 59620-1001
(406) 444-7228

Re: US 93 Ninepipe / Ronan Improvement Project

To Whom It May Concern:

80-1

With respect to the impact upon our business we would like to propose that you reconsider constructing the "New Road" on the East Right of Way (R.O.W.), and instead consider utilizing the bare ground to the West of our business.

For all practical purposes, the West side of the highways offers plenty of unused land for expansion that has not been utilized, for any purpose other than growing weeds, for the last twenty to twenty-five years. Factoring the tax dollars it would cost to relocate our business, transforming bare land rather than commercial ground is much more cost effective for all involved.

Our primary concerns include:

- Loss of storage to house and process products purchased from Tribal Post and Pole haulers; resulting in lost revenues for the local economy
- Loss of yard space needed to operate loaders for organizing product
- Loss of staging areas for readied orders pending pick-up
- Loss of area needed for peeling logs or cutting excessively long timbers
- Not enough room for log trucks or delivery semi trailers in/out of our facility
- Loss of office and parking space for staff of 25 as well as customers
- Loss of lumber storage and customer order/viewing yard
- Lack of loading/unloading areas for vendors and customers
- Cost of relocating our current business office and various storage sheds
- Down time to accommodate such changes

We currently have 114' from the existing R.O.W. to point of operation at the mill; with 30' of this space already taken out for office and parking lot this leaves only 84' of working space. We must maintain a minimum of 75' to 80' of working space for log peeling, manufacturing long timbers, and get our log or lumber trucks in and out of our facility.

Respectfully,

Hunt's Timbers, Inc.
Ernest E. Hunt – President
Robert S. Hunt – Vice President
Russell E. Hunt – Vice President

Letter 80, Hunt's Timber, Inc., Earnest E. Hunt, President; Robert S. Hunt, Vice President; Russell E. Hunt, vice President

80-1.—See Response #11-1. The proposed roadway alignment has been shifted to the west in front of your business. For the Preferred Alternative, it may still be necessary to acquire a very small sliver of right-of-way from your parcel. This determination will be re-evaluated during the final design process, prior to any right-of-way negotiations. See the map of the Preferred Alternative in Appendix E for a pictorial representation of the proposed right-of-way needed.

MASTER FILE COPY

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
 Please indicate comments are for project CN 8744.

81-1

*I would like to see a real
bike path, away from the highway,
south of Ronan, all the way
to Missoula.*

*(It is unsafe to bike near traffic
on a shoulder!)*

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SEP 22 2006

ENVIRONMENTAL

Please provide your name and address:

Name: Shae Hutchinson

Address: 37472 Baptiste Rd
Ronan MT 59864

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

OPEN HOUSES

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September 18, 2006
6:00 - 8:00 pm
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St. Ignace, MT

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Ronan Community Center
Ronan, MT

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Ronan, MT

Letter 81, Shae Hutchinson

81-1.—See Response #3-1.

Letter 82, Rich W. Janssen

82-1.—See Response #3-1.

From: Rich Janssen [mailto:richj@cskt.org]
Sent: Wednesday, October 04, 2006 10:52 AM
To: mdteiscommentsninepipe@mt.gov
Cc: lrenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

82-1 | Come on people, you put a bike path in Polson; this community needs it more than they do as this stretch of highway is more dangerous for bikers and pedestrians. I am in favor of putting in a bike path.

Rich W. Janssen
45466 North Foothills Road
Ronan, MT 59864
4066763949

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From: Ron Jenkins [mailto:ronjart@charlo.net]
Sent: Thursday, October 05, 2006 5:44 PM
To: mdteiscommentsninepipe@mt.gov
Cc: lrenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

Thank you for this opportunity to comment:

83-1 I am a resident living in the EIS section of Highway 93, at the top of Post Creek Hill. From what I can learn, most of you are not giving this particular section a strong enough hearing for the important wildlife corridor that it is. Most birds and animals that live in this area use this section through my place in some way as a travel corridor, and they have to cross the highway. For this reason, as well as highway safety reasons, I oppose a passing lane through this area, especially a southbound passing lane... that would border on absurdity if you expect to hold down vehicle speed and protect creatures that move through here.

83-2 I also don't think an elevated highway through the refuge area is a very good idea no matter in what context you try to place it. Being elevated is extremely expensive and goes against the very nature of this "People's Way" you are trying to preserve. Wouldn't leaving the highway alone, as it is, with improved paving and slow speed limits be a better way? Traffic is busy at times but there are enough passing lanes here and there to facilitate movement.

An elevated section of highway opens a lot of questions regarding safety of people and wildlife besides being one of those out of place "things" that has no merit from what I can see. Please don't try to do unusual things with new construction just because you can. This section of Highway 93 is a very important piece of Montana that deserves extra care and consideration, and moving traffic quickly through here shouldn't be part of it.

Respectfully,
Ron Jenkins
70412 Hwy. 93
Charlo. MT. 559824
ronjart@charlo.net

Letter 83, Ron Jenkins

83-1.—See Response #11-1.

83-2.—See Responses #5-1 and 11-1.

84

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OCT 0 2 2006

ENVIRONMENTAL

34575 Gunlock Road
Charlo, Montana 59824
406 644-2371
e-mail: chr3083@blackfoot.net

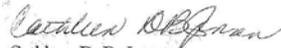
September 29, 2006

Jean A Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, Mt. 59620-1001

Re: Comments on US 93 Ninepipe/Ronan Improvement Project
Project CN B744

- 84-1 | I attended the recent meeting at the community center in Ronan regarding the proposed alternative routes to be used on the highway between Dublin Gulch Road and Ronan. It was stated that the preferred alternative by the 3 agencies involved was alternative Rural 10 (PPA). If you do use that alternative, I propose that you consider a bike lane, turn lanes so access to Gunlock Rd. and Eagle Pass Trail can be made in a safe manner, and some sort of noise reduction as I feel the additional speed will create more noise which will affect the wildlife as well as people who live anywhere near the highway. I think that if the roadway is raised at all, the noise will increase, plus the view of the ponds and birds from the road will be diminished, plus it will ruin the view to the west for Ninepipes Lodge and it's guests. What will happen to the access there? Will it ruin their business?
- 84-2 |
- 84-3 |
- 84-4 |
- 84-5 | If so, I think you should consider buying them out.
- 84-6 | Please, don't let safer, faster traffic movement be your only concern. This is important, with the increased amount of traffic heading north to south, perhaps a truck route on Old Stage Road could be considered. The new road up by Polson turned out beautifully, I hope a plan will be adopted that will let us all feel the same about the route south from there to Arlee!

Thank you for your consideration.


Cathleen D. B. Jensen

Letter 84, Cathleen D. B. Jensen

84-1.—See Response #3-1.

84-2.—See Response #6-2.

84-3.—Noise impacts are discussed in Section 5.8 of the FSEIS. Noise level measurements revealed noise levels in 2000 exceed noise impact criteria at 3 of 38 noise sensitive receptors in the rural portion of the project. Noise projections reveal noise impact criteria will be exceeded at 9 of these noise sensitive receptors in 2024, whether the highway is improved or not. Raising the highway is not believed to cause any increases in noise outside of the right-of-way on this project. At locations where noise analysis indicates there will be a noise impact, MDT requires reasonable and feasible noise abatement measures be considered to reduce traffic noise levels. Noise abatement measures include considering alternative pavement materials to reduce tire noise, construction of noise barriers or berms, and traffic management measures such as reducing speed limits. Of these abatement measures, only the use of alternative pavement materials is considered reasonable for the rural portion of this project and will be considered in the final designs.

84-4.—All action alternatives, excluding Alternative Rural 7, will generally follow the current vertical alignment except in the wildlife crossing locations where structures may need to be elevated to allow clearance for animals to pass under the roadway. Under Alternative Rural 7 the road grade would be raised to allow 3-meter clearance at all locations. Raising the roadbed under Alternative Rural 7 would likely improve the view of the ponds from the road as the higher elevation would give drivers a better vantage point. The view west from the Ninepipes Lodge may be impacted under Alternative Rural 7 depending on the height above the current roadbed that would be required at this location. Under all other action alternatives, including the final Preferred Alternative, the view west from the Ninepipes Lodge would not be adversely impacted

84-5.—Access to Ninepipes Lodge could be slightly reduced under Alternative 9 with 4 lanes divided. The other alternatives should not affect their access.

84-6.—See Responses 11-1 and 52-4.

85

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

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Please indicate comments are for project CN B744.

85-1

85-2

85-3

85-4

85-5

I would like to see alternative routes to the following shown on the map cleared

1. TURNING LANES AT EAGLE PASS
2. BIKE TRAIL
3. NOISE REDUCTION BARRIERS
4. IF YOU WANT IT ENGINEERED RIGHT AND MATCH STRENGTH, HE DID A BEAUTIFUL JOB AT POLKSON
5. I WOULD HOPE YOU CAN GET RIVER SIDE TO DO THE JOB THEY SUIT DID GOOD FROM GROUND TO POLKSON (ROCK)

I sure appreciate all your hard work, you are doing great

OPEN HOUSES

Monday
September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Center
St. Ignace, MT

Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Please provide your name and address:

Name: NELS H. JENSEN

Address: 34575 Gunkleck Rd
Circle Mt 59824

Email: NELJENSEN@blackfoot.net

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

Letter 85, Nels H. Jensen

85-1.—See Response #11-1.

85-2.—See Response #6-2.

85-3.—See Response #3-1.

85-4.—See Response #84-3.

85-5.—Thank you for your comment.

84

Comment Form

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT © 2006

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the ENVIRONMENTAL team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

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Please indicate comments are for project CN 8744.

86-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

I HAVE WORKED ON PREVIOUS BIKE PATH CONSTRUCTION AND KNOW HOW IMPORTANT THIS IS FOR THE HEALTH AND SAFETY OF RESIDENTS. I WANT TO WORK EVERY DAY AND FEEL MORE PEOPLE WOULD DO THE SAME IF THEY HAD THE OPPORTUNITY.

Please provide your name and address:

Name: PETE JENSEN

Address: BOX 519
RONAN MT 59804

Email: _____

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

ORIGINAL FILE COPY

Letter 86, Pete Jensen

86-1.—See Response #3-1.

Letter 87, Ann L. Johnson

87-1.—See Response #3-1.

From: Ann Johnson [mailto:auggie@ronan.net]
Sent: Friday, October 06, 2006 9:04 AM
To: mdteiscommentsninepipe@mt.gov
Cc: lrenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

87-1 | I am writing a comment in a plea to consider continuation of the proposed bike walk path, south beyond Ronan hwy. 93. This area is used by walkers, runners, bikers. It has become too congested and dangerous to attempt to use the shoulder. There is always someone out there using the barrow pit as a path. Please give consideration to this project.

Thank you, Ann L Johnson
2014 Mink Lane
Ronan Montana, 59864

From: Debbie Johnson [mailto:mt4me@hotmail.com]
Sent: Friday, October 06, 2006 4:23 PM
To: mdteiscommentsninepipe@mt.gov
Cc: Kathleen Adams; lrenz@skillings.com; pbasting@mt.gov
Subject: DRAFT SEIS - Ninepipe Segment Hwy 93

88-1

Thank you for the opportunity to comment on the Draft SEIS for the Ninepipe segment of the Highway 93 project.

I have two significant concerns regarding wetlands and alignment and will re-iterate comments made at the open meetings.

I own property at 38358 US Highway 93 N, on the east side of the highway, and the only residence between East Post Creek Rd and McDonald Lake Road on that side of 93.

At present, the Draft SEIS has positioned a North Bound Climbing Lane (NBCL) through my parcel, which is 13.46 acres and very rich with wetlands and water. I have reason to believe the wetland that would be within the proposed right-of-way, is a fen type. From research on wetland types, my understanding is this type is exceptionally difficult to re-create, if not impossible. I've attached photos of the spring that feeds a pond and is joined by another stream from the north, then flows east and is joined by another stream from the north and then flows south to the south end of the property and on to meet the main Post Creek. A few trout species pass through this stream, but I don't recall exactly which ones. We know this because the culvert caved, and the stream ponded before we had the new culvert replaced. There were a lot of fish and they were as long as 12 inches in length. I believe from the Draft SEIS, that this front tributary is Unnamed Trib 2 of Post Creek.

The front pasture, which aligns with the highway, slopes downward on either side of the stream. Typically, both sides of the pasture experience saturation almost all year long. This is evidenced by green grasses, and if you walk on it, the ground is definitely saturated. I just took photos about three weeks ago, the neighbor was not sprinkler irrigating his hay, and the green areas were obvious.

An artesian spring well provides water for the residence.

Behind the house, is a pond fed by an artesian spring which flows from the north. This spring as well as all others I mention, are year round, that is, they are not seasonal. This one behind the house flows south to join the other stream from the front yard, but most of that section of the stream is primarily cattails. Between this stream-fed pond and the very back wetlands is an area that would be better suited to the NBCL, as the alignment could bisect both sections (front and back) of wetlands. This area is wide and nearly always dry.

From the midsection of the property moving east there is a marsh area with cattails and trees, mosses are along the streambank that too, is fed by another spring. Two or three other similar

Letter 88, Debbie Johnson

88-1.—All wetlands potentially impacted by the project within the project corridor have been delineated. Wetland and construction and right-of-way boundaries appear in the maps in Appendix E of the DSEIS. A list of characteristics of the wetlands in the project corridor appears in Table 4.10-2. The two wetlands delineated on your property (H18A and H18B) were not classified as fens. In the vicinity of your property the centerline of all action alternatives would be west of the existing highway centerline. Under the final Preferred Alternative no wetlands would be disturbed on your property and construction limits would extend only a short distance beyond the existing right-of-way. Alternative Rural 9 is the only action alternative that has wetlands delineated on your property located within the proposed right-of-way. However, none of the proposed action alternatives would include wetlands on your property within the construction limits of the project.

Letter 88, Debbie Johnson (continued)

88-2.—No right-of-way may be purchased before the final SEIS has been signed and a Record of Decision executed to select the final Preferred Alternative. During the next phase of the project, once the design has been finalized, right-of-way acquisition will be initiated. Your interest in sale of the land has been noted.

It is unclear exactly where in the text you refer to regarding “an intent to purchase” your parcel for mitigation; however, a final wetland mitigation plan has not yet been prepared for this project. Once potential mitigation sites have been identified the process to acquire the land for these sites will begin.

88-1
Cont | artesian springfed ponds and streams are in this area of the back pasture also. Mallards nest in all of them.

The water generated from these springs and recharge is sufficient for the neighbor to use for sprinkler irrigation for his hay crop. Fact is, pipe is still there and my best recollection is the diameter is four inches.

I suggest a wetland delineation is needed for the parcel prior to final alignment decisions, and certainly any that may include a NBCL.

88-2 | Page 39 of the Draft SEIS, and the NBCL allude to what I believe is an intent to purchase my parcel for mitigation. I have stated this to Mr. Renz numerous times, that "if you are going to get any closer to the house, then please buy me out."

I strongly suggest the parcel is ideal for wetland mitigation creation. I have two water rights (provisional) and application in for a newly discovered third. There definitely is enough water there, both of surface - fed by underground springs, and sub-surface.

My first concern is the front wetland area that would be within a new R-o-W, the alignment of the NBCL, in relationship to the possible fen in the front and the wetland streams and ponds in the back. And again, the water supply is sufficient for wetland creation, and with three rights, there would be no issues regarding right-to-use.

I thank you for your time and hope to hear from you soon.

Sincerely,

Debbie Johnson
406.883.6241 x 274 day
406.883.0798 home

89

Riley, Jean

From: marcia kitson [kitsonjones@blackfoot.net]
Sent: Saturday, September 23, 2006 3:08 PM
To: MDT EIS Comments Ninepipe
Subject: Comment on US93 Ninepipe/Ronan EIS

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89-1

As a new resident to the St. Ignatius area, transplanted from CA, I'm bewildered and astonished that with all the focus on environmental impact, road design, etc, I've heard little mention of the significance of concrete barriers separating oncoming traffic throughout this HWY 93 corridor. Are we concerned about saving human life? If so, I hope the MDT, et al would respond/explain why these barriers, which are used widely on numerous thoroughfares throughout the U.S., are or are not being used on this 56mi stretch of Hwy. The cost of human life far exceeds the cost of these simple yet effective devices. Deaths are caused by head-on collisions. These narrow barriers take up little space on a roadway.

Thank you for your response.
Sincerely,
Glenn Jones
43037 St. Marys Lake Rd
St. Ignatius, MT 59865

Letter 89, Glenn Jones

89-1.—Concrete barriers are seldom used on 2-lane roads to prevent head-on accidents. Concrete barriers would also prohibit left turns at approach accesses and would prohibit passing opportunities. We believe this project, which is primarily made up of a 2-lane road and divided 4-lane, would provide little opportunity for use of concrete barriers to separate oncoming traffic.

90

10-5-06

Tom Riley / Project CN B744
MDT Environmental Services
2701 Prospect Ave.
P.O. Box 201001
Helena, MT 59620-1001

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Dear Ms Riley,

90-1

90-2

90-3

Please reconsider the plan to build high-speed passing lanes in the area of the Ninepipe. Please honor your Memorandum of Agreement with the Tribe concerning the Ninepipe area and passing lanes.

An elevated Highway system, outlined in alternative 7 seems to be the best choice for the wildlife. We are here to protect those without voices - how many more turtles and bears need to lose their lives?

Many areas along the new road have only single lanes - please give our wildlife a chance - Reconsider the options!

Thank you,
Chris Kappes
5/17/06

Letter 90, Chris Kappes

90-1.—See Response #11-1.

90-2.—See Responses #17-2 and 49-2.

90-3.—See Responses #5-1 and 11-1.

91

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ENVIRONMENTAL

Mr. Jean Riley, P.E.
Montana Department of Transportation
P. O. Box 201001
Helena, Montana 59620-1001

September 29, 2006

Dear Mr. Riley,

91-1 | Thank you for the opportunity for public comment on the construction alternatives of the Highway 93 from ~MP 37-48. I would like to have the Professional Engineers who have spent many years studying public highway transportation to control the decision making process, rather than construct another segment of killer highway, where there are confusion between two lane and four lane segment with many fatalities. To clarify, please refer to the public experience and appropriate accident statistics of building such roadways with mixtures of 2 lane, three lane roadways that converge into 4 lane roads.

91-2 | As a second opinion, it seems that 'Highway' funds are intended to build highways rather than town controlled streets, with a multitude of stop signs, crosswalks, traffic signals, walkways, bike paths and endless studies that waste such funds. If it is possible, I would like to have through traffic routed away from the local business traffic to avoid congestion, excess noise, pollution and to allow less interference between the traffic streams.

Thank you once more of allowing the voice of the minority, who does not have a full time lobbyist trying to get funding for improving the traffic flow in front of my business establishment, reducing maintenance cost for town streets, getting an equestrian trail or walkway, a turtle or grizzly bear underpass and the myriad of special interest dead end rat holes for gas tax revenue.

Yours truly,

Zane Kelly

Letter 91, Zane Kelly

91-1.—Transition areas do have higher incidences of accidents. Generally, though, the additional lanes contribute to safer passing maneuvers for more vehicles and on balance provide a total lowering of accidents. The transitions need to be well marked and the pavement markings need to follow the conventions expected by the motorists. The new designs and pavement markings will be provided in accordance with the applicable standards.

91-2.—Federal and State highway funds are used for improvement of city streets when they are on the state and/or federal system, as is the case with US 93 through Ronan. They are also used for non-motorized transportation improvements such as bike paths, sidewalks, and landscaping as appropriate. Two bypass alternatives around Ronan were evaluated in the original US Highway 93 Evaro – Polson Final EIS (signed 6/96). However, as noted on page 5-36 of that document, Montana law prohibits MDT from constructing highway routes that divert vehicles away from an existing roadway without the consent of the governing body. The city of Ronan denied such consent, and substantial public opposition was expressed regarding those bypass routes.

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

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92-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Debbie Kelsch

Please provide your name and address:

Name: *Debbie Kelsch*

Address: *Eman, MT 59864*

Email: _____

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Please leave your comments with either MDT, Skillings, Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
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PO Box 201001
Helena, MT 59620-1001
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OPEN HOUSES

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St. Ignatius, MT

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Ronan, MT

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Ronan Community Center
Ronan, MT

Letter 92, Debbie Kelsch

92-1.—See Response #3-1.

93-

Jean Riley / Project CN B744
 MDT Environmental Services
 2701 Prospect Ave.
 PO Box 201001
 Helena MT 59620-1001

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 OCT 10 2006
ENVIRONMENTAL

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93-1

To Whom It May Concern;

I am writing in regard to Highway 93 construction in the vicinity of Ninepipes National Wildlife Refuge.

Has the construction plan changed?
 I encourage the Montana Dept. of Transportation to consider the alternative that is best for wildlife, which the area is known and designed to protect.

Please do not ^{re-}construct Hwy 93 in a way that would undermine the wealth of wildlife in the vicinity of Ninepipes NWR.

Thank you.

Sincerely,
 Robin L. Kent
 Robin L. Kent

Letter 93, Robin L. Kent

93-1.—See Response #41-1.

Letter 94, Bonnie Kiser

94-1.—See Response #3-1.

From: flyingk [mailto:flyingk@compuplus.net]
Sent: Wednesday, October 04, 2006 10:28 AM
To: mdteiscommentsninepipe@mt.gov
Cc: irenz@skillings.com; kadams@herrerainc.com
Subject: Project CN B744, Comment on US93 Ninepipe/Ronan EIS

Dear MT Dept of Transportaiton,

94-1 | Remember the bumper sticker "Pray for me I Drive Highway 93". That extends to the people who ride bikes or walk on the highway as well.

I am writing to encourage you to include in your plans for highway 93 re-construction a walking/biking path along the entire length of the highway.

It is not necessary to state to you the danger to people riding bicycle or walking along highway 93. Montana has been discovered as a destination location. We are thrilled with the tourist dollars. IF we want this to continue we ought to make the visit as pleasant as possible. Walking/biking paths make our community more enjoyable.

I am fortunate that I live in Polson just below the new bike/walking path that was recently completed by Memory Rd. There are people on the path at all times of the day using it in many different ways. Many are walking but just as many ride their bikes.

My husband works in Polson and with the addition of the bike path that links to the City of Polson bike path, he is able to ride his bike each day to and from work each day. This not only saves us money for fuel it saves the environment from further use of our diesel pickup. From our perspective this is a win win situation one I hope to see repeated through out the entire valley.

I recently visited Encinitas, California and a major complaint of mine and the residents there was the lack of walking paths. Had they been able to plan ahead as we have the opprotunity to right now, maybe this could have been avoided.

Please use this opprotunity to look to the future for all involved, the environment as well as the health and safety of the citizens.

Thank you for your time,

*Bonnie Kiser
flyingk@compuplus.net
37218 Glory Road
Polson, MT 59860
406-883-2186*

From: Frank Tyro [mailto:Frank_Tyro@skc.edu]
Sent: Friday, October 06, 2006 2:23 PM
To: mdteiscommentsninepipe@mt.gov
Cc: Kathleen Adams; lrenz@skillings.com; Julie Kightlinger; skilcrease@mt.gov
Subject:

Greetings

- 95-1 | My comments on the Ninepipe Section of the proposed Highway 93 construction follow.
- | I would recommend alternative 7. I would also suggest for the longest and highest bridge design at Post Creek, because it is probably the most important east-west corridor for large animals in the entire Mission Valley.
- 95-2 | If the preferred remains Alternative 10, I would request the elimination of the southbound passing lane through the Ninepipe area if at all possible.
- | If the southbound passing lane is necessary, I would recommend that it be placed just north of the Highway 212 intersection, rather than south, and incorporated into a full bridging of the ponds north of that intersection. These ponds have been documented to hold a large population of turtles that are being greatly impacted by the current highway.
- 95-3 | Also, I would urge that a separate bike path be considered for the entire project. It is now obvious that the Polson bike section and the Round Butte Road bikepaths have been a great addition to those communities based on their utilization.

Frank H. Tyro, PhD
Director Media/KSKC Public TV
POB 70, 52000 Highway 93
Pablo, MT 59855
406-275-4878 voice
406-275-4801 fax
tyro@skc.edu
www.skc.edu

Letter 95, KSKC Public TV, Frank H. Tyro, PhD Director Media.

95-1.—See Responses #5-1, 11-1, 13-1 and 41-1.

95-2.—See Response #11-1.

95-3.—See Response #3-1.

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

96-1

of project # 7. The raised parkway, although expensive will allow the opportunity for tourists & visitors alike to slow down, view animals & mountains. By having the viewing areas up high, wildlife won't be as impacted. There will be less impact on the wetlands that are at Ninepipe! In Palso where there is a scenic view point, people stop, slow down, picnic, read the historical signage. Please do the raised Parkway # 7, it is unique for Montana as well as progressive!

Please provide your name and address:

Name: *Lori Lambert, PhD*

Address: *PO Box 387*
Pallo, MT 59855

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

OPEN HOUSES

Monday
September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Center
St. Ignace, MT

Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Letter 96, Lori Lambert, PhD

96-1.—See Responses #5-1 and 11-1.

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

ORIGINAL FILE COPY

97-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.
Alan Largent

Please provide your name and address:

Name: ALAN Largent
Address: P.O. Box 152
Ronan, MT 59864
Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

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Environmental Services Bureau
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Ronan Community Center
Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Letter 97, Alan Largent

97-1.—See Response #3-1.

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

COPY
STERILE

98-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.
Brenda Largent

Please provide your name and address:

Name: Brenda Largent
Address: P.O. Box 152
Ronan, MT 59804
Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

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Connolly or Herrera staff at the meeting, or mail to:

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Environmental Services Bureau
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Ronan Community
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Ronan, MT

PUBLIC HEARING
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September 19, 2006
7:00 - 9:00 pm
Ronan Community
Center
Ronan, MT




Letter 98, Brenda Largent

98-1.—See Response #3-1.

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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 Please indicate comments are for project CN B744.

99-1 | As a resident of Mission Valley,
 I want a BIKE/WALKING PATH,
 seperate from traffic, on Hwy 93
 connecting ALL communities
 from Polson to Arlee.

Please provide your name and address:

Name: AnnaMarie Leafly

Address: 15 7th Ave NW
Ronan, MT
59864

Email: _____

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
 Bureau Chief
 Environmental Services Bureau
 Montana Department of Transportation
 PO Box 201001
 Helena, MT 59620-1001
 (406) 444-7228

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006




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 St. Ignace, MT

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 September 19, 2006
 4:00 - 7:00 pm
 Ronan Community Center
 Ronan, MT

PUBLIC HEARING

Tuesday
 September 19, 2006
 7:00 - 9:00 pm
 Ronan Community Center
 Ronan, MT

Letter 99, AnnaMarie Leafly

99-1.—See Response #3-1.

Letter 100, Janene Lichtenberg

100-1.—See Response #3-1.

From: Jenine Lichtenberg [mailto:janene1@cskt.org]
Sent: Friday, October 06, 2006 1:44 PM
To: MDT EIS Comments Redstone
Subject: project CN B744

To Whom It May Concern,

100-1 | I am very concerned about the lack of bike/pedestrian paths for Hwy 93 south of Ronan. I believe that providing these paths should be an essential concern in the planning process. Our community is in need of safe transportation along this stretch of highway. Also, a path south of Ronan would allow tourists and others to walk, bike and observe nature. This would improve the quality of life for all of us and perhaps boost the economy through tourism dollars. Thank you for your time and consideration.

Sincerely,

Janene Lichtenberg
33268 Terrace Lake Rd
Ronan, MT 59864

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

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Please indicate comments are for project CN 8744.

101-1 *We own a business on Hwy 93, Long Day Storage at the Hwy 212 Junction. We would like to know what plans you have for the junction. As for the highway alignment we like most people believe that the whole project should have been a four lane highway.*

101-2 *As for US 93 Ninepipe/Ronan road we think that Route #10 is the best, but we wonder why you would put the passing lane right through Ninepipe Reservoir when it could be moved further south and extend on down Port Creek Hill. It would be a lot cheaper and a lot less controversial than going through Ninepipe.*

101-3 *We also think the four lane south of Ronan should be extended on past Innovation Rd. to accommodate the south bound traffic from Jones.*

Thank you.

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September 18, 2006
6:00 - 8:00 pm
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St. Ignace, MT

Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Please provide your name and address:

Name: Irvin & Mary Jane Long

Address: 52221 Hwy 212
Charlo, MT 59824

Email: irvlong@charlo.net

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

Letter 101, Irvin and Mary Jane Long

101-1.—The US 93 and Hwy 212/Kicking Horse Road intersection was rebuilt a few years ago and already contains left turn lanes. Under this project the current configuration will be retained, with re-evaluation of the lengths of the left turn lanes to accommodate future traffic. Please also see Responses #1-1, 11-1 and 13-8 concerning the 4-lane highway issue.

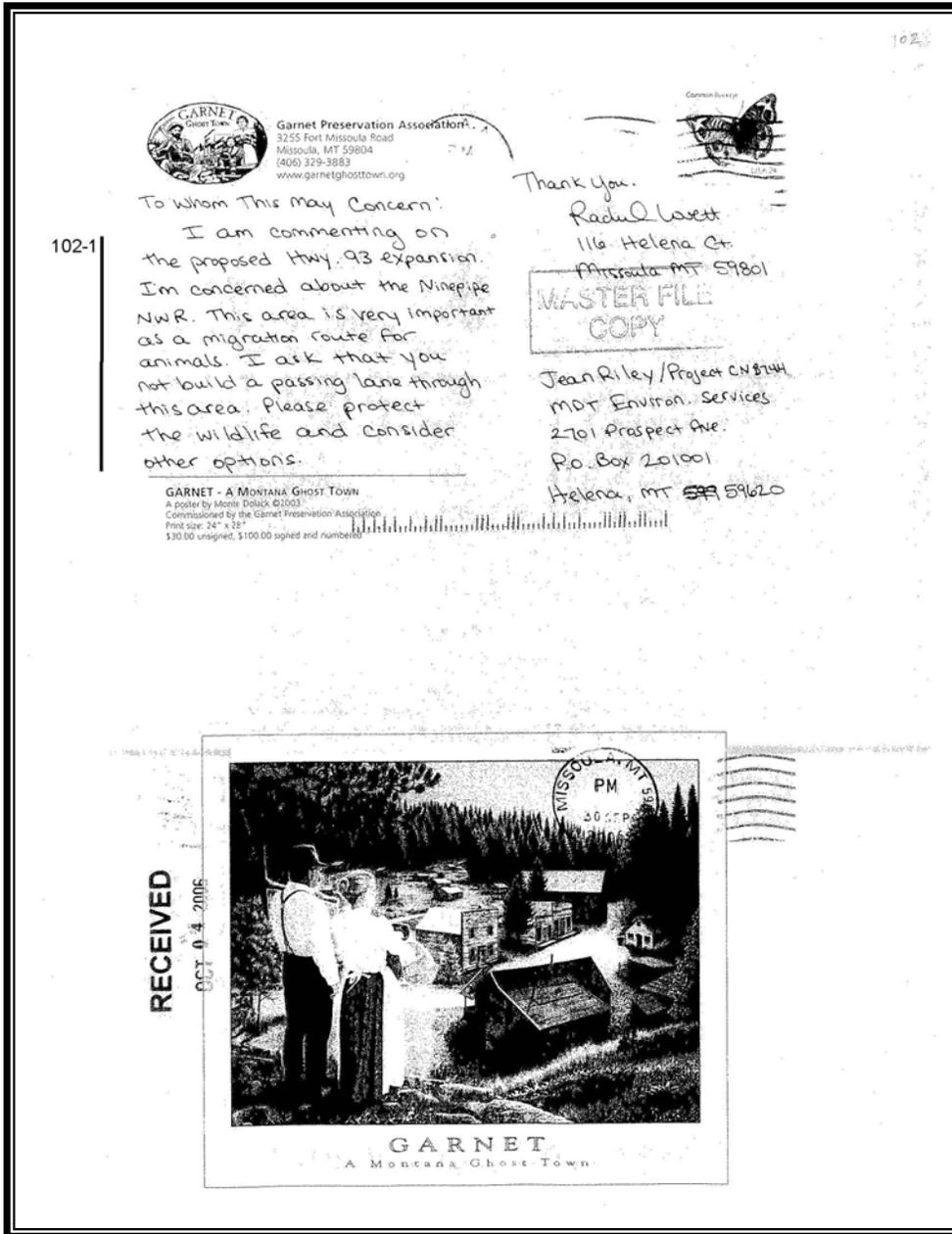
101-2.—See Responses #1-1, 11-1, and 13-8.

101-3.—See Response #11-1.

101-4.—The Preferred Alternative selected will include 4 lanes south past Innovation Lane to Brooke Lane.

Letter 102, Rachel Lovett

102-1.—See Response #11-1.



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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

103-1 | *The proposal to close Duck Road on the north side of Ninpipe WMA is a serious mistake. It will congest hunter access, restrict administrative access and produce minimal additional wildlife habitat. Please drop this proposal.*

103-2 | *The proposed passing lane or lanes through the Ninpipe area is an even more serious mistake. It will remove more wildlife habitat, result in increased speeds, and produce more collisions between cars and pheasants, deer, and the occasional bear. The wildlife passages under the highway will need to be 50% longer and deter some wildlife from such long passages. I thought there was an earlier commitment to not have passing lanes in this area. Please do not renege on this earlier position. Remove passing lanes from plans for the Ninpipe section.*

103-3 |

Please provide your name and address:

Name: Robert C. Lucas

Address: 5050 Huckleberrry Rd
Missoula, MT 59803

Email: rc Lucas@msn.com

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Niley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

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St. Ignatius, MT

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September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Letter 103, Robert C. Lucas

103-1.—The project proponents and Lake County have all agreed to the closing of this road. See appendix I in the FEIS for an explanation of the reasons for its closure.

103-2.—See Response #11-1.

103-3.—See Response #17-2.

From: Richard A. Menke & Suzanne Luepke [mailto:slram@centurytel.net]
Sent: Friday, October 06, 2006 4:42 PM
To: Julie Kightlinger; Kathleen Adams; lrenz@skillings.com; mdteiscommentsninepipe@mt.gov; skilcrease@mt.gov
Subject: Highway 93 Ninepipe DSEIS

To who it may concern:

104-1

I live in Lake County and travel the roads under consideration very often. I have read the following comments carefully and I totally agree with all of these suggestions. I believe it is possible to implement each of them. I hope you will study them and decide to do just that.

In the rural segment of the project, I would advocate for a combination of Alternative 2 and, for the section between Eagle Pass Road and Crow Creek, Alternative 7. The combination of these two designs would result in a two-lane design except for a northbound passing lane on Post Creek hill. There would be a raised-highway design for the most sensitive section, but I would suggest that this begin just north of Ninepipes Lodge. In this design, I would also advocate for the longest and highest bridge design at Post Creek, which is probably the most important east-west corridor for large animals in the entire Mission Valley. In addition, an integral part of this design would have to be clear visual demarcation of this part of the highway as a distinct parkway, which would have a slower speed limit -- perhaps 50 mph.

104-2

The international importance of the habitat of the Ninepipe area, its cultural importance to Salish, Pend d'Oreille, and Kootenai people and also to local non-Indians, and the enormous investment already made in the area by the Tribes, the federal government, and the state, merit the exceptional treatment of this section. It is noted in the DSEIS that while most options are estimated to cost \$35 to \$40 million, Alternative 7 would cost an estimated \$114 million. It is worth noting that the United States is currently spending that much money every nine hours in Iraq. We must build this highway the right way, even if it costs more to do so.

104-3

It would be good to look into some design to help de-ice bridging and other raised surfaces, and to add to such structures some kind of muffling material to counteract noise impacts.

104-4

104-5

Wherever passing lanes reconverge, there needs to be much more aggressive, prominent, and weatherproof signage, including not only strict marking of the point beyond which people must not pass, but also the distance to the next passing opportunity. I would also advocate the establishment of higher fines or tougher penalties for unsafe passing and posting notice of those fines/penalties. It would be wise to increase funding for enforcement, if that can be included in the project.

104-6

104-7

If the PPA remains Alternative 10, I would strongly advocate the elimination of the southbound passing lane through the Ninepipe area. If the parties insist that a southbound passing lane is necessary -- a highly dubious assertion -- I would urge that it be placed just north of the Highway 212 intersection, rather than south, and incorporated into a full bridging of the ponds north of that intersection. In this way, some environmental benefit could be gotten from what would otherwise be an environmental detriment.

Letter 104, Suzanne Luepke

104-1.—See Responses #5-1, 11-1, 13-1, and 41-1.

104-2.—See Responses #5-1 and 11-1.

104-3.—See Response #13-3.

104-4.—See Response 13-4.

104-5.—All signing will conform to the most current federal and state standards.

104-6.—See Response #13-6.

104-7.—See Response #11-1.

Letter 104, Suzanne Luepke (continued)

104-8.—See Response #13-8.

104-9.—See Response #13-9

104-10.—See Response #3-1

- 104-8 | For Ronan, I strongly urge the parties, and the city of Ronan, to reconsider whether four traffic lanes are truly necessary to carry the projected volumes of traffic. There are numerous studies available on the internet, including several that can be accessed at www.walkablecommunities.org, that show three-lane designs safely and smoothly handling well over 20,000 ADT, and in some cases approaching 30,000. I would also urge the parties and the city to consider replacing the traffic lights with roundabouts, which can reduce accidents, improve traffic flow, and improve pedestrian safety.
- 104-9 |
- 104-10 | Lastly, I would urge that a separate bike path be considered for the entire project, if this can be done without significant additional harm to the environment.

Suzanne Luepke
171 S. Rim Drive
Polson, MT 59860

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

105-1

As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

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Please provide your name and address:

Name: Gay Luke
Address: 220 4th Ave. S.E.
Ronan, MT 59824

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings
Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

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Ronan Communi
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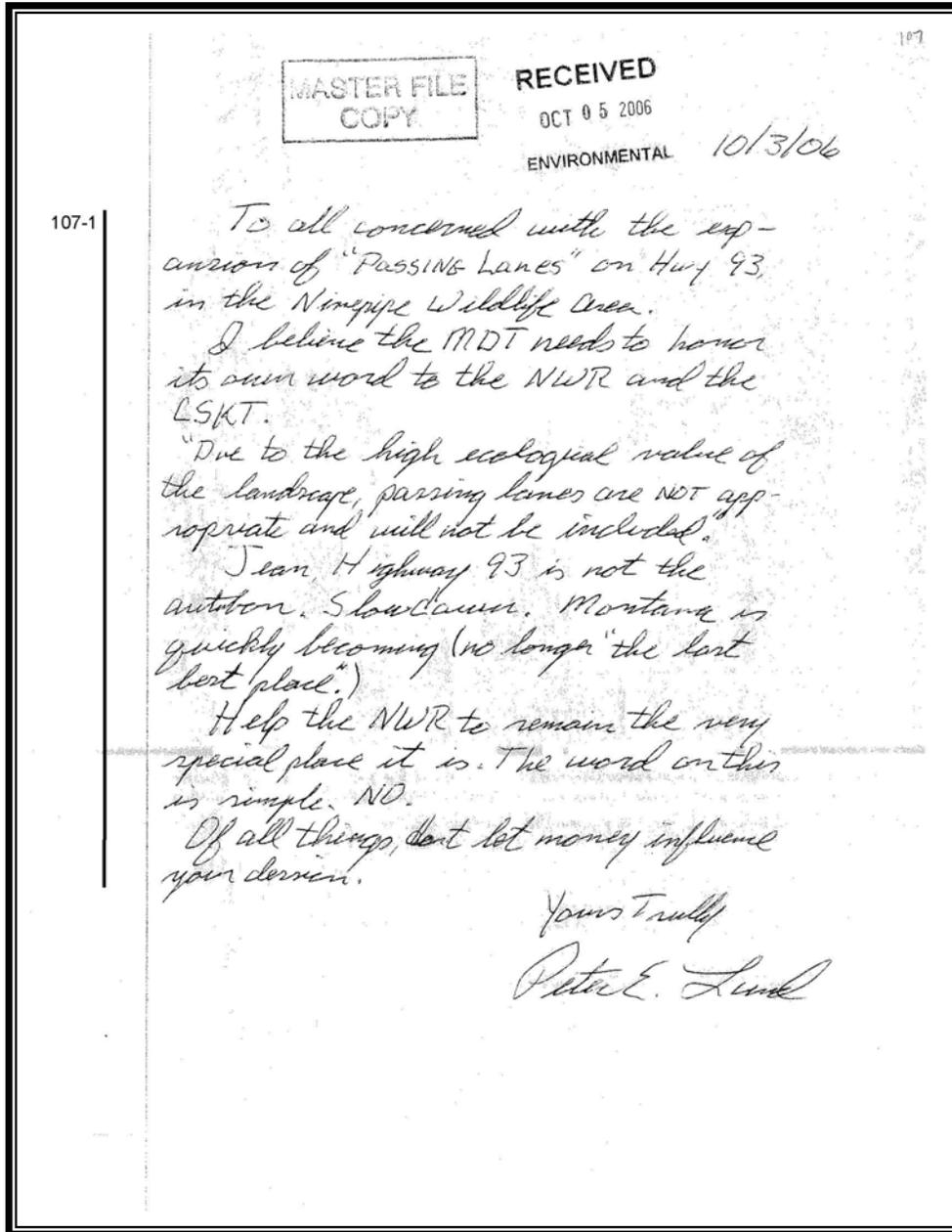
PUBLIC HEAR

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Communi
Center
Ronan, MT



Letter 105, Gay Luke

105-1.—See Response #3-1.



Letter 107, Peter E. Lund

107-1.—See Response #17-2

108

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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108-1 | As a resident of Mission Valley,
 I want a BIKE/WALKING PATH,
 seperate from traffic, on Hwy 93
 connecting ALL communities
 from Polson to Arlee.
 Robbie Lyday

Please provide your name and address:
 Name: Robbie Lyday
 Address: 2123 Pinecrest
Rd. St. Ignace,
MT 59805
 Email: _____

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:
 Jean A. Riley, PE
 Bureau Chief
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 Helena, MT 59620-1001
 (406) 444-7228

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 Ronan Community Center
 Ronan, MT

Letter 108, Robbie Lyday

108-1.—See Response #3-1.

Letter 109, Tim Marchant

109-1.—See Response #3-1.

From: Tim Marchant [mailto:tmarchant@mission.blackfoot.net]
Sent: Thursday, October 05, 2006 11:44 AM
To: mdteiscommentsninepipe@mt.gov; HS Marchant Tim (SMTP)
Cc: lrenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

Dear MDT:

109-1 | I would strongly encourage a bike path, separate from the new highway, be built from Polson, MT, south to Ravalli, MT. An opportunity for safe, healthy, and economical travel was sorely missed on the new section of road from Ravalli south to Arlee. We can't afford to make that mistake again.

With soaring fuel prices and the current emphasis on physical fitness, I don't know how we can afford not to have a functional bike path.

Please take this into consideration, for the health and safety of all citizens of western Montana, when you design your final plan.

Sincerely,

Tim Marchant
54565 Hillside Road
St. Ignatius, MT 59865
(406) 250 – 7228

110

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

110-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Jeri Masters

Please provide your name and address:

Name: Jeri Masters
Address: 1396 Rocky Butte Rd.
RONAN, MT 59864

Email: _____

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Ronan, MT
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Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community
Center
Ronan, MT

Letter 110, Teri Masters

110-1.—See Response #3-1.

Letter 111, Linda McDermott

111-1.—See Response #3-1.

From: Linda McDermott [mailto:llm@commbank.net]
Sent: Tuesday, October 03, 2006 9:20 AM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

Project CN B744

111-1

I feel that a bike path along Hwy. 93 would be a great benefit for all who enjoy walking, biking etc. As the Hwy. is already being used for Biking trips by several organizations a safer and designated area for them to bike would be very beneficial. It would also be beneficial to those who enjoy walking and running just for the physical exercise as well.

From: Joe McDonald [mailto:joseph_mcdonald@skc.edu]
Sent: Friday, October 06, 2006 9:30 AM
To: mdteiscommentsninepipe@mt.gov; Kathleen Adams; Irenz@skillings.com; Julie Kightlinger; skilcrease@mt.gov
Subject: NINEPIPES 93 EIS COMMENTS

- 111a-1 | The speed through the sensitive areas of the ninepipe area must be controlled in order to avoid the killing of wildlife, waterfowl, pheasants, turtles, etc. The highway should be constructed on piling through the reservoir area and piling should replace the fill that is in the large potholes north of the Ninepipe Lodge. I don't support the idea of piling all the way from south of Ninepipe Reservoir to Crow Creek.
- 111a-2 |

Letter 111a, Joe McDonald

111a-1.—See Response #18-2.

111a-2.—See Responses #5-1 and 11-1.

wpi - Attachment 111a Joe McDonald.doc

July 18, 2007

1

Herrera Environmental Consultants

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: <http://www.mdt.mt.gov/pubinvolve/est/ea.shtml>
Please indicate comments are for project CN B744.

112-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

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OCT 04 2006
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Please provide your name and address:

Name: Sylvia McDonald
Address: POB 13
Arlee MT 59821
Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006




Please leave your comments with either MDT, Skillings Connolly or Herrera's staff at the meeting, or mail to:
 Jean A. Riley, PE
 Bureau Chief
 Environmental Services Bureau
 Montana Department of Transportation
 PO Box 201001
 Helena, MT 59620-1001
 (406) 444-7228

OPEN HOUSES
 Monday
 September 18, 2006
 6:00 - 8:00 pm
 Tribal Fitness Center
 St. Ignace, MT
 Tuesday
 September 19, 2006
 4:00 - 7:00 pm
 Ronan Community Center
 Ronan, MT
PUBLIC HEARING
 Tuesday
 September 19, 2006
 7:00 - 9:00 pm
 Ronan Community Center
 Ronan, MT

Letter 112, Sylvia McDonald

112-1.—See Response #3-1.

Letter 113, Tom McDonald

113-1.—See Response #3-1.

From: Tom McDonald [mailto:tomm@eskt.org]
Sent: Friday, October 06, 2006 2:32 PM
To: mdteiscommentsninepipe@mt.gov
Cc: lrenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

113-1 | I support the development of a designated walking/bike pathway from Ronan south along Highway 93 for the full length of this project. Tom McDonald, 721 6th Ave. S.W. Ronan, Mt. 59864

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

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OCT 04 2006

114-1

As a resident of Mission Valley, ENVIRONMENTAL
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee. This would
benefit all vectors of our community —
those who do not drive and already walk
along the road and those who recreate. It
would also enhance tourism.

Please provide your name and address:

Name: Ann Marie McNeel
Address: 41721 Gallagher Lane
Chand, MT 59824
Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006.

Please leave your comments with either MDT, Skillings
Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
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Helena, MT 59620-1001
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Ronan, MT

PUBLIC HEARING
Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community
Center
Ronan, MT

Letter 114, Ann Marie McNeel

114-1.—See Response #3-1.

115

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN 8744.

115-1 Dear Jean -
The reason I am writing is to ask MDT to not build passing lanes through the Ninepipes Park in the reconstruction of Highway 93. I know of no other wildlife refuges with a major Highway passing through it. If any deer speed limit should be dropped to at least 55 mph (I'd prefer lower) to protect wildlife needing to cross the Highway to access the other side of the refuge. Even better for the protection of wildlife would be an elevated Highway as outlined in Alternative 4. We use Highway 93 regularly during the summer to access Glacier National Park with passing lanes now readily available along the Highway - let's make it safe for animals! Waterfowl in this area.
Thanks for considering our comments.

115-2

Please provide your name and address:

Name: Kerry Miller
Address: Peter Weckesser
3246 Rodeo Rd
Missoula, MT 59803
Email: KSMILL@JUNO.COM

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Letter 115, Kerry Miller and Peter Weckesser

115-1.—See Response #11-1.

115-1.—See Response #5-1 and 11-1.

**Letter 116, Missoula Outdoor Learning Adventures, J. Porter Hammitt, M.S.
Director and Lead Instructor**

116-1.—See Response #3-1, 5-1, and 11-1.

From: James Porter Hammitt [mailto:porter@MissoulaOutdoors.com]
Sent: Thursday, October 05, 2006 11:30 AM
To: mdteiscommentsninepipe@mt.gov
Cc: lrenz@skillings.com; Kathleen Adams
Subject: Ninepipes Comments

Hello,

116-1

I would to voice my opinions for the design of Hwy. 93 as it passes through the Ninepipes area. I feel strongly, and it seems quite obvious, that highest priority should be assigned to the concerns of wildlife in the area. This would include concerns for non-fragmented habitat blocks, connectivity, safe wildlife travel corridors, and non-intrusion into existing preserve areas.

I feel that everything possible should be done to mitigate any and all impacts caused by traffic in that area. That is, 2 lanes, a reduced speed limit, elevating the roadway, and passing lanes well before and well past the area, so as not to induce rapid accelerations or decelerations. It seems that a small, non-intrusive bike/ped pathway immediately adjacent to the road might also be appropriate.

I believe that Alternative 7, as I understand it, most closely addresses these concerns. With extended bridge span lengths, obviously the cost will be higher. But Ninepipes is one of Western Montana's most prized parcels of remaining pothole ponds wildlife habitat, and wildlife mortality along that stretch is a well-know problem.

Thank you for taking the time to read my comments.

Porter

J. Porter Hammitt, M.S.
Director & Lead Instructor
Missoula Outdoor Learning Adventures (MOLA)
1304 Jackson St., Missoula, MT 59802
406-240-2458 porter@MissoulaOutdoors.com
www.MissoulaOutdoors.com



October 6, 2006

Ninepipe Wildlife Management Area
52928 Ninepipe Road
Charlo MT 59824

Ms. Jean A. Riley, P.E., Chief
MDT Environmental Services Bureau
PO Box 201001
Helena MT 59620-1001

Subject: CN B744, US 93 Ninepipe/Ronan Improvement Project

Dear Ms. Riley:

117-1 | This letter addresses your response (August 10, 2006) to comments I submitted for Fish, Wildlife & Parks (FWP) regarding impending impacts to our Ninepipe Wildlife Management Area (WMA) from the reconstruction of Highway 93.

Again FWP urges the project proponents to not construct a southbound passing lane (included in the PPA) in the heart of the Ninepipe wildlife conservation area. The significance of Ninepipe to all involved parties is evidenced by the considerable long-term investments and protective measures instituted by state, federal, and tribal governments and the specific words in the 2002 MOU that "passing lanes are not appropriate and will not be considered" here. The time and resources spent exploring a route to bypass this site entirely is further testament to the special significance of the area.

117-2 | As your August 10 letter acknowledges, and we concur, this stretch of highway has had many human fatalities. Through the years our employees have witnessed or had first-hand knowledge of many of these crashes. -- Most had nothing to do with passing attempts. Citing fatality statistics as supporting evidence for needing a southbound passing lane seems like a wrong solution to the problem. Obviously, because there is no northbound passing lane proposed in the middle of this wildlife habitat complex, there is not really a need to have a southbound passing lane either as argued by the Midwest Research Institute.

117-3 | The unprecedented attention and added expense for wildlife mitigation in the US 93 project is highly commendable. That continuous roadside fencing, an accommodating feature for wildlife crossings being built elsewhere in the corridor, will not be built through the Ninepipe area because of the hazard they pose to birdlife indicates that the

**Letter 117, Montana Fish Wildlife and Parks,
John Grant, Wildlife Area Manager**

117-1.—See Response #11-1.

117-2.—See Response #11-1.

117-3.—See Response #11-1.

117-3
Cont'

proponents realize the significance of the habitats to birds. Unfortunately, without all the high fences the wildlife crossing structures may not be as effective for the 4-legged animals for which they are primarily designed, therefore more high-speed pavement (i.e. passing lanes) should not be located at Ninepipe. With one less lane the resultant under-road passages will be shorter and more likely to be used. -- Narrower width of road to cross for earthbound creatures that circumvent the crossing structures will reduce their exposure to collision risks. Likewise, birds flying across the road will have a shorter time of risk without a passing lane. The data in the DSEIS for birds killed where the passing lane is proposed is startling! The passing lane should be located somewhere else.

117-4

Three miles of Highway 93 bisects an almost contiguous block of Section 4(f) lands through Ninepipe between Gunlock Road/Olsen Road and Duck Road, including the proposed site of the passing lane in the PPA. Impacts to 4(f) lands will best be avoided or minimized if all passing lanes are located elsewhere. Wetlands on 4(f) lands in this location that extend into the current right-of-way will potentially be permanently impaired when their right-of-way reaches are modified. This impairment could be avoided or minimized if a southbound passing lane is constructed outside of the wildlife habitat management zone.

117-5

Perhaps, as you state, the extra lane (southbound passing lane) can be built in the existing right-of-way without direct impacts to 4(f) lands, but the roadway may be safer if that space is instead used for turn bays, wider shoulders, or to eliminate the need for an exemption to standard barrow slopes. Safety of administrative and recreational users accessing Ninepipe WMA lands in the vicinity of the proposed passing lane must not be compromised. Most highway crossings (several daily during the growing season) by FWP personnel with agricultural equipment occur at two locations on Highway 93, both where the passing lane is proposed. All of our alternative US 93 crossings require traveling along Highway 212, which is even more dangerous for slow-moving tractors towing wide implements than crossing US 93. The southbound passing lane proposed in the PPA may make it more difficult to safely access the WMA to achieve our habitat management goals.

Goals of the management of the WMA are essentially the same as they were when the project was initiated more than 50 years ago: to conserve and enhance habitat for ring-necked pheasants and migratory waterfowl and to provide access for public hunting of these game birds. Highway 93 has always provided challenges to meeting these goals. We present these comments with hope that the "new and improved" Highway 93 will not further diminish neither this exceptional resource nor the ability of the local, visiting, or through-passing publics to access or enjoy.

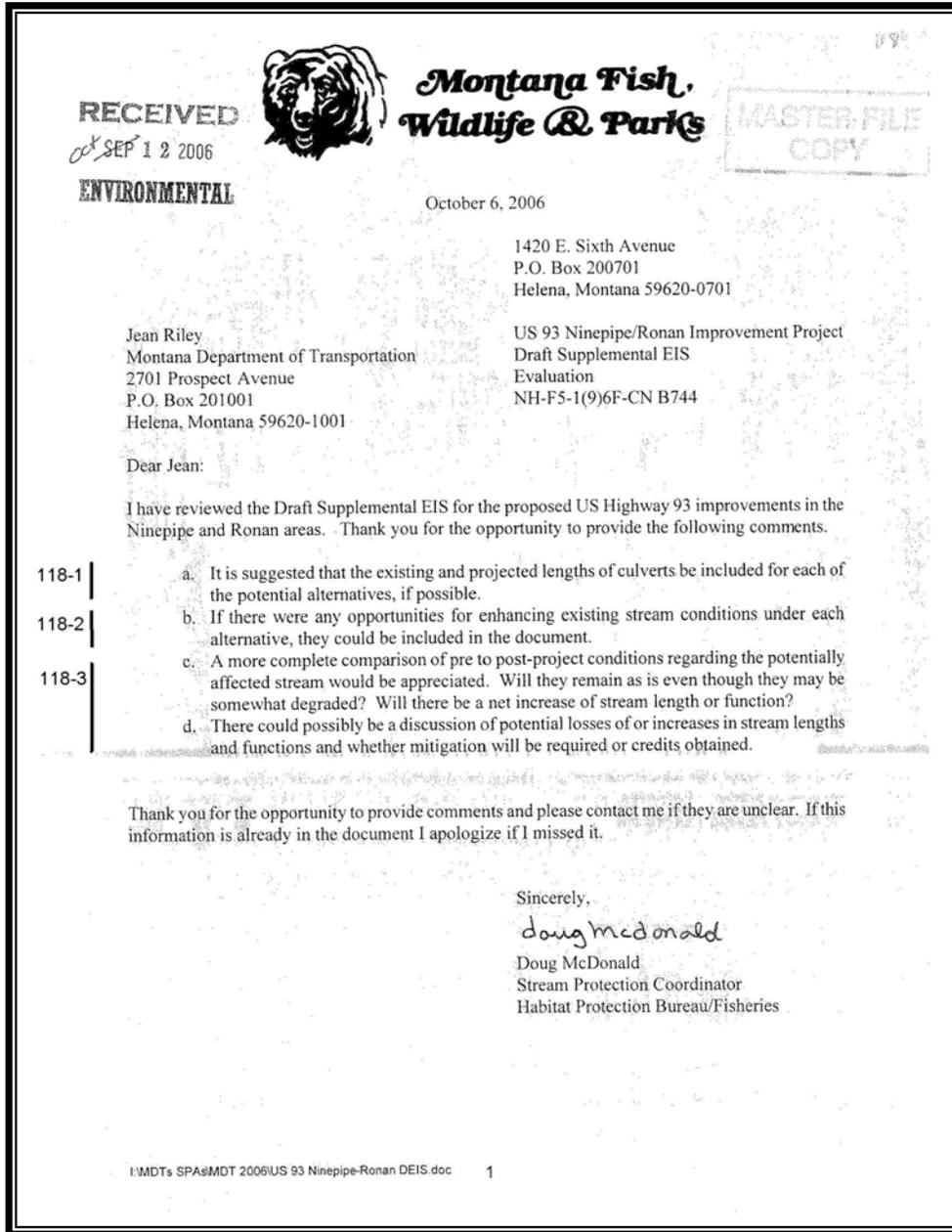
Sincerely,

John Grant
Wildlife Area Manager

**Letter 117, Montana Fish Wildlife and Parks,
John Grant, Wildlife Area Manager (continued)**

117-4.—See Response #11-1. No recreational Section 4(f) resources will be impacted.

117-5.—See Response #11-1.



Letter 118, Montana Fish, Wildlife and Parks, Doug McDonald, Stream Protection Coordinator

118-1.—This level of design detail is beyond the scope of what is normally included in an EIS. Culvert lengths will be determined for the selected alternative during final design.

118-2.—In section 5.12.5 Rural Portion – Fisheries, Direct Effects, Action Alternatives (p 5-105 of draft document) there is a short discussion of potential enhancement opportunities. In section 5.12.6 Urban Portion – Fisheries, Direct Effects, Action Alternatives there is a short discussion about daylighting/habitat enhancement of Ronan Spring Creek.

118-3.—Please see section 5.11 of the DSEIS for a discussion of Floodplains and Streams; specifically sections 5.11.3 and 5.11.4. The design and mitigation measures discussed in these sections should improve stream conditions, including potential increases in function, essentially no net loss of length, and with greatly expanded floodplain accessibility. Specific mitigation requirements have not been provided and typically are not at this stage of design.

From: David L. Moore [mailto:David.Moore@mso.umt.edu]
Sent: Friday, October 06, 2006 7:52 AM
To: mdteiscommentsninepipe@mt.gov; Kathleen Adams; lrenz@skillings.com; Julie Kightlinger; skilcrease@mt.gov
Ce: trs@blackfoot.net
Subject: Comments on Highway 93 Ninepipe DSEIS

- 119-1 | I am a homeowner for 25 years in the St. Ignatius area. Please consider the following suggestions for the Draft Supplemental EIS for the Ninepipe segment of Highway 93. I have gathered these details from the research of Thompson Smith, and entirely agree with his proposals and comments:
- | In the rural segment of the project, I would advocate for a combination of Alternative 2 and, for the section between Eagle Pass Road and Crow Creek, Alternative 7. The combination of these two designs would result in a two-lane design except for a northbound passing lane on Post Creek hill. There would be a raised-highway design for the most sensitive section, but I would suggest that this begin just north of Ninepipes Lodge. In this design, I would also advocate for the longest and highest bridge design at Post Creek, which is probably the most important east-west corridor for large animals in the entire Mission Valley. In addition, an integral part of this design would have to be clear visual demarcation of this part of the highway as a distinct parkway, which would have a slower speed limit -- perhaps 50 mph.
- 119-2 | The international importance of the habitat of the Ninepipe area, its cultural importance to Salish, Pend d'Oreille, and Kootenai people and also to local non-Indians, and the enormous investment already made in the area by the Tribes, the federal government, and the state, merit the exceptional treatment of this section. It is noted in the DSEIS that while most options are estimated to cost \$35 to \$40 million, Alternative 7 would cost an estimated \$114 million. It is worth noting that the United States is currently spending that much money every nine hours in Iraq. We must build this highway the right way, even if it costs more to do so.
- 119-3 | It would be good to look into some design to help de-ice bridging and other raised surfaces, and
 119-4 | to add to such structures some kind of muffling material to counteract noise impacts.
- 119-5 | Wherever passing lanes reconverge, there needs to be much more aggressive, prominent, and
 119-6 | weatherproof signage, including not only strict marking of the point beyond which people must not pass, but also the distance to the next passing opportunity. I would also advocate the establishment of higher fines or tougher penalties for unsafe passing and posting notice of those fines/penalties. It would be wise to increase funding for enforcement, if that can be included in the project.
- 119-7 | If the PPA remains Alternative 10, I would strongly advocate the elimination of the southbound passing lane through the Ninepipe area. If the parties insist that a southbound passing lane is necessary -- a highly dubious assertion -- I would urge that it be placed just north of the Highway 212 intersection, rather than south, and incorporated into a full bridging of the ponds north of

Letter 119, David L. Moore

- 119-1.**—See Responses #5-1, 13-1, 11-1, and 41-1.
119-2.—See Responses #5-1 and 11-1.
119-3.—See Responses #13-3.
119-4.—See Responses #13-4.
119-5.—All signing will conform to the most current federal and state standards.
119-6.—See Responses #13-6.
119-7.—See Responses #11-1.

Letter 119, David L. Moore (continued)

119-7.—See Response #11-1.

119-8.—See Response #13-8.

119-9.—See Response #13-9.

119-10.—See Response #3-1.

119-7 | that intersection. In this way, some environmental benefit could be gotten from what would otherwise be an environmental detriment.

119-8 | For Ronan, I strongly urge the parties, and the city of Ronan, to reconsider whether four traffic lanes are truly necessary to carry the projected volumes of traffic. There are numerous studies available on the internet, including several that can be accessed at www.walkablecommunities.org, that show three-lane designs safely and smoothly handling well over 20,000 ADT, and in some cases approaching 30,000. I would also urge the parties and the

119-9 | city to consider replacing the traffic lights with roundabouts, which can reduce accidents, improve traffic flow, and improve pedestrian safety.

119-10 | Lastly, I would urge that a separate bike path be considered for the entire project, if this can be done without significant additional harm to the environment.

Thank you for considering this.

David L. Moore
218 Artemos Drive
Missoula, MT 59803
406-543-2270
david.moore@umontana.edu
www.umt.edu/english/faculty/moore.htm

120

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

120-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Lila Morigeau

Please provide your name and address:

Name: Lila Morigeau
Address: 52169 Hillside Rd
Charlo MT 59824
Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

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Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT




Letter 120, Lila Morigeau

120-1.—See Response #3-1.

From: www@mdt.mt.gov [mailto:www@mdt.mt.gov]
Sent: Wednesday, October 04, 2006 11:51 AM
To: MDT Comments - Project
Subject: Comment on a Project Submitted

A question, comment or request has been submitted via the "Contact Us" web page.

Action Item: Comment on a Project
Submitted: 10/04/2006 11:51:10
Project Commenting On: US%2093%20-%20The%20People's%20Way
Project State Highway No.: 93
Nearest Town/City to Project: ronan
Name: Bonnie Mueller
Address Line 1: 33235 Emory Road
City: ronan
State/Province: mt
Postal Code: 59864
Email Address: taffy@ronan.net
Phone Number: 406-675-8270
Fax Number: 406-675-8277

Comment or Question:

121-1 | Please provide a bike path on project cnb744

Bonnie Mueller

Letter 121, Bonnie Mueller

121-1.—See Response #3-1.

127

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

122-1 | To whom it may concern;
The mission valley has been my home since 1972. I live in the rural charlo area. This is a truly beautiful place with abundant wild things. I just believe this richness comes from the great the honey of water fuel & wild life from the mountains to the valley.

122-2 | I believe a faster highway will interfere with the mission and favor option number 7. I also believe a 45 mile ph change in speed would help.

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Tribal Fitness Center
St. Ignace, MT
Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT
PUBLIC HEARING
Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Please provide your name and address:
Name: Caroline Myhre
Address: 36619 Lem Rd
Charlo MT 59824
Email: Carolina@charlo.net

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:
Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

MDT SKILLINGS CONNOLLY

Letter 122, Carolina Myhre

122-1.—See Responses #5-1 and 11-1.

122-2.—See Responses #18-2.



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October 6, 2006

RE: Project CNB744: Highway 93 improvement project, Ninepipe section, comments on draft supplemental EIS

Jean Riley, Chief
MDT Environmental Service Bureau
2701 Prospect Ave
Helena, MT 59620

Dear Ms. Riley:

Thank you for the opportunity to comment on the draft supplemental EIS for the above-referenced project.

123-1

The National Wildlife Federation was founded in 1936 as the national voice of state and local conservation groups, and has since emerged as the nation's foremost grassroots conservation organization, leading an integrated network of members and supporters and 47 affiliated organizations throughout the United States and its territories. We have been involved with grizzly bear conservation issues in Montana for 30 years.

Our primary concern over this section of the Highway 93 project is to minimize the effect that this project will have on the significant and ecologically fragile wildlife species in the Ninepipe area. Wildlife in this area currently are primarily birds but consideration should also be given to other wildlife species from turtles to grizzly bears. We conclude that the project in this section should be constructed giving a priority to wildlife concerns even at the cost of making the project more expensive or reducing the speed or convenience with which motorists utilize this section.

123-2

This route of Highway 93 through the Ninepipe area is much more than a transportation corridor people use to get to and from Flathead Lake. The wildlife and resource values of this area are core to the reasons people choose to live and recreate in western Montana. If we focus only on maximizing the efficiency and speed by which vehicles can move through this area we risk undercutting values that are far more important in the long run.

Impacts on wildlife probably cannot be avoided by any project design but they can be reduced and minimized. As we have previously commented, our preference is for an elevated roadway in

**Letter 123, National Wildlife Federation, Tom France, Esq., Director;
Sterling Miller Ph.D. Senior Wildlife Biologist**

123-1.—See Response #41-1.

123-2.—See Responses #5-1 and 11-1.

**Letter 123, National Wildlife Federation, Tom France, Esq., Director;
Sterling Miller Ph.D. Senior Wildlife Biologist (continued)**

123-3.—See Response #11-1.

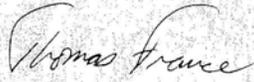
123-4.—The document being commented on is the draft Supplemental EIS, an extensive update of the 1996 final EIS for this section of the larger US 93 Evaro to Polson project. See Responses #11-1 & 17-2.

123-2 | this section that will permit animals to walk and fly under it with a minimum of hindrance. This
Con't | was Alternative #7 in the original EIS. We still believe that this is the best approach.

123-3 | We are very disappointed that the current "preferred alternative" includes a mile-long passing
123-4 | lane for south-bound traffic in the sensitive Ninepipe wetlands. The sensitivity of this area and
the problems posed by a passing lane in this area was clearly recognized in the Supplementary
EIS but this recognition is ignored in the current proposal. The SEIS recognized the "high
ecological value of the landscape [in the Ninepipe area]" and concluded that because of this
value "passing lanes are not appropriate and will not be included." We believe this original
assessment was correct and that if this alternative is selected it must be modified to eliminate the
passing lane and have only 2 lanes in this area. This assessment is shared by the MT Department
of Fish, Wildlife and parks and by the U.S. Fish and Wildlife Service.

Thank you for your consideration of these comments.

Best regards,



Tom France Esq., Director



Sterling Miller, Ph.D., Senior Wildlife Biologist

also submitted via website on 12/4/16

Letter 125, Maggie Newman

125-1.—See Response #3-1

From: Delie/Newman Agency [mailto:funion@ronan.net]
Sent: Wednesday, October 04, 2006 10:02 AM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

125-1

Please include a bike/walking path the entire length of the project. The bike path on the Polson portion of the project is used a lot and adds a great deal to the quality of life in our area. It especially would be used in the more populated areas. I believe it is important to encourage outdoor exercise in a safe manner. Even though the highway when completed will be much safer for vehicles it will not be safer for pedestrians or bicyclists. Let's do this project right! Thanks for your consideration. Maggie Newman, 37164 Glory Road, Polson, MT 59860 (home) and 1211 Highway 93 South, Ronan, MT 59864 (business).

From: Brigid & Art [mailto:curlybird@charlo.net]
Sent: Sunday, October 01, 2006 11:23 PM
To: mdteiscommentsninepipe@mt.gov
Cc: lrenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

127-1 | As a long time resident of the Mission Valley, and a public health nurse for the county, I am in awe of how much active use I have observed on the bike/walk path in the Polson area. We have identified obesity as one of the worst public health threats to this nation, and I am so pleased to see an invitation to better health being built right along the 93 roadway, in the form of the bike/walk path. I was so disappointed to discover that the path was not planned to extend south of Ronan, and am writing you to consider including a bike/walk path south of Ronan to St. Ignatius or even Arlee. I see 5 very brave bicyclists commuting to on Hgwy. 93 each morning between Charlo and Pablo. It is only time before someone gets killed by a vehicle. In this time of global warming, soaring gas prices, and obesity, I implore you to consider adding a safe path along which citizens can safely travel through the valley on bicycle or foot.

127-2 | I also wish to register my vote as preferring option #7 of the plans through the Ninepipe corridor, as it proves the least threat to wildlife of all the option presented.

Thank you for your time,
Gratefully,
Brigid O'Connor RN
54501 Gallagher Rd.
Charlo, MT. 59824
(406) 644-2291

Letter 127, Brigid O'Connor, RN

127-1.—See Response #3-1.

127-2.—See Response #5-1 & 11-1.

October 3, 2006

Jim Lynch, Director - MDT
and
Jean Riley/Project CNB744 ✓
MDT Environmental Services
2701 Prospect Ave
P. O. Box 201001
Helena, MT 59620-1001

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Dear Jim,

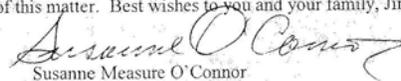
128-1 I am writing concerning the proposed Highway 93 expansion in the Ninepipe/Ronan area. As I understand it, the MDT preferred alternative for this section of highway includes a high-speed passing lane. **THIS IS THE WRONG SPOT FOR SPEEDING TRAFFIC.** Wildlife move between the Mission Mountains and the Flathead River through the Ninepipe wildlife management lands and a high speed passing lane will dramatically increase wildlife mortality under this proposal. Passing lanes here are not appropriate and should not be in the reconstruction project.

128-2 What is needed in this section of roadway is an elevated highway that would allow safe passage of wildlife from one side of the road to the other under the road. **Anything short of this is wrong and extremely shortsighted.** Wildlife is one of Montana's most cherished assets. We need to insure their safety.

128-3 In a related matter, last month I had visitors from out of state who drove into Kalispell and told me how they had driven through several states and saw very little road kill until the last 35 miles of their journey along the west side of Flathead Lake into Kalispell. They were appalled by the number of dead animals along Highway 93. I would have liked to tell them that this is unusual, except that I know it is not. I enjoy driving but I dread the beginning and end of each trip driving Flathead County roads--especially highway 93! With the width of pavement and speed that vehicles travel this highway there is no way that **anything** can cross from one side to the other safely. (What exactly were the idiots that designed this highway thinking of?) Driving into Kalispell Sunday night I counted the remains of 5 deer, 4 skunks and several other animals too mutilated to identify--on the east side of the road alone. **This is a disgrace!**

PLEASE! THE ANSWER TO THIS PROBLEM IS NOT A PERSON TO RETRIEVE ANIMAL CARCASSES. What is needed here, like the Ninepipe/Ronan area, are wildlife underpasses and fences to funnel the wildlife through them. Expensive, yes, but I'm sure much cheaper in the long run than the sum total of vehicle repairs incurred in wildlife collisions. **Wildlife collisions are surely the number one road hazard in Montana.** Not to mention the risk to vehicle occupants. In this last year there have been three human fatalities in the Flathead area resulting from wildlife collisions.

Thanks for your time and consideration of this matter. Best wishes to you and your family, Jim!


Susanne Measure O'Connor
845 7th Ave East
Kalispell, Mt. 59901

Letter 128, Susanne Measure O'Connor

128-1.—See Response #11-1.

128-2.—See Response #5-1 & 11-1.

128-3.—All of the proposed alternatives include at least 5 crossings (bridges and culverts) at major systems in the corridor and approximately 12 additional wildlife crossing culverts within the 11.2 mile project length. The use of structures, culverts, or overcrossings is based on terrain as well as the identification of wildlife migration routes and patterns.

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

129-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.
Carol Onsager

Please provide your name and address:
Name: CAROL ONSAGER
Address: 34630 OLD WEST TRAIL
RONAN, MT 59864
Email: _____

Please leave your comments with either MDT, Skillings
Connolly or Herrera staff at the meeting, or mail to:
Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006




OPEN HOUSES
Monday
September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Centre
St. Ignace, MT

Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community
Center
Ronan, MT

PUBLIC HEARING
Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community
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Letter 129, Carol Onsager

129-1.—See Response #3-1.

130

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

130-1

As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Callie Orien

Please provide your name and address:

Name: Callie Orien
Address: 45135 River breaks Rd
Polson, MT 59860

Email:

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings
Connolly or Herrera staff at the meeting, or mail to:

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

131-1 I FIND IT DIFFICULT TO COMMENT WHEN THERE ARE STILL SO MANY UNKNOWN'S.
I LIVE HALF WAY BETWEEN McDONALD & GUNLOCK ROADS
A PRESENT THE ONLY WAY TO GET A SEMI-TRUCK IN IS TO MAKE A LEFT TURN ACROSS THE HIGHWAY BECAUSE APPROACH IS SO NARROW.
IF NEW ROAD ONLY ALLOWS RIGHT TURNS, CAN A SEMI MAKE A U TURN AT McDONALD & GUNLOCK ROADS? I HOPE APPROACH IS WIDE ENOUGH INTO MY PLACE
IF IT IS RIGHT TURN ONLY I DON'T THINK MUCH OF HAVING TO GO A MILE FARTHER EACH TIME I GO.

131-2 I FLOOD IRRIGATE & HAVE MANY QUESTIONS ABOUT DITCHES GOING DOWN POST CREEK HILL WITHOUT WASHING. IT WILL ALL DEPEND ON HOW MUCH LAND IS TAKEN AS TO HOW I WILL IRRIGATE NEXT TO HIGHWAY.

131-3 IF FENCE IS MOVED OVER TO DITCH, HOW WILL I GET INTO ONE CORNER OF LAND, IF THERE IS ENOUGH LAND LEFT TO BE CONCERNED ABOUT? ALL DEPEND ON HOW MUCH LAND THEY BUY!

Please provide your name and address:

Name: DON OWEN
Address: 70670 HWY 93
CHARLO, MT. 59824
Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
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Ronan Community Center
Ronan, MT

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Ronan Community Center
Ronan, MT

Letter 131, Don Owen

131-1.—The Preferred Alternative #3 will be a 2-lane road with a northbound climbing lane in front of your property. Turns into your approach can be made from either direction. Due to a wider roadway it should be possible to make turns from either direction.

131-2.—The intent of the irrigation relocation planned for your site is to replace its function in kind. During the final design phase the designers will work with you to find an acceptable remedy.

131-3.—As with the irrigation issue, during the final design phase the designers will work out a solution to the right-of-way and fencing issues.

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

132-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Kay Palmer

Please provide your name and address:

Name: Kay Palmer

Address: 14154 Hwy 212
Charlo, MT 59824

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings
Connolly or Herrera staff at the meeting, or mail to:

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Letter 132, Kay Palmer

132-1.—See Response #3-1.

135

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/seis_ea.shtml
Please indicate comments are for project CN 8744.

133-1

We need a bike trail the entire length of Hwy 93. We need it for the safety of our people. We need it for economic development. Please do the right thing.

Carolyn Pardini
1002 15th Ave E
Polson, MT 59816

Please provide your name and address:

Name: _____

Address: _____

Email: carolyn.pardini@bctmical.com

PLEASE SUBMIT COMMENTS BY 5:00 PM BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
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Environmental Services Bureau
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(406) 444-7278

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Ronan Community Center
Ronan, MT

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Ronan Community Center
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Letter 133, Carolyn Pardini

133-1.—See Response #3-1.

Five people in the timberfoot more valued than people on the reservation

134

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The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN 6744.

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134-1

As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Sheri Perry

Please provide your name and address:

Name: *Sheri Perry*
Address: *41009 Morris Rd*
Charlo, MT 59824

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings
Connolly or Herrera staff at the meeting, or mail to:

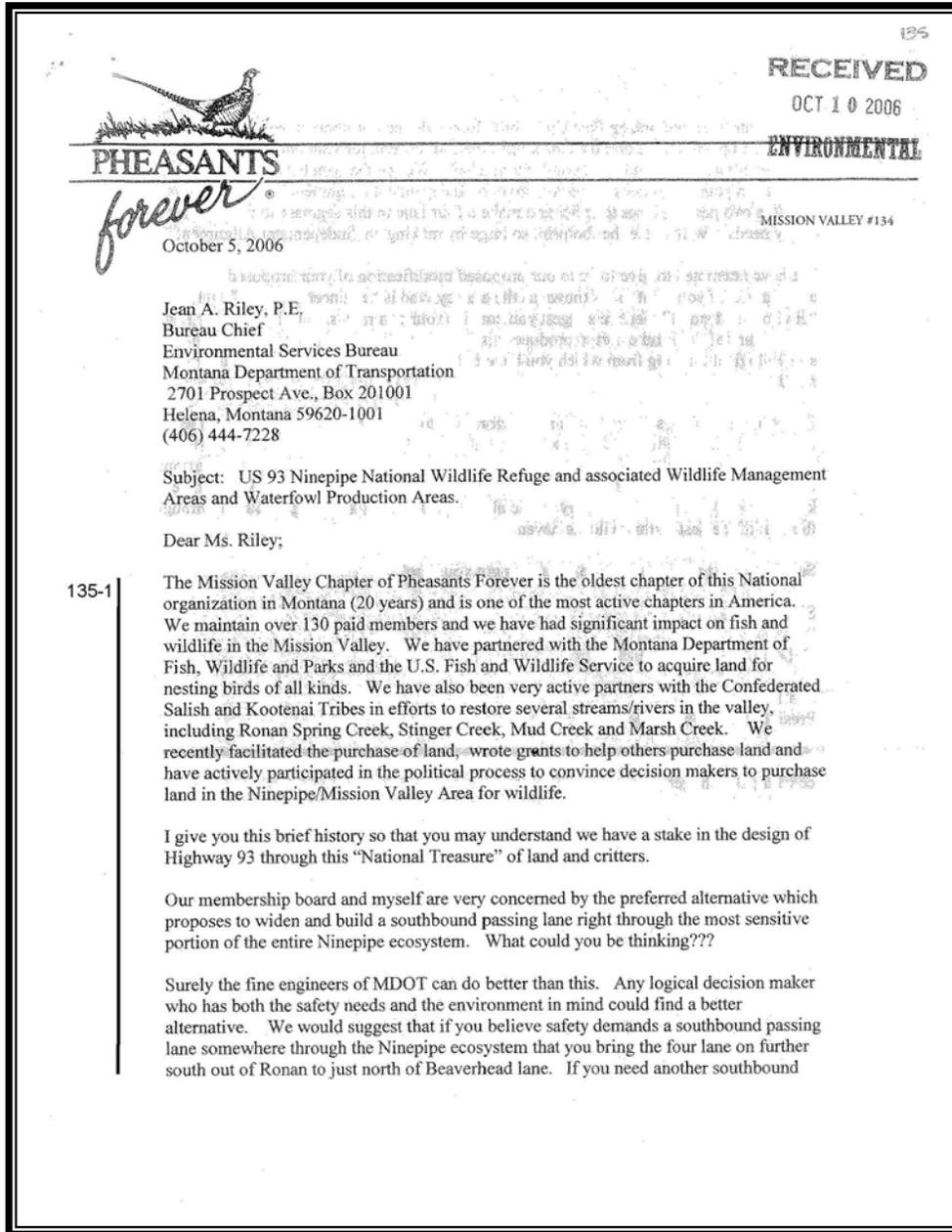
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Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
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Helena, MT 59620-1001
(406) 444-7228

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Ronan, MT



Letter 134, Sheri Perry

134-1.—See Response #3-1.



**Letter 135, Pheasants Forever, Mission Valley Chapter,
Jim Ploskunak, President**

135-1.—See Response #11-1.

**Letter 135, Pheasants Forever, Mission Valley Chapter,
Jim Ploskunak, President (continued)**

135-2.—See Response #11-1.

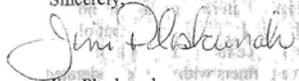
**135-1
Cont'** passing lane then put one on Post Creek hill along side the northbound passing lane. If a northbound passing lane on Post Creek hill meets all criteria for your balancing act then why doesn't a southbound meet your criteria also? We see that you have divided the highway in your Post Creek Hill alternative to "Independent Alignment". Why not just keep the two passing lanes together and make a four lane in this segment to meet your safety needs. Why make the footprint so large by making an "Independent Alignment"?

135-2 We have attempted to give logic to our proposed modification of your proposed alternative. If you want to be known as the agency who is "engineering smart" and "environment smart" then we suggest you consider our comments. Otherwise your huge expenditure of time and effort to produce this SEIS appears to have sent you off into some illogical thinking from which you have balanced criteria that do not weigh the same.

From the beginning, safety was the reason for need to rebuild the highway. From the beginning, Ninepipe was the most wildlife and wetland sensitive segment of the 50+ miles of this project. Ninepipe is where the grizzly bears most frequent, it is where your own studies show the most birds are killed by ten fold. It is the place where turtles are killed and yet you propose to hurry traffic along by providing a passing lane right through the best of the best of this wildlife haven.

Someone must rethink this even if politics got you here!

Sincerely,



Jim Ploskunak
President Mission Valley Chapter

cc Craig Genzlinger

136

Letter 136, Mark Potraz

136-1.—See Responses #1-1, 11-1, and 13-8.

Montana Dept of Transportation
Helena, MT
Re: CN B 744

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NH-F 5-1(9)LF
us. 93 Evap. Disp. SEIS
(Ninepipe Section)
CN 6744
(1-12-06)

Dear Ms Riley,

136-1

I am one of the unlucky people who get to drive Highway 93 most of the time making two trips daily, at least 5 days weekly hauling fuel in a petroleum tanker between Missoula and Kalispell. Why the Highway Department would even look at any other alternatives besides a four lane highway in this area is hard for me to understand. I am well aware of the hazards on this road and tanker trucks are not always able to flow with the traffic. Putting in passing lanes is not the answer to the making the highway that much safer. The vehicle count on US 93 most definitely justifies a four lane highway all the way through including the smaller cities and towns. I have never talked to one person that does not support this idea. I think it is time to quit holding hearings and get on with the building program. Thank you for your consideration in this manner.

Mark Potraz
Somers MT

COPY

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN 8744.

MASTER FILE COPY

Dear Sir:

Comments on US 93/Ronan Road Imp.

137-1 *1. It is my understanding that the plan did not call for a passing lane across the 9-Pipes W.M.A. Now there is a passing lane proposed. This is not a good idea. It will take more land away from the wildlife, cause more mortality for birds flying across highway and the passing lane could be located elsewhere.*

137-2 *2. Closing of Duch Road eliminates access from Hwy 93 and reroutes traffic a long way around. It would be better left as is.*

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Please provide your name and address:

Name: *Jack Puckett*

Address: *2307 Pauline Drive
Missoula, MT. 59804*

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

OPEN HOUSES

Monday
September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Center
St. Ignace, MT

Tuesday

September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT




Letter 137, Jack Puckett

137-1.—See Response #17-2.

137-2.—See Response #103-1.

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN 8744.

138-1 | "Alternative Rural 9" ^{bilateral} with fence

138-2 | (with the bike path continued from Polson to Missoula)

Please provide your name and address:

Name: Wade Reed

Address: Stossnile Counselor
Charlo, MT 59824

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

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Ronan, MT




Letter 138, Wade Reed

138-1.—See Response #11-1.

138-2.—See Response #3-1.

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The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/es_ea.shtml
Please indicate comments are for project CN 8744.

139-1 | We Need a bicycle path on Hwy 93 South of Ronan

Please provide your name and address:
 Name: *Meloney Ridley*
 Address: *165 Vista Place NW Ronan, MT 59864*
 Email: _____

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:
 Jean A. Riley, PE
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Letter 139, Meloney Ridley

139-1.—See Response #3-1.

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Please indicate comments are for project CN B744.

140-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Mary Rodda

Please provide your name and address:

Name: *Mary Rodda*

Address: *33864 Timberlane Rd
Ronan, mt 59864*

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

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September 19, 2006
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Ronan Community
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Ronan, MT

Letter 140, Mary Rodda

140-1.—See Response #3-1.

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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141-1 I thought there was suppose to be a connecting bicycle route from south of ^(Arlee) Mission to Polson. On the proposed views of the plans there is none. This is unacceptable for the safety of those who bicycle and use that corridor. We request it be included so it completes the routes that exist and makes it safe for the families who will use it.

Thank You Jean Rody

Please provide your name and address:
 Name: Jean Rody
 Address: 34548 Courville Trail
Polson, MT 59860
 Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:
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 Ronan Community Center
 Ronan, MT

Letter 141, Jean Rody

141-1.—See Response #3-1.

Letter 142, Ronan Telephone Company, Jay Wilson Preston, Chair

142-1.—See Response #13-8.

142-2.—The proponents are aware of the conduit system and will work with the phone company to facilitate its relocation/replacement.

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

RONAN TELEPHONE Co. will submit formal comments prior to the written comment deadline on Oct 6, 2006

142-1 | POINT 1- RONAN TELEPHONE Co. SUPPORTS THE PRELIMINARY PREFERRED ALTERNATIVE FOR THE COUPLET SOLUTION FOR BUILDING 4 LANES THROUGH THE TOWNSITE OF RONAN. WE FEEL THIS OPTION WILL ALLOW EFFECTIVE INCREASE OF TRAFFIC CAPACITY WHILE RETAINING USE3 THROUGH RONAN. THE COUPLET WILL CREATE AN ENHANCED COMMERCIAL CORRIDOR BETWEEN THE ONE WAY ROADS. THIS CORRIDOR WILL INSURE THAT RONAN'S ROLE AS THE PRIMARY AG SUPPLY ECONOMY WILL BE RETAINED AND ENHANCED.

142-2 | POINT 2- THE SOUTHBOUND COUPLET PROPOSED FOR 1ST AVE W. CONFLICTS WITH A MAJOR CONDUIT SYSTEM ON 1ST AVE W. FROM THE ALLEY BETWEEN ROUND BUTTE RD. & MAIN SOUTH TO VALLEY BANK. THIS FACILITY SERVES ALL TEL USERS IN THE RONAN EXCHANGE IN THE SOUTH SECTION OF THE TOWNSITE AND SOUTH OF RONAN. RONAN TEL WILL REQUIRE AT LEAST 3 YEARS TO REDESIGN AND REBUILD OUR NETWORK TO ALLOW IT TO BE REPLACED ON 1ST AVE W. SPECIAL CONTRACTUAL ACCOMODATION MUST BE PUT IN PLACE TO FACILITATE CHANGING THIS FACILITY.

Please provide your name and address: Jay Wilson Preston
Name: JAY WILSON PRESTON, CHAIR
Address: RONAN TELEPHONE Co.
312 MAIN ST SW
RONAN, MT 59864
Email: JAY WP@RONAN.MT

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

OPEN HOUSES
Monday
September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Center
St. Ignatius, MT

Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING
Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT




143



RONAN TELEPHONE COMPANY
312 MAIN STREET SOUTHWEST • RONAN, MONTANA 59864
(406) 676-2751 • FAX NO. (406) 676-8889

October 3, 2006

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ENVIRONMENTAL

Jean Riley, PE., Chief
MDT Environmental Services Bureau
MT Department of Transportation
PO Box 201001
Helena, MT 59620-1001

RE: US 93 Ninepipe/Ronan Improvement Project

To Whom it May Concern:

143-1

The US 93 Ninepipe/Ronan Project will have a major impact on Ronan Telephone Company's facility providing telephone services from Spring Creek Rd on Highway 93 south to an area near Eagle Pass Trail.

We support Alternative Ronan 4 (PPA) through the townsite of Ronan. The southbound couplet, however, requires a major change to allow a 4-pipe conduit system currently installed along 1st Avenue SW to be replaced by a different route. This system serves most of south area of the Ronan townsite and all our services south of Ronan. The only practical way to abandon this facility is to re-engineer our network to include a switching node south of Ronan allowing us to re-home customers in that area to a different wire center. In addition services east of Ronan are carried in an eastbound route of the same conduit system that crosses both the north and south bound routes of the couplet proposal. Accommodating this crossing could also be a significant problem.

Ronan Telephone Company needs to be informed as soon as a record of decision is made and will require at least 3 years from that date to complete the re-engineering and rebuilding of these facilities. We will need a reimbursement contract in place soon after the record of decision in order to accomplish what is needed.

Sincerely,

Rosa E. Tougas
President/Operations Manager

Letter 143, Ronan Telephone Company, Rosa E. Tougas, President/Operations Manager

143-1.—See Response #142-2.

From: Mary Sand [mailto:Mary_Sand@skc.edu]
Sent: Friday, October 06, 2006 10:07 AM
To: Julie Kightlinger
Subject: Comments on Highway 93 Ninepipe DSEIS

This message is to urge you to support the following recommendations for Highway 93 in the Ninepipe area:

- 144-1 | In the rural segment of the project, I would advocate for a combination of Alternative 2, and for the section between Eagle Pass Road and Crow Creek, Alternative 7. The combination of these two designs would result in a two-lane design except for a northbound passing lane on Post Creek hill. There would be a raised-highway design for the most sensitive section, but I would suggest that this begin just north of Ninepipes Lodge. In this design, I would also advocate for the longest and highest bridge design at Post Creek, which is probably the most important east-west corridor for large animals in the entire Mission Valley. In addition, an integral part of this design would have to be clear visual demarcation of this part of the highway as a distinct parkway, which would have a slower speed limit -- perhaps 50 mph.
- 144-2 | The international importance of the habitat of the Ninepipe area, its cultural importance to Salish, Pend d'Oreille, and Kootenai people and also to local non-Indians, and the enormous investment already made in the area by the Tribes, the federal government, and the state, merit the exceptional treatment of this section. It is noted in the DSEIS that while most options are estimated to cost \$35 to \$40 million, Alternative 7 would cost an estimated \$114 million. It is worth noting that the United States is currently spending that much money every nine hours in Iraq. We must build this highway the right way, even if it costs more to do so.
- 144-3 | It would be good to look into some design to help de-ice bridging and other raised surfaces, and
144-4 | to add to such structures some kind of muffling material to counteract noise impacts.
- 144-5 | Wherever passing lanes reconverge, there needs to be much more aggressive, prominent, and
weatherproof signage, including not only strict marking of the point beyond which people must
not pass, but also the distance to the next passing opportunity. I would also advocate the
144-6 | establishment of higher fines or tougher penalties for unsafe passing and posting notice of those
fines/penalties. It would be wise to increase funding for enforcement, if that can be included in
the project.
- 144-7 | If the PPA remains Alternative 10, I would strongly advocate the elimination of the southbound
passing lane through the Ninepipe area. If the parties insist that a southbound passing lane is
necessary -- a highly dubious assertion -- I would urge that it be placed just north of the Highway
212 intersection, rather than south, and incorporated into a full bridging of the ponds north of
that intersection. In this way, some environmental benefit could be gotten from what would
otherwise be an environmental detriment.
- 144-8 | For Ronan, I strongly urge the parties, and the city of Ronan, to reconsider whether four traffic
lanes are truly necessary to carry the projected volumes of traffic. There are numerous studies

Letter 144, Mary Herak Sand

144-1.—See Responses #5-1 and 11-1.

144-2.—See Responses #5-1 and 11-1.

144-3.—See Response #13-3.

144-4.—See Response #13-4.

144-5.—All signing will conform to the most current federal and state standards.

144-6.—See Response #13-6.

144-7.—See Response #11-1.

144-8.—See Response #13-8.

Letter 144, Mary Herak Sand (continued)

144-9.—See Response #13-9.

144-10.—See Response #3-1.

144-11.—See Response #11-1.

144-8 | available on the internet, including several that can be accessed at
Con't | www.walkablecommunities.org, that show three-lane designs safely and smoothly handling well
144-9 | over 20,000 ADT, and in some cases approaching 30,000. I would also urge the parties and the
city to consider replacing the traffic lights with roundabouts, which can reduce accidents,
improve traffic flow, and improve pedestrian safety.

144-10 | Lastly, I would urge that a separate bike path be considered for the entire project, if this can be
done without significant additional harm to the environment.

144-11 | Whatever is chosen must at least keep all passing lanes out of the core four miles of the Ninepipe
potholes area.

Sincerely,

Mary Herak Sand
Charlo resident most of my life
Still work full-time for Salish Kootenai College
Current address:
301 Fifth Avenue NW
Killdeer, ND 58640
(701) 764-6400

145-1

Sept. 19, 2006
Entering Hwy 93 from
McDonald Lake Road,
there is a blind spot
to the North.

Need a turning lane when
headed south on 93 to
turn left onto Eagle
Pass Trail. There is a lot
of traffic turning onto Eagle
Pass Trail

Martena J. Savage
38001 Hi-Highway
St Ignace

Letter 145, Martena Savage

145-1.—See Response #6-2.

Letter 146, Robyn Schock

146-1.—See Response #3-1.

From: Robyn Schock [mailto:robyn.schock@ronank12.edu]
Sent: Friday, October 06, 2006 12:58 PM
To: mdteiscommentsninepipe@mt.gov
Cc: lrenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

Comments for project CN B744

146-1 | I have lived in the Mission Valley my entire life and I would like to have a BIKE/WALKING PATH, separate from traffic, on HWY 93, connecting ALL communities from Polson to Arlee.

Thank you,
Robyn Schock
33246 Allison Road
St. Ignatius, MT 59865

robyn.schock@ronank12.edu

147
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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
 Please indicate comments are for project CN B744.

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147-1 | As a resident of Mission Valley,
 I want a BIKE/WALKING PATH,
 separate from traffic, on Hwy 93
 connecting ALL communities
 from Polson to Arlee.

James Schoener

Please provide your name and address:

Name: James Schoener
 Address: 1703 11th Ave N
Polson, MT 59844

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
 Bureau Chief
 Environmental Services Bureau
 Montana Department of Transportation
 PO Box 201001
 Helena, MT 59620-1001
 (406) 444-7228

OPEN HOUSES

Monday
 September 18, 2006
 6:00 - 8:00 pm
 Tribal Fitness Center
 St. Ignatius, MT

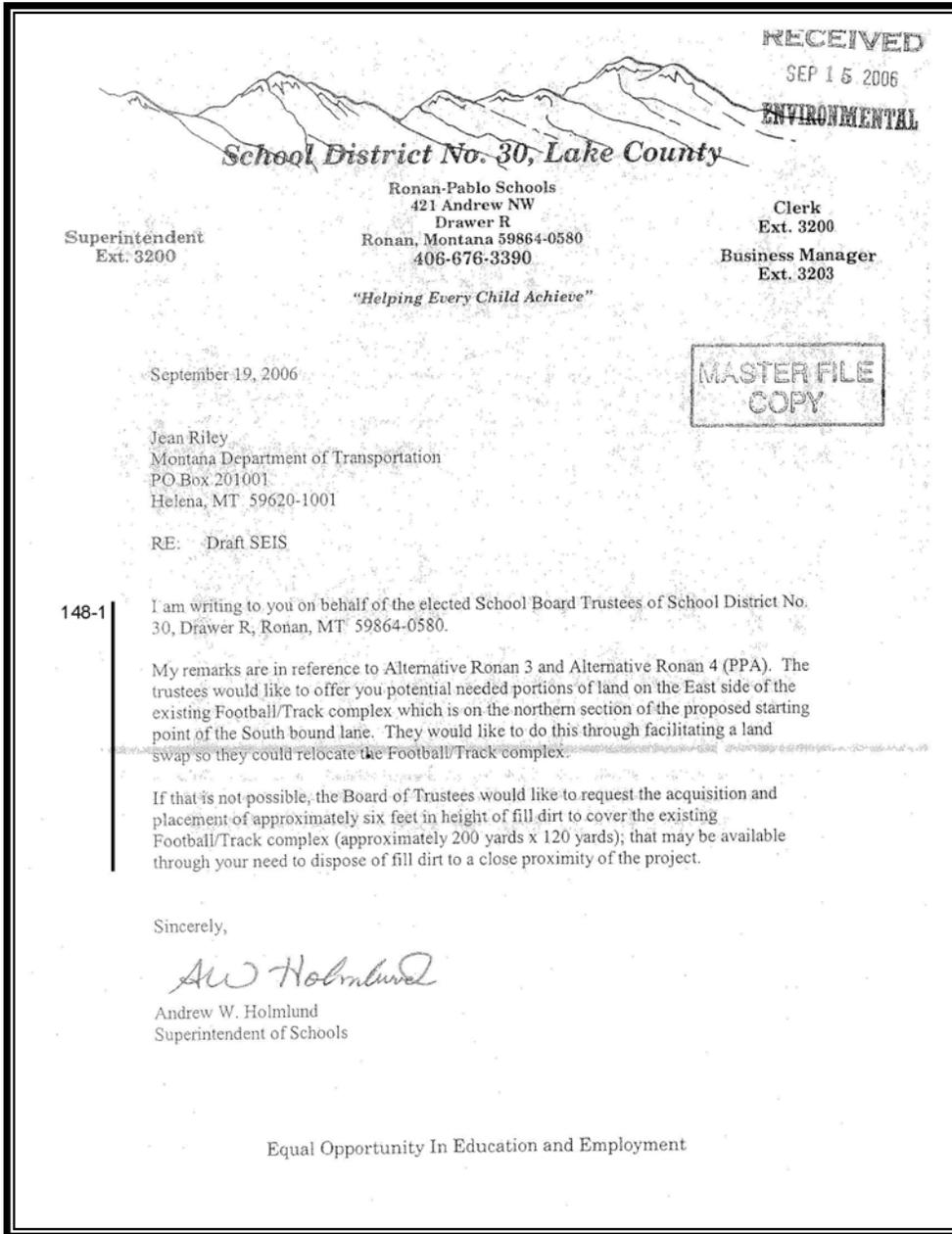
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 Ronan Community Center
 Ronan, MT

PUBLIC HEARING

Tuesday
 September 19, 2006
 7:00 - 9:00 pm
 Ronan Community Center
 Ronan, MT

Letter 147, James Schoener

147-1.—See Response #3-1.



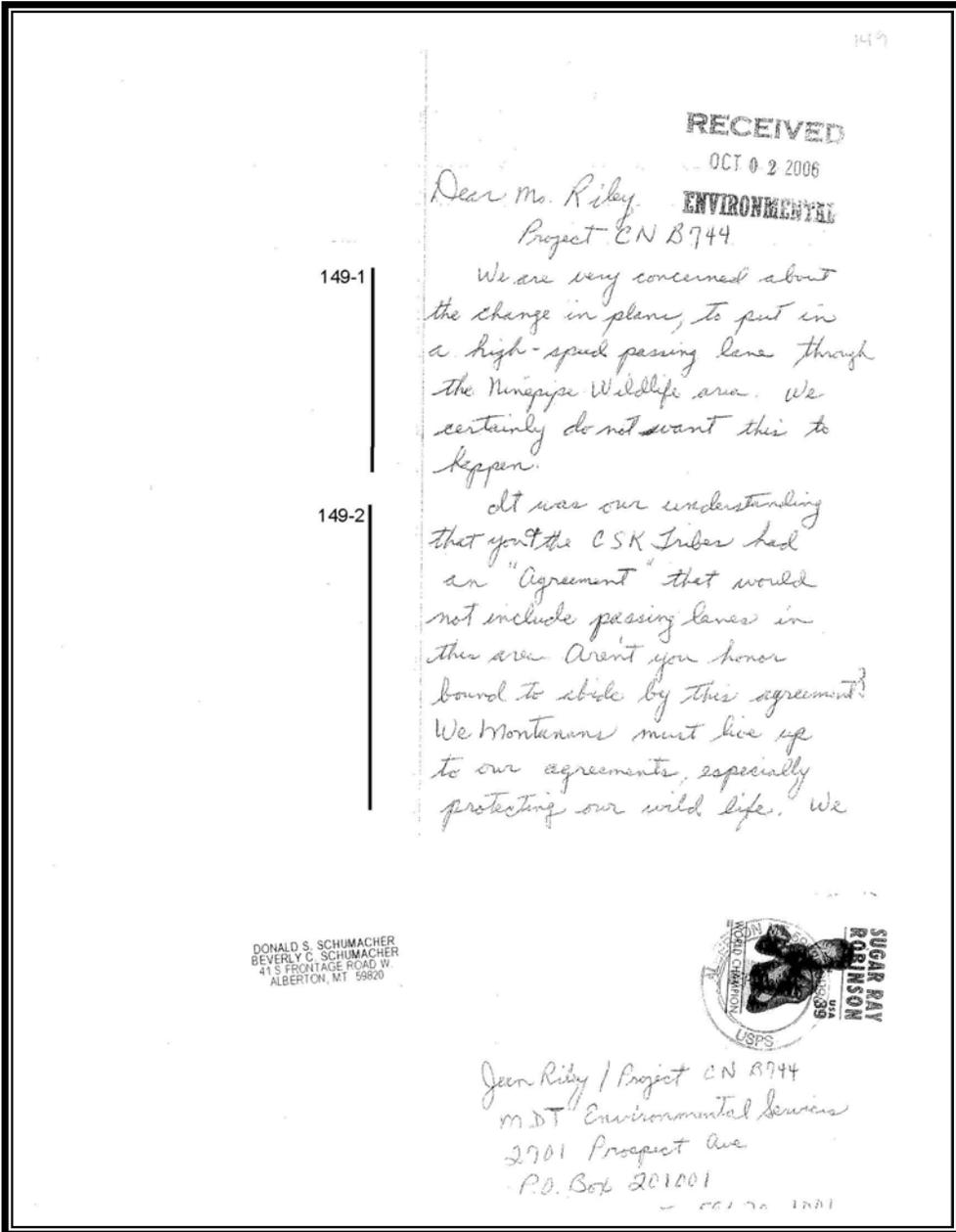
**Letter 148, School District No. 30 Lake County,
Andrew W. Holmlund, Superintendent of Schools**

148-1.—Thank you for your offer to trade some property or to allow disposal of fill on your property. These issues won't be dealt with at this time. First we must finalize the Supplemental Environmental Impact Statement and execute a Record of Decision selecting the preferred alternative. Your offer will be examined in detail in the final design phase, which comes after the Record of Decision.

Letter 149, Donald S. and Beverly C. Schumacher

149-1.—See Response #11-1.

149-2.—See Responses #17-2 and 49-2.



Letter 149, Donald S. and Beverly C. Schumacher (continued)

149-3.—See Responses #5-1 and 11-1.

149-2
Cont'

I live in Alberton but go to Massena quite often. The road kill on the highway is awful. Please do not add more to it in the Ninepipe area of Highway 93.

149-3

Consider instead the alternative 7 an "elevated highway." We know it will cost but its worth the price to save our wildlife.

We really enjoy the area when we drive through there. Please do not put in the high-speed passing lanes.

Sincerely

Donald & Beverly
Schumacher

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: <http://www.mdt.mt.gov/publicity/seis/>
Please indicate comments are for project CN B744.

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150-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

TKS

Please provide your name and address:
Name: TK SCHWADERER
Address: 501 FIRST AVE.
ST. IGNATIUS MT 59826
Email: _____

Please leave your comments with either MDT, Skillings
Connolly or Herrera staff at the meeting, or mail to:
Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

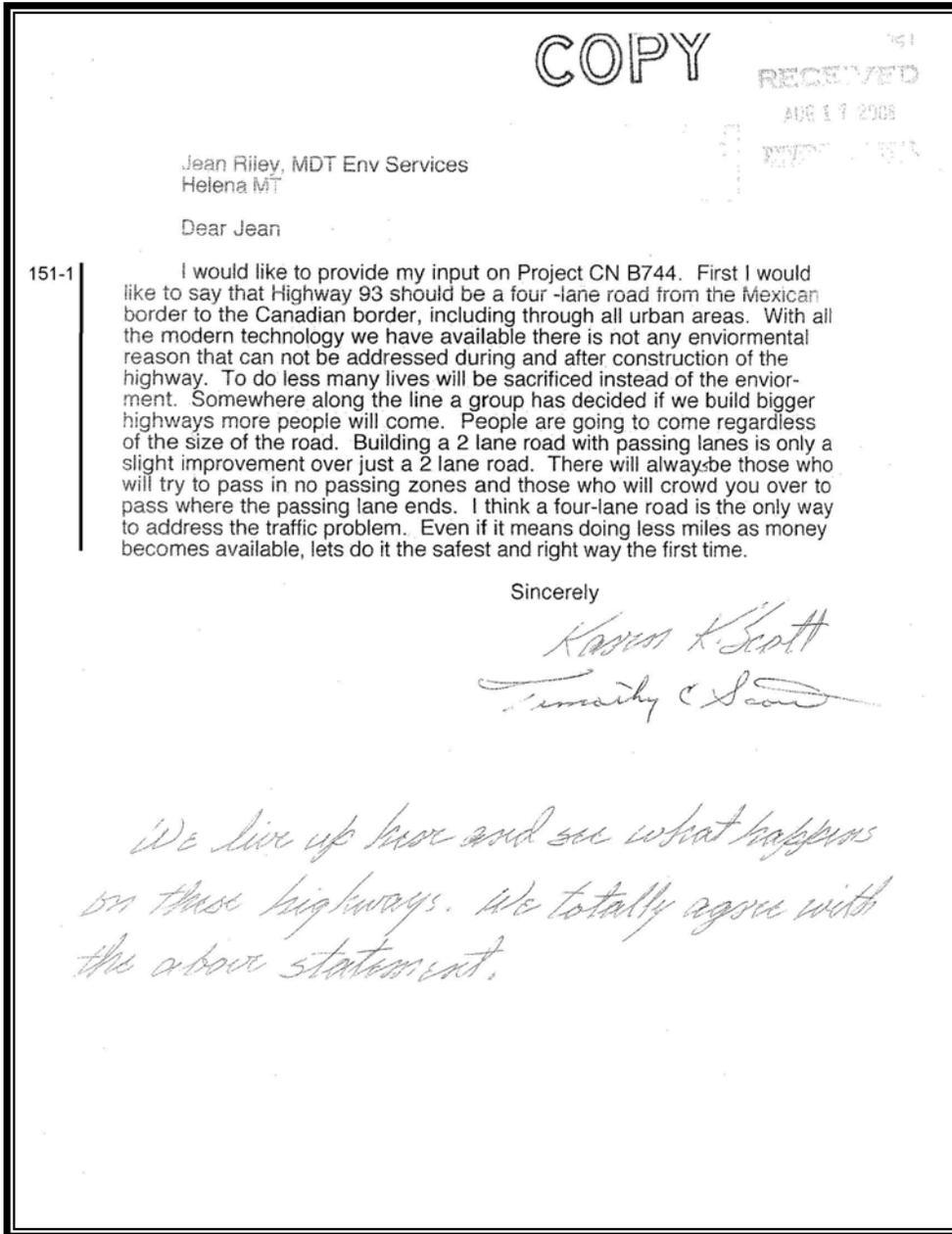
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Center
Ronan, MT

Letter 150, T.K. Schwaderer

150-1.—See Response #3-1.



Letter 151, Karen K. and Timothy C. Scott

151-1.—See Responses #1-1, 11-2, and 13-8.

151-1

I would like to provide my input on Project CN B744. First I would like to say that Highway 93 should be a four-lane road from the Mexican border to the Canadian border, including through all urban areas. With all the modern technology we have available there is not any environmental reason that can not be addressed during and after construction of the highway. To do less many lives will be sacrificed instead of the environment. Somewhere along the line a group has decided if we build bigger highways more people will come. People are going to come regardless of the size of the road. Building a 2 lane road with passing lanes is only a slight improvement over just a 2 lane road. There will always be those who will try to pass in no passing zones and those who will crowd you over to pass where the passing lane ends. I think a four-lane road is the only way to address the traffic problem. Even if it means doing less miles as money becomes available, lets do it the safest and right way the first time.

Sincerely

Karen K. Scott
Timothy C. Scott

We live up here and see what happens on these highways. We totally agree with the above statement.

From: Matt Seeley [mailto:Matt_Seeley@skc.edu]
Sent: Wednesday, October 04, 2006 2:48 PM
To: mdteiscommentsninepipe@mt.gov
Cc: <Irenz@skillings.com>; Kathleen Adams
Subject: Ninepipes - Alt. 7 support

152-1 | As a resident of the Mission Valley, avid cyclist, and wildlife enthusiast, I am writing to express my strong support for choosing Alternative 7 as the optimal new highway design through the Ninepipes area. This option appears to be just as safe and fast as the preliminary preferred option, but it has the distinct advantages of being more environmentally friendly and allowing more people to safely enjoy the pristine Ninepipes area. The additional cost of this option are easily justified in terms of long-term preservation of such a critical bird, animal, and plant environment. A bike path through this region is also extremely important because it eliminates the very dangerous current situation of cyclists being forced to ride on 93. In addition, such a bike path would be very attractive to both resident and non-resident users. The new bike path across northern Idaho provides an excellent example of how much such a feature can enhance the recreational use of an entire region.

152-2 |

I hope you seriously consider all of the long-term benefits of Alternative 7.

Thanks,

Matt Seeley

Letter 152, Matt Seeley

152-1.—See Responses #5-1 and 11-1.

152-2.—See Response #3-1.

Letter 153, Ron Selden and Beth Brenneman

153-1.—See Response #3-1.

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Comment Form

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

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 Please indicate comments are for project CN B744.

9/24/06

153-1 | GREETINGS: WE WOULD LIKE TO SEE A BIKE & PEDESTRIAN PATHWAY EXTENDED ALONG U.S. HIGHWAY 93 FROM RONAN TO MISSOULA, WITH THE HIGH COST OF FUEL, AN OVERWEIGHT AND UNDER-EXERCISED SOCIETY, AND THE MANY SCENIC WONDERS OF THE MISSION VALLEY, A BIKE-PEDESTRIAN PATHWAY SEEMS LIKE A SENSIBLE AND TIMELY ADDITION TO THE ~~OR~~ ONGOING HIGHWAY IMPROVEMENTS. AND IF THE ISSUE IS MONEY, PLEASE LEAN HARDER ON THE CONGRESSIONAL DELEGATION!

THANKS FOR YOUR CONSIDERATION;

Please provide your name and address:

Name: RONSELDEN & BETH BRENNEMAN

Address: 702 N. DAVIS STREET
HELENA, MT 59601

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

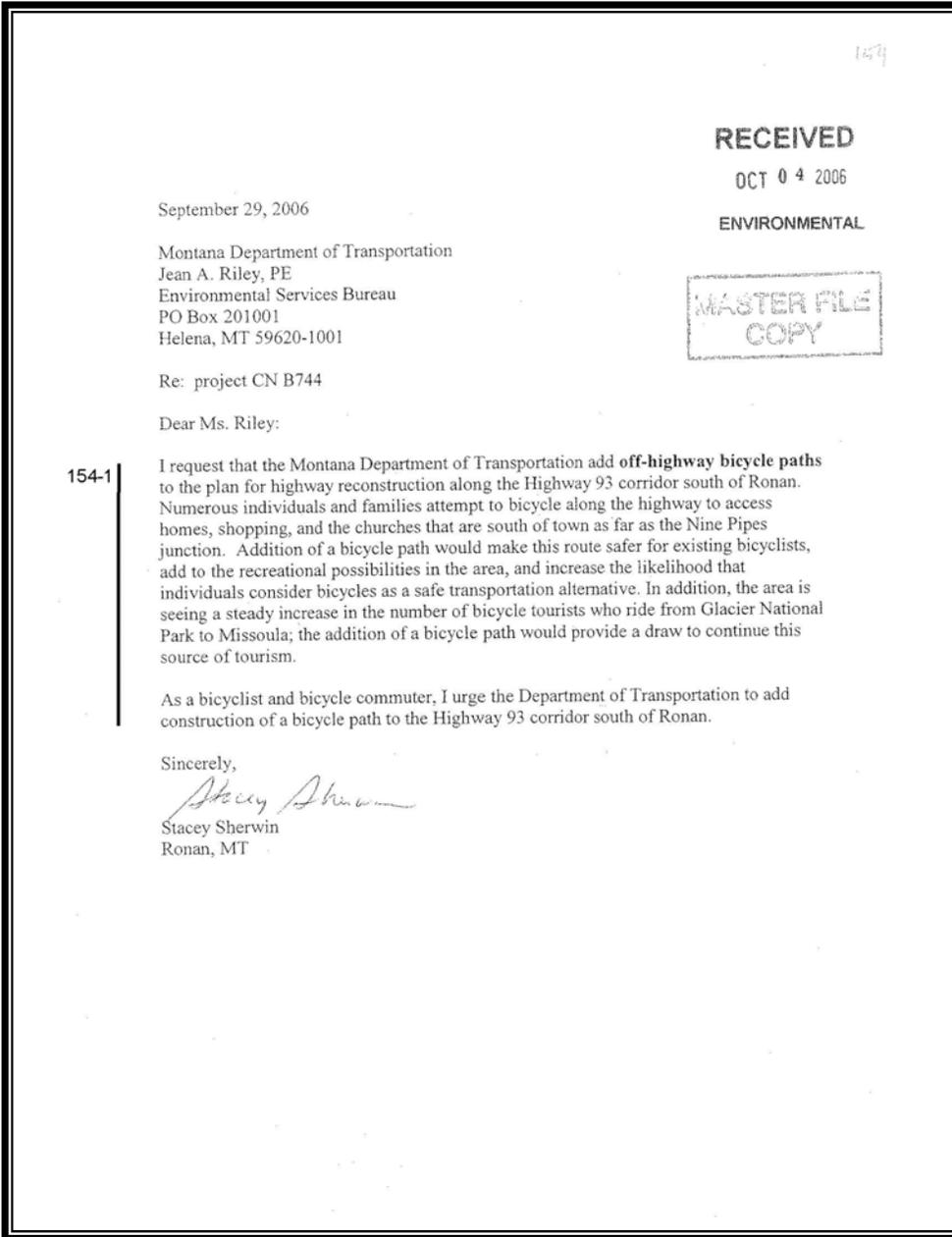
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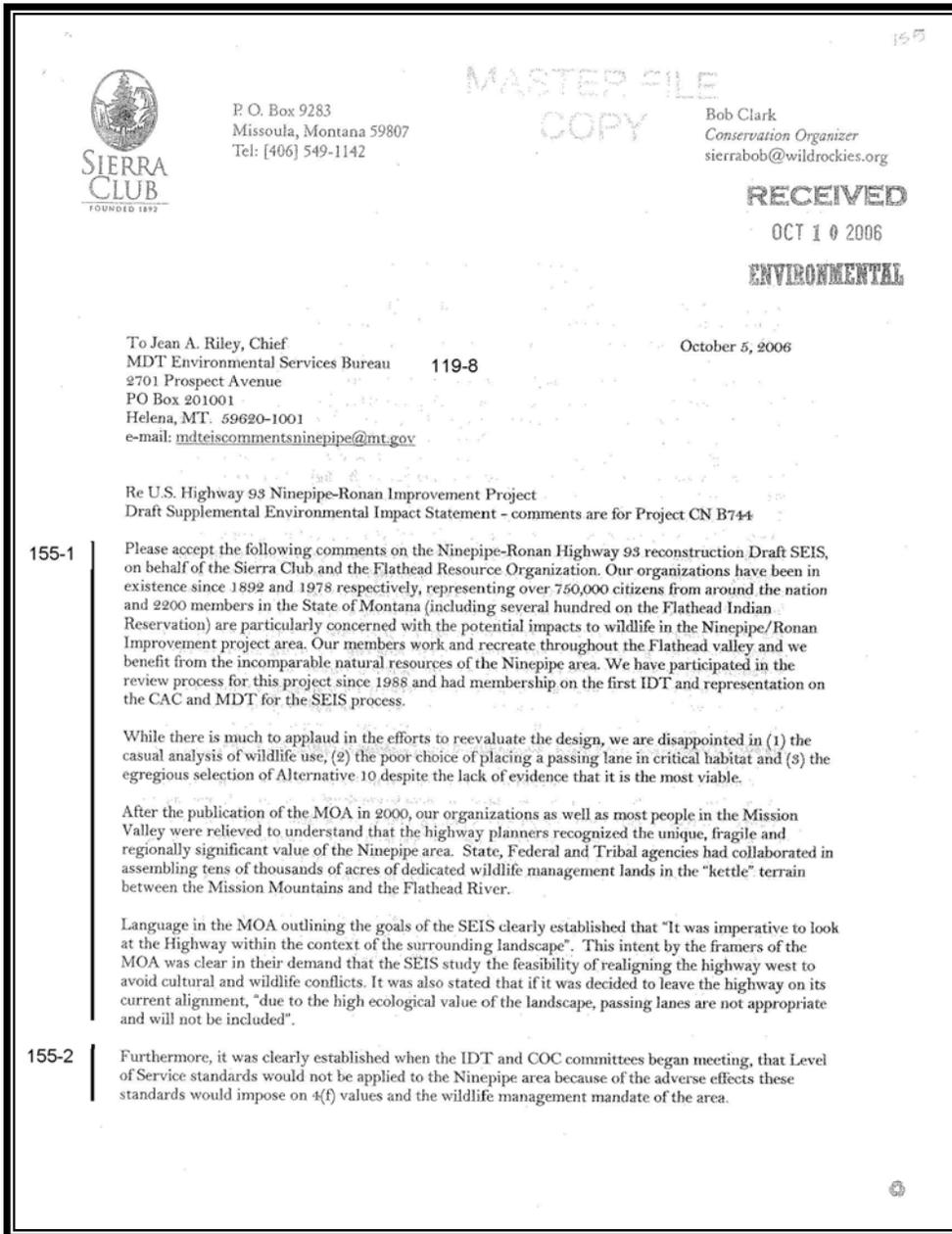
PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT



Letter 154, Stacey Sherwin

154-1.—See Response #3-1.



Letter 155, Sierra Club, Bob Clark; Patricia Hurley, Flathead Resource Organization; Kim Davitt, American Wildlands

155-1.—Thank you for your comments and for your participation in this process. See Responses #17-2 & 49-2.

155-2.—See Response #52-6

Letter 155, Sierra Club, Bob Clark; Patricia Hurley, Flathead Resource Organization; Kim Davitt, American Wildlands (continued)

155-3.—See Responses #11-1 and 13-8.

155-4.—See Response #52-7.

155-5.—See Response #52-8.

155-6.—See Responses #5-1 and 11-1.

155-7.—See Response #11-1.

155-8.—The southbound passing lane in the Ninepipe Reservoir area is not included in the Preferred Alternative (PA) in this final SEIS, and the speed limit in the project area will not change under any of the action alternatives. Predicted noise levels from the No-Action alternative are similar to those for the preliminary PA and the final PA. Noise impacts would be similar with or without construction of the PA.

155-9.—See Response #52-11.

155-10.—See Response #52-12.

155-3 | After several years of TDC and CAC meetings and public meeting involving hundreds of residents, all based on the minimalist pledges of the MOA, we were extremely disappointed earlier this year when the PDSEIS changed the ground rules that we had been working under. The result of these arbitrary changes is a preliminary preferred alternative calling for a one-mile-long south-bound passing lane through the "kettle" area and a much heavier-handed treatment for Ronan than we believe to be necessary or prudent. We urge the MDT to honor the Memorandum of Agreement.

We would first like to point out some glaring omissions in the DSEIS:

- 155-4 | • The evaluation of impacts on wildlife and endangered species does not include new information that was not already available at the time of the MOA. The citations are mostly "personal communications"—an extraordinarily casual approach to wildlife research. There is still no understanding of how wildlife uses the corridor or the adjacent kettle area, and how the PPA would affect wildlife access to vital habitat components on either side of the roadway. There is no analysis of vital habitats, and likely corridors are only estimated.
- 155-5 | • There are no studies on the relationship between Highway 93 and other transportation infrastructure in the area. Wildlife use of Ninepipe bisects several roads, including Highway 212, Mollmann Pass Road and Eagle Pass Road. The cumulative effect, if not understood, could pose real jeopardy. For instance, over the past five years, three grizzly bears have been killed on Highway 93, and at least two others on a county road east of the highway in the Kicking Horse area. It is not possible to design a permeable road without knowing this relationship.
- 155-6 | • The PPA calls for short bridges at the ends of Kettles One and Two, but no rationale as to how this would protect painted turtles. We refer to, and urge you to, adopt the recommendations submitted by Kathy Griffin, University of Montana Wildlife Biologist regarding appropriate crossing structures for turtles (Her research, along with that of Susan Fowle's are the best information we have on turtle movement and mortality.) However there is every reason to believe that full restoration of the kettles by full-length bridges would resolve the risk.
- 155-7 | • Both the Montana Department of Fish, Wildlife and Parks and the US Department of Fish and Wildlife have strongly objected to the south-bound passing lane due to the indirect effect it would have on their 4 (f) mandate, yet there is no discussion of this in the DSEIS. These agencies along with the Tribes have the public responsibility for managing wildlife in the refuge, the WPA's and the WMA's, and their concerns should be addressed in detail. We feel that a passing lane will increase vehicle speed and increase the development footprint in this sensitive area. Traffic noise is known to cause lower breeding densities for a wide variety of bird species adjacent to roads in open areas (meadow birds) (articles from Reijnen, Foppen, van der Zandé etc.) It is likely that the additional noise caused by traffic speeding up because of the passing lane could adversely impact bird breeding population density. Because the passing lane is likely to result in more noise, a road with a passing lane is worse than a road without one. As we have stated numerous times, we believe that the best solution is to abandon plans to build passing lanes through the wildlife sensitive area of Ninepipe (particularly, the four miles of roadway through lands that have been dedicated to wildlife management by tribal, state, and federal agencies) and we urge you to reflect this design in your final decision.
- 155-8 | • The PPA calls for numerous wildlife crossings in the roadbed but specifically rejects the inclusion of wing or funnel wildlife fencing. The preponderance of evidence and literature suggests that wildlife will not use crossing without such fencing. This contradiction must be resolved before the FEIS is finalized.
- 155-9 | • The SEIS fails to identify fill quarries, mix and process sites, and disposal areas. We understand that this is usually considered a separate issue and not addressed in NEPA documents on most highway projects. But these ancillary activities can have enormous impacts if they are not located and performed in a way that corresponds to the wildlife needs of the area. Secondly the current procedure of contracting for and managing these sites after a ROD has been published has not been particularly successful on the Flathead Reservation. There are several large abandoned quarries in Lake and Sanders Counties left over from previous projects, and at least one on Highway 212 north of the Dixon Agency was operated during the nesting season of
- 155-10 |

Letter 155, Sierra Club, Bob Clark; Patricia Hurley, Flathead Resource Organization; Kim Davitt, American Wildlands (continued)

155-11.—See Response #52-13.

155-12.—The three lead agencies selected Alternative 10 as the PPA because they felt it was the best combination of minimizing environmental impacts, maximizing wildlife benefits, and improving traffic flow and safety at a cost that will result in a project that can actually be funded. After consideration of issues addressed in comments received on the DSEIS, the proponents have now selected Alternative Rural 3 as the Preferred Alternative in the FSEIS. See also Response #11-1 and comment #39-6 from USACE.

155-13.—See Responses #11-1 and 155-12.

155-14.—See Responses #5-1 and 11-1.

155-10 | listed bald eagles. Oversight of the quarry restoration has been left to Montana DEQ, which has
Con't | been immobilized by lack of funding and personnel.
These sites should be identified and evaluated as to their effect on wildlife use of the area before
a final draft is approved.

155-11 | There are also several errors of commission in the DSEIS:

- In its discussion of safety, the DSEIS continues to use a misleading index of highway risk based on accidents, injuries and fatalities per mile of roadway rather than the standard index of accidents per traveler-mile. The only reason this is done is to stir up misinformed passion and to avoid an objective risk analysis. MDOT should be required to use standard measures rather than slewed data for propaganda.
- According to the comparative analysis of the alternatives, Alternative 7, the raised parkway better meets all of the goals in the purpose and need than the PPA or any other alternative. Yet earlier this year, there was an effort by FHWA and MDT to have Alternative 7 deleted from the menu on grounds of cost. It was also rejected as a PPA for the same reason. There are several such projects already existing in the US, such as Glenwood Springs Canyon in Colorado, where the value of the landscape and its community justified the cost. We submit that at Ninepipe, with its 20,000 acres of dedicated wildlife lands worth tens of millions in sportsmen's licenses and tax dollars, is such a place. If this project were put to a meaningful cost-benefit analysis, Alternative 7 would prove a bargain. We urge you implement Alternative 7 and we recognize that this is an expensive alternative and will be happy to work with you in efforts to obtain the necessary funds to implement it.
- Finally, despite the fact that Alternative 7 and at least two other alternatives (3 and 4) exceed or equal Alternative 10 in attaining the goals, it was Alternative 10 that was selected as the PPA. This discounting of the DSEIS's own data seems arbitrary and bull-headed. This is only one example of how the DSEIS process has been used as a continued and concerted effort to justify a pre-existing decision.

155-14 | In conclusion, although we are disappointed in the Draft, we believe that even the flawed picture presented by the DSEIS provides more than ample reason to reject the PPA and accept a more benign alternative. We strongly urge you to reconsider Alternative Seven or, failing that, mix and match lane configuration and speeds to safely manage traffic and maintain the integrity of the Ninepipe wildlife management area. These need not be mutually exclusive goals.

Respectfully,


 Bob Clark
 Sierra Club


 Patricia Hurley
 Flathead Resource Organization


 Kim Davitt
 American Wildlands

CC: U.S. Senate, Max Baucus
 State of Montana, Hal Harper
 Confederated Salish & Kootenai Tribes

156

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OCT 10 2006

Comment Form ENVIRONMENT

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

These comments are for project CN B744:

156-1

Give me one reason why we should not have a bike/pedestrian path in Ronan. I witnessed a death when a bicyclist was hit by a motorist by Ninepipes several years ago. The group he was cycling with (from Michigan) was waiting up at the top of the hill was not even aware he was killed. A relative was hit by a motor home with a four foot mirror protruding from the side of the vehicle when he was on the highway. Another person was hit by Don Aadsen's several years ago by a motorhome and they weren't even aware they had hit him.

If this plan is not included in the highway design now, it will be much harder to implement it later on.

The project may well increase tourism reflecting on the businesses here as well, thus increasing taxes to the state, which may pay for itself in the long run.

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Ronan Community Center
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Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Please provide your name and address:

Name: Suzi Skaw
Address: 32141 EAST POST CREEK RD
ST IGNATIUS MT
59265
Email: _____

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006





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SEP 25 2006
ENVIRONMENTAL

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

157-1 | I enjoy riding bike recreationally as well as commuting to and from work. I hope you continue the bike path from Polson to Ronan.
I live in the Pablo-Polson area and work in Ronan.

Dusty Smith

Please provide your name and address:

Name: Dusty Smith
Address: 6050 A Farm Rd
Polson, MT
59860
Email: dusty.smith@ronan.k12.mt

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

OPEN HOUSES
Monday
September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Center
St. Ignatius, MT

Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING
Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT




Letter 157, Dusty Smith

157-1.—See Response #3-1.

53950 Marsh Creek Road
Charlo, Montana 59824
trs@blackfoot.net • 406-644-2547

Ms. Jean A. Riley, P.E.
Bureau Chief
Environmental Sciences Bureau
Montana Department of Transportation
2701 Prospect Avenue
P.O. Box 201001
Helena, MT 59620-1001

Dear Ms. Riley:

Following are my comments on the Draft Environmental Impact Statement for the US 93 Ninepipe/Ronan Improvement Project, NH-F 5-1(9) 6F - Control Number B744, Lake County, Flathead Indian Reservation, Montana.

- 158-1 | One problem I would like to mention at the outset is that public involvement in this DSEIS was inadequate -- events were far less publicized than earlier stages of the project, and the DSEIS was much less available. This violates the intent of NEPA regarding public involvement.

Sincerely,

Thompson Smith
53950 Marsh Creek Road
Charlo, Montana 59824
trs@blackfoot.net
406-644-2547

Thompson Smith (53950 Marsh Creek Road, Charlo, Montana 59824)

Comments

Draft Environmental Impact Statement for the US 93 Ninepipe/Ronan Improvement Project, NH-F 5-1(9) 6F - Control Number B744, Lake County, Flathead Indian Reservation, Montana

- 158-2 | There are some aspects of the DSEIS that are positive and impressive, including parts of the wildlife and wetlands assessments. The best parts of those sections are in part due to the contributions of the Tribes' natural resource staff members. I realize there were many good people, for whom I have high respect, who contributed to this document. My criticisms of the DSEIS should in no way be taken to reflect otherwise.
- 158-3 | As a whole, this document seems to be pulling in opposite directions. It is in many respects a confused and confusing piece of work, and unfortunately, a disappointment given the years of

Letter 158, Thompson Smith

158-1.—We believe the public involvement effort was adequate. Public involvement included formation of an Advisory Committee and an Interdisciplinary Team, four public scoping meetings, solicitation of scoping comments, six project newsletters, meetings with City of Ronan officials, numerous presentations to interested groups, a project website, broad media coverage, a manned public information office in the corridor, and two public meetings and a public hearing on the draft SEIS. Copies of the draft SEIS were distributed to individuals and organizations known to have an interest in the project, or who had requested one. In addition, over 1,500 notices were mailed to names on the general project interest list advising them of the document's availability.

We are sorry you were not included on our initial distribution, as you had previously been included through your previous association with the Flathead Resource Organization. We had sent a copy to them, but were unaware of your present location and status. Although you were sent a copy when you requested one, please accept our apology for any inconvenience this may have caused. Your name has been added to the project mailing list and, as a commenter on the DSEIS, you will receive a copy of the final SEIS.

Please also see Sections 7.3, 7.4 and Appendix J in the final SEIS for a detailed description (times, dates, locations etc.) of the public involvement efforts made on this project. Public involvement efforts associated with the DSEIS were successful in generating over 400 comments from approximately 200 commenters.

158-2.—Thank you for your comment.

158-3.—Our apologies. Please note that we did manage to get it right on the cover, the title page signature line, and throughout the rest of the document.

Smith, comment on Highway 93 Ninepipe DSEIS, 10-6-2006, page 2

- 158-3
Con't | work that went into it. A reader has to wonder what he or she is getting into when the title page lists the Confederated Salish and Kootenai Tribes as the “Consolidated” Salish and Kootenai Tribes.
- 158-4 | There never seems to have been agreement reached between the main parties on a vision of what this project should accomplish. Is it a design for a transportation system, or is it just a highway expansion project? Is it going to emphasize protection of the environment and communities, or is it going to put a premium on traffic speed and passing opportunities?
- 158-5 | The Preliminary Preferred Alternative (PPA) in some ways manifests just how unresolved the vision for this highway is. Alternative 10 has been presented by Skillings-Connolly officials and others as a “compromise” that both provides for environmental and community preservation and also allows for faster and bigger traffic flows. But it is in several respects less of a compromise than a contradiction. The higher speeds that the design would encourage would undermine the investment in wildlife passages and require greater incursions into prime wetlands. Those higher speeds would also create greater safety problems in some respects.
- 158-6 | The PPA lacks the coherent vision of either the larger or smaller designs. Proponents of the four lane alternatives, while in my opinion misinformed on some crucial safety questions, at least make no bones about their central aim -- faster speeds and unlimited passing for enormous volumes of traffic -- and the valuing of those goals over protection of the environment and communities along the highway. Conversely, the design proposed in 1999 by the Flathead Resource Organization (and supported by the Confederated Salish and Kootenai Tribes prior to the death of Chairman Mickey Pablo in August 1999), put a clear priority on safety and preservation of the environment and communities along the road, while supporting lower, not higher, prevailing traffic speeds for the most environmentally sensitive part of the Ninepipe segment of Highway 93. That design was content to accept a low LOS in exchange for the other considerable benefits.
- 158-7 |
- 158-8 | The FRO plan also included the development of a number of non-construction elements, including lowered speed limits in the four-mile “parkway” segment, increased law enforcement, the development of intermodal transportation, and the exploration of ways to shift more of the freight traffic onto the rails. The MDT’s resistance against considering anything except highway construction in thinking about the Highway 93 issue has been a very public bone of contention for many years, but as with so many other old issues, this DSEIS seems utterly oblivious to that history and acts as if those debates never occurred. Since those crucial parts of the FRO design are not even considered in this DSEIS, and are not analyzed as part of Alternative 7, the document cannot credibly claim to have considered even the single most well-developed alternative design offered by citizens. That would seem to be a fairly clear violation of NEPA.
- 158-9 | The design advocated by FRO, and until 1999 by the CSKT, was generally opposed by the Montana Department of Transportation on the grounds that it would be unsafe due to the lack of passing opportunities it would provide. However, it is clear even in this flawed DSEIS that Alternative 7 -- the closest approximation to the FRO design -- would deliver roughly the same gains in safety as the PPA, Alternative 10.

Letter 158, Thompson Smith (continued)

158-4.—See Responses #11-1 and 155-12.

158-5.—See Responses #11-1 and 155-12.

158-6.—See Responses #11-1 and 155-12.

158-7.—See Responses #5-1 and 11-1.

158-8.—Speed limits on Highway 93 were set by the State legislature and law enforcement is under the Department of Justice.

Also see Responses #5-1 & 11-1.

158-9.—See Responses #5-1 and 11-1.

Smith, comment on Highway 93 Ninepipe DSEIS, 10-6-2006, page 3

158-10 | But here another contradictory aspect of the DSEIS emerges. Even though Alternative 10, the PPA, is for the most part not a four-lane design, the DSEIS resorts to the same distorting tactics as earlier EIS's to create an exaggerated impression of the safety benefits of multiple-lane roads and an obfuscation of the safety problems those designs would present -- particularly on a highway like this one, with high numbers of side entrances, poor winter driving conditions, large numbers of elderly drivers, and other factors.

158-11 | One of the ways that the DSEIS distorts the safety issue is by conflating the separate issues of Safety and Level of Service (for example, in the table on page 1-17, and 2nd paragraph on p. 1-21). Again, this is an old argument that was discussed vigorously in public venues for many years, but the DSEIS acts as if the debate never occurred. Of course LOS and safety are interrelated. But then so are the issues of lane configuration and wildlife impacts. Nevertheless, those two issues are considered separately, as they should be. The conflation of Safety and Level of Service creates the false impression that any improvement in LOS would deliver an improvement in safety, and that any improvement in safety would necessitate the addition of traffic lanes. This is of course not uniformly true, for the following reasons, among others:

158-12 | 1. Speed is already a factor in many accidents on Highway 93, and also a factor in the severity of those accidents. The addition of traffic lanes usually results in higher speeds, which in turn increases both the rate and severity of accidents. Though new statistics are not yet available, anecdotal observation suggest that today, on those already-completed segments of Highway 93 with passing lanes (Schall's Flats, etc.), many vehicles now travel at speeds in excess of 80 mph.

158-13 | 2. On undivided highways with frequent entrances, like this one, the more complicated intersections created by the addition of traffic lanes can increase both the rate and severity of accidents. People crossing the highway, or turning left onto the highway, have much more complicated situations to assess. As for turning left off of the highway, it is true that the alternatives described in this EIS would provide for left-hand turn bays at county roads. However, the 8 or 9 other entrances per mile that already exist in between the county roads, including driveways, would have no such turn bays, so people turning left off of the highway would have to come to a dead stop in the passing lane. That may be particularly hazardous in icy conditions.

158-14 | 3. On multiple lane highways, drivers -- particularly those from out of the area who are unfamiliar with the area -- tend to be less attentive. Long distance drivers fall into an interstate trance and zone out. That too can be a factor in accidents, particularly on roads with so many side entrances.

158-15 | 4. The addition of multiple lanes can become a particular problem in winter, when the stripes separating the lanes can become obscured by snow and ice, and the passing lanes become slick. The DSEIS in general needs to examine the way that highway design shapes "driver expectation." The existence of passing lanes tends to encourage people to drive too fast in winter conditions.

Letter 158, Thompson Smith (continued)

158-10.—The 1996 Final US 93 EIS contained an extensive comparison of the safety effects of a 4-lane highway versus a 2-lane highway for a section of US 93 from RP 0.6 to 6.3, which is about 30 miles south of this project. The comparison was for a 5 year period before and after this section was improved from a 2-lane roadway to a 4-lane roadway. Since this is a Supplemental EIS, we did not repeat the presentation in the SEIS. The comparison showed that even though there was a 31% increase in traffic volumes, there was a significant reduction in numbers of accidents, accidents per mile, accidents per million vehicle miles, and fatalities. There was, however, an increase in accidents in icy or snowy conditions.

In researching a response to this comment, we examined the same section of roadway for the most recent 5 year period for which we have accident data (January 1, 2002 – December 31, 2006). This analysis along with the previous comparison is included in the text in Section 5.1.1 of the FSEIS. The analysis shows that even though traffic volumes on this section have increased by 105 %, there are still less total accidents, accidents per mile, accidents per million vehicle miles, and less fatalities than the 5 year period before it was improved from 2 to 4 lanes. The severity index is now computed differently; however, when computed with the same formula used in the earlier period the severity index is also lower than before it was improved from 2 to 4 lanes. As before, however, there was a slight increase in accidents in icy or snowy conditions. As with any major project with competing capacity, safety, and environmental needs, compromises are often necessary in designing transportation facilities.

158-11.—The assertion that the discussion on safety in the DSEIS creates a false impression that any improvement in safety would necessitate the addition of traffic lanes is certainly not the intent. In fact, we could not make such an interpretation. Contrarily, Table 5-1.4 shows considerable projected safety benefits on the 2-lane alternative (with no added lanes) due to added shoulders and intersection improvements.

158-12.—See Response #18-2. See also Response #158-10.

158-13.—We agree that stopping in a passing lane to make a left turn would be more dangerous in icy conditions. The potential accident reduction of the added lane, as experienced on the section south of Evaro, though, more than offsets any increase due to icy conditions. Also, an access control plan will be prepared for this project following the completion of the environmental process. It is fully expected, based on the experience on adjacent sections of US 93, that an average of 3 accesses per mile will be closed as a result of the adoption of an access control plan.

Responses on this page are a continuation from the previous page

158-14.—The alternative selected for the preferred alternative, Alternative Rural 3, does not have long stretches of multiple lane highway. It is projected to be a considerable safety improvement.

158-15.—The problem of stripes being obscured by snow and ice is not unique to multiple lane highways, as 2 lane highways can have the same problem. Also see Response #158-13.

Smith, comment on Highway 93 Ninepipe DSEIS, 10-6-2006, page 4

- 158-16 | I would have no problem if the EIS looked at these issues and then argued, with reasonable basis, for why they do not outweigh the other safety benefits of a multiple lane design. The problem is that none of these typical and obvious problems with undivided multiple lane highways are even mentioned in this document, in spite of the fact that they have been raised many times in earlier comments submitted by citizens and organizations in the Highway 93 EIS process.
- 158-17 | The MDT has often pointed to the example of Evaro as proof that the addition of lanes delivers big gains in safety. There are four reasons why that is a poor example in assessing what would deliver the best safety benefits on the rest of the highway. First, we've always agreed with the EIS that any of these design improvements would improve safety; it is impossible to know if the Evaro hill section would have seen similar reductions in accidents with other designs. Second, Evaro is the steepest section on 93 and has virtually no side entrances with any significant traffic, and those two conditions make it better suited for a four-lane design. Third, for safety analysis you have to look at how a whole highway functions, not just one segment. And fourth, some types of accidents actually increased, including some that we predicted -- those related to snow and ice, and those related to intersections.
- 158-18 | The Evaro example must be set against the case of Highway 37 in California's Bay Area, near Novato, which saw a dramatic reduction in accidents -- including the elimination of fatalities -- after being *reduced* from three lanes to two lanes. Highway 37 carries well over 30,000 ADT.
- 158-19 | A number of federal studies have shown that on undivided highways, the principle improvements that have been clearly proven to deliver improvements in safety are not so much the addition of traffic lanes, but to a greater degree the creation of wide paved shoulders, reductions in the numbers of side entrances, creation of left-hand turn bays at key intersections, better lighting, striping, and signage, well-designed sight distances, reduced speeds, and better law enforcement. In other words, the clearest benefits to safety are delivered by the specific highway improvements long advocated by FRO -- improvements that could have been built with everyone's enthusiastic support over ten years ago, saving many lives, if the MDT had been willing to forego their objective of excessive expansion of Highway 93.
- 158-20 | So one can see the distortions and misunderstandings that result from conflating Level of Service and Safety. Again, this was a prevalent problem in earlier EIS's for Highway 93, and was pointed out by many commenters at that time.

One cannot help but conclude that this conflation is part of a pattern of argumentative style and predecisional tone in the EIS. The public overwhelming wants safety improvements; if the EIS can make it appear that more lanes is the primary way of achieving that end, then it helps clear the way for a highway that is bigger than necessary. But that is not what an EIS is supposed to do. It is supposed to provide the public with an even-handed, unbiased assessment of the facts and science.
- 158-21 | That pattern of argumentative bias around the issue of safety can also be seen in one of the most important statistical references used in this EIS. In examining the safety conditions on Highway 93, the EIS repeatedly cites "accidents per road mile" instead of "accidents per million vehicle miles" (for example, pp. 2-3, 2-15 to 2-16, and 4-6). This is yet another problem that was pointed

Letter 158, Thompson Smith (continued)

158-16.—As pointed out, multiple lane undivided highways can have some inherent safety consequences with turning movements at driveways, transition areas, snowy and icy conditions, and driver expectancies; however, a well designed multiple lane section with adequate turn bays at intersections, adequate shoulders, well designed transitions and appropriate signing generally provides improved safety, as evidenced by the Evaro Hill project.

158-17.—The project proponents believe the Evaro Hill project is a good example of where added lanes along with improved intersections and adequate shoulders improved the safety of that section of roadway. The Evaro project has the same drivers, is in the same corridor and is otherwise very similar to other projects on that stretch of US 93. The improvement in accident statistics is, in the opinion of the project proponents, highly relevant and the design provides the best mix for comparison.

158-18.—This project, in a California setting, with California drivers does not seem appropriate for a comparison to refute the safety record of the Evaro project. The Evaro project is in the same corridor as this US 93 project and continues to perform more safely as a four-lane highway than the two-lane highway it replaced, even though there has been a 105% increase in traffic over the twenty years it has been in place.

158-19.—Comment noted. The Preferred Alternative Rural 3 employs many of the features mentioned. It includes 8-foot wide paved shoulders, left-hand turn bays at all public road intersections, improved striping and signing, and improved geometrics with improved sight distances, flatter curves, and improved turning radiuses. Also implementation of an access control plan is expected to reduce the number of side entrances.

158-20.—We do not believe a highway bigger than necessary was selected for the Preferred Alternative. After much debate the project proponents have selected Alternative Rural 3 as the rural Preferred Alternative in the final SEIS. Alternative Rural 3 is composed mostly of two-lane roadway, with the addition of a northbound passing lane from West Post Creek Road/East Post Creek Road to the top of Post Creek Hill, and a section of four-lane divided roadway from Brooke Lane to the south Ronan city limits. The proponents determined that Alternative Rural 3 did the best job of meeting the project objective of improving the capacity and safety of this highway section while preserving the high environmental values of the area.

158-21.—See Response #52-13.

Smith, comment on Highway 93 Ninepipe DSEIS, 10-6-2006, page 5

158-21 Cont' out to the MDT and consultants in numerous comments on every previous iteration of EIS's for Highway 93. A busy highway with a decent accident rate will have a high number of "accidents per road mile;" a sparsely traveled highway with a bad accident rate will have few "accidents per road mile." It is therefore inherently deceptive to use accidents per road mile as a statistic in comparing the relative safety of different highways. The only acceptable statistic -- and even that one needs to be supported by far more sophisticated data and analysis -- is accidents per million vehicle miles. At other places the DSEIS uses accidents per million vehicle miles (acknowledging that the rate on Highway 93 is 0.98, which is significantly *below* the statewide average of 1.30), but the usage is inconsistent.

158-22 It is difficult to imagine why the EIS would do this, other than the desire of the authors that no one would seriously consider the more limited two-lane options (Alternatives 1 and 2, and parts of 3 and 7). That would seem to indicate, again, that the document is less of an even-handed look at the facts than an argumentative, predecisional rationalization for a design already agreed upon by the agencies involved.

158-23 On a narrower matter of safety, on page I-28, table 18.1, the DSEIS suggests that curvilinear design will benefit LOS and safety. This needs to be explained. It would seem more likely that the adding of curves may in fact make the highway more dangerous, especially in icy conditions and for nighttime drivers, particularly during rain or snow.

158-24 Another major problem in the DSEIS is its almost total ignoring of cumulative and secondary impacts. Repeatedly, the document denies that the expansion of the road will have any significant impact on growth in the area. This almost complete dismissal of the induced traffic phenomenon, which appears in the Land Use chapters among others, is made with almost no basis, ignoring evidence such as the 1994 report by ECO Northwest for the Oregon Department of Transportation, which showed that highways have the biggest impact on accelerating growth in precisely the kind of situation we have here: a sprawl-oriented, fast-growing city adjacent to a rural area already experiencing problems of rapid growth but not yet overwhelmed by them. The DSEIS responds by stating that other factors are far more important in shaping growth. This essentially avoids the question. Of course transportation design doesn't cause growth in and of itself. No one has ever said that in this debate. What we have said is that transportation design can accelerate growth that is already occurring. *Transportation systems are built by the government with tax dollars -- which means that of all the many factors that do affect growth, they constitute the single most important factor that we, the public, have the power to control directly.*

158-25 In addition, this dismissal of the growth-inducing effects of highway expansion fails to look at how even slightly worsening the problem of uncontrolled growth may have devastating impacts on communities, cultures, and creatures that already barely hanging on: the endangered Salish, Pend d'Oreille, and Kootenai cultures and languages are directly threatened by these problems. So are the numerous endangered species of the area. One could argue that the few family farmers and ranchers still hanging on would also be threatened by any worsening of an already bad situation.

Letter 158, Thompson Smith (continued)

158-22.—The document is intended to evaluate the impacts and benefits of the range of alternatives selected by the three lead agencies after initial study of many more. It was a collaborative effort that resulted in the draft SEIS. Comments from all reviewers have helped shape the ultimate Preferred Alternative in the Final SEIS and will be reflected in the Record of Decision. Also see Response #11-1.

158-23.—The curvilinear design is expected to remove some of the monotony of driving long straight stretches of roadway where drivers may become inattentive. Also, at night the curvilinear alignment reduces the exposure to on-coming headlights.

158-24.—The project sponsors do not dismiss the induced traffic phenomenon, but have agreed there will be little induced growth associated with the selection of the two lane Alternative Rural 3 as the preferred alternative.

158-25.—Growth is not induced in these circumstances by the proposed road improvements. The growth will happen for many reasons, as is shown by the fact that it is already happening and has been happening for many years, even with a substandard road. The growth will be much better controlled (rather than by perpetuating an unsafe road) by adequate land use controls and such legal restraints as conservation easements. These measures are beyond the ability of MDT and FHWA to impose. See also Response #158-24.

Smith, comment on Highway 93 Ninepipe DSEIS, 10-6-2006, page 6

158-26 | On this issue, the DSEIS directly contradicts the December 2000 Memorandum of Agreement on Highway 93. On page 31 of that document, which was supposed to express the joint viewpoint of the CSKT, the MDT, and the FHWA, it is flatly asserted that “improvement and expansion of US 93 will induce population growth, parcel subdivision, and development and construction in the US 93 corridor. These activities will cause habitat fragmentation, environmental impacts, and significant change to the Reservation landscape.” Elsewhere in MOA, it is stated that “MDT, FHWA, and the Tribes commit to diligently explore and apply methods for limiting and directing highway induced growth and development.”

158-27 | The highway’s likelihood of worsening problems of growth was the primary reason for the Federal Highway Administration acknowledging that the project would have a detrimental effect on the Tribes; and that determination was the basis for FHWA, as a federal agency with a trust responsibility to the tribes, withholding funds until the three parties could reach agreement on design. For the growth-inducing effects of the highway to now be denied is to assert that there was no real reason for the FHWA to acknowledge the Tribes’ concerns or to delay the project at all.

158-28 | This problem is pervasive in the DSEIS, resulting in deficient analysis of impacts, and inadequate consideration of avoidance and/or mitigation, in many chapters, including but not limited to land use, prime and unique farmlands, social, economic, air quality, noise, water quality, fish and wildlife, T&E species, and so on.

158-29 | Other specific concerns from the DSEIS:

158-30 | • On page I-23, it is claimed that there are “no unresolved issues.” Yet the location of gravel mines and other provision of fill have not yet been identified. These could have significant environmental and aesthetic and potentially cultural impacts. Also, what would the environmental impact be of temporary asphalt plants, which emit known carcinogens and other toxics?

158-31 | • With noise impacts, there should be exploration of adding some kind of muffling material to bridging or raised sections of the highway, regardless of which design is selected.

158-32 | My Preferred Alternative (MPA)

In the rural segment of the project, I would advocate for a combination of Alternative 2 and, for the section between Eagle Pass Road and Crow Creek, Alternative 7. The combination of these two designs would result in a two-lane design except for a northbound passing lane on Post Creek hill. There would be a raised-highway design for the most sensitive section, but beginning just north of Ninepipes Lodge. In this design, I would also advocate for the longest and highest bridge design at Post Creek, which is probably the most important east-west corridor for large animals in the entire Mission Valley. In addition, an integral part of this design would have to be clear visual demarcation of this part of the highway as a distinct parkway, which would have a slower speed limit -- perhaps 50 mph.

Letter 158, Thompson Smith (continued)

158-26.—There is no intent for a contradiction. The traffic growth rate of 2.8 percent per year utilized for projecting traffic is based upon both past population growth and traffic growth trends in Lake County and the surrounding area. The CSKT, MDT, and FHWA consider it to be a reasonable expectation for the corridor. The DSEIS acknowledges in Section 5.2, Land Use, that the effects of highway improvement on growth in the area would likely be more significant with the 4-lane alternatives and would be minimized with selection of an alternative containing mostly a 2-lane configuration.

158-27.—It is not intended to deny the possibility of certain growth effects of the highway, but only to suggest that the efforts for limiting and directing that growth, to the extent possible, will be successful in offsetting any growth effects of the proposed new facility

158-28.—The project proponents believe growth has been adequately dealt with in this SEIS and in the selection of the Preferred Alternatives. See also Responses #158-26 and #158-27 above.

158-29.—See Response #52-12.

158-30.—Gravel excavation and crushing operations as well as asphalt manufacturing operations that would occur to provide material for the US 93 project could result in air quality impacts, and those impacts would be considered indirect impacts to the roadway project. Traffic to and from material source sites, in addition to the heavy machinery required to extract materials, will have fugitive dust and emissions impacts similar to those described for indirect construction-related impacts. To the extent such impacts are reasonably foreseeable, they have been discussed.

158-31.—See Response #13-4.

158-32.—The Legislature sets the speed limit by statute. Also, the proponents of the project have attempted to balance various competing interests, such as capacity, safety, funding availability, environmental, and regulatory concerns.

Also see Responses #5-1 & 11-1.

Smith, comment on Highway 93 Ninepipe DSEIS, 10-6-2006, page 7

- 158-33 | The international importance of the habitat of the Ninepipe area, its cultural importance to Salish, Pend d’Oreille, and Kootenai people and also to local non-Indians, and the enormous investment already made in the area by the Tribes, the federal government, and the state, merit the exceptional treatment of this section. It is noted in the DSEIS that while most options are estimated to cost \$35 to \$40 million, Alternative 7 would cost an estimated \$114 million. It is worth noting that the United States is currently spending that much money every nine hours in Iraq. We must build this highway the right way, even if it costs more to do so.
- 158-34 | It would be good to look into some design to help de-ice bridging and other raised surfaces, and
158-35 | to add to such structures some kind of muffling material to counteract noise impacts.
- 158-36 | Wherever passing lanes reconverge, there needs to be much more aggressive, prominent, and weatherproof signage, including not only strict marking of the point beyond which people must not pass, but also the distance to the next passing opportunity. I would also advocate the
158-37 | establishment of higher fines or tougher penalties for unsafe passing and posting notice of those fines/penalties. It would be wise to increase funding for enforcement, if that can be included in the project.
- 158-38 | If the PPA remains Alternative 10, I would strongly advocate the elimination of the southbound passing lane through the Ninepipe area. If the parties insist that a southbound passing lane is necessary -- a highly dubious assertion -- I would urge that it be placed just north of the Highway 212 intersection, rather than south, and incorporated into a full bridging of the ponds north of that intersection. In this way, some environmental benefit could be gotten from what would otherwise be an environmental detriment.
- 158-39 | For Ronan, I strongly urge the parties, and the city of Ronan, to reconsider whether four traffic lanes are truly necessary to carry the projected volumes of traffic. There are numerous studies available on the internet, including several that can be accessed at www.walkablecommunities.org, that show three-lane designs safely and smoothly handling well over 20,000 ADT, and in some cases approaching 30,000. I would also urge the parties and the
158-40 | city to consider replacing the traffic lights with roundabouts, which can reduce accidents, improve traffic flow, and improve pedestrian safety.
- 158-41 | Lastly, I would urge that a separate bike path be considered for the entire project, if this can be done without significant additional harm to the environment.

Letter 158, Thompson Smith (continued)

- 158-33.—See Responses #5-1, 11-1, and 158-32.
- 158-34.—See Response #13-3.
- 158-35.—See Response #13-4.
- 158-36.—All signing will conform to the most current federal and state standards.
- 158-37.—Funding for enforcement cannot be included in project costs. Enforcement is by the Montana Highway Patrol, which is under the State Department of Justice. See also Response #13-6.
- 158-38.—See Response #11-1.
- 158-39.—See Response #13-8
- 158-40.—See Response #13-9
- 158-41.—See Response #3-1.

Letter 158, Thompson Smith (continued)

The draft publication “Ninepipe Wildlife Conservation and Transportation Safety Proposal” which follows was physically handed to a project representative at the public hearing. No further response is necessary as explained in the email correspondence below.

Email Correspondence with Thompson Smith

Skillsings Connolly, Inc.
Lyle Renz, PE
Senior Transportation Engineer

Office: (360) 491-3399
Direct: (360) 455-3134
Fax : (360) 491-3857
www.skillsings.com

-----Original Message-----

From: Thompson Smith [mailto:trs@blackfoot.net]
Sent: Friday, October 06, 2006 4:03 PM
To: Lyle Renz
Subject: Re: Ninepipe question

Thanks Lyle, I appreciate that. Yes, I'm sorry I did not point out at the hearing what I wanted you to do with the paper. Frankly, I wasn't sure either, other than I hoped you would take a look at it. I'm glad you have. I would like it included as a supplement to my written comments, for a couple of reasons. First, in my comments, I argue that while the EIS does a good job of developing Alternative 7, the FRO proposal was more multi-faceted than just a highway design. The paper could help clarify that. Second, if the decision of what to do remains as up in the air as several officials have stated, I think the paper remains useful in helping folks consider what to do with this segment of highway, including whether it really merits different treatment and much higher levels of investment. I think the paper offers a pretty good case that it does merit those things.

I think FRO never printed a version that did not have the word "draft" on it, partly because we wanted to give readers the impression that it was not a "position" set in stone, but a point of discussion, intended to introduce some new thinking on the issue. The paper was originally offered as part of our poster session at the ICOWET conference held in Missoula in September 1999.

I have had no association with the Flathead Resource Organization since 2001 or 2002, and do not know if they even really still exist as a functioning group. Therefore, I cannot say whether they have members, or if they do, whether they still advocate something like what we propose in the paper.

I would agree that the concluding section you mention is outdated and also inappropriate. If you would just omit that section I would appreciate it.

Although I don't agree with some aspects of the project, I did want to say that I have always found you to be a good person to deal with -- whether in agreement or in disagreement!

Thanks again.
Tom

> -----Original Message-----

On Oct 6, 2006, at 4:44 PM, Lyle Renz wrote:

Tom,

I have the copy of the Draft Ninepipe Wildlife Conservation and Transportation Safety Proposal prepared by the Flathead Resource Organization (FRO) dated October 1999 that you gave to me at the public hearing in Ronan. It wasn't apparent what you wanted me to do with it, however, I assumed you wanted it included as part of your comments, even though I don't believe you made a direct reference to the Proposal in your testimony.

The proposal is well written and contains some interesting information concerning the project corridor. I do have some questions concerning this proposal. Since the copy you gave me is a Draft dated October 1999 - was it ever finalized? Does FRO still support it? FRO made a proposal during the SEIS formulation time period, which did not formally reference this paper.

I have some question as to the relevance, since the material does not directly comment on the material contained in the DSEIS dated August 9, 2006. The paper concludes with a section asking people to join FRO and asks them to write to several people who no longer hold positions in the State, Tribal or Federal governments, which seems inappropriate for inclusion in the SEIS.

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> -----Original Message-----

From: Thompson Smith [mailto:trs@blackfoot.net]
Sent: Friday, October 06, 2006 1:28 PM
To: Lyle Renz
Subject: Ninepipe question

Lyle

At the public hearing in Ronan, I left with you a copy of the October 1999 Flathead Resource Organization proposal for Ninepipe. Can you please consider that part of my comments submitted for the record?

Thanks.
Tom

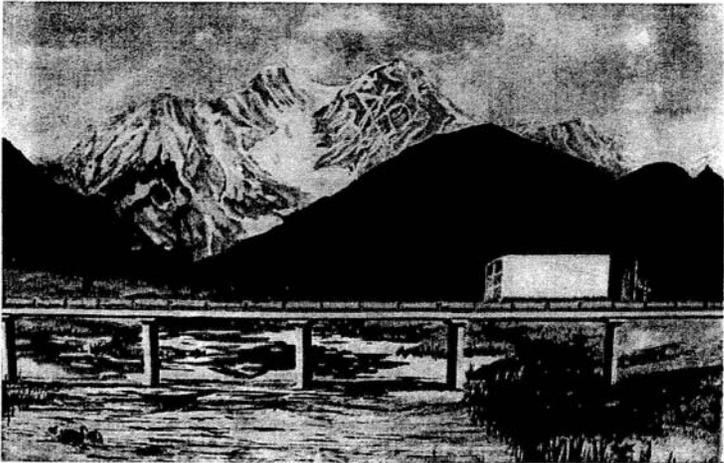
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trs@blackfoot.net

Letter 158, Thompson Smith (continued)

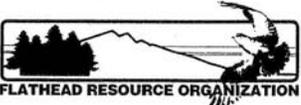
*Furnished Comments by
Tom Smith
Sept. 19, 2006*

NINEPIPE
WILDLIFE CONSERVATION AND TRANSPORTATION SAFETY
PROPOSAL

An Integrated Transportation & Land Use Management Plan



DRAFT — October 1999 — DRAFT



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Ninepipe Wildlife & Transportation Safety Proposal - DRAFT - Oct. 1999

NINEPIPE
Wildlife Conservation & Transportation Safety Proposal:
An Integrated Transportation and Land Use Management Plan



Summary:

The Ninepipe Wildlife Conservation and Transportation Safety Proposal seeks to improve safety for both wildlife and people in one of the Northern Rockies' great natural treasures, located near the center of the Flathead Indian Reservation. This workable transportation and land use management plan builds on the long efforts of Tribal, Federal, and State agencies and personnel, as well as grassroots citizens organizations and private individuals, to study, protect, and manage this ecologically crucial area. Drawing on that work, this proposal addresses three of the great problems looming over the area: uncontrolled development, wildlife mortality, and the need to improve traffic safety and address the growth of traffic on U.S. Highway 93. Through an integrated approach involving transportation design, animal migration devices, conservation easements, and land use planning efforts, this proposal would help protect one of the most unique and biologically diverse natural communities in the West.

*Photo: Mission Mountains reflected in Kicking Horse Reservoir.
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Cover painting by Corky Clairmont, 1999.*

Letter 158, Thompson Smith (continued)

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Ninepipe Wildlife Conservation & Transportation Safety Proposal:
An Integrated Transportation and Land Use Management Plan

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Maps by Harold Young Consultants for the Flathead Resource Organization



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I. Ninepipe: One of the Great Natural Treasures of the Northern Rockies

A Rich and Unique Ecosystem

When most people think of the Ninepipe area, they think first of the hundreds of kettle ponds or glacial "pingos" scattered across the prairielands in and around the Ninepipe National Wildlife Refuge. Their beauty has inspired countless artists and photographers; but few realize that these complex and delicate wetlands also comprise one of the most productive waterfowl nesting habitats in all of North America on a per-acre basis.

But the ecological importance of the Ninepipe area extends beyond even its great importance to migratory waterfowl. Reaching from Post Creek to Crow Creek through the heart of the Flathead Indian Reservation, it comprises one of the most diverse wildlife habitats in the Northern Rockies. Pristine mountain streams, upland prairies, ponderosa and cottonwood-dominated forests, and hundreds of pothole ponds and other small wetlands are scattered across this varied landscape. Both Post Creek and Crow Creek are home to westslope cutthroat trout, currently petitioned for listing to the Threatened & Endangered Species List. The creeks also provide crucial cover and serve as "migration corridors" for numerous large species, including grizzly bears, that move between the Mission Mountains and the valley.



Ninepipe Reservoir, pothole ponds, and Highway 93, looking south.

When we consider the astonishing number of other species of special concern in the area, we begin to get a sense of just how rare and how crucial this area is. Bald eagles and peregrine falcons, both removed just this summer from the threatened species list, occur here. Harlequin and canvasback ducks, Townsend big-eared bats, loons, and trumpeter swans also live in the area, and are considered by the Tribal Wildlife Management Program to be locally sensitive species. Burrowing owls, leopard frogs, and prairie chickens are either locally sensitive or locally extirpated; the protected lands of the Ninepipe area at least make it possible that they may be reintroduced on an experimental basis in the near future. Grey wolves, an endangered species, periodically move through the Mission Range, just east of the Ninepipes area, and have been repeatedly seen in the Reservation Divide area to the southwest. In addition, other

species which currently inhabit this rare glacial geography are locally abundant, but rare elsewhere. Wildlife managers believe that without Ninepipe's healthy short eared owl population, the species might require special protective status which is a costly and restrictive process. To some extent, the same may also be true of canvasback ducks and yellow-headed blackbirds.

Clearly, this is a place of unusually high value, and unusually delicate condition. Thousands of species, ranging from insects and small amphibians to one of North America's richest bird populations, from elk to grizzlies, from oregon grape to elderberries to native grasses—all have thrived here for millenia as an abundant and variegated



Grizzly bear by Fish, Wildlife, & Parks buildings at Ninepipe Reservoir.

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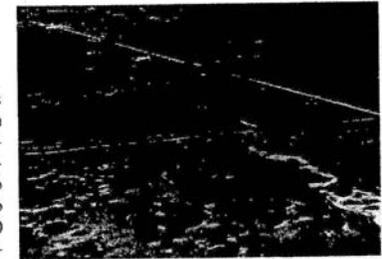
CSKT's Bill Swaney with short-eared owl.

ecological community. As Dale Becker, head of the Tribal Wildlife Management Program, has written, "The current route of U.S. Highway 93 passes through some of the best glaciated wetland habitat in the United States west of the Continental Divide" (1996, p. 5).

Ninepipe is still viable as wildlife habitat because it is not yet overly fragmented. When we look at aerial photographs of the Mission Valley, the area from Crow Creek south stands out immediately as less subdivided, less populated, less plowed. This means that within the Ninepipe area, everything from painted turtles to grizzly bears can still migrate between various parts of their overall habitat, following migration routes that crisscross the valley.

A Crucial Part of a Larger Habitat Complex

Habitat connectivity also lies at the heart of Ninepipe's ecological importance on a much larger level, as a vital part of the Northern Rockies ecosystem, perhaps the most intact and fully functional large ecosystem remaining in the lower 48 states (see map #1). To the east, the Ninepipe area leads directly to the Mission Range, itself an area of nearly 200,000 acres of tribal and federal wilderness. The Swan Valley connects the Mission Range to the immense Bob Marshall-Glacier area. To the west, the Flathead River corridor leads to the National Bison Range. Ferry Basin, the Reservation Divide, and from there west to the Thompson River country and the Cabinet Mountains, and south ultimately to the Bitterroot Range. The genetic health and vitality of wildlife populations in the region as whole depends in part on the maintenance, and in some areas the restoration, of these migration corridors. The continued viability of the Ninepipe area as wildlife habitat, in short, is a crucial part of the well being of this larger ecosystem.



Ninepipe's ponds, rimmed on the east by the forested base of the Mission Mountain Tribal wilderness, and on the north by development creeping south from Ronan toward Crow Creek.

Common Ground: Our Long History of Working to Protect the Ninepipe Area

The beauty and environmental significance of the Ninepipe area has resulted in an uncommon history of action to protect this land for the generations to come. In a region where we too often find our community divided, the Ninepipe area has been a meeting ground of sorts. As a result, every governmental agency, every political body, and citizens from every cultural and economic background have worked diligently over the years, and invested considerable resources, in protecting this unique natural treasure.

For countless generations, the Pend d'Oreille people and other tribes of this area have treated Ninepipe with great respect and care, nurturing its plant and animal populations, which have in turn helped sustain the people. This traditional relationship with the land continues into the present day, as over 12,000 acres of tribal lands in the Ninepipe area continue to be managed primarily for wildlife habitat, grazing, and other agricultural

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uses. Tribal actions to protect lands throughout the Flathead Reservation have helped maintain the value and function of Ninepipe as a habitat complex connecting to the larger ecosystems of the Northern Rockies as a whole: the Mission Mountain Tribal Wilderness and the Wilderness Buffer Zone, together amounting to over 114,000 acres, with new proposals potentially adding about 10,000 more; Tribal primitive areas in the South Fork-Rattlesnake area, comprising over 59,000 acres; and the Flathead River corridor special management area covers about 20,000 acres.

Non-Indian residents of the Flathead Reservation, as well as countless visitors, have also long treasured the Ninepipe area and taken action to protect its natural assets. In 1921, the U.S. government recognized the great value of this habitat when the Ninepipe Reservoir and the lands immediately around it were set aside as one of the earliest official U.S. Wildlife Refuges, administered by the U.S. Fish and Wildlife Service.



At Ninepipe, Tribal elder Pat Pierre urges respect for the earth and advocates an alternative to a four-lane highway.

Beginning in the 1950's, the State of Montana followed, purchasing waterfowl habitat in the area. Originally, Ninepipe consisted of 2,100 acres around the reservoir, but over the past seventy-five years, another 6,550 acres have been purchased by federal and state agencies. In more recent years, the USFWS has initiated an innovative program of buying conservation easements on private lands adjoining the refuge, thereby preventing development and preserving the value of the land as habitat within a landscape dominated by private ownership. Easement-protected lands in the Ninepipe area now total about 6,000 acres, bringing the total of lands dedicated to wildlife by the federal and state governments in the Ninepipe-Kicking Horse area up to 14,650 acres.



CSKT biologist Art Soukkala weighs muskrats.

The dollar value of just the federal and state lands alone is almost \$20 million; Tribal lands would of course greatly increase that figure. These "investments" have paid off handsomely for both people and animals. As visitor attractions, the Ninepipe area attracts millions yearly for the western Montana tourist economy. Ninepipe has also served as a leading training ground for generations of wildlife scientists. Some basic wildlife concepts such as waterfowl migration patterns, interspecies competition and gender roles were initiated or developed over the past 75 years at Ninepipe. Teachers, students, hunters, bird watchers and tourists have benefited from this rich landscape and wildlife community.

The real value of protecting these lands cannot be measured in dollars, but rather in the continued survival of its extraordinary wildlife. The area between Post Creek and Crow Creek provides habitat of such rare quality that it has also been the site of reintroductions of numerous species of concern in recent years. Trumpeter swans were released there a couple of years ago, and more may be released in the future. Peregrine falcons have been reestablished successfully in the Crow Creek area, where some 20 fledglings have been hatched in the last few years. Several years ago, a number of golden eagles were released along the Flathead River to the west of the Ninepipes area.



Lynn Clark, USFWS (left) & Dan Lipscomb, CSKT banding ducks.

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2. A Threatened Jewel: The Problem of Traffic, Highway 93, & Sprawl

When Ninepipe became a refuge in 1921, the main highway across it was a narrow dirt road wending around the south end of the reservoir. During the 1940's the current route of Highway 93 — a straight line between St.

Ignatius and Ronan — was established on a course which not only continues to create a barrier between the Mission Mountains and the Flathead River, but also now separates the Ninepipe and Kicking Horse Reservoir areas. The new route cut through the middle of pot-holes and other wetlands, and placed low spans across streams and channels; in each case, Highway 93 began to function as an obstacle to animal migration routes.



Highway 93 in the early days

Nevertheless, for many years, this narrow paved slice of asphalt through the Ninepipe area still did not exert too great an impact on the environment. Traffic volume was light and mostly local, and road conditions mandated slow speeds, so that the road was not yet a lethal barrier for most wildlife.

However, in recent years, a combination of rapid traffic growth, a new burst of subdivision and exurban development, and certain transportation policy decisions have dramatically intensified the impact of Highway 93 on the surrounding wildlife and landscape.

Traffic and Development: A Rising Tide

Traffic growth throughout the Northwest has been astonishing. Between 1957 and 1993, the human population in the region almost doubled; but during that same period, the car population increased almost four fold. In 1963 there was one car for every two people; now there is almost one car for every individual person, and more than one car for every licensed driver. Where in 1957 we drove an average of 11 miles per day, today we drive over 25 miles per day. Here on the Flathead Reservation, we can see these regional trends reflected in our local statistics: the traffic volume on Highway 93 in the Ninepipe area was about 5,000 vehicles per day ten years ago. Today, the Ninepipe area averages nearly 9,000 cars per day, and that number is still rising.

At the same time that the traffic volume on Highway 93 has increased, the type of traffic has also changed. More of Highway 93's traffic consists of recreational vehicles and other long-distance travelers. Speeds have increased significantly because of the abandonment of fuel efficiency as a national priority and the sharp increases in average automotive performance and horsepower. Perhaps most importantly, truck traffic has increased dramatically. Overall, 17 percent of the traffic on Highway 93 already consists of heavy trucks, while the railroad running from the Burlington Northern line at Dixon north to Polson — originally engineered to haul freight — lies virtually unused. In addition, in the 1980's, Montana began allowing multiple-trailer trucks to use our secondary, non-interstate roads. These enormous "road trains" have a disproportionate impact on traffic flow and traffic safety.

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The Consequences: Rising Mortality of Wildlife and People

The cumulative result of these changes is that Highway 93 has become not only an unpleasant and sometimes dangerous driving experience, but also a killing ground for wildlife, a barrier to their necessary migration patterns, and a conduit for an ever-rising tide of car-centered development in the midst of an area that society has dedicated so much money and so many resources to protect.



Double-trailer semis: dangerous rigs permitted on Highway 93 since the 1980's

Indeed, local, national, and international wildlife experts agree that Highway 93, and other similar roadways, constitute a formidable risk to the wildlife community as they are currently engineered. Bill Ruediger of the U.S. Forest Service's Northern Region headquarters in Missoula has outlined five key ways in which highways impact rare carnivores and other wildlife: 1) habitat fragmentation; 2) direct mortality, or roadkill; 3) direct habitat loss; 4) displacement & avoidance; and 5) associated human development. Ruediger notes that "these impacts...cumulatively can and do extirpate individuals, populations and species" (1998, pp. 10-11).

Animal migration, habitat fragmentation, and wildlife mortality

Probably the greatest immediate danger facing this sprawling home to grizzly bears and cutthroat trout is habitat fragmentation — the tendency of highways, roads, and development not only to encroach on important habitat, but also to sever the links between habitat. Without that connectivity, these bits and pieces of protected land turn into islands, and the wildlife populations suffer.

There is now a broad consensus among biologists that highways — particularly when they are widened, and when traffic volumes and speeds increase — can have devastating impacts on a broad range of wildlife populations, in a broad range of environments, by interrupting their movements for feeding and breeding purposes. A growing body of rigorous scientific research gave rise to the 1996, 1998, and 1999 international conferences on Wildlife Ecology & Transportation, the last of which was held in Missoula this past September. Findings have included:

- Boarman and Sasaki (1996) have noted that "roads and highways [cause] restriction of movement [which] may result in fragmenting populations, thereby increasing the probability of local extinctions and the potential for inbreeding and inbreeding depression."
- Paquet and Callaghan (1996) found that "Highway mortality has become a primary cause of wolf mortality and there is accumulating evidence of habitat loss, fragmentation, and degradation related to roads."
- Forman and Hersperger (1998), in "Road Ecology and Road Density in Different Landscapes, with International Planning and Mitigation Solutions," succinctly concluded that "Where the barrier prevents crossing, the subpopulations are isolated."

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It should come as no surprise, then, that the same conclusions have been reached in wildlife studies conducted right here in the Ninepipe area. In her study of painted turtles and the impact of Highway 93, Fowle (1996) noted that "Roads cause habitat fragmentation... resulting in...loss of genetic variability...inbreeding depression, increased risk of local extinctions, and decreased ability to recolonize after such extinctions."



In Salish, Spkə'a; in Kootenai, Kawax; in Latin, Chrysemys picta bellii; in English, the western painted turtle.

The Ninepipe area, moreover, is particularly sensitive to this kind of impact because of two factors:

- First, the prairie environment of the area offers less cover and less buffering of noise and other impacts. Forman and Hersperger found that "In open landscapes, roads are more likely to interrupt movement of, and threaten loss of, landscape, state, or nationally important species" (1996, p. 8). Similarly, in their 1998 paper on wildlife and roads in Yellowstone, Gunther et. al. found that "Most wildlife species were killed significantly more often in non-forested cover types than in forested types" (1998, p. 32)
- Second, numerous studies have found that the particular species found at Ninepipe are the ones most vulnerable to the impact of highways.

⇒ Grizzly bears, a species that society has been carefully trying to restore under the Endangered Species Act, regularly cross Highway 93. By some counts, as many as nine different bears have been seen on the west side of the highway over the past five years (West, 1999,

personal communication). During that period, one was killed on the highway, and three others killed nearby. The already stressed Mission Mountain grizzly population cannot sustain those losses, all of which may be attributed to habitat fragmentation. As Gibeau and Herrero (1998) have noted, the bears' "large home range sizes mean significant potential for habitat and population fragmentation if transportation routes are barriers or significant filters to grizzly bear movement" (p. 105). And Ruediger (1996) has concluded that "all rare carnivores may be particularly susceptible to the negative impacts of highways because of their low population size and low reproductive rates which magnify the effects of highway mortality."



Tribal wildlife managers transplant another Ninepipe grizzly near the North Fork of the Jocko River.

⇒ Fowle's 1996 study of western painted turtles around Ninepipe reached the same basic conclusions; she noted that turtles do not reach sexual maturity until the age of five to seven years, and they have generally slow rates of reproduction. They are thus "vulnerable to population decline when facing even slight increases in mortality."

Letter 158, Thompson Smith (continued)

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Sprawl, transportation design, and the loss of key habitat

Since the late 1980's, the Montana Department of Transportation has been seeking to reconstruct Highway 93 as an undivided four and five-lane highway through the length of the Flathead Indian Reservation -- and through the center of the Ninepipe area. This massive proposal comes in spite of an ever-increasing body of research showing clearly that if we were to build additional driving lanes, then traffic, and the car-centered development that almost always accompanies road expansion, would only increase at an even more drastic rate, negating any congestion relief sought by building the new roadway. Since World War II, in places from Los Angeles to Seattle to Denver, we have seen an endless cycle of road expansion and traffic congestion. Unless we are willing to repeat that disastrous pattern-- unless we are willing to accept the endless paving



Ducks, including locally rare canvasbacks, killed by dogs: one of the consequences of suburbanization at Ninepipe.

over of Montana and places like Ninepipe -- then we must seek more effective, more innovative, and more realistic solutions. The difficult truth is that we cannot pave our way out of our traffic problems.

Indeed, a multi-lane highway in the Ninepipe area would have the effect of pouring fuel on a fire of uncontrolled development. Since 1990, population has risen over 20% in Lake County, with most of that increase occurring outside of towns. Both the Tribal Natural Resource Department and the U.S. Fish & Wildlife Service have documented how this kind of development is

already chewing up critical remaining open space and habitat, and resulting in serious losses in some species. Much of what is left is now in danger of becoming hopelessly fragmented -- particularly for animals like grizzly bears, which are averse to roads and human-associated development.

A 1994 study for the Oregon Department of Transportation entitled "The Effects of Transportation Improvements on Rural Lands," has shown that significant road expansion worsens sprawl most in rural areas precisely like ours -- areas where growth is already a problem, but has not yet destroyed the character of the area. When multi-lane roads are built into such places, commuting times become shorter; psychological obstacles to commuting are broken down; speculative development of housing and malls spurs an influx of people and overwhelms local efforts to control growth. It is what realtors have always said: "development follows the road."

There are of course many factors behind the rate and type of growth we are seeing in western Montana. But while no single factor determines growth or the way it occurs, the design of our transportation systems is the biggest single factor that we, the public, have the power to control.

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Road width: additional ecological ramifications

The greatest environmental impact of adding more lanes to Highway 93 would clearly, then, lie in the well-documented tendency of larger roads to spur even higher rates of growth and uncontrolled development. But there are also a number of more "direct" impacts to wildlife that are associated with road width.

a. Road width, speed, and roadkill

Traffic engineers often state that the "design speed" of roads is a more important factor for determining traffic speed than posted speed limits, unless a tough enforcement strategy is implemented. Generally, the wider the road and the greater the number of lanes, the more difficult it is to establish more moderate rates of speed.

For at least 35 years, wildlife biologists have been documenting the relationship between increasing traffic speeds and rising wildlife mortality from vehicle collisions. Moore and Mangel (1996) cited Hodson and Snow's 1965 study in asserting that "increased traffic flow moving at greater speeds may be a major factor in traffic fatalities of many species of birds." More recently, Gunther et. al. found that "speed of vehicles was the primary factor contributing to vehicle-wildlife collisions. Road design appeared to influence vehicle speed more than the posted speed limit" (1998, p. 32).

The impact of speeds on birds is an important one to consider in the Ninepipe area, since even with under-road crossing structures and drift fences, flying species will obviously continue to cross Highway 93 in front of vehicles. Montana Fish, Wildlife, and Parks personnel have expressed some concern that if additional bridges are built through the Ninepipe area, they may serve as attractive perches for birds and lead to greater roadkill (transportation and wildlife officials have addressed this problem in Texas where pelicans have used bridges as perches). Moore and Mangel (1996) noted that "Nocturnal birds seem to be especially at risk of collision due to temporary blindness caused by lights of the vehicles." Ninepipe has an important population of owls, including burrowing, short-eared, and great horned owls; many of these often hunt at just about windshield height, and they are already being lost to roadkill on the existing highway at the current 65 mph speed limit.

As we show below, speed is also an indisputable factor in many of the traffic accidents on Highway 93.

b. Road width, noise, and habitat

The projected increase in traffic noise is one of the most overlooked and potentially disastrous impacts of the proposed multi-lane reconstruction of U.S. Highway 93. Noise has an enormous impact on communities, on wildlife, and on the overall character of an area. Forman and Hersperger (1998) have noted that "Noise from dense vehicular traffic further degrades habitat, especially avian communities...Noise eliminates some key interior species, which reduces biodiversity." They also stated that "In an open area such as a golf course or agricultural field the noise effect commonly extends at least 500-1500m."

The Environmental Impact Statement for Highway 93 predicts that if the MDT alternative is built, we can expect a three dBA increase in noise levels for the segment of Highway 93 from Highway 212 to Ronan (table 7.8-2). To the auditory senses, this constitutes a doubling of noise. Even this is underestimated, however, since as with other sections of the EIS, this section assumes that traffic volumes will be the same, regardless of how many lanes are constructed. In fact, as we have discussed above, bigger roads lead to heavier traffic volumes. The EIS also does not take into consideration increases in speed that would come with more traffic lanes. Nor does the EIS consider more

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diffuse noise impacts in the region around the highway if a multi-lane highway is built and generates higher rates of development. For all of these reasons, the additional noise impacts from the multi-lane design, particularly in the generally open landscape of the Ninepipe area, would be even greater than the 3 dbA predicted in the EIS — even greater than a doubling of noise to the human ear.

c. Road width, air pollutants, and water quality

Road width, by contributing to heavier traffic volumes, would also degrade air and water quality in the area, partly due to increased automotive emissions. Preliminary studies conducted by Frank Finley and students of the Salish Kootenai College Environmental Science Program suggest that nitrogen oxide (NO_x) deposits may be significantly higher east of Highway 93, compared to west of Highway 93, possibly due to vehicular emissions and prevailing westerly winds. This issue demands serious attention and further study, since if true, it could greatly alter the plant communities of the area and thus affect all insects and animals dependent upon those plant communities. Excess NO_x could also degrade the delicate wetlands of the Ninepipe area. As Forman and Hersperger (1996) state, "Vehicle emissions of nitrogen oxides (NO_x) doubtless significantly alter some open areas. Anthropogenic nitrogen inputs from the atmosphere (relative to natural source of nitrogen), including those from transportation, are high in many areas...This excess nitrogen competitively favors many weeds and other species over native species in natural terrestrial ecosystems. For the same reason streams and other aquatic systems are readily eutrophicated by inputs from NO_x emissions" (p. 9).

In addition, a multiple-lane design would lead to general deterioration in air quality in the area due to additional development and traffic, and other secondary and cumulative impacts. Those pollutants would issue both directly from vehicles and from dust and particulate raised from roadways, and could negatively affect the Flathead Reservation's Class I Air Quality Designation.

Clearly, all of these impacts would be greater with increases in traffic volume, and also with any increases in average speed over the 55-65 mph maximum efficient fuel-burning speed. Both in terms of volume and speed, the multi-lane design would be significantly worse than an improved two-lane design, coupled with public transportation alternatives.

Finally, we must not ignore the obvious direct impacts that construction of a wider highway would have on the rare kettle ponds and streams along Highway 93. Wider pavement, and creation of a gradual side slope away from the highway, could devastate these bodies of water and create a barren, lifeless area of great width -- far greater even than the considerable impact we have already seen with the rebuilding of Highway 200 between Ravalli and Dixon.

Nor is this concern limited to the Ninepipe area. In many other places between Evoro and Polson, sensitive bodies of water lie under or adjacent to Highway 93. One locally celebrated example is the solitary kettle pond lying on the northeast side of the highway at Schall's Flat, north of Arlee. This small pond each year attracts an unusual and sometimes rare collection of migrating birds, including American avocets and trumpeter swans. The pond can be easily avoided, but not if engineers insist on an unnecessarily wide, and ruler-straight, roadway.

d. Road width and thermal impacts

Some research has suggested that the additional thermal mass of a larger road can alter the adjacent microclimate; higher temperatures may add to the barrier effect of the road and deter animal migration or otherwise alter the local ecosystem. In addition, heat from a wider highway may alter air currents and affect birds and insects. More research needs to be done to see if this would be a significant environmental concern in regard to lane configuration issues on Highway 93.

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The Need to Improve Traffic Safety in the Ninepipe Area and Current Proposals for Highway 93

While Highway 93 in the Ninepipe Area has an accident rate that is well below the statewide average, there have been a number of tragic accidents in the area in recent years, including a number of fatalities. Most fatalities both on Highway 93, including in the Ninepipe area, are caused by factors such as alcohol, unsafe driving speeds, or entrance-related collisions that are either unrelated to highway design, or could actually be worsened by construction of an undivided multi-lane design.

In order to understand the safety situation on Highway 93, we must first be clear on what the actual choices are for improving safety on Highway 93. Many people mistakenly believe that the Montana Department of



A cross reflects another fatality on Highway 93 near Ninepipe

Transportation's primary goal on Highway 93 is to improve safety. In fact, their first objective is to improve capacity -- the ability of the highway to move high volumes of traffic at high speed. They are not seeking to build an interstate-type road, with divided lanes, highly controlled access, and exit and entrance ramps every few miles. What they have actually proposed is an undivided, four and five-lane design, similar to Reserve Street in Missoula, but with high speeds. While the MDT design would provide greatly improved passing opportunities, it would also lead to faster speeds, already a factor in rising accident rates and accident severity, as shown by numerous local and national studies, including reports from the

Insurance Institute for Highway Safety. A multi-lane design would lead to less attentive driving, particularly for long-distance and out-of-state drivers. It would create more complicated intersections, already a factor in over a third of the accidents on Highway 93. It would make it more difficult to turn left on to the highway, or to cross the highway (in cars, on foot, or on bicycles).

The Confederated Salish & Kootenai Tribes and the Flathead Resource Organization have both long opposed this multi-lane design because it is less safe and more environmentally and socially destructive. Yet both the Tribes and FRO have advocated massive improvement of Highway 93 -- the "Super-Two" design, with wide, paved shoulders, left-hand turn bays, well-designed passing lanes at key places, and the safest pedestrian and bicycle facilities. FRO has also called for better enforcement of a reasonable speed limit, slow-moving vehicle turnouts, a ban on multiple-trailer semis, and subsidized public transportation to provide travelers with a convenient, cheap alternative to driving their own cars. The Super-Two type of design has been proven to deliver exceptionally low accident rates, even on highways with far higher traffic volume than Highway 93. In fact, from the Federal Highway Administration to the Turner-Fairbanks Highway Safety Institute, study after study has proven beyond doubt that these improvements will dramatically improve driver safety. FRO has advocated immediate implementation of them for nearly a decade. We must not wait another ten years.

Letter 158, Thompson Smith (continued)

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3. The Ninepipe Wildlife Conservation & Transportation Safety Proposal

Both the ecological importance of the Ninepipe area, and the threats to its continued viability, are daunting. Fortunately, a great deal of research, conducted in this country and around the world over the past decade, shows how we can build or rebuild transportation systems in such a way as to deliver a high level of safety for travelers, protect habitat and wildlife, and avoid the kind of highway expansion that tends to worsen problems of sprawl and uncontrolled development.

The Ninepipe Wildlife Conservation and Highway Safety Proposal has two basic, intertwined elements: strategies to protect wildlife and habitat, and effective measures to create a sustainable transportation system and improve driver safety.

I. Protection of Wildlife and Habitat

A. Geographic scope of the NWCHSP

The scope of our proposal encompasses the area that we can reasonably expect to be affected by whatever improvements or changes are made to the transportation system. In their 1998 study of these issues, Forman and Deblinger viewed this kind of approach as essential if a transportation project is to address the ecological well-being of an area. The usual narrow consideration of impacts from highway projects – the tendency of agencies to focus on direct impacts of the actual widening of the pavement, to the exclusion of secondary and cumulative effects – can lead to devastating results, since "Ecological flows and biological diversity trace broad patterns across the landscape, whereas transportation planning traditionally focuses carefully on a narrow strip close to a road or highway...the 'road-effect zone'...is many times wider than the road" (p. 78).

We have therefore mapped boundaries to this project that encompass a reasonable portion of the area likely to be affected by the redesign of the transportation system and Highway 93:

The roads included in the proposed project would be, primarily, Highway 93 between Post Creek and Crow Creek (about 6 miles); and also Highway 212 between the Flathead Indian Irrigation Project work station to the junction with Highway 93; and county roads from Dublin Gulch Road north to Duck Road, for 2 miles east and west of Highway 93.

The wildlife corridors and habitat areas, identified through consultation with Tribal, Federal, and State wildlife experts, as well as knowledgeable local residents, are shown on map # 4. They would include:

- ⇒ The Post Creek riparian zone from the Tribes' current Grizzly Management Zone west to the confluence with Mission Creek, and then along Mission Creek through the National Bison Range and on to the confluence with the Flathead River.
- ⇒ The upland prairie wildlife corridor extending west from Kicking Horse reservoir, into the Ninepipe reservoir area, and then connecting to Dublin Gulch and on to Mission Creek.
- ⇒ The Crow Creek riparian zone from the Grizzly Management Zone to Crow Dam, and on to lower Crow Creek and the Flathead River.

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B. Interagency Efforts to Secure Conservation Easements throughout the Wildlife Corridors

The first element in our proposal is to secure conservation easements or outright fee title throughout the area, particularly in the identified habitat areas and wildlife corridors along Post and Crow Creeks and the upland prairie area reaching from Kicking Horse to the west and south. Provisions in the easements will protect riparian zones through fencing, reduction of grazing impacts, and native plant restoration using local genotypes to the maximum extent possible. This is the most



While still a rare sight, wintering elk have been seen in increasing numbers in the Ninepipe area west of Highway 93.

direct and surest way to prevent further subdivision and development in the area.

As is shown on Map 2, the Tribes, the Fish and Wildlife Service, the state department of Fish, Wildlife, and Parks, and a number of private conservation groups have already extended protection to a considerable portion of this area. Now it is critical to ensure that the ecological integrity of this already massive investment is not lost to habitat fragmentation. This effort would need to be pursued through an innovative, coordinated program and an interagency funding base, including the Federal Highway Administration (FHWA), other Federal agencies including the Fish & Wildlife Service and the Environmental Protection Agency, the Tribes, and the State (including the Department of Transportation).

C. Transportation Design to Minimize Environmental Damage

i. Crossing Structures and Fencing Regimes to Facilitate Safe Wildlife Movement across Highways and Major Roads throughout the Area

Over the past several decades, wildlife biologists and transportation engineers around the US and the world have developed and refined a wide range of structures that allow animals of all sizes, and in virtually all habitats, to pass under or over roads and highways. Usually, planners also construct some sort of fencing regime to "funnel" animals toward the crossing facility.

Great strides are still being made in this area, but the effectiveness of the basic approach – separating animals from cars – is now beyond dispute. Smith et. al. (1996) found that "Prior to the installation of the underpasses on Alligator Alley/1-75, road-kills were considered the greatest known cause of human-related mortality for the Florida panther." Afterwards, this was no longer the case. Boarman and Sasaki (1996) found that where the highway had been fenced and crossing culverts installed, "we found 88% fewer vertebrate carcasses and 93% fewer tortoise carcasses."

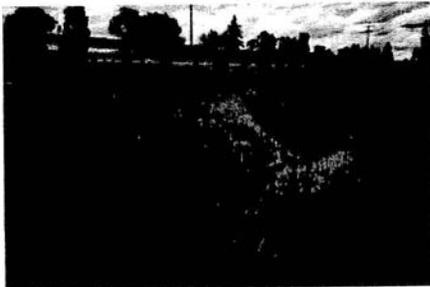
Letter 158, Thompson Smith (continued)

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Studies of the Ninepipe area itself have predicted the same kind of success with this kind of approach here. Fowle (1996) concluded that "The most effective method for increasing the permeability of roads is to elevate (bridge)...Other methods proven to mitigate roadkills include...culverts, drift fences, and pitfall traps...These methods can be modified to work for painted turtles and other species vulnerable to Highway 93 traffic."

We have developed this preliminary proposal for wildlife crossing devices in the Ninepipe area based on consultation with local experts, as well as talks and proceedings from the 1996, 1998, and 1999 International Conferences on Wildlife Ecology and Transportation. These suggestions will doubtless need the input and modification of biologists and engineers.

It is critical to the success of virtually all crossing structures that they be complemented by drift fencing or other "funneling" structures to direct wildlife toward the underpasses or culverts. Designers of these fences must take care to avoid the problem of wildlife working their way through or over the fence and becoming trapped in the traffic lanes. For turtles, Fowle (1996) suggests that the most effective design would be a solid barrier, at least at the base of the fence, since it would be more difficult to climb and would block some of the sights and sounds of traffic.



Existing culvert at Ninepipes: a barrier to animal migration.

Our proposed crossing structures, outlined in detail on Map 2, may be categorized in four groups:

1. Reconnecting bisected ponds. In five areas along Highway 93, the road would be placed on pylons to reconnect ponds that were split by the previous construction of Highway 93. These spans would also extend beyond the shoreline to allow animals to cross by land (as Fowle observed, turtles "do not necessarily choose the aquatic route under the road." thesis, p. 67).
2. Bridges at Crow Creek and Post Creek. These would be raised to allow 10' of clearance above the creeks and shorelines. A bridge of similar height would be constructed at the canal feeding Ninepipe Reservoir.
3. Culverts at known crossing wildlife crossings. At least five would be built within the project area of a large enough size to accommodate deer, elk, and other large animals, and to permit good day light. See below for concerns over length of these culverts, determined by width of the road.

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4. Small tunnels of a design used elsewhere to enable and encourage crossing of amphibians, emplaced where research indicates they would help. In the 1996 proceedings of the Transportation Related Wildlife Mortality Seminar, examples may be found in the article by Forman and Hersperger (p 14-15), and at the end of the paper by the Texas DOT.

Studies should be conducted to determine whether wildlife passage facilities are necessary on other roads in the area, including Mollman Pass Road, Eagle Pass Road and Highway 212.



Grizzly in Ninepipe area pond.

We would note that a number of wildlife managers have expressed concern that grizzly bears are not currently encouraged to utilize habitat west of Highway 93, and that building facilities to enable them to cross the road may lead to them into greater conflicts with people, and therefore greater mortality. Others suggest that the area should be managed to support bear movement. We respect both of these views and simply note that the bears are already utilizing that habitat, apparently in growing numbers, and that they should not

have to die for doing so. These crossing facilities would help ensure that grizzlies do not become roadkill, and that highway mortality is not the means by which we "discourage" their use of lands to the west of Highway 93.

Some of the culverts may be designed for multiple use. Managers of the Ninepipe area, including those with Montana Fish, Wildlife, and Parks, currently use back roads on the preserve to avoid driving on Highway 93 with large, slow machinery. Some of those roads may be blocked by this proposal, so it would be convenient to allow for passage of these maintenance vehicles, including very wide farm implements, to pass under the road. In addition, walkways could be installed from highway pullouts to the underpasses to allow the public to use them for crossing the highway safely. The only potential drawback suggested by some research is that certain animals may avoid using the structures if a human presence is detected. Clevenger found that "Underpass use by large carnivores was negatively correlated with human use levels and was greatest at divided underpasses" (1998, p. 109). Perhaps this problem can be addressed by designating one or two passages for mixed use, and the others solely for animals.

Letter 158, Thompson Smith (continued)

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Design considerations regarding animal crossing structures and road width.

The success of the Ninepipe Wildlife Conservation and Transportation Safety Proposal hinges in part on the width of the highway. If a four and five-lane design is built, many of these provisions may well prove to be wasted money. Most of the reasons, outlined on page II, stem from the tendency of radically expanded roads to increase traffic volume and speed -- which in itself also impedes animal migration. As Paquet and Callaghan (1998) have written, "High traffic volumes on the Trans Canada [highway] also appear to alienate wolves from using portions of the valley they might otherwise use."

But a number of studies indicate that the width of the road will also have a more direct bearing on whether animals will be willing cross it -- either on the road surface or in under-road crossing structures. Clevinger (1998) found that while human use of highway crossing structures had the biggest negative effect on animal use, the "openness and length" of the structure also influenced that use. He concluded that structures that are so long that they "resemble a tunnel may inhibit use." Boarman and Sasaki (1996) noted that "Fragmentation of populations and restriction of gene flow may increase with increases in traffic volume, width of highways, and time." Similarly, Forman and Hersperger wrote that "The barrier width is sensitive to both road width and traffic density" (1996, p. 8). Tribal Wildlife Manager Becker has similarly expressed concern about the "soda straw" effect if under-road passages are too long and the "light at the end of the tunnel" appears too small.

Road width may matter more in certain places, and for certain animals, and for certain kinds of crossing structures. But local studies specific to Ninepipe suggest that road width would in fact be a significant factor here. Fowle (1996) found that roads "become less permeable with increased traffic density and speed and with increased 'clearance,' the width of the road or right of way." She cited Yanes et al. (1995), who "found that small mammals' and carnivores' willingness to use culverts decreased with increased length of the culvert." Fowle also mentioned that turtles require ambient light in tunnels if they are to utilize them. And in discussing ways to "mitigate roadkills," she suggested "narrowing the road width and reducing the traffic speed and volume... These methods can be modified to work for painted turtles and other species vulnerable to Highway 93 traffic."



Mallard, an abundant resident of Ninepipe.

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ii. Rebuilding Highway 93 as a parkway environment for travelers

When travelers enter Glacier National Park, they are aware that they are in a special place, and a different kind of driving environment. As a result, they generally abide by the slower speed limit. Accidents are so rare in the park that they are not tracked in statistics.

For the safety of both animals and people, we must create a similar kind of "parkway" driving environment in this special segment of Highway 93. We must change the driving "culture" of the Ninepipe area from one oriented completely toward speed, to one focused on enjoyment and appreciation of this place -- even as we continue to provide a reasonable and safe flow of traffic. Through a number of visual cues and design elements, drivers will realize that the six miles of road between Post Creek and Crow Creek are a special wildlife conservation district, a unique section of highway. This could include:

- gateways at the northern and southern entrances to the district;
- a distinctly colorized pavement, perhaps of a reddish hue, with thicker striping on the road surface, and possible use of pavement materials to reduce noise;
- raised vegetated medians in places where left-hand turn bays would be installed;
- more and improved pullouts for travelers to view wildlife;
- state-of-the-art facilities for pedestrians and bicyclists to enhance their access to and enjoyment of the Ninepipe area;
- and special signing of a certain color and pattern, including signs urging cautious driving and notifying drivers of pullouts and wildlife viewing opportunities. If desired by the Tribes, the signs could be rendered in English, Salish, and Kootenai, and could include interpretive information at the pullouts.

These measures will not only help achieve a lowered traffic speed, but will also create a heightened awareness of wildlife in the area and lead to more defensive and alert driving behavior. This has been used to effect in other areas; for example, Forman and Hersperger (1996) report that "Techniques directed at the driver of a vehicle are used to reduce amphibian mortality in Belgium, Wales, and Finland." And Gary Evink (1996) has noted that in the Florida Keys, although too many endangered Key deer continued to be killed, "motorist educational signing, radio information and speed limit reduction were felt to do some good." Measures directed at educating travelers and changing their driving behavior, in short, can help as one element in an overall strategy.

Other elements of the overall transportation plan advocated by FRO for the Highway 93 corridor will also support this redefinition of the Ninepipe section. These include top-flight, frequent public transportation; slow-moving vehicle turnouts for RVs; and long-term, inter-agency efforts to shift more of the tourist traffic onto mass transportation, and more of the freight traffic onto the rails.

iii. Concerns over construction phase

The construction phase will pose great environmental and traffic difficulties and will doubtless require considerable innovation to reduce impacts. In order to ensure that the impact of construction does not devastate the very wildlife populations and habitat connectivity we are seeking to preserve, existing roads should be used to handle any detours, rather than building temporary lanes in the Ninepipe landscape. In addition, construction might need to be broken into shorter segments. If possible, work should be concluded in one season.

Letter 158, Thompson Smith (continued)

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II. Improving the Safety and Enjoyment of Travelers

For the overwhelming majority of people, the primary concern about Highway 93 — and the primary objective for any legitimate transportation plan — is to improve safety for the traveling public. That is the greatest strength of the Tribes' and FRO's proposals for Highway 93 as a whole, and also of this specific proposal for the Ninepipe area. While protecting the environment, they would also produce a roadway that most analyses predict will be safer than the one sought by the MDT. Both the latest research and actual examples from around the nation and the world show clearly that traffic safety can be handled very well within a two-lane configuration, even with far heavier volume than we will be seeing on Highway 93 for the foreseeable future.

Safety improvements would include all of the recommendations for Highway 93 made by the Montana Interdisciplinary Traffic Safety Task Force, as well as many features included in the Federal Highway Administration study, *Low-Cost Methods for Improving Operations on Two-Lane Roads*:

- Paved shoulders, 8 to 10 feet wide, shown in numerous major studies to reduce accidents dramatically. Rumble strips would separate cars from bicyclists and pedestrians using the outside shoulder.
- Left-hand turn bays at county road intersections.
- Reduction/consolidation of entrances onto US 93, but with enhancement of pullouts for viewing wildlife.
- Leveling of vertical alignments where this would contribute to better safety and work well with other design elements in the plan.
- A well-designed passing lane on Post Creek hill. This will have to be coordinated with the reduced speed limit through the Ninepipe area and the need to limit road width, particularly around under-road wildlife passages.
- Special signing, striping, and pavement coloration to notify drivers of the special Ninepipe highway district.
- A special speed limit zone for the Ninepipe Special Wildlife area of 45 mph on Highway 93 from Crow Creek south to Gunlock Road, and also on Mollman Pass Road, Eagle Pass Road and Highway 212; and 55 mph on Highway 93 from Gunlock Road to Post Creek. In the Ninepipe area, lowered speed limits will be a necessary part of a safe design, partly because significant segments will have guardrails on the outside edge of the shoulders, beyond which will be steep banks or bridging.

Lower traffic speed at Ninepipes will help save the lives of both people and animals. The key to making it work is clearly enforcement. This could be achieved through a number of techniques, including allocation of funding in the highway plan for increased highway patrols, and new remote camera technology that has proven to be effective in a number of places around the country and internationally.

- Under-road wildlife passages will also reduce or eliminate animal-vehicle collisions.
- Consideration of the use of special guard rails throughout the length of project. Rails should be three feet high, strong enough to deflect a car and have an outward turned lip to discourage wildlife from climbing or jumping onto roadway.

In addition, elements of FRO's proposed plan for Highway 93 as a whole would also improve the traveling experience and safety of people in the Ninepipe area:

- Elimination of multiple trailer semis from Highway 93 as a whole, which have only been permitted here since 1980's, and exert a major negative effect on traffic flow and safety.
- Inter-agency efforts and/or legislation to shift increasing portions of the tourist traffic onto mass transportation and more of the freight traffic onto the rails.
- Serious funding for public transportation throughout the area to slow the growth of traffic.

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4. Paying for it

There is little question that if the project is strongly supported locally, if a unified body of citizens and governmental officials advocate for this plan, the necessary funding could be found. Most would come from federal sources. TEA-21, the new transportation act, allows the FHWA to use funds in a highly flexible way both for transportation improvement and environmental mitigation. Montana this year has about \$100 million more than it has ever had before for transportation, and this will continue in coming years. There are numerous other potential sources that could be explored. For example, the EPA has special programs committing the government to restoring 100,000 acres of wetlands by the year 2005; as part of that initiative, the FHWA is committed to restoring over 50% more acres than it impacts during the next 10 years. Furthermore, this initiative can be applied toward remediating the damage caused by past federal aid projects.

We may also want to go to our Congressional representatives to seek a special funding for this place of national ecological importance. In all these efforts, the key will be going forward as a unified community.

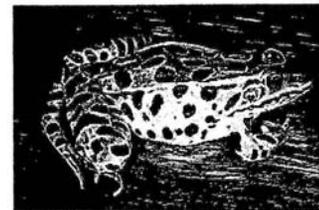
5. Benefits of the Ninepipe Plan -- and the Urgent Need for Action

While this plan will be expensive, the benefits will be well worth it, beginning with the simple protection of the considerable intergovernmental investment that has already been expended on the Ninepipe area and its remarkable environmental assets over many years. On top of this, we will be helping ensure the viability and health of the wildlife of this special place for generations to come. We will be providing a safe and enjoyable driving experience. We will be radically reducing, if not eliminating, vehicle-animal collisions while strengthening habitat connectivity with under-road passages and fencing. We will be protecting the lives of people and animals, especially avian species, with slower traffic speeds. We will be improving bicycle and pedestrian safety with dedicated shoulder lanes and slower speeds. And we will be avoiding the intensification of strip development and subdivision that would come with a multi-lane design, while directing funds toward the purchase of easements to protect habitat in the area.

In short, if we take responsible and prompt action, we can gain a high standard of safety and the protection for this beautiful core to our valley. But if Ninepipe is damaged by continued inaction, or worse, by the implementation of an unthinking transportation design, we will see more tragic and unnecessary accidents, and also the harming of irreplaceable habitat, a rare assemblage of wildlife, and a unique and enchanting landscape.

The current negotiations to determine an ultimate lane configuration for Highway 93 may hold up construction for years. But in the meantime, human lives are being lost due to the lack of shoulders and other design deficiencies, and some species of wildlife that use the Ninepipe area clearly cannot survive many additional years of the current situation. Three years ago, Suzanne Fowle wrote that "The painted turtle population in the Mission Valley of western Montana may not be able to tolerate the current or increased levels of roadkill mortality and predation. Our study was designed to help determine management measures necessary to avoid population decline to a point where recovery is difficult or unlikely."

Since her thesis was written, none of Fowle's recommendations have been implemented or funded, even including the monitoring of populations that she said was "essential to conservation of this turtle population." Casual observation by residents of the area has noted a marked decrease in roadkilled turtles, possibly indicating that the permanent population decline Fowle feared may have already begun. But without funding for continued, scientific study, there is no way to be sure.



Leopard frog: soon to be reintroduced to Ninepipe?

Letter 158, Thompson Smith (continued)

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At this point, even the year or two that would be required to tool up for this proposal may make it too late for such species as painted turtles or grizzly bears. We would suggest that interim standards be established, such as immediately lowering the speed limit from Post Creek to Crow Creek, and consideration of turtle fencing along the highway corridor.



Subdivision and development at intersection of US 93 & Hwy 212

6. What You Can Do to Help

1. Join FRO!

By joining FRO, you help our voice become stronger. Annual membership dues are \$5 (individual), \$8 (couple), and \$10 (family). Additional contributions are needed and welcome. You can send your tax-deductible contribution to:

Flathead Resource Organization
P.O. Box 541, St. Ignatius, MT 59865
phone: (406) 644-2511; fax: (406) 644-2516; email: FROMontana@aol.com

2. Write:

Write in support of the Ninepipe Wildlife Conservation and Highway Safety Proposal to the Montana Department of Transportation, the Confederated Salish and Kootenai Tribes, the Federal Highway Administration, the National Bison Range (USF&WS), and your tribal, state and national representatives. Please send FRO copies of your letters. Here are the addresses:

Mr. Marvin Dye
Director, Montana Dept. of Transportation
2701 Prospect Ave.
Helena, MT 596

Mr. D. Fred Matt, Chairman
Confederated Salish and Kootenai Tribes
PO Box 278
Pablo, MT 59855

Mr. Dale Paulson
Federal Highway Administration
Park St.
Helena, MT

Mr. David Wiseman
National Bison Range
Moiese, MT 59824

Sen. Max Baucus
US Senate
Washington, DC 20510

Rep. Rick Hill
US House of Representatives
Washington, DC 20515

Sen. Conrad Burns
US Senate
Washington, DC 20510

Governor Marc Racicot
State Capitol
Helena, MT

Lake County Commissioners
County Courthouse
Polson, MT 59860

Sen. Mike Taylor
PO Box
Proctor, MT

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Photo credits:

Natural Resource Department, Confederated Salish and Kootenai Tribes: pages 6 (heron), 7 (Soukkala), 8 (Swaney), 20, 23.
 National Bison Range, US Fish & Wildlife Service: pages 3, 5 (both), 6 (aerial), 7 (Clark & Lipscomb), 10, 12, 15.
 Tom Bower, Missoulian: page 7 (Pat Pierre).
 University of Montana Special Collections: page 8.
 Flathead Resource Organization: title page; pages 4, 9, 13, 16.
 Kerwin Werner: pages 11, 19, 24.

FRO's staff and Board of Directors extends special thanks for comments and suggestions to: Mickey Pablo (dec.), Dale Becker, Salish Elders Advisory Committee, Mary Price, Art Soukkala, David Wiseman, Bill West, John Grant, Dave DeGranpre, Bud Cheff, Jr., Bill Ruediger, Chris Servheen, Dick Weaver, Marie Dinwoodie, Karin Stallard.

For more information on the Ninepipe Wildlife Conservation and Highway Safety Proposal, issues relating to US Highway 93, or other environmental matters, contact:

Flathead Resource Organization
 P.O. Box 541, St. Ignatius, MT 59865
 phone: (406) 644-2511; fax: (406) 644-2516; email: FROMontana@aol.com

Board of Directors: Dr. Joseph McDonald (President), Patricia Hurley (Vice-President), Douglas Baty (Treasurer), Allen Hibbard (Secretary), Corky Clairmont, Anita Dupuis, Richard Eggert, Peg Harriman, Tony Hoyt, Thurman Trosper

Staff: Thompson Smith (Executive Director)
 Technical Consultant: Harold Young

159

Letter 159, Fran Steffensmier

159-1.—See Response #3-1.

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/cis_93a.shtml
Please indicate comments are for project CN B744.

MASTER FILE
COPY

159-1

As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Fran Steffensmier

Please provide your name and address:
Name: Fran Steffensmier
Address: 59732 Moose Valley Rd
to Charlo, MT
59824
Email: _____

Please leave your comments with either MDT, Skillings
Connolly or Herrera staff at the meeting, or mail to:
Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006




OPEN HOUSES
Monday
September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Center
St. Ignace, MT
Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community
Center
Ronan, MT
PUBLIC HEARING
Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community
Center
Ronan, MT

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

160-1 To whom it may concern;
I think the speed limit should be lowered to 55. Though the Ninepipe area most of our accident have been caused from speeding & drunk driving, save the highway money & pay more highway patrol.

160-2 As far as #7 goes I own "Connie's Cantypie Cafe" it is a good business I have 15 employees that would eliminate my business by filling. and as far as a view what all they really going to see to the East of me? other than the watching sand that has filled in his wetlands and allowed gas & oil leak into the ground that the land or tribe will do nothing about! Like the view I have in my deck.

I and my in law sold easement to the state several years ago with the assumption from Joe Horton that was all they would need unless a 4 home went thru them my sign would have to be there if that happened.

Please provide your name and address:
Name: Connie Stevens
Address: 62056 U.S Hwy 93
Charlo, MT 59024
Email: _____

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:
Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
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PUBLIC HEARING
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7:00 - 9:00 pm
Ronan Community
Center
Ronan, MT

Letter 161, Isabel Sucha

161-1.—See Response #3-1.

Comment or Question:

To Whom It May Concern,

161-1

I am 16 years old and I have been living in this valley for all of my life. When I heard that you were not building a bike path, I was disappointed. I would like to bike into school on the nicer days and I find I wont be able to if you do not continue the path. I live 7 miles south of Ronan, and to bike there without using the highway, you have to go a ling way around, it's not only time consuming but hard too.

As a new driver on this highway, i am very nrevous around people walking or biking on the road. Not just because they are too near the road, but also because it is dangerous. An eight foot shoulder is not enough distance away from traffic and it is not fair to walkers and bikers to be this close.

I know you are worried that by building a bike path through this area will ruin a lot of natural habitat. By putting in a highway you have already done this, and putting in a 4 foot wide slab of pavement isnt going to hurt it anymore then it the highway already has. All of the above reasons are just some reasons why you should build a bike path along side of HWY 93. it is a dangerous highway as it is, don't risk more lives.

Hoping to see a bike path,

Sincerely,

Isabel Sucha, a cocerned community member.

162

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN 8744.

162-1 Thank you for hosting the community public house. Everyone involved was very helpful and informative. I was impressed with the amount of work and research put into the project.

I think your preferred proposal for Ronan is the best alternative.

Here are my concerns for the rural proposal

#1 Bike lanes, #2 Turning lanes, #3 Passing lanes, #4 Lights.

162-2 #1) In none of the proposals are bike lanes addressed. We do bike on Hwy 93 between Ronan + St. Ignatius. We see bike travellers riding on Hwy 93 and it is dangerous. There are no acceptable North/South backroads to get to + from town. Biking is a great alternative to driving especially with high gas costs. So I think it should be addressed. I see a bike lane North of Ronan so are ¹⁶¹travellers just to start or stop in Ronan, and no go further south. Shoulders are not acceptable, especially with children. Dead animals obstruct the way, trucks going fast, blow bikers off course, sound + smell are unenjoyable to the ride.

Please provide your name and address:

Name: Janet Sucha
Address: 1226 Eagle Pass Tr.
Charlo, MT 59824

Email: jandf@blackfoot.net

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

OPEN HOUSES

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September 18, 2006
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Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT




Letter 162, Janet Sucha

162-1.—See Response #13-8.

162-2.—See Response #3-1.

Page 2

162-2
Con't

Biking shoulder lanes shrink with weather and roadside grasses and is just not as safe. Please consider how you can create a safe biking path heading south from Ronan all the way to Missoula. What a tourist attraction that would be? Do we not live in the most beautiful part of the world and shouldn't we appreciate it as we bike along rather than speeding by in an airconditioned vehicle?

162-3

#2 Turning Lanes

We live off of Eagle Pass Trail. It is difficult to travel south on 93 and take a left hand turn onto Eagle Pass. None of the alternative address this problem. There have been deaths at this intersection. In the Proposed Alternative you are putting a passing lane just beyond. This

Letter 162, Janet Sucha (continued)

162-3.—See Response #6-2.

Page 3

162-3
Cont'

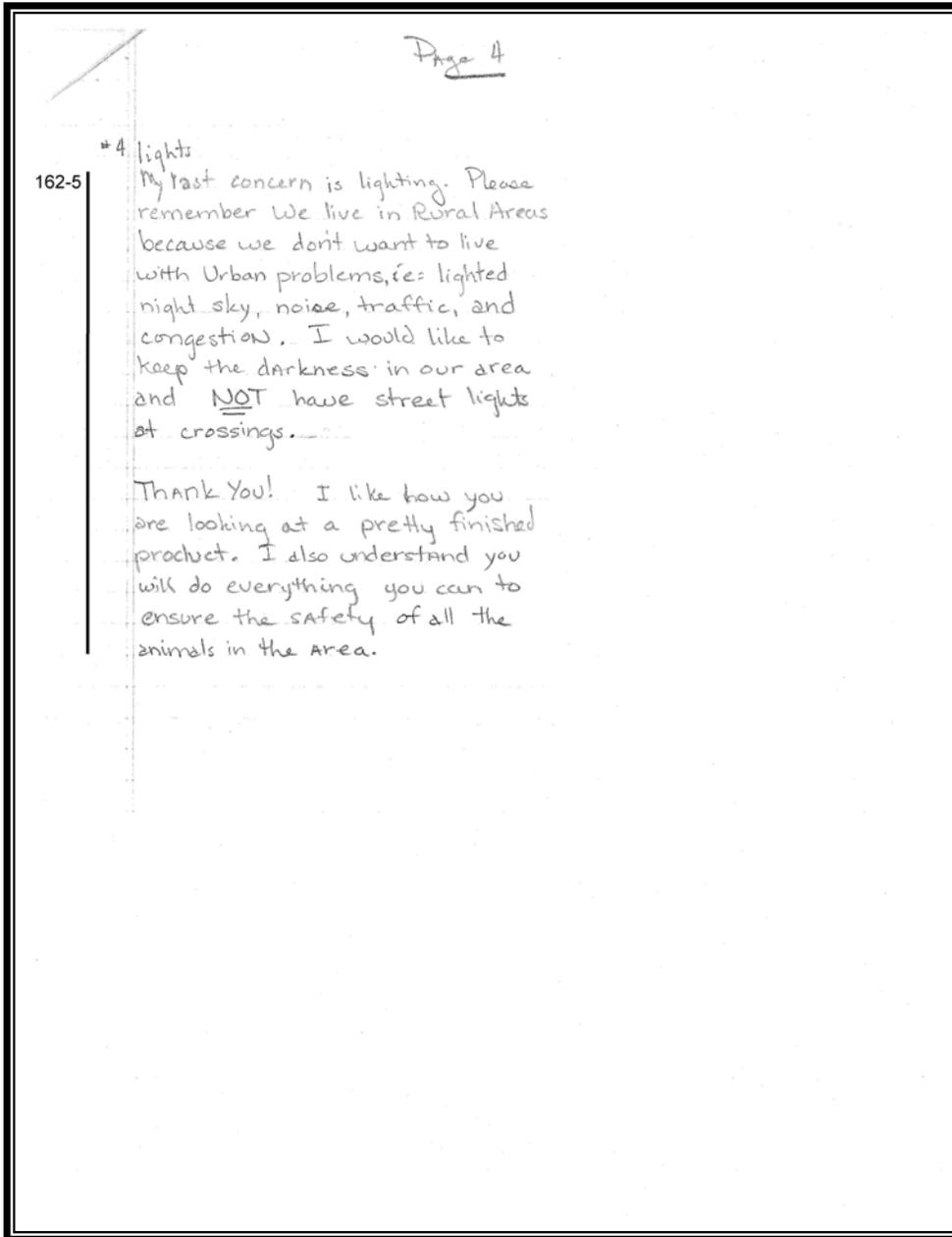
Does not fill me with confidence for my safety. I think the turn onto Job Corp Road works well (except for too many lights). We don't necessarily need more lanes to drive on just a small lane to stop on and wait for a traffic break without being a "sitting duck." Also turning onto a 4-lane hwy doesn't seem exactly easy or safe. Many of the turns along the rural stretch have low visibility. Please think about this.

162-4

#3 Passing lanes -
I'd rather have bike paths than passing lanes but please keep impact to a minimum. So I think alternative #2, #3, or #5 would be the best. Or spend money on bike lane and leave existing road Alternative Rural 1!

Letter 162, Janet Sucha (continued)

162-4.—Thank you for your comment



Letter 162, Janet Sucha (continued)

162-5.—The warrants for lighting this intersection will be reviewed during the final design process for this project.

163

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

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163-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
separate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Sincerely,
Carey Swanberg

Please provide your name and address:

Name: Carey Swanberg

Address: 45971 Old Hwy 93
Ronan, MT 59864

Email: cas@ronan.net

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

OPEN HOUSES

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September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Cen
St. Ignatius, MT

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September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Letter 163, Carey Swanberg

163-1.—See Response #3-1.

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/seis_93.shtml
Please indicate comments are for project CN 8744.

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164-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
separate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

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10/11/06

Dawson Swanberg

Please provide your name and address:

Name: Dawson Swanberg
Address: 45971 Old Hwy 93
Ronan, MT 59864
Email: cas@ronan.net

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PD Box 201001
Helena, MT 59620-1001
(406) 444-7228

MDT

SKILLINGS
CONNOLLY

Letter 164, Dawson Swanberg

164-1.—See Response #3-1.

Letter 165, Richard and Theresa Taylor

165-1.—See Responses #5-1 and 11-1.

165-2.—See Response #3-1.

From: Rick and Theresa Taylor [mailto:taylorzoo@centurytel.net]
Sent: Friday, October 06, 2006 10:49 AM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment for the Highway 93 93 Ninepipe-Ronan Supplemental EIS

Attn: Jean Riley

165-1 | This e-mail is to serve as our public comment on the proposed EIS for the Ninepipe-Ronan area. We
165-2 | support Alternate 7. This alternative to the Highway plan is safer for our local wildlife, an asset that we
believe needs to be given the highest priority. The inclusion of the bike path makes this safer for vehicle
traffic and the bicyclists/pedestrians that frequent this stretch of road. As a taxpayer, we realize the cost is
high. However, this project will have a generational effect on those of us who live here. In light of other
government spending, the additional dollars on this stretch seem monies well spent for ourselves, our
children, and the wildlife that we need to stay committed to protecting.

Please consider this viable option for our highway.

Sincerely,

Richard and Theresa Taylor
32592 Meadow Road
Polson, MT 59860
406-883-3434

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

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Please indicate comments are for project CN B744.

166-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Sarah Theimer

Please provide your name and address:

Name: Sarah Theimer

Address: PO Box 1223
Polson, MT 59860

Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

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Ronan Community Center
Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Letter 166, Sarah Theimer

166-1.—See Response #3-1.

167

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Mr. Riley,

167-1

I was surprised and disappointed to learn recently that MDT (Project CN 2744) plans to build high-speed passing lanes in an area used frequently by wildlife. Please reconsider alternative #4 which includes an elevated highway in the area.

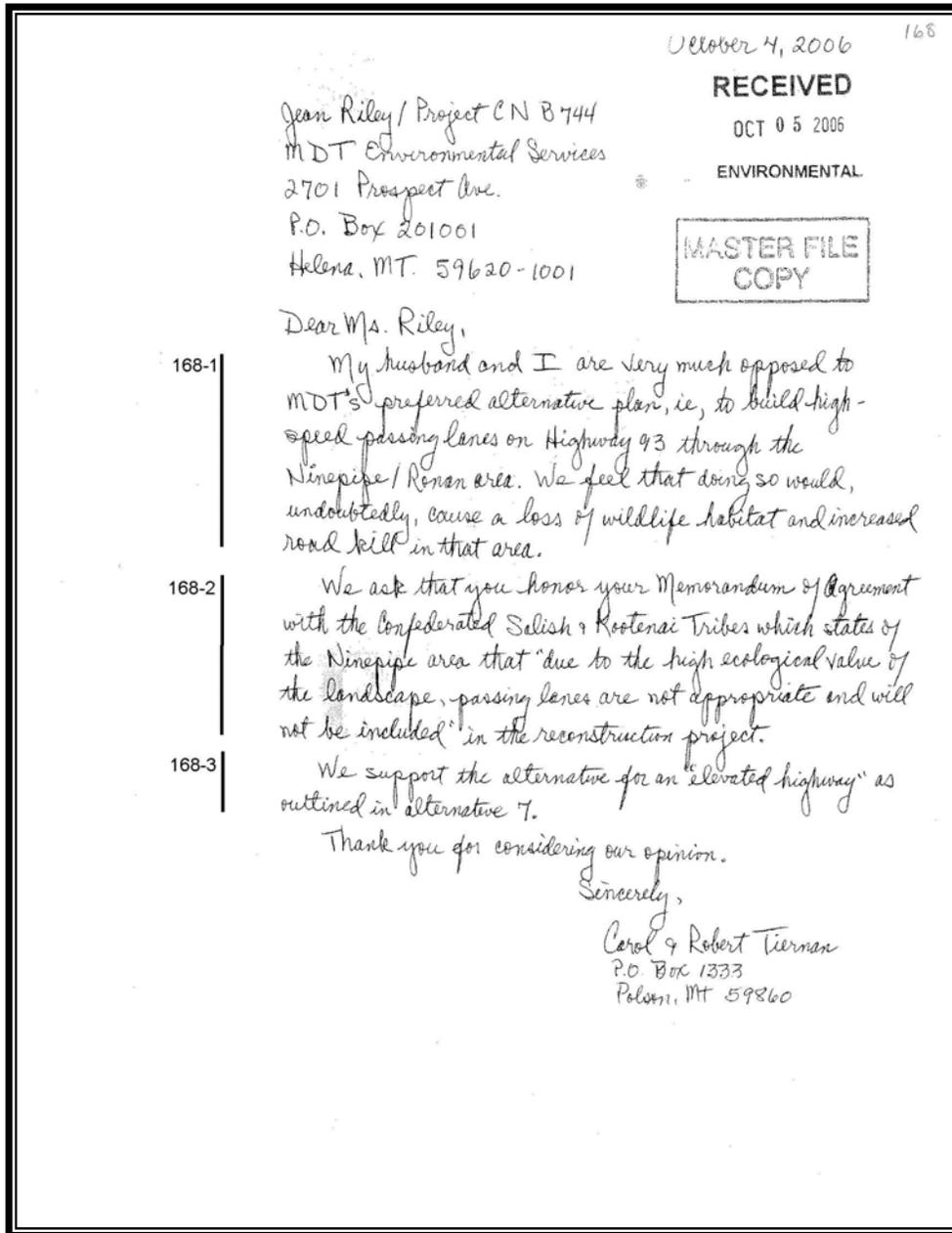
Consider uses such wildlife-friendly crossings with great success.

Thank you,
William R. Thomas

W. R. Thomas
1 Garcia Loop
Alberton, MT 59820

Letter 167, William R. Thomas

167-1.—See Responses #5-1 and 11-1.



Letter 168, Carol and Robert Tiernan

168-1.—See Response #155-12.

168-2.—See Responses #17-2 and 49-2.

168-3.—See Responses #5-1 and 11-1.

169



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8, MONTANA OFFICE
FEDERAL BUILDING, 10 West 15th Street, Suite 3200
HELENA, MONTANA 59626

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Ref: 8MO

October 3, 2006

Craig Genzlinger, P.E.
Operations Engineer
Montana Division, Federal Highway Administration
2880 Skyway Drive
Helena, Montana 59602

Ms. Jean Riley
Montana Dept. of Transportation, Environmental Services
2701 Prospect Ave.
P.O. Box 202001
Helena, MT 59620-1001

Re: CEQ # 20060338; Comments on U.S. Highway 93,
Ninepipe/Ronan Improvement Project, Draft
Supplemental Environmental Impact Statement

Dear Mr. Genzlinger and Ms Riley:

169-1 | The Environmental Protection Agency (EPA) Region VIII Montana Office has reviewed the Draft Supplemental Environmental Impact Statement (DSEIS) for the U.S. Highway 93 Ninepipe/Ronan Improvement Project, in accordance with its responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. Section 309 of the Clean Air Act directs EPA to review and comment in writing on the environmental impacts of any major federal agency action. The EPA's comments include a rating of both the environmental impact of the proposed action and the adequacy of the NEPA document. A summary of EPA's rating system is enclosed for your information.

The EPA has no objections to the preliminary preferred alternative for the urban portion of the proposed project, Ronan Alternative 4. We are pleased that this preliminary preferred alternative, involving a couplet configuration with a two-lane, one-way northbound route on US 93 and two lane, one-way southbound route on First Avenue SW, includes a pedestrian/bicycle pathway, and will provide open channel flow for Ronan Spring Creek which currently flows in a culvert through between First Avenue SE and US 93.

169-2 | In regard to the rural alternatives there are many safety, traffic operations, and environmental and resource management trade-offs that need to be evaluated and considered with proposed highway improvements through the Ninepipe Wildlife Refuge. We have



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**Letter 169, United States Environmental Protection Agency,
John G. Wardell, Director, Montana Office**

169-1.—Thank you for your comments.

See Response #13-8

169-2.—See Response #11-1. Specific comments will be addressed below.

**Letter 169, United States Environmental Protection Agency,
John G. Wardell, Director, Montana Office (continued)**

169-3.—Thank you for your comment.

169-2
Con't

evaluated the trade-offs, and while we do not object to the agency's preliminary preferred alternative, Rural Alternative 10, we have questions and concerns regarding the rural preliminary preferred alternative and associated environmental analyses. These questions and concerns include siting of the proposed southbound passing lane at Ninepipe Reservoir; impacts to wetlands; impacts to wildlife and effectiveness of proposed wildlife crossing structures; traffic levels and highway speeds. These questions and concerns are identified and discussed in our more detailed comments (see enclosed).

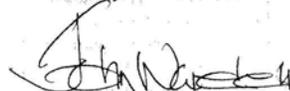
We are pleased with the proposals to increase bridge lengths, add culverts and increase culvert sizes at major stream and wetland crossings to improve hydrologic connections, flood capacity, fish passage, wetland functioning and provide improved opportunities for wildlife crossings. We also appreciate the many proposed measures that would reduce impacts to water quality, fisheries, and aquatic habitat (e.g., erosion control BMPs, SWPPP, and stormwater treatment, timing restrictions for in-channel construction work would avoid impacts to spawning fish, wetland avoidance and minimization measures, etc.).

169-3

We are enclosing our more detailed comments, questions, and concerns regarding this DSEIS for your review and consideration. Based on the procedures EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the proposed action and alternatives in an EIS, the U.S. Highway 93, Ninepipe/Ronan Improvement Project Supplemental DEIS has been rated as Category EC-2 (Environmental Concerns - Insufficient Information). Our environmental concerns regard impacts to wetlands and aquatic habitat, as well as impacts to wildlife and wildlife movement, including the threatened grizzly bear. Additional information is needed to fully assess and mitigate all potential impacts of the management actions.

If we may provide further explanation of our concerns please contact Mr. Steve Potts of my staff in Helena at (406) 457-5022 or in Missoula at (406) 329-3313. Thank you for your consideration.

Sincerely,



John F. Wardell
Director
Montana Office

Enclosures

cc: Larry Svoboda/Julia Johnson, EPA, 8EPA-N, Denver
Todd Tillinger, COE, Helena
Scott Jackson, USFWS, Helena

**Letter 169, United States Environmental Protection Agency,
John G. Wardell, Director, Montana Office (continued)**

**U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements
Definitions and Follow-Up Action***

Environmental Impact of the Action

169-3
Cont

LO - - Lack of Objections: The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns: The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections: The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory: The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate: EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information: The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate: EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

**Letter 169, United States Environmental Protection Agency,
John G. Wardell, Director, Montana Office (continued)**

169-4.—See Response #13-8.

**EPA Comments on the Draft Supplemental Environmental Impact Statement
(DSEIS) for the U.S. 93 Ninepipe/Ronan Improvement Project**

169-3
Cont'

Brief Project Overview:

The Montana Dept. of Transportation (MDT) and Federal Highway Administration (FHWA) have evaluated proposed improvements for an 11.2 mile segment of US 93 from Dublin Gulch Road/Red Horn Road through the City of Ronan to Baptise Road/Spring Creek Road in Lake County, Montana through the Ninepipe National Wildlife Refuge on the Flathead Indian Reservation. The existing road is narrow, lacks shoulders, is periodically congested, and has a high accident rate. Proposed improvements are to provide a facility that meets current design standards in order to enhance the safety and operation of the facility. A no action alternative and ten action alternatives were analyzed for the rural portion of the project, ranging from minor widening and improvement of the two lane roadway with a cross section of 40 feet to widening and improvement to a four lane roadway with a cross section of 112 feet. The Draft Supplemental EIS also analyzes a no action alternative and five action alternatives for the urban portion of the project through the City of Ronan. These alternatives range from improving the roadway with the existing right-of-way to widening outside the existing roadway to a split couplet, with southbound lanes relocated to an adjacent street. Rural Alternative 10 and Ronan 4 are the preliminary preferred alternatives.

Comments:

1. We appreciate the inclusion in the DSEIS of many maps showing the project corridor, wildlife crossing structures, wetlands, the multiple alternatives, etc.; many informative tables (e.g., Tables 1.4-1 and 1.4.2 comparing alternatives, Table 1.8-1 summarizing design features and mitigation measures, and Tables 3-1-1 and 3-1-2 showing key features of action alternatives); and narrative discussions providing explanatory background information on existing road conditions, transportation demand, capacity and level of service, safety and accidents along US 93, project development history, and the alternatives development and screening process (pages 2-11 to 2-16). These maps, tables and narrative discussions improve project understanding and help clarify issues and facilitate alternatives evaluation. They provide a clearer basis of choice among options for the decision maker and the public in accordance with the goals of NEPA. EPA also appreciates the opportunity to review and comment on preliminary EIS documents and participate in interdisciplinary team meetings.

169-4 Alternatives

2. The EPA has no objections to Ronan Alternative 4, the preliminary preferred alternative for the urban portion of the project. We are pleased that the preliminary preferred alternative involving a two-lane, one-way northbound couplet configuration on US 93 and two lane, southbound roadway on First Avenue SW includes a pedestrian/bicycle pathway from the Ronan City Park to Baptiste Road/Spring Creek Road. We are also pleased that the urban preliminary preferred alternative would daylight Ronan Spring

169-4
Cont

Creek from culvert flow to open channel flow between First Avenue SE and US 93 (page 3-46). We support such efforts to increase the ecological value of the creek.

169-5 3.

Table 5-10-1 (page 5-70) shows that the rural action alternatives would impact from 15.9 to 41.2 acres of wetlands. The preliminary preferred alternative (Rural Alternative 10) would impact 23.6 acres of wetlands, while Alternative 7 Rural impacts 15.9 acres of wetlands, Alternative 1 Rural impacts 23.3 acres of wetlands, and Alternative 2 Rural impacts 23.4 acres of wetland. All other build alternatives impact a higher amount of wetlands than the rural preliminary preferred alternative.

As you know Clean Water Act Section 404 Dredge and Fill Permit rules and policies involving placement of fill material in waters of the U.S., including wetlands, require that adverse impacts to aquatic resources be avoided as much as possible, and that the "least damaging practicable alternative" to aquatic resources be permitted so long as that alternative does not have other significant adverse environmental consequences (40 CFR 230.10(a)). An alternative is considered "practicable" if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

While the EPA recognizes that the preferred alternative has slightly greater wetland impacts than Rural Alternatives 1, 2, and 7, we also recognize that Rural Alternative 10 has transportation and safety benefits over Rural Alternatives 1 and 2, which do not provide the passing opportunities and level of service and accident reduction potential of Rural Alternative 10 (pages 5-2 to 5-6). Rural Alternative 1 does not address operational or safety needs associated with slow moving vehicles northbound on Post Creek Hill, nor does it address southbound passing needs, and capacity and safety needs south of Ronan and is estimated to reduce accidents by 16%. Rural Alternative 2 also does not address southbound passing needs, and capacity and safety needs south of Ronan, and is projected to reduce accidents by 17.2%.

Rural Alternative 7 has an estimated cost of \$114 million, which is \$76 million above the \$38 million estimated cost of Rural Alternative 10, and is projected to reduce accidents by 18.6% (i.e., slightly less accident reduction than Rural Alternative 10 at three times the cost, albeit with 7.7 acres of additional wetland impact). The high cost of Rural Alternative 7 would also delay project implementation and associated safety benefits for US 93 for an additional 6 years, and delay many other projects needed for safety improvements on other highways in the Missoula District of MDOT (Appendix D, page 42). Also, the DSEIS indicates that temporary wetlands impacts and construction impacts associated with construction of the elevated roadway for Alternative 7 Rural would be highest of any alternative (pages 5-68). It would be helpful if additional quantitative information could be provided regarding the additional temporary impacts to wetlands that are expected to result from Rural Alternative 7.

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**Letter 169, United States Environmental Protection Agency,
John G. Wardell, Director, Montana Office (continued)**

169-5.—See Response #1-1 & 11-1. Specific comments will be addressed below.

**Letter 169, United States Environmental Protection Agency,
John G. Wardell, Director, Montana Office (continued)**

169-6.—See Response #11-1.

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Rural Alternative 10 is projected to reduce accidents by 20.1%, and thus, would reduce accidents to a greater extent than Rural Alternatives 1, 2, and 7, and would address capacity and safety needs better than Rural Alternatives 1 and 2 while only increasing wetland impacts by 0.2 or 0.3 acres. While Rural Alternative 10 would impact 7.7 additional acres of wetlands than Rural Alternative 7 (although this does not consider the additional temporary wetland impacts of Alternative 7), Rural Alternative 10 could be implemented more quickly at much lower cost without serious delay to other needed highway projects. Accordingly, while there are many traffic operations, safety and environmental and resource management trade-offs that need to be evaluated and considered, we do not object to the agency's preliminary preferred alternative, Rural Alternative 10. Although we do have questions and concerns regarding the rural preliminary preferred alternative and the environmental analysis, which are discussed in our subsequent comments.

169-6 Southbound Passing Lane at Ninepipe Wildlife Refuge

4. The DSEIS discussion of the controversy regarding the proposed 1.2 miles southbound passing lane from the top of Post Creek Hill to Eagle Pass Trail within the Ninepipe National Wildlife Refuge (page 1-21) improves public understanding of the trade-offs between safety and capacity improvements and resource impacts associated with this controversial passing lane. As you know encroachment of passing lanes on aquatic areas causes environmental concerns, especially within a national wildlife refuge. EPA believes roadway impacts to aquatic areas and wildlife resources should be avoided as much as possible.

This DSEIS discussion (page 1-21) clarifies the need for a passing lane between West Post Creek Road/East Post Creek Road and MT 212/Kicking Horse Road (i.e., since without such a passing lane there would be no southbound passing opportunity for a distance of 8.4 miles between RP 45 and RP 36.6, which is twice the distance considered appropriate for safety concerns); and indicates that the full safety benefit of a passing lane may not be gained if the passing lane were constructed at an intermediate point near either end of the corridor.

This discussion also indicates that this southbound passing lane would be located within the existing right-of-way, with a portion on a new elevated bridge structure so that the passing lane would not have any impacts beyond those of the rural alternatives that do not include a passing lane at this location. A 660 foot long wildlife crossing and waterway crossing bridge is proposed to replace the existing 70 foot highway bridge at the upper end of the Ninepipe Reservoir, and the passing lane will be located on this structure, and will not cause any roadway fill within the reservoir.

While we would like to see drivers reduce speeds and evidence patience when driving through a National Wildlife Refuge, and thus, avoid the need for passing lanes within the Refuge, we acknowledge that this perspective may not be consistent with human nature and traffic safety. We are pleased that the proposed southbound passing lane can be placed on a bridge over Ninepipe Reservoir so that highway safety and capacity needs

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can be addressed without placing additional fill in the reservoir. We understand that the new bridge will result in removal of 590 feet of existing roadway fill, creating more wetland area, and improving connectivity of the waterway and associated riparian area, and enhancing safety of wildlife crossings in the riparian area. We do not object, therefore, to this southbound passing lane within the refuge that is needed to address safety considerations. Although we do have concerns regarding potential effects of the passing lane, since it may promote increased highway speeds through an area with high wildlife values (i.e., concerns about potential for road kill of wildlife, including turtles, birds, mammals, or wildlife displacement, stress, or modified wildlife behavior, etc.). Our wildlife concerns are discussed in subsequent comments.

169-7

We also wonder if this southbound passing lane would have fewer potential wildlife impacts if it were located south of Olson Road, so that it would be south of the Ninepipe Reservoir area and perhaps promote slower driving speeds through the Reservoir area. While the DSEIS suggests that the safety benefit of a passing lane is reduced if it is located closer to the end of the corridor, it is not clear to us how much of safety benefit is lost by locating this passing lane further south, away from Ninepipe Reservoir. We recommend further discussion about siting considerations for this southbound passing lane in the FSEIS.

169-8 Wildlife

5. We are pleased that the DSEIS states that all rural alternatives incorporate five wildlife crossing structures (at Post Creek, Ninepipe Reservoir, both Kettle Ponds, and Crow Creek, pages 3-38 to 3-44), and 12 enlarged culverts that will facilitate wildlife movement through the road corridor and reduce fragmentation of wildlife habitat (page 5-94). It is stated that these crossings would improve conditions for wildlife to cross under the highway at riparian areas associated with stream crossings and migration routes (page 1-5). We have a few comments and questions in regard to wildlife crossing structures, their effectiveness, and potential wildlife impacts as follows:

a) Tables 4.12-6 and 4.12-7 (pages 4-109, 4-110) identify wildlife road kill locations that show particularly high deer road kill between RP 45.0 to 45.9, RP 38.0-38.9, RP 41.2 to 41.8; grizzly bear road kill near RP 37.7; and high turtle road kill in areas between RP 40.0 to 44.0. We also understand that a special Montana Dept. of Transportation (MDT) study was recently completed by a University of Montana graduate student in regard to turtle mortality in the Ninepipe Refuge area from US 93 vehicle collisions, and this study identified high priority areas for turtle crossings (e.g., at both Kettle Ponds and just south of the Ninepipe scenic turnout). The DSEIS states that the actual number and location of the 12 enlarged culverts for wildlife crossings would be determined during the final roadway design stage (page 5-95). It is not clear to us if the final roadway designs will assure that wildlife crossings will be located at all the high priority turtle crossing sites and the other areas where there have been high levels of road kill of deer, grizzly bear and other terrestrial wildlife. The FSEIS should clarify whether wildlife crossings are proposed at all the high priority turtle

**Letter 169, United States Environmental Protection Agency,
John G. Wardell, Director, Montana Office (continued)**

169-7.—See Response #11-1.

169-8.—Functional objectives that guided wildlife crossing options are listed in Section 3.1.2 under Wildlife Crossing Structure Options. In addition, the following text was added to Chapter 5, Fish and Wildlife, Rural Portion – Wildlife and Vegetation, Action Alternatives, Wildlife Crossing Structures: “Biologists and wildlife managers will determine the locations for wildlife crossing structures by considering habitat, roadkill data, and tracking information, the UM turtle mortality study and using their best professional judgment.”

169-8 Con't	crossing sites (identified in the UM turtle mortality study) and the other areas where there have been high levels of road kill of deer, grizzly bear and other terrestrial wildlife this concern.
169-9	We believe it is important that siting of wildlife crossings be determined by wildlife biologists with the goal of assuring that wildlife crossing structures are properly located and designed so that they will be used by wildlife and are effective in reducing wildlife-vehicle collisions, and thus, improving highway safety.
169-10	<p>b) The discussion on pages 5-94 and 5-95 indicate that wildlife fencing will be used at the Post Creek wildlife crossing, but may not be used at all crossing sites. It is specifically stated that no fencing is proposed in the Ninepipe segment of the project corridor. It is also stated that wildlife will have to “learn to use the crossing structures.” We believe the FSEIS should more clearly identify where wildlife fencing is proposed in association with crossing structures and not proposed. Also, it is not clear how wildlife will “learn” how to use the crossing structures other than that wildlife that do not use the crossing structures may become road kill. The DSEIS states that without fencing to direct wildlife to the crossing structures it is likely that at least initially (until wildlife learn to use the structures), wildlife-road kill rates would remain at current levels (page 5-95). We are concerned that if wildlife do not use the crossing structures, wildlife road kill rates may actually increase due to wider roads, increased traffic and higher speeds.</p> <p>We believe it would be helpful to include wing fencing or barriers with all wildlife crossings to help direct wildlife to the crossings and restrict wildlife from using the roadway surface, and thus, better assure wildlife use of the crossing structures. Fencing is often a helpful component of a wildlife crossing structure to make the structure effective. We suggest that it would be proactive to use fencing to force wildlife to use the crossing structures. We recommend that use of fencing or other barriers in association with wildlife crossing structures to promote their use by wildlife be evaluated further. We also note that the aforementioned turtle mortality study indicated that turtles may be able to climb or otherwise negotiate some fences or barriers. We, therefore, note the importance of using wildlife fencing/barriers that effectively restrict access of the wildlife species of concern to the roadway surface, thus, forcing the wildlife to use the crossing structures. This may be particularly important for turtle crossings. The DSEIS also mentions opposition to fencing by local wildlife biologists (page 5-95). Reasoning for opposition to fencing by local biologists should be discussed further in the FSEIS.</p>
169-11	<p>c) The DSEIS states that all the rural alternatives will reduce mortality of terrestrial wildlife from vehicular collisions. We are concerned, however, that increased traffic (number of vehicles per day) and increased highway speeds may result from, or be facilitated by, the proposed highway improvements. Wider</p>

Letter 169, United States Environmental Protection Agency, John G. Wardell, Director, Montana Office (continued)

169-9.—The proposed crossing structures were sited and selected based on the best available data on functional structures at highway locations throughout North America. Biologists and wildlife managers will finalize the determination of the number and the locations for the wildlife crossing structures during the final design phase. These determinations will be based on habitat, roadkill data, tracking information, wildlife sightings, and their best professional judgment.

169-10.—See Response #52-11.

Under Section 5.12.1 Rural Portion-Wildlife and Vegetation, Direct Effects, Rural Alternatives, Wildlife Crossing Structures, additional language was added to clarify specifically where wildlife fencing is proposed within the project corridor.

Several papers suggest that use of crossing structures by certain animals increases as animals become habituated with (or “learn”) the structures.

Under Section 5.12.1 Rural Portion-Wildlife and Vegetation, Direct Effects, Rural Alternatives, Wildlife Crossing Structures the discussion was changed to “Without fencing to direct wildlife to the crossing structures it is likely that at least initially, until wildlife learn to use the structures, wildlife-road kill rates would remain at current levels *or possibly increase in sections of the road that have been widened.*”

The placement and type of fencing in the Ninepipe segment of the project would be determined by wildlife biologists and habitat managers using the best available science, and will be subject to agreement by MDT, FHWA, and CSKT. Research on painted turtles will be considered in wildlife fencing decisions.

Opposition to continuous roadside fencing through the Ninepipe area was raised by the US Fish and Wildlife Service and Montana Fish, Wildlife, and Parks representatives during Advisory Committee and Interdisciplinary Team meetings and was largely due to the hazard fencing poses to birdlife, but there were also concerns about the fencing disrupting habitat connectivity for other species. This information was added to the text in Section 5.12 of the final document.

169-11.—The addition of wildlife crossing structures in this project is designed to mitigate for highway improvements.

For information regarding wildlife fencing see Response #52-11.

**Letter 169, United States Environmental Protection Agency,
John G. Wardell, Director, Montana Office (continued)**

169-12.—MDT has a comprehensive Pre-Construction monitoring program that has been in place for the Evaro-Polson Corridor (please visit MDT website http://www.mdt.mt.gov/research/projects/env/wildlife_crossing.shtml). We are now coordinating with FWHA, CSKT and the Western Transportation Institute to develop a Post-Construction Monitoring Plan. Through the Technical Design Committee process and the Construction phases in the Evaro-Polson Corridor we have been demonstrating adaptive management. Through lessons learned we have modified wildlife jumpout designs, and modified road designs to reduce costs and stay within budgets. Through this process MDT and CSKT have developed a very strong communication dialogue and level of respect and trust for each other. Through a disciplined scientific approach that also utilizes the best available science and local knowledge, it is hoped that the need for modification of structures installed should be minor. Any follow up measures such as adding additional fencing, adding new structures, or moving structures would require nomination of new projects whereby they would have to compete for funding with other projects and needs throughout the Missoula District.

169-13.—Cliff swallows nest on bridges adjacent to wetlands and open water areas throughout their range. While the use of bridges for nesting by swallows probably increases the likelihood of vehicle-swallow collisions, implementing measures to make bridges unavailable for nesting would eliminate an important nest resource for the swallows. Also, given the abundance of swallows and blackbirds, the actual numbers that are hit on the roadway is a small percentage of total populations in this area and this mortality would have no impact on species viability and minimal impact on overall populations. In general, bird mortality has not been an issue of significance on this roadway, nor is it expected to become one. An effective means of combating bird nesting on bridges is to apply bird-x, or screen netting along the seams where swallows typically like to build nests. However, this process is labor intensive and is typically only used to discourage bird nesting prior to the construction season so that MDT is in compliance with the Migratory Bird Treaty Act. It is not a long term solution, nor is it practical to implement on new bridge structures.

169-13a—See Response #39-2.

169-11 Con't	highways along with increased traffic and highway speeds could increase potential opportunities for wildlife-vehicle collisions, especially if wildlife crossing structures are not fenced and/or otherwise not used to their optimal extent by wildlife.
169-12	Some monitoring of effectiveness of wildlife crossing structures appears to be proposed in association with grizzly bears (page 5-118). We recommend that the proposed highway project include a more comprehensive wildlife monitoring and adaptive management program that would assess the effectiveness of wildlife crossing structures for additional wildlife species following highway construction/use (i.e., effectiveness in reducing wildlife-vehicle collisions and road kill for deer, turtles, etc., along with grizzly bear). If it is found that wildlife-vehicle collisions and road kill are not being reduced as predicted, such monitoring results should trigger follow-up studies for additional mitigation measures to improve the effectiveness of wildlife crossing structures and/or other means to reduce wildlife-vehicle collisions. This could include improving crossing structures, relocating structures, providing additional structures, providing new or additional wildlife fencing, and/or perhaps reductions in speed limits. We note that reduction in wildlife-vehicle collisions is an important component of making roads safer for human travel as well as to reduce impacts to the wildlife resource.
169-13	d) The DSEIS indicates that swallows and blackbirds make up a large percentage of road killed birds in the corridor, and that the risk of vehicle collisions with cliff swallows may increase due to the proposed longer bridge spans and increased number of culverts in the corridor (page 5-95). We ask if it would be possible to develop bridge design mitigation measures that would discourage cliff swallows from nesting beneath roadway bridges? For example consider bridge designs that make it difficult for birds to construct nests beneath highway bridges, or include artificial owl dummies beneath bridges to discourage bird nesting? Also, perhaps bird nesting structures could be built away from the road that would reduce nesting density at roadway bridges, and thus, reduce potential for vehicle-bird collisions?
6.	We are pleased that the Federal Highway Administration (FHWA) and MDOT have completed formal consultation with the U.S. Fish & Wildlife Service (FWS) under Section 7 of the Endangered Species Act (ESA), and that the FWS has concurred with the determination for bald eagles and issued a biological opinion for the threatened bull trout and grizzly bear (page 5-111), and that the transportation agencies have agreed to FWS reasonable and prudent measures for grizzly bear protection.
169-13a	Water Resources, Including Wetlands
7.	We appreciate the proposals to increase bridge lengths, add culverts, and increase culvert sizes at major stream and wetland crossings to improve hydrologic connections, flood capacity, wetland functioning and facilitate safer wildlife crossings. We very much
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**Letter 169, United States Environmental Protection Agency,
John G. Wardell, Director, Montana Office (continued)**

169-14.—See Response #52-12. It is believed that the impacts would be similar for all alternatives, but not the same. Alternatives Rural 8 and 9 would have larger fills or cuts and therefore greater amounts of borrow or deposition. Alternative Rural 7 impacts would be greater in that more of the existing roadway would be eliminated and the activities to eliminate them would have impacts where the existing roadway goes through a wetland.

MDT will oversee the Contractor(s) involved in construction this project. They will require that all permits are acquired and all conditions of the permit met. In the case where MDT provides the site, they will work closely with the permitting agencies during the design process to acquire the permits and develop the conditions that the Contractor must meet. For Contractor provided sources, they require that the Contractor work with those same agencies and acquire the same permits. The permits will lay out the BMPs to be used and requirements to be met.

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support use of bridges or open bottom culverts that allow natural stream bed substrate and stream grade, with sufficient width and capacity to pass flood flows and bedload transport, with minimal encroachment upon the stream channel, riparian area and floodplain. We are also pleased that many other measures are proposed that would reduce impacts to water quality, fisheries, and aquatic habitat including:

-all action alternatives would result in maintenance or reduction in the 100-year flood water surface elevation at the highway crossing due to increased channel and floodplain capacity (page 5-80);

-Ronan Spring Creek would be daylighted between First Avenue SE and US 93 as a result of the proposed project (page 5-83), to increase the ecological value of the stream;

-a Storm Water Pollution Prevention Plan (SWPPP) would be prepared and stormwater treatment measures would be used (page 5-109);

-culverts would be designed and installed to accommodate fish passage (page 5-109);

-timing restrictions for in-channel construction work would avoid impacts to spawning fish (page 5-103).

8. Thank you for providing maps showing wetlands in Appendix E, the Appendix F Table of Impacts on Individual Wetlands, the draft 404(b)(1) analysis in Appendix D, and the discussion of wetlands impacts in DSEIS Sections 4.10 and 5.10. This information greatly facilitates evaluation of wetland impacts. We appreciate the DSEIS disclosure of wetland avoidance and minimization measures (steepened roadway slopes or walls at sensitive areas, additional and larger culverts and bridges, retaining walls at kettle ponds, installation of fencing to prevent unnecessary clearing, salvaging of wetland vegetation for use in revegetation activities, etc., page 5-76, 5-77).

As noted earlier, it would be helpful if additional quantitative information could be provided regarding the additional temporary impacts to wetlands that are expected to result from Rural Alternative 7 (page 5-68). This would facilitate improved consideration and comparison of temporary vs. permanent wetland effects.

169-14

9. The DSEIS indicates that material source sites have not been selected for the project, and that additional wetland impacts may occur in association with material source sites (page 5-73), as well as asphalt production facilities, concrete facilities, and stockpiling of materials in staging areas and disposal of waste materials. Is it believed that such potential additional wetlands impacts would be similar for all alternatives? Is there a possibility that Rural Alternative 7 may potentially involve greater additional wetlands impacts from material source borrow or deposition sites than other alternatives due to longer construction periods and additional borrow or deposition material?

**Letter 169, United States Environmental Protection Agency,
John G. Wardell, Director, Montana Office (continued)**

169-14
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It will be necessary for the MDT to oversee the construction contractor(s) to assure that such additional impacts are minimized, and that environmentally sensitive areas are avoided when obtaining material sources and construction staging areas. How will MDT oversee contractor identification and use of material source sites and excavation/fill operations to assure that adverse impacts from such sites and operations are avoided?

Additional unavoidable impacts to wetlands or other aquatic areas that occur during project construction (from material source sites or other reasons) should be identified and permitted by the appropriate permitting authorities (e.g., 404 permits, Tribal ALCO permits, 401 certification, short-term turbidity exemptions, etc.). It will be important to contact the Army Corps of Engineers, U.S. Fish & Wildlife Service, EPA, and CSKT to assure that proper authorizations and permits are obtained prior to incurring aquatic impacts (e.g., contact Todd Tillingier of the Corps of Engineers in Helena at 406-441-1375; Jennifer Wintersteen of EPA at 457-5006; Scott Jackson of the USFWS in Helena at 406-449-5225 ext.201).

169-15

We also recommend consideration of a single 404 permit to cover the dredge and fill permitting for the project due to the numerous aquatic impacts. We feel this is preferred over issuance of a combination of numerous individual and nationwide permits, since it may allow for improved cumulative effects evaluation as well as to reduce paperwork and permit processing time, and assure that all necessary permits for dredge and fill activities can be obtained for the full project. Although we realize if the project is to be constructed in several segments over varying time periods it may be appropriate to permit each construction segment individually.

169-16

10. The DEIS states that road fill and encroachment would occur on Ashley Creek and unnamed tributaries to Post Creek (page 5-90), and stream channel work may occur in association with construction of wildlife crossings and daylighting of Ronan Spring Creek. We recommend that stream channel modifications be minimized as much as possible and that channel modifications simulate natural channel dimension, pattern, profile and length and aquatic habitat features (riffle, pool, run). We also note that it is preferable to restore channel length and natural riffle/pool sequences without installation of artificial grade control structures, although if channel length cannot be restored, grade control structures may be necessary to maintain channel stability. We also recommend that aquatic biologists and staff with training and knowledge of fluvial geomorphology be consulted during design of stream channel modifications.

169-17

11. As you know, after planning and design measures are used as much as possible to avoid and minimize impacts to wetlands, compensation for unavoidable impacts should be provided by creating, enhancing and/or restoring wetland habitat of similar type and function as to what was lost (page 5-77), with a goal of achieving no overall net loss of wetlands values and functions.

Compensation for unavoidable impacts to wetlands are discussed in the DSEIS (page 5-78) in general terms, but specific plans for wetland mitigation are not included. We generally recommend that when a preferred alternative is identified in the FSEIS, that a

169-15.—A single 404 permit will be considered for this project; however, circumstances may dictate the need for multiple permit applications. We will work with the USACE to determine the most appropriate way to complete the 404 permitting process. A comprehensive Compensatory Mitigation Plan will be complete regardless of how the permits are completed.

169-16.—Necessary channel modifications and their design will be determined specifically during final design. Typically designs are prepared by a consultant, and the resultant plan is reviewed and concurred upon by MDT, CSKT and FHWA. MDT has worked diligently with CSKT and permitting agencies responsible for the protection of aquatic resources to incorporate natural channel design features where appropriate. Your comments and recommendations will be taken into account during the final design process.

169-17.—We are too early in the design process to know specific quantities of total wetland impacts and mitigation needs. But such impacts have been determined to the extent possible so as to allow meaningful choices among the alternatives. Currently the project is in approximately a 30 percent design phase. Also, complicating matters, the USACE has been unable to make a jurisdictional determination regarding specific wetlands reviewed in the field with MDT and their consultants last year (2006), due to recent court cases and pending guidance from headquarters. As of this date, MDT has not been given formal notice regarding USACE jurisdiction of potential wetland impacts. At this stage MDT is expecting the project to entail a combination of on-site mitigation and off-site mitigation, and is pursuing potential off-site projects. MDT will follow all regulatory requirements regarding wetlands and other 404 resources.

169-17
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specific detailed Wetland Mitigation Plan providing for adequate replacement of lost wetland functions and values be prepared. We recommend that the Wetland Mitigation Plan contain a statement of wetland mitigation goals, a monitoring plan, long-term management/protection objectives and a commitment to conduct wetland restoration additional work, if required, to meet the goals of the Plan. This Plan will need to be approved by the appropriate agencies before implementation of the proposed project. We also recommend that at least an outline or summary of the Wetland Mitigation Plan be included in the FSEIS (perhaps as an appendix).

169-18 | 12.

The DSEIS indicates that road maintenance activities such as cleaning culverts and ditches, snow and ice removal including plowing, de-icing and sanding in the winter, would continue (page 5-101). Roadway construction, operation, and maintenance can impact streams, wetlands and riparian areas from runoff, disruption of drainage patterns, stockpiling of materials in staging areas, maintenance of construction and maintenance equipment, application of herbicides, mowing, and snow plowing and sanding of roads or use of salt and deicers. Snow plowing subsequent to sanding moves sand off the roadbed to the adjacent ditch line and fill slopes, filling depressions and ditches and widening shoulders, which can have adverse effects upon streams, wetlands, and riparian areas. These activities have the potential to introduce sediment, materials and chemicals into streams. The impacts of maintenance activities are more a matter of a long-term indirect and cumulative effects than any one incident.

We encourage the agencies to train road maintenance staff regarding procedures that minimize adverse impacts of road maintenance activities on streams and wetlands (contact, Montana Local/Tribal Technical Assistance Program at Montana State University, Steven J. Jenkins, P.E., at 406-994-6100 or 1-800-541-6671). We also encourage use of BMPs for winter maintenance operations such as using mechanical brooms to pick up sand after thaws.

169-19 | 13.

Apparently the estimated reductions in pollutant loadings shown for the action alternatives in Table 5.9-1 (page 5-58), are based on assumptions that treatment of all stormwater runoff would occur through infiltration in biofiltration swales and wet ponds (page 5-57 to 5-61). The specific nature of and design of proposed stormwater runoff treatment facilities should be described more clearly (diagrams would be helpful).

We generally recommend that sediment traps and vegetative filters near streams and wetlands be used to capture sediment before it can enter streams and wetlands. We note that infiltration can be an effective way to remove contaminants from stormwater runoff, however, EPA recommends that infiltration areas be inspected and maintained on a regular schedule, and we note that sometimes groundwater monitoring may be needed to assure that pollutant levels do not increase in ground water.

14.

The DSEIS is correct in that an NPDES Stormwater Runoff Permit will likely need to be obtained, and that a Storm Water Pollution Prevention Plan (SWPPP) will be needed to control highway runoff, sedimentation and pollutant loading, as well as address other potential impacts to water quality (page 5-64). We appreciate the commitment to prepare

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**Letter 169, United States Environmental Protection Agency,
John G. Wardell, Director, Montana Office (continued)**

169-18.—Thank you for your comment. MDT will continue to explore and use the best maintenance practices available.

169-19.—Specifics of the proposed stormwater treatment facilities are not yet available at this stage in project design, but will be finalized as part of the final designs. The project will require Section 401 and NPDES permits and must comply with the CSKT Water Quality Standards and Antidegradation Policy and the Stormwater Criteria for Highway Runoff: US 93 Evaro to Polson.

**Letter 169, United States Environmental Protection Agency,
John G. Wardell, Director, Montana Office (continued)**

169-19a.—See Response #3-1.

169-20.—Since the Preferred Alternative Rural 3 for the rural portion of the project is largely a two-lane design, it is not anticipated that the highway improvement will contribute significantly to changes in land use or will overly influence the rate and pattern of future growth and land use development. It should be noted that in the Bitterroot Valley there was growth before the improvement of the road and that growth is continuing despite the fact that the improvements to that road are still not complete. In other words, the growth will happen (or not happen) in certain areas despite the improvements to the road. It is not reasonably foreseeable as to when or where that growth might happen given all the intangibles involved in population growth. See also Response #158-24.

169-21.—Since the Preferred Alternative for the rural portion of the project is largely a two-lane design, it is not anticipated there will be significant induced growth from the proposed project. However, several of these measures have indeed been discussed as possible measures for dealing with any induced growth brought about by this project. A discussion of the access modification plan is included in Section 5.2.1. Many of the items mentioned, such as zoning, land use planning, and resource management are under the jurisdiction of the State of Montana, Lake County, and the City of Ronan and not under the control of MDT and FHWA.

169-21a.—Comment noted.

169-19 Con't	a Storm Water Pollution Prevention Plan (SWPPP) and use appropriate BMPs during construction to control erosion and sediment delivery to surface waters.
169-19a	Bicycle and Pedestrian Use 15. We appreciate the inclusion of widened highway shoulders for bicyclists in the rural alternatives, and the accommodations for bicyclists and pedestrians in the highway improvements through Ronan (page 1-29).
169-20	Indirect Effects and Land Use 16. The discussion of potential indirect effects of proposed improvements to US 93 (pages 5-11 to 5-13) acknowledges that highway improvements could influence the rate and pattern of land use development, and facilitate the conversion of existing land uses to highway oriented commercial land uses. The DSEIS also states that the reduced travel time promoted by highway improvements could increase the potential for commuters to commute to Missoula, which could facilitate conversion of land to residential uses in the Mission Valley, but also states that such effects are speculative. The DSEIS further states that the extent of such land use impacts are limited, since new highway accesses will be controlled, the rate and land of land use development is primarily determined by local, regional and national economic conditions, and future traffic volumes with the project corridor do not change among alternatives. While we acknowledge that the rate and pattern of growth and land use changes are influenced by many factors and cannot be predicted with great reliability, we believe transportation is a key factor, and that the DSEIS may be underestimating the extent to which improvements to US 93 may influence the rate and pattern of future growth and land use development. We note that the rate of land use development in the Bitterroot Valley has increased since the improvements to US 93 south of Lolo (which have facilitated commuting from the Bitterroot Valley into Missoula), and accelerated development and its associated impacts. We would anticipate the potential for similar effects with improvements to US 93 north of Missoula, although we agree that indirect land use modifying effects are likely to be less for Rural Alternative 10 than they would be for Rural Alternatives 8 and 9.
169-21	We encourage the agencies, CSKT Tribe, and local governments to consider mitigation measures for induced growth and related effects in addition to access controls and context sensitive designs, such as zoning controls and land use planning, transfer of development rights, growth management regulation, resource management and preservation regulation, land acquisition and conservation easements; and development fees and exactions.
169-21a	Environmental Justice 17. Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires that Federal agencies make environmental justice part of its mission by identifying and addressing, as appropriate,

**Letter 169, United States Environmental Protection Agency,
John G. Wardell, Director, Montana Office (continued)**

169-22.—Dust monitoring and suppression programs are routinely implemented during construction.

The following text was added to the Air Quality section under Additional Mitigation Measures Required: “During construction, BMPs to reduce the generation and dispersion of particulates should be implemented. A variety of dust suppression and reduction methods is available and would be applied as appropriate”.

169-23.—A site-specific revegetation plan is typically prepared by a consultant. The resultant plan is reviewed and concurred upon by MDT, CSKT and FHWA.

169-21a
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disproportionately high and adverse human health and environmental effects of its programs, policies, and activities on minority populations and low-income populations. The Executive Order makes clear that its provisions apply fully to Native Americans. We are pleased that none of the alternatives would have a disproportionate effect on the Native American population of the Flathead Indian Reservation or low income populations (page 5-23), and that residents on the Reservation would benefit from reduced congestion and improved safety on US 93 (page 5-24).

169-22 Air Quality

18. We are pleased that the DSEIS indicates that exceedances of National Ambient Air Quality Standards (NAAQS) are not anticipated, and that construction related impacts would be temporary in nature, and that the project is not expect to have any long-term impacts on air quality (page 5-41). The DSEIS indicates that the SWPPP would help control dust produced by construction, and that a traffic control plan will minimize prolonged periods of vehicle idling during construction traffic delays (page 5-43). We recommend implementation of a dust monitoring and suppression program during construction.

Particular attention should be given to any areas along the corridor where people live near the highway (within 1000 feet) or where schools, hospitals, or elderly care facilities are near the facility. Residents and sensitive populations may be adversely impacted now or in the future and this should be discussed or the absence of these conditions should be noted.

169-23 Weed Management

19. We are pleased that the DSEIS discusses noxious weed infestation risks and control actions (pages 4-98, 5-74, 5-100), and that MDT would assess the corridor prior to construction to determine weed control measures and work with the Lake County Weed Management Coordinator to develop pre-construction weed management plans and special contract provisions to control the spread of noxious weeds (pages 1-33, 5-74). EPA supports control of noxious weeds, which are a great threat to biodiversity, and can out-compete native plants and produce a monoculture that has little or no plant species diversity or benefit to wildlife. Noxious weeds tend to gain a foothold where there are ground disturbances such as construction. We support minimization of disturbance to existing native vegetation and rapid revegetation of disturbed areas (reseed with native grass mix).

We recommend that the MDT botanist conduct a site visit and prepare a site-specific revegetation plan that will include provisions for temporary or erosion control seed mix during construction as well as provisions for post-construction revegetation of the disturbed road corridor. Where no native, rapid cover seed source exists, we recommend using a grass mixture that does not include aggressive grasses such as smooth brome, thereby allowing native species to eventually prevail.

169-24

EPA also encourages prioritization of weed control techniques that focus on non-chemical treatments first, with use of chemicals (herbicides) as a last resort. We are pleased that herbicide applications would be by licensed applicators and in accordance with manufacturers recommendations (page 5-74). It is important that herbicides be applied by certified herbicide applicators, who understand water contamination concerns. Herbicide drift into streams and wetlands could adversely affect aquatic life and wetland functions such as food chain support and habitat for wetland species. All efforts need to be made to avoid movement or transport of herbicides into surface waters that could adversely affect fisheries or other water uses during weed control treatments (i.e., use mitigation measures avoid herbicide drift to streams and wetlands during treatments).

**Letter 169, United States Environmental Protection Agency,
John G. Wardell, Director, Montana Office (continued)**

169-24.—Corridor Weed Management Plans have been developed for the Evaro - Polson corridor. The same will be done for the Ninepipe area. In addition, the CSKT have a Weed Management Plan that must be consulted and implemented where appropriate into any weed management plan that is agreed upon by the three governments for the Ronan/Ninepipe project area.

To: Jean Riley
Project CN B744
MDT Environmental Services



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Dear Jean Riley and MDT:

170-1

I have been supportive, in fact proud, of the reconstruction on Highway 93 North. When it comes to incorporating wildlife conservation and cultural considerations into a major transportation plan, Montana is one of the most progressive in the country. I have been impressed with the unique planning process involving the Confederated Salish and Kootenai Tribes of the Flathead Reservation, MDT, and the Federal Highways Administration that has culminated in an agreement that includes adding the highest number of wildlife crossings in a 54-mile stretch in the world.

170-2

However, I may stray from my support, since MDT is currently straying from this commitment to conservation and to its Memorandum of Agreement (MOA) with the tribes. In the four-mile highway stretch near Ninepipe National Wildlife Refuge, over 1000 painted turtles and over 600 mammals (including three grizzly bears), birds, and other reptiles and amphibians have been hit in a three-year period. Rather than elevating the highway in that location to allow safe wildlife movement and therefore better ensuring human safety, MDT has decided to build a high-speed passing lane.

Please honor MDT's MOA by not including passing lanes in the Ninepipe region. Though it costs more money, I strongly support an elevated highway as outlined in alternative 7 of MDT's newly released Draft Supplemental Environmental Impact Statement. The elevated highway is essential to protect wildlife, honor the MOA with the Salish and Kootenai Tribes, and provide increased human safety.

If MDT elevates the highway and does not include passing lanes in this very

Letter 170, University of Montana, Kylie Paul

170-1.—See Responses #17-2 and 49-2.

170-2.—See Responses #5-1 and 11-1.

Letter 170, University of Montana, Kylie Paul (continued)

170-2
Con't

important area, I and other Montanans can go back to feeling proud about and support
MDT and its ground-breaking efforts on Highway 93 North.

Thank you for your time.



Kylie Paul
University of Montana
Missoula, MT

171

Jean Riley / Project CN B744
MDT Environmental Services
2701 Prospect Ave.
PO Box 201001
Helena, MT 59620-1001

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OCT 10 2006
ENVIRONMENTAL

October 5, 2006

To whom it may concern:

171-1

I would like to submit my comments on the Supplemental Environmental Impact Statement and Section 4(f) Evaluation of the US Highway 93 Ninepipe/Ronan Improvement Project.

As a Ph.D. student in Wildlife Biology at the University of Montana, I conducted my dissertation research on painted turtles in the Mission Valley, Montana. I have enclosed my report prepared for and funded by the Montana Department of Transportation titled, "**Potential effects of highway mortality and habitat fragmentation on a population of painted turtles in Montana**". My study occurred in the rural area of the Highway 93 Ninepipe/Ronan Improvement Project and is therefore extremely pertinent to the improvement project.

Highlights of the enclosed report:

- Figure of turtle road mortality locations (pg 16).
- Recommendations (Pg 37).
- Appendix A. Fencing methods and efficacy for minimizing turtle road kill. (Pg A-1)
- Appendix B. Experiment showing turtles ability to climb. (Pg B-1)
- Appendix C. Road mortality data for all species of road kill on Highway 93 from Olson Road to Beaverhead Lane (Pg C-1).

Turtle road mortality locations. Page 16, Figure 5 of the enclosed report shows the location of turtles killed on the highway. There are 3 major areas where turtle mortality occur. These areas (the 2 kettle ponds and south of the scenic turnout at Crow Creek) need to have wildlife crossing structures to maintain connectivity of the population. The area south of Ninepipe refuge and north of Olson Road is the 4th priority area. Dry land culverts should be included here to allow connection in the southern region of the pothole wetland ecosystem.

**Letter 171, University of Montana,
Wildlife Biology Program, Kathleen Griffin**

171-1.—Bridges at the ends of the kettle ponds would span the shoreline of the pond at these locations to provide both wet and dry passage. Length in the preliminary design was approximated based on field observations of low and high water levels. Bridges at the kettle ponds would be designed to provide crossing for turtles at these locations at all water levels.

171-1 Con't	<p>Kettle Ponds. The preferred option of crossing structures for the kettle ponds includes bridges and culverts. The bridges are necessary to reconnect the water connectivity between the ponds. If the bridges are designed to be a wet (i.e., connect water to water) connection they will be used by turtles. The culverts that are a part of the preferred option don't appear useful as turtle crossing structures. The water level in the ponds fluctuates greatly over the years so the culverts are likely to be either submerged or high-and-dry. These areas will also need to be fenced with directional fencing, see below.</p>
171-2	
171-3	<p>Culverts. Although turtles will go through fairly small culverts (documented: 1.8 m x 1.8 m dry culverts that were 44 m in length WITH light boxes), it is questionable whether a turtle would go through culverts so long and dark as are proposed in the SEIS. All the wildlife crossing structures in the SEIS are much longer (83 - 216 m). Painted turtles are not burrowing animals so they are not accustomed to entering dark holes. Therefore, crossing structures may NOT work unless there is some light penetration (e.g. much larger diameter or lighted).</p>
171-4	<p>Crow Creek Crossing. The Crow Creek crossing structures will not help the turtles that are crossing to the south of the scenic turnout. Many of the turtles killed on the road south of Crow Creek came from ponds greater than half a mile to the east. These turtles appear to be making seasonal movements to the large pond on the west side of Highway 93 at Beaverhead Lane. This pond has a water connection to Crow Creek so water levels are more consistent than other ponds. Dry land crossing structures should be incorporated here (see Pg 16). The structures must be flat bottomed and large enough to facilitate movement. Only having crossing structures at Crow Creek with the idea of putting in directional fencing south past the scenic turnout (i.e., for half a mile or so) is not likely to facilitate turtle movements. It is unknown how long turtles will follow fencing, therefore, more frequent dry land crossing structures with less fencing is more likely to facilitate movements across the highway.</p>
171-5	<p>Directional or wing fencing. In order for any wildlife crossing structure /culvert to be effective the turtles need to be directed to them via directional or wing fencing. Appendix A discusses types of fencing that has been used around the world. The fencing must be specific for turtles. The fencing does not have to be tall but the mesh has to be small enough to keep juvenile turtles from crawling through and the fence must be designed to keep turtles from climbing. Turtles can climb fences (See Appendix B in enclosed report).</p>
171-6	<p>Construction. The kettle ponds are important ponds because of their depth and ability to maintain water during drought conditions. They are also important for overwinter hibernation and nesting along the edges. The timing of construction in the kettle ponds should be limited to the end of summer and fall. See Recommendation # 3 and 4 (Pg 38).</p>
<p>K. Griffin 2</p>	

**Letter 171, University of Montana,
Wildlife Biology Program, Kathleen Griffin (continued)**

171-2.—Bridges at the ends of the kettle ponds would span the shorelines of the kettle ponds to provide both wet and dry passage for terrestrial and aquatic species at these locations, including turtles. The length of the bridges at the kettle ponds in the preliminary design was approximated based on field observations of low and high water levels. During final design the length will be more accurately determined to provide crossing for turtles at these locations at all water levels.

171-3.—In addition to the 5 larger crossing structures, 12 smaller structures are proposed at locations to be determined during the final design. Culverts proposed in the SEIS range in size from 1.2 X 1.8 meters to 4 X 5.7 meters. The SEIS states that these may be sized larger or smaller to balance the limitations of the road design with wildlife needs. Location and size of the culverts will be determined using local knowledge and the best available science. Your comments and research will be considered during final design in sizing culverts that provide turtle crossing

171-4.—In addition to the 5 larger crossing structures, 12 smaller structures are proposed at locations to be determined during the final design. Location and size of the culverts will be determined using local knowledge and the best available science. Your research will be taken into consideration in the placement of these structures.

171-5.—See Response #52-11.

The placement and type of fencing in the Ninepipe segment of the project would be determined by wildlife biologists and habitat managers using the best available science, and will be subject to agreement by MDT, FHWA, and CSKT. Your comments and research will be considered in wildlife fencing decisions.

171-6.—Your comment has been noted.

171-7

Bird Mortalities. The area around Ninepipe Reservoir is also important for wildlife crossings other than turtles. The majority of the bird road kill encountered during our surveys occurred in this location (see Figure C-1, on Pg C-3. Note: road locations tie back to Figure 5 on Pg 16). The crossing structures in the preferred option will do little to mitigate these types of road mortalities. The preferred road alternative includes passing lanes in this area. Increased width of the road and higher traffic speeds is likely to exacerbate the problem of bird mortalities in the area.

171-8

Turtles are a high profile issue on this project as the issue has come up at every public meeting since the inception of this project. This section of highway is listed as the 3rd most deadly stretch of highway for turtles IN THE WORLD (based on road mortality surveys) by a researcher in FL (<http://www.lakejacksonturtles.org/top5.htm>). I strongly urge the Department of Transportation to take the initiative to make this an exemplary project by taking fully into account the needs of wildlife in this area. If you have any questions or concerns please feel free to contact me.

Respectfully,



Kathleen Griffin
Wildlife Biology Program
University of Montana
Missoula, MT 59812
(406) 544-9937 cell

K. Griffin

3

**Letter 171, University of Montana,
Wildlife Biology Program, Kathleen Griffin (continued)**

171-7.—The Preferred Alternative chosen for the final SEIS no longer includes a southbound passing lane in the Ninepipe Reservoir area. Speed limits in this section of road will not be increased as a part of this project. As the road width and speeds will not increase significantly in this location under the Preferred Alternative, they are not expected to contribute to increasing bird mortalities in the area.

171-8.—Your comment has been noted.

Letter 171, University of Montana,
Wildlife Biology Program, Kathleen Griffin (continued)

Potential effects of highway mortality and habitat fragmentation
on a population of painted turtles in Montana

Final Report

by

Kathleen Griffin, PhD Candidate

and

Daniel H. Pletscher

Wildlife Biology Program
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Missoula, MT 59812

A report prepared for the

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15. Supplementary Notes Research performed in cooperation with the Montana Department of Transportation and the US Department of Transportation, Federal Highway Administration. This report can be found at http://www.mdt.mt.gov/research/docs/research_proj/turtle/final_report.pdf			
16. Abstract Highways and other road systems can present problems to wildlife populations though direct mortality and indirectly by reducing landscape connectivity by creating significant barriers to movement. These impacts can lead to fragmented populations, alteration of animal behavior, lowered population sizes and, thus, lowered population viability for some species. This research examined the potential effects of human-caused fragmentation on a population of western painted turtles (<i>Chrysemys picta bellii</i>) in northwestern Montana. Two studies were conducted: 1) a Capture-Mark-Recapture (CMR) study to examine survival and movement rates and 2) road mortality surveys to examine the number of road kills and the potential affect on the population. Together these studies help to determine the overall affect of the highway on the population and on the landscape level connectivity of the population. In a 6.4-km (4-mile) stretch of Highway 93 in the Ninepipe/Ronan area, a total of 1,040 turtles were killed from 2002 to 2004. Three priority areas were identified where road mortality levels were very high; the 2 kettle ponds split by the highway and the area near the scenic turnout at Beaverhead Lane. Typically, overwinter survival rates were very high (0.8 - 0.9) and summer survival rates were lower (0.8 - 0.4) when turtles were more likely to be moving and encountering the highway. Annual apparent survival rates were between 0.85 and 0.13 and would not be sustainable in a closed population. These survival rates are confounded with permanent emigration. During the drought, turtles moved off the study site to refugia habitats indicating a larger regional population (i.e., not a closed population), thus, maintaining connectivity across the landscape is essential in order to sustain viable populations in the future. A review of available fencing methods used in herpetofauna-highway interaction projects is provided in Appendix A. An experiment to examine the effectiveness of flashing material as a barricade on low fencing was conducted (Appendix B). Turtles were able to climb fencing material that did not have a flashing barrier. Therefore, incorporating fencing as a barricade or to direct turtles to crossing structures needs to take into account the climbing ability of the turtles. Ultimately, the information in this report can be used to guide design and placement of wildlife crossing structures during the Highway 93 reconstruction project.			
17. Key Words Population dynamics, survival, habitat connectivity, road mortality, road-kill, western painted turtle, <i>Chrysemys picta bellii</i> , capture-mark-recapture, wildlife crossing structures, wildlife fencing, Wildlife		18. Distribution Statement Unrestricted. This document is available through the National Technical Information Service. Springfield, VA 21161	
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**Letter 171, University of Montana,
Wildlife Biology Program, Kathleen Griffin (continued)**

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CONVERSION CHART	
Metric	English
1 millimeter (mm)	0.039 inches (in)
1 centimeter (cm)	0.394 in
1 meter (m)	39.4 in 3.3 feet (ft)
1 kilometer (km)	0.62 miles (mi)
1 gram (g)	0.035 ounces (oz)
1 hectare (ha)	2.5 acres (ac)

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Letter 171, University of Montana,
Wildlife Biology Program, Kathleen Griffin (continued)

INTRODUCTION

Highways and other road systems can present problems to wildlife populations though direct mortality and indirectly by reducing landscape connectivity by creating significant barriers to movement. These impacts can lead to fragmented populations, alteration of animal behavior, lowered population sizes and, thus, lowered population viability for some species (Ruediger 1996, Trombulak and Frissell 2000). Both wildlife managers and government agencies responsible for transportation have expressed concern over wildlife-highway interactions. Much attention has been paid to highway-wildlife interactions during the past decade via international conferences on ecology and transportation (Evink et al. 1996, 1999, ICOET 2003, 2005). The degree to which roads affect wildlife depends on many factors including road densities, road widths, traffic volumes, and the physical ability and behavior of each species.

Sheer numbers of individuals killed on the road can affect local population size which, in turn, can impact the regional population size and, ultimately the long-term population persistence (Figure 1). Direct road mortality is expected to have negative impacts on turtle population dynamics because of their life history traits. Most turtle species have low recruitment rates, delayed sexual maturity, and low natural adult mortality. This combination of traits makes turtle populations susceptible to declines and possibly extirpations when road mortality or other anthropogenic causes increase adult mortality. Low recruitment rates of juveniles result in very slow recovery from increased adult mortality (Gibbons 1987, Brooks et al. 1991, Congdon et al. 1994, Heppell 1998). Sustained levels of unusually high adult mortality have long-term consequences in that populations may never be able to recover.

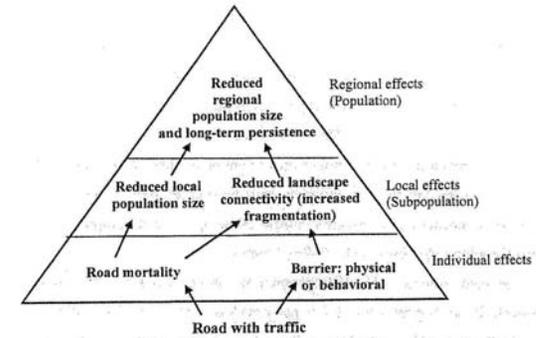


Figure 1. Road system effects on animals at various levels from individuals to populations. (Adapted from Forman et al 2003).

Direct road mortality has the potential to not only directly affect turtle populations through sheer numbers of deaths but also may affect the population structure by disproportionately affecting subgroups within the populations. For example, more females than males may be killed, skewing the sex ratio; alternatively, more juveniles than adults could be killed, skewing the age structure. Both these changes to population structure can have long-term consequences on regional population persistence. Females may be more susceptible to road mortality due to nesting forays which make them more likely to encounter roads (Haxton 2000, Steen and Gibbs 2004, Aresco 2005a). Steen and Gibbs (2004) suggested that the number of females killed on roads in high road density areas significantly altered turtle sex ratios favoring males. Gibbs and Steen (2005) suggested that a long-term trend towards male sex bias in turtle populations across the U.S. over the last century is most consistent with a hypothesis of increased road mortality of females. Aresco (2005a) suggested male biased sex ratios in Florida are caused by females being disproportionately killed on roads. These studies attempted to address the relationship of roads to population dynamics, though they did not include empirical road mortality data. Prior to these more recent studies, only a few studies have examined the effects of roads on amphibians and reptiles (Boarman and Sazaki 1996, Fowle 1996a, Rudolf et

Letter 171, University of Montana,
Wildlife Biology Program, Kathleen Griffin (continued)

al. 1998, Means 1999) and none have been able to document the effects of mortality on population dynamics.

Human created barriers such as roads can fragment wildlife populations. This fragmentation – the reduction and isolation of patches of natural habitat – is a major threat to species conservation (Gilpin and Soule 1986, Morrison et al. 1992, Fahrig and Merriam 1994, Harrison 1994). Barriers reduce the amount of movement on the landscape by direct mortality and avoidance which fragments the population by creating smaller, more isolated local populations that are at greater risk of extinction from catastrophes, demographic stochasticity, and genetic deterioration (Morrison et al. 1992) (Figure 1).

One of the major consequences of fragmentation caused by roads is the change in landscape connectivity among remnant habitat patches (Morrison et al. 1992, Fahrig and Merriam 1994, Mills et al. 2003). Landscape connectivity is important for 2 main reasons. First, many animals regularly move across the landscape to obtain their daily or life time needs. Second, landscape connectivity allows for movements to recolonize (or repopulate) areas that have undergone population declines or extinctions. In the case of turtles, many make regular seasonal movements for reproduction (nesting or mate seeking), locating hibernation sites, and/or to depart from unsuitable habitat, such as when ponds begin to dry up and repopulate ponds when water returns (Gibbons 1990). Ultimately, reduced connectivity results in lower regional population sizes and lower long-term persistence (Figure 1).

Movement between habitat patches creates connectivity across the landscape and is the process that allows local populations to be interconnected into a functional demographic unit on a regional scale (Merriam 1984). Semi-aquatic pond turtles, such as painted turtles, are especially vulnerable to barriers to movement and fragmentation because, although these turtles use terrestrial landscapes for nesting and seasonal movements, they have limited abilities to move effectively across the landscape (Mitchell and Klemens 2000).

This research was designed to examine the potential effects of human-caused fragmentation on a population of western painted turtles (*Chrysemys picta bellii*) in northwest Montana. Although this pothole region has a high level of natural fragmentation, fragmentation due to anthropogenic factors is likely to increase given anticipated growth in development and traffic volumes (FHWA and MDT 2000). Currently, an 18 km section of roadway in the Ninepipe/Ronan section of the existing U.S. Highway 93 is proposed for improvements (FHWA

3

et al. 2005). The highway project may increase the width of the highway which could exacerbate the current issue of turtle mortality along roads in this area. However, planned mitigation measures (e.g., wildlife crossing structures/culverts) could positively affect the population in terms of both reduced road mortality and maintaining landscape connectivity.

Objectives

The primary goal of this research was to build on existing knowledge of the painted turtle, its demography, and patterns of movement to gain a landscape-level understanding of connectivity and the potential effects of a highway on the population. Two main studies were conducted, 1) a Capture-Mark-Recapture (CMR) study, and 2) a road mortality study. More specifically, there were 5 objectives:

1. To determine the demographic rates of survival in and movements between ponds;
2. To determine the extent to which the highway acts as a barrier to movements;
3. To examine the potential effects of road mortality on the population;
4. To compare available fencing methods used in herpetofauna-highway interaction projects and assess their effectiveness at minimizing turtle road kill as well as directing turtles to wildlife crossing structures (Appendix A);
5. To test flashing material as a barricade on fences to keep turtles from breaching barriers or directional fencing (Appendix B).

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Letter 171, University of Montana,
Wildlife Biology Program, Kathleen Griffin (continued)

METHODS

Study Area

Study Area

The study area is located in the Mission Valley of northwestern Montana (47° 27' N, 114° 04' W) at an elevation of about 940 m. Historically, the Mission Valley was Palouse prairie but over time it has been extensively modified by agriculture and development. The study site is an area of high-density wetlands with over 2,000 permanent and ephemeral wetlands in an area of approximately 78 km² (Fowle 1996b). The wetlands are primarily palustrine emergent basins with various water regimes ranging from permanent to seasonally flooded (Cowardin et al. 1979). The permanent ponds are characterized by very little emergent vegetation although some cattails (*Typha* spp.), rushes (*Juncus* spp.), and duckweed (*Lemna* spp.) occur along the edges of some ponds. Submergent vegetation in the permanent ponds is sparse and consists mostly of milfoil (*Myriophyllum* spp.). The ponds are surrounded by grasslands, some of which were heavily grazed until 2001. Currently, the grasslands are ungrazed and dominated by western wheatgrass (*Agropyron smithii*), Kentucky bluegrass (*Poa pratensis*), fescue (*Festuca* spp.) and invasive species such as spotted knapweed (*Centaurea maculosa*), erect cinquefoil (*Potentilla recta*), whitetop (*Cardaria draba*), mustard (*Brassica* spp.), and thistle (*Cirsium* spp.) (Anderson 2003).

Many land ownerships cover this pothole region including federal (Waterfowl Production Areas), Tribal (Ninepipe National Wildlife Refuge and trust lands of the Confederated Salish and Kootenai Tribes), state (Ninepipe Wildlife Management Area), and private lands. The Montana Department of Transportation has management responsibility for the right-of-way along Highway 93.

Study Sites

Two different areas were used for the 2 different studies: road mortality surveys and the Capture-Mark-Recapture (CMR) study. The road mortality survey area consisted of a 6.4 km section of Highway 93 from Olson Road, north to Beaverhead Lane; Mollman Pass Trail Road from Highway 93 east 2.4 km; and Duck Road from Highway 93 west 1.6 km (Figure 2).

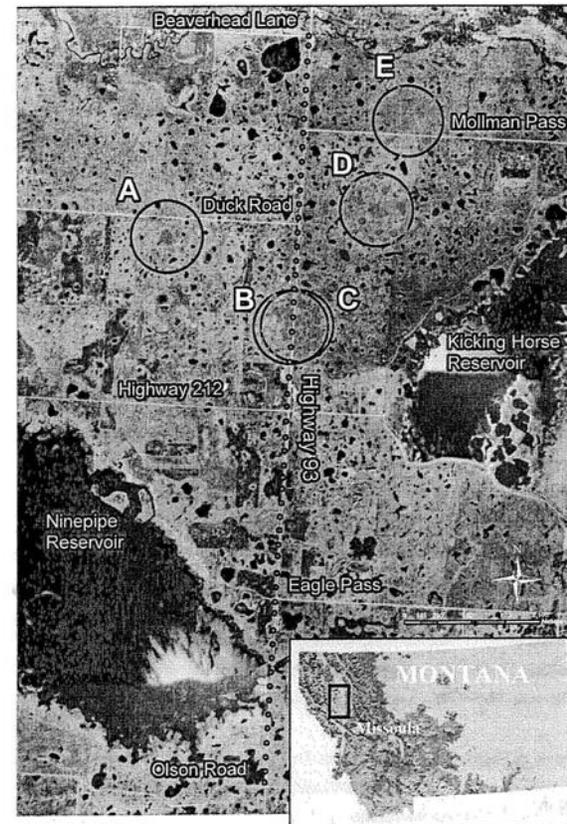


Figure 2. Aerial view map of study area. Road Mortality survey area along Highway 93 is from Olson Road to Beaverhead Lane (dots indicate survey road markers). Capture-mark-recapture survey area is indicated by pond complex circles (labeled A through E).

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The CMR study site consisted of 5 pond complexes adjacent to Highway 93 between Highway 212 and Beaverhead Lane (Figure 2). A pond complex was identified as a 300 m radius circle centered on a permanent pond. All wetlands that held water within the circle were surveyed during the trapping sessions (described below). The 5 permanent ponds at the center of the complexes are important overwintering ponds for turtles.

Field Methods

Road Mortality Surveys

Roads within the study area were walked approximately once a week from mid-May through late August, 2003-2005. In 2002, surveys were conducted between mid-July and mid-September. In 2003 and 2004, surveys began in mid-May and continued through mid-September with 1 final survey the first week of October. Crews walked each side of the roadways simultaneously and documented road-killed turtles as well as all other dead vertebrates.

Animal locations were referenced to approximately evenly spaced (160 m) numbered reflector posts along the highway and numbered telephone poles along the secondary roads. Although this report focuses on road mortality of turtles, road mortality counts and road locations for all vertebrate species encountered during surveys were summarized (Appendix C). Dead turtle locations were estimated to the nearest marker or the nearest mid-way point between markers (e.g., approximately to the nearest 45 m). All turtle mortalities were examined in an attempt to identify marked turtles and to determine sex and age class (when possible).

All road mortality counts are considered minimum counts because there is no information on the probability of recovery of road killed individuals. For example, some turtle carcasses may have been removed from the highway by scavengers or thrown off the survey strip by large vehicles. Road kills were recovered as quickly as possible to minimize the loss of uncounted individuals.

Traffic volume on Highway 93, Mollman Pass Trail Road, and Duck Road were counted using Montana Department of Transportation (MDT) traffic counters. Traffic volumes were measured at various times throughout the summer.

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Capture – Mark – Recapture Study

Capturing and Marking Turtles

Painted turtles were captured using seine nets, basking traps, and dip nets to minimize the potential for sampling bias by sex or age class (Ream and Ream 1966, Gibbons 1990, Koper & Brooks 1998). The following measurements were taken the first time a turtle was captured each year: plastron length and width, straight carapace length and width, body height, and weight. On subsequent recaptures within a year, only turtle identification, location, and sex were recorded. Gender was determined by examining secondary sexual characteristics and age by using an annuli aging technique for turtles about 4 - 5 years old (Graham 1979). Reliability of this method decreases with age due to shedding of the scutes (Sexton 1959, Wilbur 1975); therefore, turtles are grouped into stage classes (see below).

Size is more important in determining maturity in turtles than age (Ernst et al. 1994). Seventy-nine mm was the smallest plastron length (PL) where male secondary sexual characteristics (elongated foreclaws and elongated preanal region of the tail, [Frazer et al. 1993]) were observed. By 105 mm PL virtually all males exhibited secondary sexual characteristics. Stage classes were broken into 2 categories: juveniles and adults. Juveniles were turtles with a PL \leq 104 mm (\leq approximately 4 years old) and sex is considered unknown; however, this category does include some male turtles that exhibited secondary sexual characteristics. Sex determination for most turtles in this size category cannot be determined; therefore sex is considered unknown in the analysis. Males that exhibited secondary sexual characteristics made up less than 1.8% of the turtles in this category. Adults were considered sexually mature individuals with a PL \geq 105 mm (greater than 4 years old). Any individual that was at least 105 mm PL and not showing signs of secondary sexual characteristics was considered female (Mitchell 1985). Based on subsequent recaptures, all male turtles exhibited secondary sexual characteristics by 105 mm PL.

Each turtle was individually marked by drilling the margins of the carapace (Cagle 1939) as well as injected with a Biomark™ passive integrated transponder (PIT) tag (Buhlmann and Tuberville 1998). Each PIT tag had a unique 10 digit alpha-numeric code that was activated by a hand-held recorder, allowing recaptured turtles to be quickly identified with little to no error.

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Turtles smaller than 50 mm PL (about 30 grams) did not receive a PIT tag because of their size. Hatchlings and some juveniles were notched using nail clippers rather than drilling because some of these shells were not yet fully calcified.

Pond Measurements

Pond depth was measured during each trapping session using a graduated pole. Measurements were taken in the center of small, uniformly-shaped ponds. In larger, irregular shaped ponds, 3 depth measurements were taken across the pond and averaged. Pond volume was calculated using pond depth from measurements taken in the field and pond circumference, determined from Geographic Information System (GIS) data layers at a high-water period (April 2001); therefore, calculated volumes represent a relative measure of volume based on the high water mark.

Sampling Sessions

Following the Multistate Robust Design capture-recapture model (described below), there were 7 primary periods (trapping sessions) between 2002 and 2004. In 2002, only the fall trapping session (August 13-24) was conducted. In 2003 and 2004, there were 3 primary periods a year: spring (May 21-June 1), summer (July 2-13) and fall (August 13-24). Primary periods lasted 12–13 days during which all ponds in all complexes were sampled between 2 and 4 times (secondary periods). In spring, ponds were generally only sampled twice because of the large number of temporary ponds within the complexes due to spring rains and snow melt. By summer and fall trapping sessions, virtually all temporary ponds dried up, consequently all remaining ponds were sampled 4 times. The spring session was timed to capture turtles before they moved out of their overwinter ponds. The fall session was timed to occur when presumably turtles had moved back to overwinter ponds.

Analytical Methods

An information-theoretic approach (Burnham and Anderson 1998) was used to simultaneously evaluate relative support of multiple models describing relationships between survival and movement and variables of interest. A priori models were developed to address biological questions regarding survival and movement and were implemented in Program MARK Version 4.3 (White and Burnham 1999, Cooch and White 2002).

A Multistate Robust design module within Program MARK was used to generate point estimates of survival (S), movement probabilities (Psi), and capture probabilities (p) and their precision to evaluate relative support for candidate models given observed data. Program MARK uses generalized linear models to generate maximum likelihood estimates of regression coefficients and their associated sampling variances and covariances.

The Multistate Robust design combines a Pollock's Robust design and Multistate designs (Arnason 1973, Pollock 1982, Hestbeck et al. 1991, Brownie and Robson 1993, Nichols et al. 2000, Williams et al. 2002). Pollock's Robust Design (Pollock 1982) requires sampling at 2 temporal scales. Primary periods are those between which the population is considered open (allows births, deaths, and movements). Populations are assumed to be closed during the secondary periods, within primary periods. The Robust Design models also allow for modeling temporary emigration which increases the precision on the survival parameter (Kendall and Nichols 1995, Kendall et al. 1995, Kendall et al. 1997). Apparent survival rates estimate the product of survival and fidelity to the study area (i.e., that the individual stayed on the study area). There are 2 situations in which an individual may be off the study site; 1) temporary emigration and 2) permanent emigration. Emigration lowers the true survival rate but can not be separated out from mortality; hence, apparent survival is estimated. The Robust Design (which is able to estimate temporary emigration) allows for an apparent survival rate that is closer to the true survival because an individual only temporarily off the study site is accounted for and therefore not counted as a mortality.

Multistate Designs (Arnason 1973, Hestbeck et al. 1991, Brownie and Robson 1993) require sampling at multiple locations during each sampling period and allows for movements between locations. In this study, the locations are the 5 pond complexes (Ponds A – E; Figure 2). The multistate models allowed examination of the amount of movement occurring between pond

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complexes and whether the movement was affected by variables of interest such as the presence of an intervening road.

Only 1 juvenile turtle moved between pond complexes, therefore, the analysis was restricted to adults. All adults were considered mature; all males had developed secondary sexual characteristics by 105 mm PL and Mitchell (1985) found all females greater than 105 mm PL were mature.

Model Selection

Hypotheses were evaluated using model selection based on Akaike's Information Criteria (AIC) (Akaike 1973) specifically, AIC_c was used which includes a small sample-size, second-order bias adjustment and is recommended when the number of estimated parameters is large relative to the sample size (Burnham and Anderson 1998). Models within 2 AIC values of the best approximating model were considered in the discussion (Burnham and Anderson 1998). Model selection uncertainty in the parameter estimates was incorporated by model averaging.

Goodness of Fit

Goodness-of-fit (GOF) is a diagnostic procedure for testing the assumptions underlying the models. The assumptions for this model include those for the respective closed (Seber 1982, Pollock et al. 1990) and the open models. When there is a lack of fit or overdispersion in the data, this reflects either a lack of independence or heterogeneity among individuals (Pollock et al. 1990). The overdispersion factor (\hat{c}) was estimated from the Pearson goodness-of-fit (GOF) chi-square statistic of the most general model and its degrees of freedom ($\hat{c} = \chi^2/df$) (Lebreton et al. 1992) using MSSRVRD (Multi-stratum Survival and Robust Design; available on-line at www.mbr-pwrc.usgs.gov/software.html). Individual covariates cannot be included in the MSSRVRD program; therefore, \hat{c} was estimated using the most highly parameterized model possible without including covariates. When overdispersion was detected (i.e., $\hat{c} > 1$), the quasi-likelihood AIC (QAIC) was used which inflates the sampling variance by multiplying those values by \hat{c} (Burnham and Anderson 1998).

Population Level Effects

Data from both the road mortality and the CMR surveys were needed to determine the percentage of the regional turtle population killed on the roads. Both the upper and lower boundaries of the percentage of the population affected by road mortality were estimated to incorporate the uncertainty in both the abundance and road mortality estimates. For the lower boundary, the population abundance was estimated via modeling which only included adult turtles within the pond complexes and the road mortality estimate used only adult mortalities known to be marked from within the CMR study area (from Highway 212 to Beaverhead Lane). This road mortality estimate is a conservative estimate because any turtle not positively identifiable to age class or whether marked was not included. Using this conservative estimate of road mortality allowed the lower boundary of the affect of the highway on the adult population to be estimated.

For the upper boundary, the minimum number of all turtles (adults and juveniles), caught each year throughout the entire study area (i.e., not only within pond complexes) was used. This value does not take into account the probability of detection that the modeling value used above does and, therefore, under represents the total population size. All road mortalities (adult, juveniles, and unknown) were included in this estimation. This combination of a conservative population estimate and all road mortalities provides the upper boundary of the effect of the highway on the population.

In general, both of these estimates are conservative because the road mortality surveys did not include a probability of detecting dead-on-the-road turtles. It is likely that the actual number of road kill is higher than reported because some carcasses may have been removed (e.g., by scavengers) or thrown off the road before being counted. Therefore, all road mortality estimates are considered minimum values.

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RESULTS

Road Mortality Surveys

Road Mortality Surveys

Overall

In the 33 road mortality surveys that were conducted in the project area over the 3 years, a total of 1,059 individual turtles were killed in the study area roads: 1,040 on Highway 93, 18 on Mollman Pass Trail, and 1 on Duck Road. Of those turtles killed on the highway, 451 (43.3%) were adults and 221 (21.3%) were juveniles (Tables 1a and 1b). Age class could not be determined for the remaining 368 individuals. Sex could not be identified on most (639, 61 %) road mortalities. However, of those turtles where sex could be determined, roughly equal numbers of males and females (99 and 81, respectively) were found (Table 1a). No sex bias in road mortalities ($\chi^2 = 1.8$, $df = 1$, $P = 0.18$) was found.

Table 1a. The number of road-killed turtles by year, sex, and age class found along a 6.4 km section of Highway 93 in the Ninepipe/Ronan area.

Year	Adult			Juvenile	Unknown	Total
	Male	Female	Sex Unknown			
2002		3	101	87	166	357
2003	50	49	92	86	137	414
2004	49	29	78	48	65	269
Total	99	81	271	221	368	1040

Table 1b. The number of road killed turtles by year, sex, and age class found within the Capture – Mark – Recapture study area, 3.2 km section of Highway 93 from Highway 212 north to Beaverhead Lane in the Ninepipe/Ronan area.

Year	Adult			Juvenile	Unknown	Total
	Male	Female	Sex Unknown			
2002	3		50	57	77	187
2003	46	37	44	29	79	235
2004	19	31	35	25	28	138
Total	68	68	129	111	184	560

The highest numbers of both male and female mortalities occurred in June, subsequently mortalities for both sexes declined over the summer. Females exhibited less mortality in late summer than males (Figure 3). Adults were killed more often in early summer than late summer while juveniles experienced more consistent numbers of road kills throughout the summer (Figure 4). A spike of juvenile road mortalities occurred in late August. Overall, more individuals were killed in the early summer months (up to mid-July) than late in the summer.

The highest numbers of road mortalities occur where there are large ponds adjacent to both sides of the highway (Figure 5). Road locations 22 and 33 – 34 occur where the highway divides 2 kettle ponds. Road locations 49-52 occur in the vicinity of the scenic turnout at Beaverhead Lane where a large permanent pond is located on the west side and 2 semi-permanent ponds are on the east side of the highway.

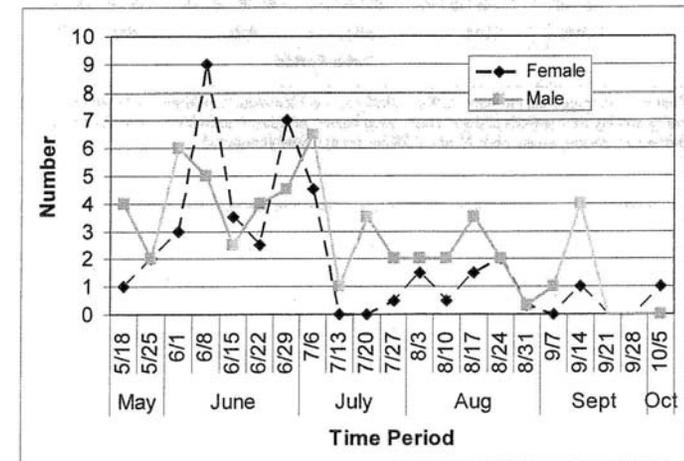


Figure 3. Average road mortality (2002-2005) on a 6.4 km section of Highway 93 separated out by weekly time periods and sex. Zero values indicate no individuals were found during that survey period, except on 9/21 and 9/28 no surveys were conducted.

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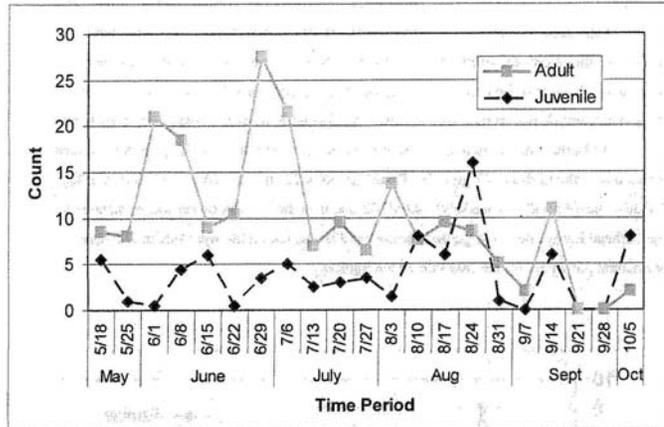


Figure 4. Average road mortality (2002 – 2005) on a 6.4 km section of Highway 93 separated out by weekly time periods and age class. Zero values indicate no individuals were found during that survey period, except on 9/21 and 9/28 no surveys were conducted.

from: Potential effects of highway mortality and habitat fragmentation on a population of painted turtles in Montana. Final Report to MDT Sept. 2004 by Kathleen Griffin & Daniel Pletscher.

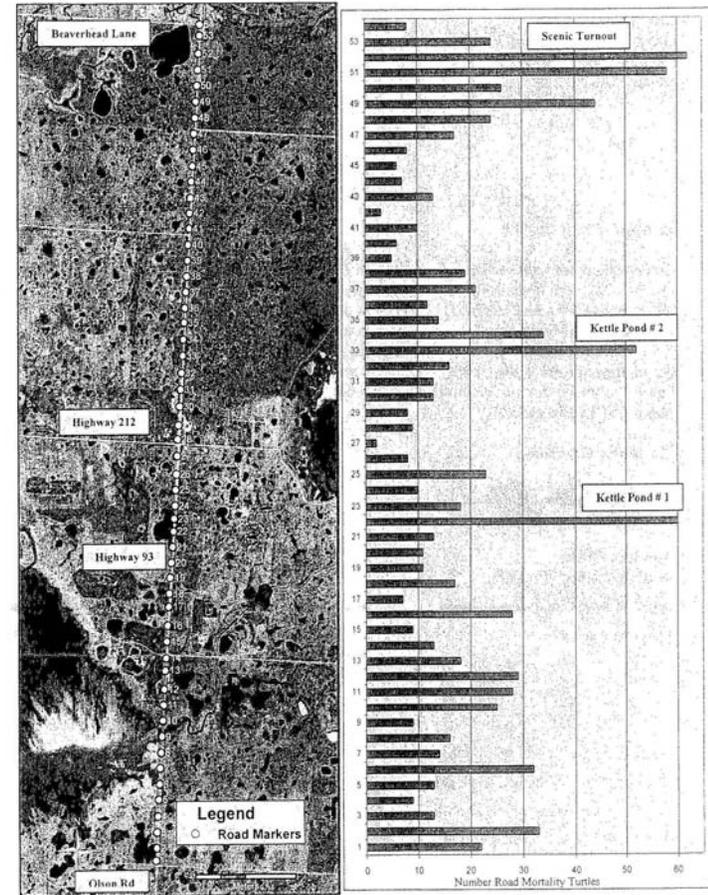


Figure 5. On the left, road marker locations along Highway 93. On the right, the total number (2002-2004) of turtle road mortalities corresponding to mapped road markers. Road marker 1 occurs at Olson Road and Marker 54 occurs at Beaverhead Lane. The markers are approximately every 160 m.

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Traffic Volumes

Traffic volumes on Highway 93 were roughly constant over the 3 years of study ranging between 500 to 620 vehicles per hour (both directions were recorded) (Table 3). These values were consistent with Montana's Automatic Traffic counts for 2002 – 2004 located at RP 22.7, Arlee (MDT 2002, 2003, 2004). Secondary roads, Mollman Pass Trail and Duck Road, showed considerably lower traffic volumes (Table 3). All 3 roads showed increased traffic during daylight hours when turtles are more likely to be moving.

Table 3. Description of road types within the project area and traffic volumes (vehicles per hour) averaged over summer months (May – August). Highway 93 values were corrected with monthly axle correction factors for each year. N/A = data not available.

Road	# Lanes	Surface	Posted Speed Limit (mph)	Volumes (average # vehicles/hour)			
				Time	2002	2003	2004
Highway 93	2 – 3	paved	70	Night/Day	459	336	348
				Day Only	615	566	594
Mollman Pass Trail	2	paved	50	Night/Day	32	22	22
				Day Only	54	67	38
Duck Road	1 – 2	dirt	35	Night/Day	N/A	3	2
				Day Only	N/A	4	4

Capture – Mark – Recapture (CMR) Study

Descriptive Demographics

From 2002-2004, 8,520 captures of 2,335 individual turtles were recorded. Overall, there was no sex bias in the living adult turtle population (873 males and 803 female) ($\chi^2 = 2.92$, $df = 1$, $P = 0.09$). Two pond complexes (C and E) had sex ratios significantly different from a 50:50 sex ratio (Table 4). Pond C favored males over females (153 to 113, respectively) while females were favored over males (114 to 78, respectively) in pond E. The sex ratios in the remaining ponds did not differ significantly from a 50:50 sex ratio. Marked juveniles totaled 659 individuals.

Table 4. Number of female and male adult turtles in each pond complex encountered during the Capture – Mark – Recapture study from 2002 to 2004. P-values reflect a chi-square test of equal sex ratio.

Pond Complex	Female	Male	P-value
A	105	89	0.25
B	110	115	0.74
C	118	160	* 0.01
D	85	93	0.55
E	117	80	* 0.01
Total	535	537	0.95

* values indicate significant differences between the sexes.

The capture process also netted a total of 65 marked turtles that were found dead in the ponds (Table 2). The winter of 2003/2004 had particularly low temperatures ($< -28^{\circ}C$, [$-20^{\circ}F$]) for about 1 week which may have caused shallower area within ponds to freeze to the bottom potentially causing the death of hibernating turtles.

Observed Movements

Most movements occurred within complexes (less than 300 m) between permanent and temporary ponds (Figure 6). The longest movement observed was 2,400 m made by a juvenile. There was no significant difference between the number of pond to pond movements made by males and females (317 to 265, respectively) ($\chi^2 = 1.35$, $df = 1$, $P = 0.24$). These values incorporate all observed movements including between ponds within as well as between

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complexes and some individuals moved more than once. With CMR techniques, an individual would have to be captured in 2 different ponds for movement to be observed, therefore, female nesting forays (leaving to nest on land and returning to the same pond) cannot be assessed using these movement data.

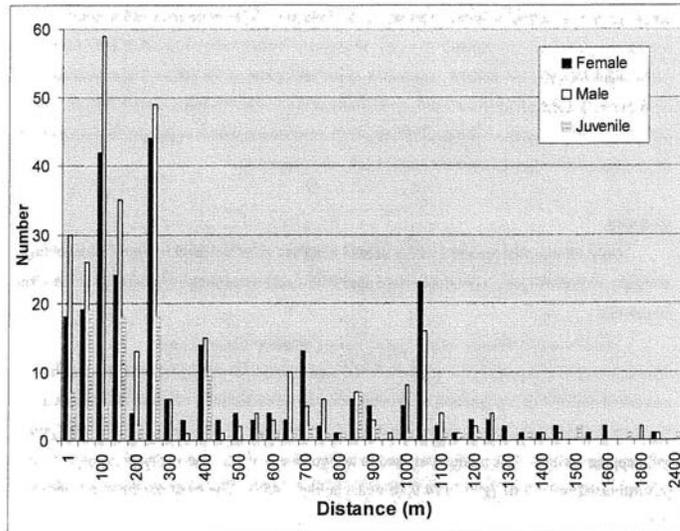


Figure 6. The number of adult and juvenile turtles that moved separated out by sex and distance (m) categories. Some individuals moved more than once. Approximately 95 % of the marked turtles remained in their original pond with no recorded movements.

Fine-Scale Movement and the Highway (Ponds B and C)

Movements and road mortality data between pond complexes B and C (the 2 kettle ponds split by the highway) were investigated to examine fine-scale movements. Turtles made 106 movements away from pond B without crossing the highway. In pond C, 78 turtles moved away from the pond without crossing the highway. Forty adult individuals from these ponds successfully crossed the highway. However, 150 road mortalities were recorded between the complexes (between road markers 30 – 36), of which 69 were known to be adult and of these 36 (52%) were known to be marked. Therefore, about half (47%) of the turtles that attempted to cross the road were killed (40 crossed successfully while 36 known marked were killed). This percentage of successful crossings (53%) is a high estimate because it could not be determined if some dead-on-the-road turtles were marked (19 were unknown).

Modeling

Only adult turtles captured within pond complexes were included in the CMR modeling analyses. A total of 1,032 individuals were used with 4,652 recaptures. The most parameterized model was

$$S_{(Pond * Season)} \Psi_{(Distance Category * Season + Temporary Emigration)} p_{(Pond * Session)}$$

Where S = survival probability is a function of the interaction between pond and season; Ψ = movement probability is a function of an interaction between distance category and season and temporary emigration; and p = capture probability is a function of the interaction between pond and trapping session. This model was used to test goodness of fit. The variance inflation factor was estimated as $\hat{c} = 2.61$ ($\chi^2 = 1174.9$, df with pooling = 450). The most parsimonious model was

$$S_{(Pond + Season + Drought)} \Psi_{(Distance + Volume + Season + Temporary Emigration)} p_{(Pond * Session)}$$

Where S = survival probability was a function of pond and season and drought in 2004; Ψ = movement probability was a function of distance between ponds, volume, season, and temporary emigration; and p = capture probability was a function of the interaction between pond and trapping session. A sequential modeling process in which parsimonious models for capture probabilities were sought first and then the resulting parameterizations were used as the basis for developing models of survival and movement probabilities separately.

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Probability of Movement

Within the candidate set of models, 6 models with alternative movement variables were within 2 QAIC_c of the best approximating model (Table 5). The best models were a function of distance between ponds, season (winter, early summer, late summer), occurrence of temporary emigration, presence of an intervening road, and/or sex. The use of QAIC_c weights to assess model support indicates that these 6 best-fit models have 95% of the support of the data. Consequently, inferences were based on these 6 models and model averaging was used to calculate weighted estimates and standard errors that reflect model uncertainty for all parameters (Burnham and Anderson 1998). Overall, the probability of movement between pond complexes was very low ranging from a high of approximately 0.026 (SE = 0.001) a year for the 2 closest ponds (B and C) to less than 0.01 for all remaining pond complexes (Figure 7). Three of the 6 best-fitting models included the presence of an intervening road and/or sex as factors influencing movement probabilities and were supported by the data (Table 5). The effect size of an intervening road was fairly large and negative ($\beta = -0.82$, SE = 0.87) but the 95% confidence intervals included 0 (95 % CI = -1.8 to 0.27). Females had a slightly higher movement probability than males ($\beta = 0.31$; SE = 0.29) but also had a 95% confidence interval that included 0 (95 % CI = -0.27 to 0.90). Although the inclusion of these variables in the model was supported by data, both had confidence intervals that overlap 0 so there is a lack of information to definitely determine the degree of the relationship with movement. Models that included temporary emigration were more supported than the model without temporary emigration ($\Delta QAIC_c = 20.7$) (Table 5). Temporary emigration rates were high in winter/early spring and early summer (0.07 -0.09, SE = 0.03) compared to movement rates between pond complexes (Figure 7).

Table 5. Mark-recapture models of adult painted turtles used to estimate movement probabilities between pond complexes. Factors affecting probability of survival and capture were held constant. Models ranked from best (lowest delta QAIC_c value) to worst. Shaded models were used for model averaging movement estimates.

Survival (S)	Movement (Psi)	Capture (p)	QAIC _c		Q
			QAIC _c	Delta QAIC _c	
Pond + Season + Drought	Distance + Volume + Season + Temporary Emigration	Pond * Session	6115.91	0	6016.84
	Distance + Season + Temporary Emigration		6116.67	0.764	6019.65
	Distance + Volume + Season + Temporary Emigration + Sex		6116.84	0.932	6015.73
	Distance + Volume + Season + Temporary Emigration + Road		6117.10	1.19	6015.99
	Distance + Volume + Season + Temporary Emigration + Road + Sex		6117.96	2.07	6014.83
	Distance Categories + Season + Temporary Emigration		6118.22	2.31	6021.20
Pond + Season + Drought	Distance + Season + Temporary Emigration Categories + Road	Pond * Session	6119.09	3.18	6017.98
	Distance + Season + No Temporary Emigration		6136.59	20.69	6041.61
	Constant		6141.11	25.20	6052.25

K = Number of parameters
 Distance = Actual distance between ponds used as a covariate
 Distance Categories = Long (>1000 m), Medium (80 - 1000 m), and Short (< 80 m)
 Temporary Emigration = Temporary movements out of the pond complexes and, therefore, off the study-site.
 Temporary Emigration Categories = Temporary movements out of the pond complexes grouped into 2 categories dependent on pond densities outside complex.
 Drought = Drought conditions in 2004.
 Pond/Session = Interaction term between pond and trapping session.

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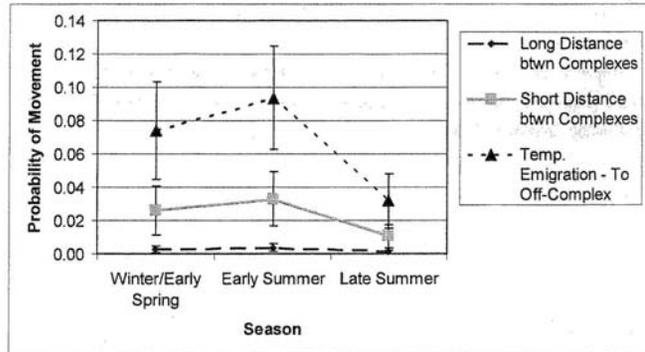


Figure 7. Movement estimates for adult turtles by season for various types of movements. Bars represent standard errors.

Probability of Survival

To assess variation in survival probabilities within pond complexes, factors affecting probability of movement and capture were held constant. Within the candidate set of models, 2 models with alternative survival variables were within 2 QAIC_c of the best approximating model (Table 6). These best approximating models indicated that pond, season, and time (either drought or time over the study) were important factors affecting the probability of survival (Table 6). Survival was not influenced by distance to road ($\Delta QAIC_c = 16.0$) or by specific pond ($\Delta QAIC_c = 99.7$). Season consists of the intervals between trapping sessions: “winter” is 9 months from September to May; “early summer” is 1.5 months from about late May to July; and “late summer” is 1.9 months from about mid-July to late August. Weighted average apparent seasonal survival rates ranged from a high of 0.998 (SE = 0.003) in ponds B and C which retained water during the drought to a low of 0.475 (SE = 0.70) in pond E which virtually dried up (Table 7). Survival rates in all pond complexes were higher overwinter than during summer

seasons and 2003 rates were higher than 2004 rates for all seasons (Table 7 and Figure 8). Ponds that retained water over the course of the study (B and C) had higher survival rates than ponds that did not (A, D, and E).

Apparent annual survival rates were higher in 2003 than in 2004 in all pond complexes (Table 7). Apparent annual survival rates ranged from a high of 0.86 in pond C in 2003 to a low of 0.131 in 2004 in pond E (Table 7).

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Table 6. Mark-recapture models of adult painted turtles used to estimate survival probabilities within pond complexes. Factors affecting probability of movement and capture held constant. Models ranked from best (lowest delta QAICc value) to worst. Shaded models were used for model averaging survival estimates. See Table 5 for more detailed description of variables.

Survival (S)	Movement (Psi)	Capture (p)	Delta QAICc	QAICc Weights	K	Q
Pond + Season + Drought	Distance between Ponds + Volume + Season + Temporary Emigration	Pond*Season	6116.7	0.6839	49	6019.65
Pond + Time			6118.2	1.57	0.3120	51
Pond + Season + Drought + Sex			6127.0	10.33	0.0039	50
Distance to Highway + Season + Drought	Distance between Ponds + Volume + Season + Temporary Emigration	Pond*Season	6132.6	15.97	0.0002	46
Pond			6216.3	99.65	0	46
Volume			6219.8	103.16	0	43
Distance to Highway			6220.3	103.60	0	43
Constant			6234.2	117.51	0	42

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Table 7. Estimates of adult turtle apparent survival probabilities by season and annually for each pond complex.

Pond Complex	Season ^{1/}	2003		2004					
		Seasonal Survival	SE	Annual Survival	SE	Seasonal Survival	SE	Annual Survival	SE
A	Winter	0.989	0.03			0.823	0.09		
	Early Summer	0.893	0.08	0.788	0.06	0.841	0.10	0.539	0.34
	Late Summer	0.892	0.05			0.778	0.10		
B	Winter	0.998	0.00			0.981	0.03		
	Early Summer	0.911	0.04	0.845	0.20	0.874	0.06	0.676	0.16
	Late Summer	0.930	0.07			0.788	0.06		
C	Winter	0.998	0.00			0.993	0.01		
	Early Summer	0.934	0.04	0.864	0.24	0.907	0.06	0.728	0.12
	Late Summer	0.927	0.04			0.809	0.04		
D	Winter	0.963	0.04			0.814	0.08		
	Early Summer	0.703	0.05	0.579	0.11	0.661	0.05	0.309	0.07
	Late Summer	0.855	0.05			0.592	0.06		
E	Winter	0.835	0.08			0.503	0.09		
	Early Summer	0.584	0.06	0.377	0.13	0.547	0.07	0.131	0.05
	Late Summer	0.673	0.06			0.475	0.07		

1/ Winter (9 months) is September through May; Early summer (1.5 months) is June through mid-July; and Late Summer (1.5 months) is mid-July through August.

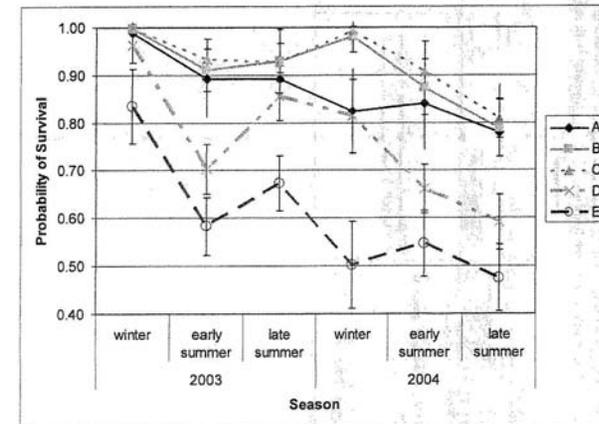


Figure 8. Estimates of adult turtles apparent survival rates by pond over the course of the study. Bars represent standard errors.

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Probability of Capture

Capture probability was a function of pond and trapping session but not sex. Animal behavior (i.e., trap happy or trap shy individuals) did not affect capture probability (K. Griffin, unpublished data). Capture probability ranged widely within and between ponds, with a low of 0.009 (SE = 0.009) when pond A was drying to a high of 0.771 (SE = 0.073) in pond D (Figure 9).

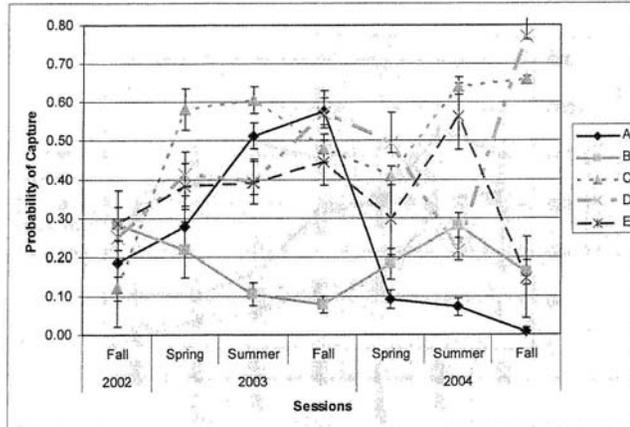


Figure 9. Probability of capture (p) for adult turtles within the pond complexes for each trapping session from 2002 - 2004. Bars represent standard errors.

Abundance Estimates

The Multistate Robust Design model allows for the derived estimation of abundance. Abundances within pond complexes varied over the seasons of the study. The 2 deepest ponds (B and C) had the most consistent abundance values (Figure 10). Abundances in ponds A, D, and E changed dramatically over the study (from highs in the high 100's to the low 200's to dropping to less than 9 in pond E). Depth in all ponds

decreased over the study but these 3 ponds were particularly affected by the drought because they were originally not deep ponds. Pond A decreased from 1.4 m to 0.03 m, Pond D decreased from 1.7 m to 0.7 m, and Pond E went from 0.9 m to 0.1 m. Virtually all adult turtles left these ponds by the end of the study.

The regional adult population abundance also declined over the course of the study (Figure 11). The population peaked in spring 2003 at 854 (SE = 117) individuals and fell to 372 (SE = 67) in fall 2004.

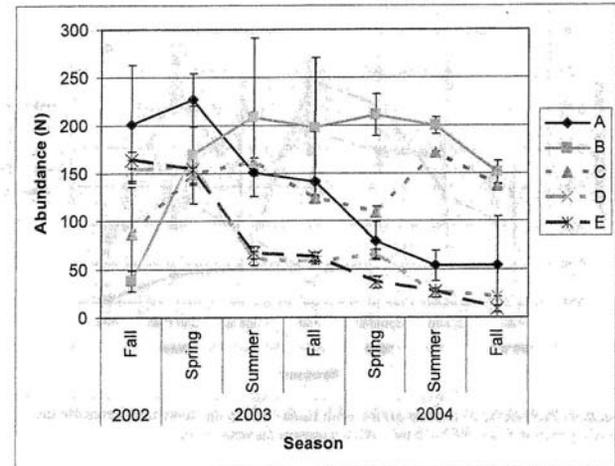


Figure 10. Adult turtle abundance estimates for pond complexes over the seasons. Bars represent standard errors.

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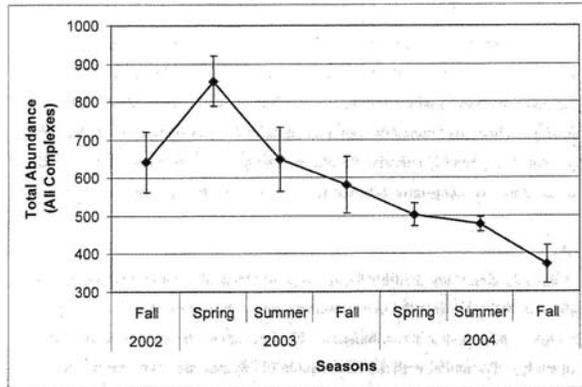


Figure 11. Total adult turtle abundance estimates for all pond complexes combined for each season. Bars represent standard errors.

Population Level Mortality

Both ways of estimating the percentage of the population killed by the highway are considered conservative because road mortality counts are considered a minimum count due to the possibility of not locating all mortalities. The percentage of the population killed on the highway ranged from a lower estimate of 6.0 % in 2003 (7.9 % in 2004) to a less conservative estimate of 16.9 % in 2003 (13.0 % in 2004).

DISCUSSION

The main ways that a highway may affect turtle populations are by 1) affecting the survival rate through direct road mortality; 2) changing the population structure through disproportionate road mortality of either sex causing biased sex ratios; and 3) changing movement rates or patterns which ultimately affects population connectivity. The first potential affect, direct road mortality, can have immediate consequences on population viability, while the second 2 potential effects, changing population structure and level of connectivity, may have long-term consequences on population viability.

Survival

This is the first study to allow for survival estimates of painted turtles partitioned seasonally. Modeling showed the most important factor in probability of surviving was the individual pond complex in combination with time (either season or time over the course of study). The model with the most weight (0.68) indicates that season and drought were the most important factors affecting survival rates. Drought conditions appear to have had a strong influence on survival; this study was conducted during a period when the Mission Valley experienced lower than average rain and snowfall in 7 out of the previous 10 years.

'Distance to road' was expected to be an important predictor of survival rate, however this variable was not supported by the data largely due to the fact that ponds far from the highway were still affected by road mortality. Hydrology of the ponds was more important than distance to the highway. Interestingly, pond E, the second furthest (881 m) pond from the highway and greatly affected by the drought, had the highest number of turtles encountered dead-on-the-road. Once the pond began to dry, road mortality data indicate that many turtles attempted to move to the large pond on the west side of the highway at Beaverhead Lane (across from the scenic turnout). This pond is hydrologically connected to Crow Creek and retained water during the drought.

Adult turtles are expected to have high survival rates. Turtles that reach adult size have few predators and, typically, there is little risk of death during winter when turtles hibernate. Apparent annual survival rates in this study range from 0.86 to 0.13. Other studies on painted turtles have estimated annual survival rates between 0.76 and 0.96

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(Wilbur 1975, Tinkle et al. 1981, Mitchell 1988). High survival rates are expected in species that have low recruitment rates and hatchling survival (Brooks et al. 1991, Heppell 1998). Annual survival rates are lower 2004 than in 2003. Apparent survival rates are affected by both road mortality and permanent emigration as turtles left ponds for refugia habitats off the study site. The 2 ponds that retained water (ponds B and C) experienced higher survival rates than the other ponds. It is likely these ponds experienced less permanent emigration than ponds that lost significant water. Therefore, these survival rates are less confounded with permanent emigration. This is also indicated by the fact that the percentage of the population killed on the road matches the survival rates in these ponds, particularly in 2003 when the area was less affected by the drought (about 0.17 to 0.15, respectively).

Ponds that lost significant water over the course of the study had extremely low survival rates. For example, survival rates in ponds D and E drop from 0.60 to 0.31 and 0.38 to 0.13, respectively. These survival estimates are confounded with permanent emigration. As these ponds began to lose water, turtles moved off the study site in search of suitable habitat. It is not possible to determine if the turtles survived off the site or died. Many turtles that were last seen alive in these ponds were encountered dead on the highway. The fact that the turtles are moving makes them more susceptible to road mortality. In the area of the split kettle ponds, roughly only half the turtles that attempted to cross the highway succeeded.

Seasonal survival rates varied widely. As expected, winter survival rates were higher than summer survival rates. However, winter survival was higher in winter 2002-2003 than in 2003-2004, likely due to a combination of drought lowering water levels and severe winter temperatures. Dead turtles were recovered in all ponds in early spring 2004. These carcasses were completely intact; therefore, mortality was not due to predation. Hibernating turtles may have gotten caught in shallow areas of ponds that froze to the bottom killing the turtles, thus decreasing winter survival rates in 2004.

Road mortality is expected to reduce summer survival rates. The probability of survival dropped in both the early summer and late summer seasons when turtles were expected to move. The drop in survival rates corresponds to when known turtle road mortalities occurred. In 2003, when the landscape was less affected by the drought, in

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general survival rates decreased in early summer and increased again in late summer. This corresponds to the road mortality and the movement data, both of which were highest in the same early summer period.

Population Structure

Overall, the population structure does not appear to be affected by the highway. The living turtle sex ratio was not significantly different than 50:50 males to females. Recent studies have stated that there is disproportionate road mortality of females due to higher chances of encountering roads during nesting forays (Steen and Gibbs 2004, Aresco 2005a, Gibbs and Steen 2005). Females were only slightly more likely to make long distance (between pond complex) movements than males, according to the CMR modeling. Examining all movement data (i.e., not only between complexes), no difference in pond to pond movement between the males and females was found. However, this may be misleading because if a female turtle made a nesting foray and returned to the same pond this type of movement would not be detected. Males are not expected to make similar types of there-and-back-again movements for breeding because breeding takes place in the ponds. Therefore, female movements may be underrepresented in the data.

There does not appear to be disproportionate road mortality on females as no sex bias in road mortalities was found. Although most road mortalities could not be identified to sex due to degradation, there is no reason to expect a bias in sex ratio of identifiable and unidentifiable turtles.

Although the overall population sex ratio does not appear to be altered, Pond C, which is adjacent to the highway, did have a significantly male biased sex ratio. It is interesting to note that pond B directly across the highway from pond C did not. Road mortality may be affecting the sex ratio of this particular pond (C). Pond C may be an important pond for reproduction as it had the highest number of hatchling and juveniles caught each year. If more females in pond C than in other ponds were conducting nesting forays and encountering the road, then road mortality could be affecting this local population. However, road mortality data indicates more males than females were

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encountered dead on the road between ponds B and C. This may indicate factors other than disproportionate road mortality of females may be affecting the sex ratio of this pond.

Movements

Very little movement (between 1 % and 2 %) a year occurs between pond complexes; therefore, what movement does occur is important in providing connectivity to the local populations in each pond complex. Modeling indicates there is a considerable amount (7-10%) of temporary movement out of the complexes. The complexes were designed as an attempt to incorporate typical daily and seasonal movements of turtles out to temporary ponds in which they may find suitable habitat especially in the spring when temporary ponds warm up faster than the deeper permanent ponds and, therefore, may have more available food resources. The 300 m radius of the complexes was used based on values in the literature as to the distance of typical movements. The fact that there was a considerable amount of temporary emigration outside of the complexes indicates that painted turtles may regularly use larger areas on a seasonal basis than previously thought.

Over the course of the study, the drought caused all permanent ponds to lose water and there were also considerably fewer temporary ponds on the landscape. It appears many turtles moved off the study site and did not return (i.e., permanent emigration) in order to find favorable habitats. The study area has 2 permanent reservoirs (Kicking Horse and Ninepipe) and Crow Creek between approximately 1.5 km and 2.0 km from the closest pond complexes. As the complex ponds became unsuitable, turtles may have moved to these more permanent water bodies, thus lowering the apparent survival rate within the complexes in year 2004. This suggests that turtles are moving outside the complexes but not to other studied complexes. This indicates that other large permanent bodies of water such as Crow Creek and Kicking Horse and Ninepipe reservoirs are important refugia habitats when the smaller permanent ponds become affected by drought.

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Movements appear to be hindered by the presence of the highway. The model most supported by the data showed that roads decreased turtle movement rates. Individuals were less likely to move long distances in the presence of an intervening road. As expected, turtles were more likely to move short rather than long distances in the presence of an intervening road. Unfortunately, a situation with 2 permanent ponds relatively close together (30 m) without an intervening road was not available in the vicinity of the study area. This would have allowed examination of short distance movement rates with and without an intervening road. Though the modeling indicates roads decrease turtle movements, it is not possible to determine if turtles are avoiding the highway or if they are simply unsuccessful at crossing the road. Road mortality data can help examine these possibilities.

Focusing at a fine-scale, where 2 ponds are separated by the highway (ponds B and C), CMR data indicate that more movements were made away from the highway from ponds B and C (106 and 78, respectively) than across it (40). However, the fact that there were 150 road mortalities on the highway that falls within these pond complexes suggests that turtles were not avoiding the highway but rather killed attempting to cross it.

Population Dynamics and Connectivity

Highway 93 in the Ninepipe/Ronan area appears to be affecting the turtle population both through direct mortality and reduced landscape connectivity. Conservative estimates of the percentage of the population killed by the highway range from 6.0 % to 17.0 %. Turtles are long-lived, slow growing animals with delayed sexual maturity and low juvenile survival rates. This combination of life history traits is poorly adapted to high rates of adult mortality (Gibbons et al. 1990, Heppell 1998). Such species often can not replace adult losses quickly and are susceptible to local extinctions (Brooks et al. 1991). Population effects of road mortalities may be exacerbated for wetland species such as turtles when periodic drying results in increased migrations and thus an increased probability of encountering a road (Gibbons et al. 1983, Aresco 2005a). Drought conditions coupled with severe winters can have an even greater affect, lowering survival rates even further because hibernating turtles are at increased risk of freezing in

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shallow waters. Lowered survival rates for even a short period can cause severe population declines that take years to recover (Fonnesbeck and Dodd 2003). The level of observed mortality during this study would not be sustainable if this were a closed population. Due to the amount of both temporary and permanent emigration it is evident that the regional population likely includes Crow Creek, Kicking Horse Reservoir, and Ninepipe Reservoir. Given this, maintaining connectivity across this landscape is extremely important for this species.

Currently, the highway appears to be a semi-permeable barrier to movements, reducing landscape connectivity for turtles. Although some turtles successfully crossed the highway, road mortality data indicate that most did not; e.g., 40 successful crossings observed in an area where 150 mortalities were recorded. It is important to maintain connectivity for long-term population viability and to maintain the possibility of recolonization of ponds that may lose their local populations such as occurred in ponds A, D, and E during these drought conditions. This study conducted during drought conditions shows the importance of maintaining connectivity to suitable refugia habitat such as Ninepipe and Kicking Horse reservoirs so that recolonization is possible when conditions permit.

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RECOMMENDATIONS

Three areas of high priority based on road mortality data were found: the 2 kettle ponds at road locations 22 and 33 (1 just south, the other just north of Highway 212 junction) and the area immediately south of the scenic turnout at Beaverhead Lane. This last area has a permanent pond on the west side and 2 semi-permanent ponds on the east side of the road. All 3 of these areas also appear to have important nesting areas on and adjacent to the road banks.

Culverts and fencing systems have been shown to be effective in reducing turtle road mortality (Dodd et al. 2004, Aresco 2005b). In Florida, turtle mortality declined dramatically with the construction of the barrier wall-culvert system; from 374 mortalities preconstruction to 7 post-construction (Dodd et al. 2004). Turtles used 2.7 m x 2.7 m, inundated, partially submerged box culverts; 0.9 m cylindrical culverts when wet with earthen substrates; and 1.8 m x 1.8 m dry box culverts. All of these culverts were 44 m in length and the smaller ones (the 1.8 m x 1.8 m box culvert and the 0.9 m diameter cylindrical culverts) had light boxes. If light boxes are not used, we recommend oversizing the culverts to allow light to be seen through the culvert. Painted turtles do not burrow and may show reluctance to enter dark areas.

The Supplemental Draft Environmental Impact Statement (FHWA et al. 2005) for the Ninepipe/Ronan area is considered a "30 % design" document. This means that many construction details have yet to be determined. As more design considerations become known more detailed and area specific recommendations can be provided. Current recommendations for reducing the effects of Highway 93 on turtle populations in the Ninepipe/Ronan area of the Mission Valley are below. Note: all recommended culverts would also be beneficial to other wildlife in the area.

1. Construct bridges or over-sized cement box or over-sized metal culverts in the high priority areas that naturally would be water crossings. In particular, these should be placed in the 2 kettle ponds.
2. Construct over-sized cement box culverts in dry crossing areas such as near the scenic turn-out at Beaverhead Lane and just north of Olson Road. Dry land culverts should be flat bottom with an earthen substrate to facilitate turtle terrestrial movements through them.

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3. Construction time frame. Movements are highest from mid-May to mid-July. Minimizing construction in the 3 high priority areas during these months would minimize disturbance and mortality.
4. Monitor construction in the kettle ponds due to their importance in overwinter, reproduction, and refugia habitat. The kettle ponds are likely to have detours that could possibly hinder turtle movements as they attempt to avoid construction activities. Providing safe passage under the detours will be important. The placement and timing of the detour is important in minimizing the effects of construction activities on the turtles (see Recommendation #3). As design considerations become known for the area, other recommendations may be warranted such as having on-site inspectors to monitor turtle movements during construction. Monitoring of construction projects has been accomplished on other projects in coordination with the Confederated Salish Kootenai Tribes and contractors (Pers. Comm. Pat Bastings, MDT - Environmental).
5. Install wing or directional fencing to funnel turtles to the culverts (see Appendices A and B). The fencing would be necessary only in the vicinity of the crossing structures and nesting areas. Install low fencing that can not be breached regardless of whether bridges or culverts are implemented because of the nesting that occurs on and adjacent to the road bank in the high priority areas. Even though passages are provided, females may still be drawn to the road edge to nest and consequently be at risk of road mortality and risking human safety.
6. Install 'Turtle Crossing' warning signs to increase awareness of motorists. More general "Wildlife Crossing" signs may not be sufficient to warn motorists to the presence of turtles because most motorists expect large game animals when they see "Wildlife Crossing" signs. Standard warning signs do not appear to affect motorists therefore; signs should be enhanced, and location and time specific. These types of modifications to standard signage have been useful in modifying human behavior (Messmer et al. 2000, Sullivan and Messmer 2003, Al-Ghamdi and AlGadhi 2004, Hardy et al. in press). Signs could be enhanced by using a larger size, reflective color (i.e. neon yellow/green), or additional flagging. Signs should only be visible from June – September when turtles are likely to be

- encountered on the road. Sign location should be limited to the Ninepipe/Ronan area of Highway 93. A north bound sign could be placed near Gunlock Road and a south bound sign could be placed near Beaverhead Lane. Limiting the time frame and location may also minimize motorists' habituation to the signs.
7. Post-construction study. It will be possible to identify turtles marked in this study for many years. A post-construction study will provide valuable data on turtle use and efficacy of the wildlife crossing structures in providing landscape connectivity. Currently only 2 studies (Dodd et al. 2004, Aresco 2005b) exist that includes pre- and post-construction effects on connectivity and these do not include pre-construction population data as this study does. This study combined with a post-construction study provides a unique opportunity to determine the long-term effects of the highway on connectivity and population dynamics.

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APPENDIX A. Fencing Methods and Efficacy for Minimizing Turtle Road Kill and Directing Turtles to Crossing Structures.

The following report was submitted to the Montana Department of Transportation in 2004. Based on MDT reviewer comments, revisions have been incorporated into the document.

**FENCING METHODS AND EFFICACY FOR MINIMIZING
TURTLE ROAD KILL AND DIRECTING TURTLES TO CROSSING
STRUCTURES**

Submitted by

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Submitted to

MONTANA DEPARTMENT OF TRANSPORTATION
2701 PROSPECT AVENUE
HELENA, MT 59620

May 2006

Letter 171, University of Montana,
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INTRODUCTION

This report documents a variety of barrier and fencing designs that have been used in wildlife-highway interaction projects and their effectiveness in keeping herpetofauna off roadways and directing them towards wildlife crossing structures.

The National Cooperative Highway Research Program has produced the most extensive synthesis of wildlife and highway issues in the Interaction Between Roadways and Wildlife Ecology: A Synthesis of Highway Practices report (Evink 2002). A survey conducted for that report indicates that many states are attempting to address wildlife-highway issues. Out of the 34 states that responded to the survey, 28 are using fencing to protect wildlife with the most frequent use being to keep deer off the roads.

Because fences are likely to increase the fragmentation effects of highways, the use of culverts and other crossing structures are important in maintaining connectivity (Boarman and Sazaki 1996, Evink 2002). Drainage culverts are one means of providing connectivity. These types of culverts are typically used where highways cross wetlands with fluctuating water levels. These culverts then become dual purpose; water transport or hydrological leveling as well as wildlife corridors. The current design proposal for the expansion of Highway 93 in the area of Ninepipe Wildlife Refuge includes the use of culverts as wildlife crossing corridors (Federal Highway Administration and Montana Department of Transportation 2000). The proposed wildlife crossing structures will be at least 1.2 x 1.8 m concrete culverts and will likely be larger in many areas. In addition to the wildlife crossing structures, numerous smaller culverts will be used for hydrological leveling.

In an unpublished report to the Minnesota Department of Natural Resources, Lang (2000) conducted a culvert size and shape experiment with 400 Blanding's turtles (*Emydoidea blandingii*). He used corrugated metal culverts ranging in size from 0.9 – 1.2 m in diameter and varying in shape from round to arched. Although not mentioned specifically in the report, the length of the culverts appears to be that of a paved 2-lane road (approximately 18 - 25 m). Lang found that Blanding's turtles moved through each of the culverts presented. Turtles did not demonstrate a clear preference for culvert size or shape, or light intensity at the far end, given the available choices.

A-2

In Europe, culverts for mammals with widths from 5 to 12 m are common and, in general, heights of 3 to 5 m have been successful (Bank et al. 2002).

Jackson conducted experiments on eastern painted turtles' use of "culverts" (S. Jackson, Extension Service Program Director for Natural Resources, Massachusetts, Pers. Comm.). He observed turtles using a 0.6 x 0.6 x 6 m wooden box "culvert". Females used the box readily whether it was lighted or not. The unhesitant use by females however may indicate a drive to reach breeding sites.

Given the information above on the culvert sizes used on other projects, it is likely that the smaller culverts used for hydrological leveling will be dual purpose, that is, serving as wildlife crossing structures as well.

TYPE OF BARRIERS

Fencing

Typical fencing is rectangular mesh or chain link fence from 2.6 – 3.0 m in height. Specific measurements depend on the target species. For small mammals and herpetofauna often smaller mesh (2 x 2 cm to 4 x 4 cm) is attached to the existing chain link or larger mesh fence (Evink 2002) (Figures A-1 and A-2). This mesh is often buried 20 – 40 cm into the ground and then extending to a height of 0.5 to 1 m. To keep reptiles and amphibians from climbing the fence, the upper edge of the finer mesh is often bent out at a 90-degree angle to create a lip.

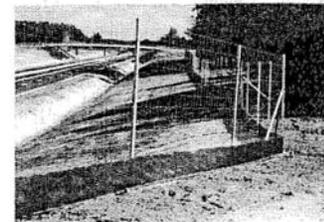


Figure A-1. Wire fence with plastic fabric mesh (France). Photo: Bank et al. 2002.

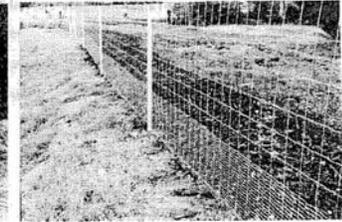


Figure A-2. Wire fence with smaller mesh at the bottom. Photo: Bank et al. 2002.

A-3

Letter 171, University of Montana,
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In 1990, a 24 km desert tortoise (*Gopherus agassizii*) barrier fence was erected by the California Department of Transportation. The fence consists of 60-cm wide, 1.3 cm mesh of galvanized steel hardware cloth buried to 15 cm and extending 45 cm in height (Boarman and Sazaki 1996, Boarman et al. 1997). The fence is supported by a six-strand wire fence; the top 3 are barbed and the bottom 3 are unbarbed to allow easy installation of the hardware cloth. Boarman and Sazaki (1996) found 88% fewer vertebrate roadkill and 93% fewer tortoise roadkill along the fenced section of highway, therefore, the fence was highly successful at reducing road mortality. Later, gaps due to poor maintenance allowed tortoises to access the highway suggesting the need for proper maintenance.

The Iowa Department of Transportation considered many types of fencing to keep ornate box turtles (*Terrapene ornate*), snakes, and small mammals off the highway including half pipes and solid concrete walls. After taking cost and maintenance issues into consideration they are installing 0.6 cm steel mesh attached to regular Type-47 field fence (woven wire livestock fence). The mesh will be buried 20 cm and extend 1 m above ground. This project is currently under construction with completion expected summer 2004, therefore no indications of the effectiveness of this fence type are available (R. Ridnour, Iowa Department of Transportation, Pers. Comm.). The mesh could be bent outward at the top to create a lip, however, it may be time consuming to actually accomplish this, as it is not prefabricated.

In Nebraska, a 0.9 m high chain link fence, buried 15.2 cm, was used to direct Blanding's turtles towards corrugated metal culverts with sizes varying from 0.6 to 0.91 m diameters with flared end sections and lengths from 18 to 36.5 m. The fence was about 1.6 km in length and it appeared to work well in that section, however, road mortality continued near the ends of the fence (L. Rowe, District Engineer, Nebraska Department of Roads, Pers. Comm.).

Problems with Fencing

There are many problems associated with fencing. Overall, depending on the fence type, fencing can be expensive to build, maintenance costs are high, and some people do not like the aesthetics of wire fencing (Figure A-3).

A-4

More specifically, if the mesh sizes are too large turtles, especially hatchlings and juveniles, can pass through or get stuck in the openings. Therefore, smaller mesh attached to the bottom of larger mesh fences is necessary. Some turtle species, including painted turtles, are good climbers (M. Aresco, Florida State University, Pers. Comm.; S. Jackson Extension Service, Program Director for Natural Resources, University of Massachusetts, Pers. Comm.). Creating a lip at the top of the smaller mesh is important to prevent climbing over the top (M. Aresco, Wildlife Biologist, Florida State University, Pers. Comm.) (Figure A-4). Another problem is storm water run-off which can cause erosion and often undermines the fence. Burying the mesh can minimize this problem however, proper installation and regular inspection/maintenance is required.

Silt fencing which is made either of cloth or fabric should only be used as a temporary solution because of its short life span. Silt fencing can be climbed, can be overgrown quickly, and can rip and tear easily, especially when weathered. All of these compromise the effectiveness of this type of barrier.



Figure A-3. Smaller mesh fence. Note potential problem with litter build up and fence not connected to outer edge of culvert. Photo: Bank et al. 2002.



Figure A-4. Florida softshell turtle climbing over fabric silt fence. Photo: M. Aresco

A-5

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Rails and Curved Pipes

Europeans have used a PVC barrier with an angled lip or fabricated galvanized steel rails with a lip along the upper edge as a barrier for amphibians and reptiles (Bank et al. 2002, Frey and Niederstraßer 2000) (Figures A-5 and A-6). A 30 cm diameter PVC pipe, sliced down the middle and half buried has been used in Massachusetts to keep box, wood, and spotted turtles off the roadway (S. Smyers, Wildlife Biologist, Oxbow Associates, Pers. Comm.). Although these barriers are cheap and fairly easy to install, keeping vegetation from growing over them is a constant maintenance problem and they only work for small mammals, reptiles, and amphibians. Also, any vegetation (even short vegetation) growing near-by can drastically reduce their effectiveness. This creates a virtually constant maintenance problem. However, if the rail were built into an asphalt strip or pad these problems could be minimized.

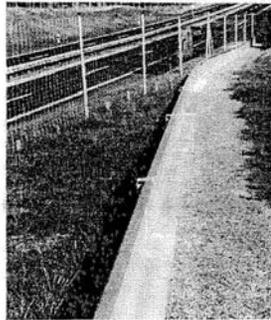


Figure A-5. Galvanized steel rail with lip for amphibians and reptiles (Germany). Photo: Bank et al. 2002.

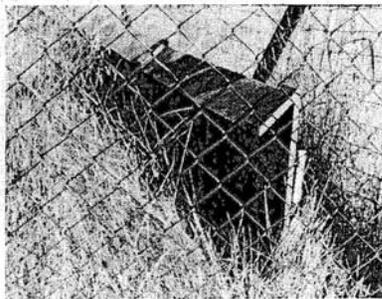


Figure A-6. Metal rails with lip for amphibians and reptiles (Germany). Photo: Bank et al. 2002.

A-6

Concrete Walls

The Payne's Prairie Ecopassage project near Gainesville, Florida has incorporated the dual-use (hydrological leveling and wildlife crossing) culverts and barriers which have been successful in providing connectivity for a wide range of terrestrial and aquatic wildlife. This project has the most pre- and post-construction data available of any wildlife crossing culverts and directional barrier project (Barichivich and Dodd 2002).

A suite of structures including lipped concrete walls, concrete square box culverts, precast concrete bottomless culverts, round concrete pipes, open median drains, and reverse mount guardrail barriers (Type A fencing, see next section below) combine to reduce mortality and allow animals to cross under the highway. The 1.1-m concrete wall with a 15.2-cm lip keeps small mammals, reptiles, and amphibians off the highway (Figures A-7 and A-8).

The concept of a lipped wall can be used in any area where barrier fence for small animals (reptiles, amphibians, small mammals, or even flightless stages of birds such as ducklings) is desired. The height of the wall can be based on whatever species are in the area of concern. Because the Paynes Prairie project had species that were able to climb high walls, it is likely that most situations would need shorter walls.

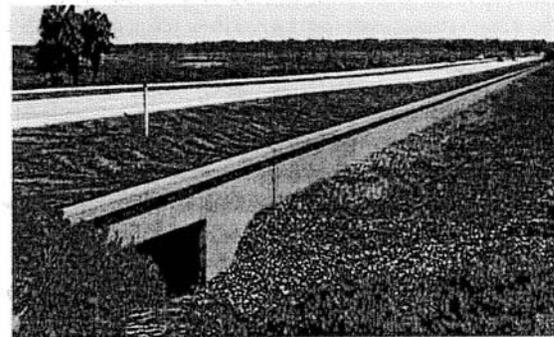


Figure A-7. Paynes Prairie Ecopassage (Florida) – Artist rendition. Concrete wall with lip. Photo: D. Forsyth. www.fhwa.dot.gov/environment/wildlifecrossings/amphibian.htm

A-7

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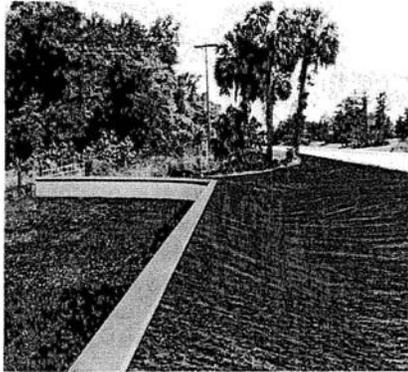


Figure A-8. Paynes Prairie Ecopassage – Artist rendition. Concrete wall with lip. (Florida). Photo: D. Forsyth.

The height of the lipped wall was determined by herpetologists based on the characteristics of several species known to be in the area (alligators were a primary concern). That height was 1 m, but an extra 0.15 m was added to ensure containment of the majority of potential species (P. Southall, Florida Department of Transportation, Pers. Comm.). The 0.15 m lipped extension at the top of the

wall was designed to stop an animal before it scaled the top of the wall.

Motorist safety was a big consideration in the design. The lipped wall was placed at the edge of an 11 m clear zone, from which all palm trees had been removed. Stormwater is removed through median and clear zone drains, which also allows light to enter the culverts (Figure A-9).

Concrete was selected because of reduced maintenance costs, long-life span, and the potential effectiveness as a barrier. Other materials for the barrier were considered, including hardware cloth and wire (expensive, short life span, the surface allows some species to climb over), and plastic (short life span). The concrete wall was also simple to construct because it was precast; the 2.9 km of road (therefore, 5.8 km of lipped wall) took about 210 days to construct. Precast structures (wall segments and culverts) saved installation time, and therefore cost. The 'flowable fill' over the culverts allows for the maximum size opening in the road because it is part of the roadway rather than requiring additional fill over it (USDA Forest Service website <http://www.wildlifecrossings.info>). The cost was listed as greater than \$200,000 but there is no indication of what this value includes. The total project cost was listed as \$3.5 million. This cost included many aspects

A-8

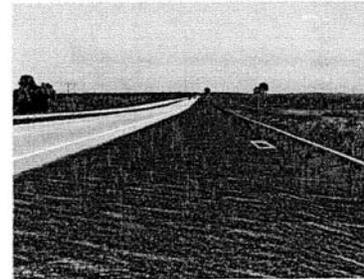


Figure A-9. Paynes Prairie Ecopassage – Artist rendition. (Florida). Photo: <http://www.fhwa.dot.gov/environment/wildlifecrossings/amphibian.htm>

of the project not related to wildlife mitigation, including shoulder reconstruction, slope and drainage modifications, and a boardwalk for people stopping to view the Preserve's wildlife was included.

A concern in the placement of the barrier was that vehicles might go over the lipped wall, making emergency response more difficult as well as making vehicles more difficult to see from the road. In-sloped and wide clear zones reduced this concern (USDA

Forest Service website <http://www.wildlifecrossings.info>).

Vegetation growing along the wall has allowed some small mammals to breach the lipped wall. Therefore, vegetation maintenance is required. A slope arm mower is used at Paynes Prairie.

The effectiveness of this culvert/barrier system has been well monitored. A 41% reduction in wildlife road mortality was recorded between the pre- and post-construction periods (Barichivich and Dodd 2002). If birds and hylids (climbing treefrogs) which cannot be prevented from access to the highway by the barriers, are eliminated from analysis there was a 93.5% reduction in road mortality. Also, an increase in culvert use for many species was observed. A reduced number of road mortality and an increased use of culverts are considered the best indication of a successful passage design.

A-9

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Guardrail (Type-A Fence)

As part of the Paynes Prairie Ecopassage project, a reverse mount guardrail barrier made of metal with wood posts facing the traffic was installed at both ends of the wetland to reduce animals traveling around the ends of the lipped wall (Figure A-10). These were buried with hardware cloth to prevent animals from digging under the guardrail. The guardrails were placed in reverse to prevent snakes from climbing the posts and crossing (USDA Forest Service website <http://www.wildlifecrossings.info>).

Some problems with drainage have occurred in the reverse guardrail barrier. Animals have been able to enter the roadway where water run-off from the road has created gaps under the barrier. Pete Southall (Florida Department of Transportation, Pers. Comm.) believes that if the guardrail were constructed with an asphalt footprint base this would eliminate the drainage and vegetation concerns. In this situation the guardrail may be very effective and have lower maintenance costs. A slope mower arm would be able to mow over the top of the guardrail easily. The reverse mount guardrail was considered effective for smaller animals (P. Southall, Florida Department of Transportation, Pers. Comm.).

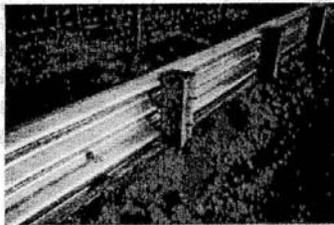


Figure A-10. Type-A fence (Paynes Prairie, Florida) Photo: Barichivich and Dodd 2002.

A-10

Erosion

Sheet erosion and other drainage issues can cause problems and breaching of most types of barriers. Burying galvanized metal or aluminum flashing to a depth of 20 cm could significantly decrease access to the road by small animals such as turtles and snakes (Barichivich and Dodd 2002). Also, using asphalt "pads" may also minimize this problem (see discussion under "Guardrail" section). Regular inspection of the barrier should be required.

Vegetation

During the Paynes Prairie Ecopassage project, small mammals, snakes, and treefrogs were observed climbing vegetation adjacent to the concrete wall (Barichivich and Dodd 2002) (Figure A-11). Vegetation generally needs mechanical mowing once a year. Approved aquatic pesticides are used about twice a year on the Paynes Prairie project (P. Southall, Florida Department of Transportation, Pers. Comm.).



Figure A-11. Vegetation growing along concrete wall with lip (Paynes Prairie, Florida) Photo: Barichivich and Dodd 2002.

Maintenance

Because of the above issues, regular inspection and maintenance needs to be incorporated into highway plans. On the Paynes Prairie Ecopassage project mowing occurs about once a year and approved aquatic pesticides are used about twice a year.

A-12

Letter 171, University of Montana,
Wildlife Biology Program, Kathleen Griffin (continued)

RECOMMENDATIONS

There are many different types of barriers that have proven to be effective in minimizing wildlife-highway interactions. The type, dimensions, and materials used are often dictated by the needs of the species of most concern on the project. Given that the Highway 93 Reconstruction through the Ninepipes area is likely to encounter many different types of construction needs, no one type of wildlife barrier can be recommended. Like the Paynes Prairie Ecopassage project, a combination of methods mentioned above is likely to be needed to accommodate the various situations encountered along this stretch of highway (Figure A-12). Where wildlife crossing culverts are located, concrete walls or the galvanized steel railings might easily be incorporated into the design because mechanically stabilized earth will be needed (G. Smith, Senior Project Manager, Skillings Connolly, Pers. Comm.).

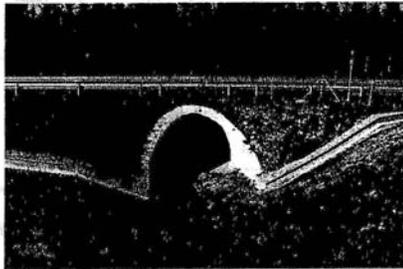


Figure A-12. Example of a combination of barrier methods. Arched culvert with large fence along highway and metal rail for amphibians and reptiles (Germany). Photo: Bank et al. 2002.

A-13

RECOMMENDATIONS

There are many different types of barriers that have proven to be effective in minimizing wildlife-highway interactions. The type, dimensions, and materials used are often dictated by the needs of the species of most concern on the project. Given that the Highway 93 Reconstruction through the Ninepipes area is likely to encounter many different types of construction needs, no one type of wildlife barrier can be recommended. Like the Paynes Prairie Ecopassage project, a combination of methods mentioned above is likely to be needed to accommodate the various situations encountered along this stretch of highway (Figure A-12). Where wildlife crossing culverts are located, concrete walls or the galvanized steel railings might easily be incorporated into the design because mechanically stabilized earth will be needed (G. Smith, Senior Project Manager, Skillings Connolly, Pers. Comm.).

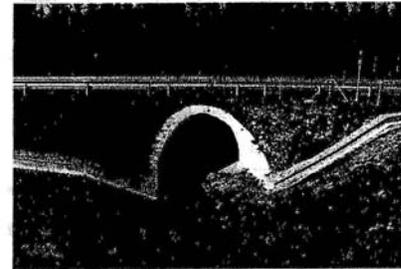


Figure A-12. Example of a combination of barrier methods. Arched culvert with large fence along highway and metal rail for amphibians and reptiles (Germany). Photo: Bank et al. 2002.

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Letter 171, University of Montana,
Wildlife Biology Program, Kathleen Griffin (continued)

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USDA Forest Service. Wildlife Crossing Toolkit
<http://www.wildlifecrossings.info/beta2.htm>
 If you go to "simple search" and type in "Paynes Prairie", then click on the name "Paynes Prairie" detailed information on design dimensions and engineering drawings can be found.

This website is directed by Jacobson, Sandra. Wildlife Biologist, USDA Forest Service, Pacific Southwest Research Station, Arcata, CA
 Phone: (707) 826-1276
 Email: sjacobson@fs.fed.us

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http://www.fsc.usgs.gov/Amphibians_and_Reptiles/Paynes_Prairie_Project/paynes_prairie_project.html. For detailed information on design dimensions including engineering drawings, see the USDA Forest Service Wildlife Crossing Toolkit website.

A-16

APPENDIX B. Use of Low Fencing with Aluminum Flashing as a Barrier for Turtles.

The following paper was presented at and appears in the Proceedings the 2005 International Conference on Ecology and Transportation (ICOET) which occurred from August 29 through September 2, 2005 in San Diego, California.

Griffin, K.A. 2005. Use of low fencing with aluminum flashing as a barrier for turtles. *In* Proceedings of the 2005 International Conference on Ecology and Transportation, edited by C. Leroy Irwin, Paul Garrett, and K.P. McDermott. Raleigh, NC: Center for Transportation and the Environment, North Carolina State University.

USE OF LOW FENCING WITH ALUMINUM FLASHING AS A BARRIER FOR TURTLES.

Abstract

I examined the effects of road mortality on a population of western painted turtles (*Chrysemys picta bellii*) in west-central Montana; these turtles make up the majority of road mortalities in a section of highway that bisects the Ninepipe National Wildlife Refuge. The objective of the barrier fencing experiment was to determine whether turtles were able to breach fencing designed to direct turtles towards crossing structures and thereby keep them off the road.

I constructed 45.7 cm high turtle enclosures out of 2 by 5 cm fencing with and without 10 or 15 cm high flashing attached at the top. Turtles were placed in the enclosures and behavior was observed for 1 hour. Of 124 turtles, only 4 (3.2%) were able to climb the flashing. No turtles climbed over the flashing within the time allowed. In enclosures without flashing, 2 (3.8 %) were able to breach the fencing. The results of this experiment will help in the design of appropriate barriers to keep turtles off the road and direct them towards crossing structures.

Introduction

In northwestern Montana, U.S. Highway 93 has been slated for capacity and reconstruction improvements along a 90 km (56 mile) section. An approximately 7 km (4.3 miles) portion of this highway bisects a prairie pothole ecosystem that currently supports a variety and abundance of wildlife. One species, the western painted turtle (*Chrysemys picta bellii*), comprises the majority of wildlife road mortalities in this area. Through a cooperative agreement involving the Montana Department of Transportation (MDT), the Federal Highway Administration (FHWA), and the Confederated Salish and Kootenai tribes (CSKT), a series of wildlife mitigation measures involving wildlife crossing structures and other design features will be implemented to decrease the amount of road mortality and fragmentation that currently exists (FHWA, MDT, and CSKT 2000).

B-1

Letter 171, University of Montana,
Wildlife Biology Program, Kathleen Griffin (continued)

A variety of barrier and fencing designs have been used in wildlife-highway interaction projects to keep wildlife off roadways and direct them towards wildlife crossing structures. Because barriers and fencing are likely to increase the fragmentation effects of highways, the use of culverts and other crossing structures are important in maintaining connectivity (Dodd et al. 2004, Aresco 2005). Amphibians and reptiles are potentially less amenable to mitigation using crossing structures and barriers. This is a consequence of the limited movements by many species and the low potential for learning compared with large animals (Yanes et al. 1995). However, movements through the culverts by at least a few individuals should be sufficient to maintain genetic exchange while at the same time significantly decreasing wildlife road mortality (Rudolf 2000). Various turtle species are known to use culverts as crossing structures (Foresman 2004, Pelletier 2005, Walsh 2005).

Rails and curved pipes have been used as barriers for amphibians and reptiles (Barichivich and Dodd 2002), (Frey and Niederstraßer 2000), (Bank et al. 2002), as have concrete walls (Barichivich and Dodd 2002), guardrails (Barichivich and Dodd 2002), and fencing (Banks et al. 2002, Evink 2002). Herpetofauna can be directed by drift fences, which have been very effective in directing movements especially during capture sessions (Gibbons et al. 1990, Morreale et al. 1984). Ruby et al. (1994) compared behavioral responses of captive desert tortoises to various barriers and fences. They found tortoises responded differently to the different barrier types. Tortoises were also observed attempting to climb those barriers constructed of wood (Puky and Vogel 2003). While anecdotal evidence exists that some turtle species (including painted turtles) are good climbers, no one has examined barrier fencing can be breached.

My objective was to determine if aluminum flashing at the top of a wire fence would be sufficient to stop western painted turtles from climbing over barrier fencing. The particular fencing type in combination with aluminum flashing was used to represent a potentially low-cost alternative for use as barrier and directional fencing at crossing structures.

Methods:

The enclosure trials were conducted at various ponds within the Mission Valley, Montana (T20N, R20W, Sections 24-26). All trials were conducted during activity periods of turtles (1335 – 1800 Mountain Daylight Time), between July 4 and 11, 2004 and May 26 and 30, 2005.

Eight circular enclosures were built of 2.5 x 5 cm welded wire. The enclosures were 61 cm in diameter and 45.7 cm high with an open top and bottom. On the inside top of each enclosure either 10 cm or 15 cm of aluminum flashing (#68-010) was attached flush with the top of the enclosure (Figures B-1 and B-2). Four enclosures of each type were made for a total of 8 enclosures. Because of the different flashing widths the distance from the ground to the bottom of the flashing was different for the 2 types of enclosures. Therefore, the enclosures with 10 cm of flashing had 35.6 cm of exposed wire and the enclosures with 15 cm of flashing had 30.5 cm of exposed wire. For the 2005 trials, the flashing was removed making the enclosures 45.7 cm of fencing.

B-2



Figure B-1. Wire enclosures with aluminum flashing used to test turtle's climbing ability.

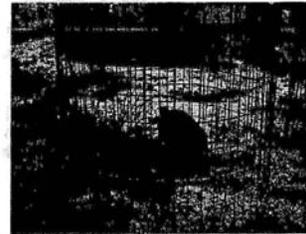


Figure B-2. Turtles in fencing enclosure with aluminum flashing.

The enclosures were placed at the edge of a pond so that the substrate was always dried mud. Enclosures were placed such that the interior was bare or had little vegetation and no food, water, or shelter was provided. Trials were conducted with wild-caught, naive animals that had no known previous experience with enclosures. Each trial began by randomly assigning 2 turtles to each enclosure and placing the turtles in the center of the enclosure.

A total of 177 turtles were used for the trials. Each trial lasted 1 hour during which turtle behavior was noted. Each time a turtle attempted to climb the fencing the highest level it reached was recorded. A turtle was considered to have reached that level if at least 1 claw held onto that rung of wire. If a turtle fell onto its back it was left alone to see if it could right itself. If after 1 minute the turtle was unable to right itself it was turned over by the observer.

Trials were run simultaneously in all 8 enclosures and observational data were collected during the entire hour period. Crewmembers were responsible for observations in 2

B-3

Letter 171, University of Montana,
Wildlife Biology Program, Kathleen Griffin (continued)

enclosures at a time. Enclosures were placed within 0.5 meter of each other to aid in observations.

Data were analyzed using chi-square analysis to test for differences in distribution of the highest height reached by gender.

Results:

Turtles spent a majority of the time walking the perimeter of the enclosures. Only one turtle, an adult, settled down and made no further explorations after one initial attempt at climbing the fence. Some turtles attempted to extend their head and feet through the wire but none continued to push for periods greater than 3 minutes. No turtles became stuck in the fencing. The presence of another turtle in the enclosure did not appear to alter behavior. Occasionally, turtles crawled over each other while exploring the enclosure and occasionally stood on the back of another in an attempt to climb. Heights reached while aided by another turtle were not recorded because under natural conditions it is unlikely that turtles will be at the same place along the fence.

Males and females climbed to similar heights in the enclosures with 10 cm flashing ($\chi^2 = 7.527$, $P > 0.05$) and in enclosures with 15 cm flashing ($\chi^2 = 4.944$, $P > 0.05$); therefore, gender was pooled in subsequent analyses.

All ($N = 177$) turtles reached at least the 10 cm level. This could have been obtained by some turtles while keeping one hind foot on the ground. In enclosures without flashing, 75% ($N = 53$) of the turtles attempted to climb and 3.8 % were able to breach the fencing (Figure B-3).

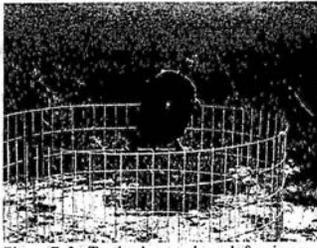


Figure B-3. Turtle about to breach fencing enclosure without aluminum flashing.

B-4

In enclosures with flashing, 82% ($N = 124$) attempted to climb the fencing (climbing was defined as reaching 15 cm [6 in.] which meant that at least both front feet were off the ground). No turtles were able to breach the flashing in any enclosure, however, 2 adult turtles in both the 10 cm and 15 cm flashing enclosures reached the flashing (3.6% and 3.8%, respectively). All turtles that were able to touch the flashing fell to the ground. All turtles, except 1, were able to right themselves within a matter of a minute.

Digging behavior was only observed 3 times during the trials and in no instance was the turtle able to breach the fence.

Discussion

Turtles are known to make seasonal movements (Sexton 1959, Gibbons et al. 1990) and given urban development today they are likely to encounter roadways during these movements. Turtles are susceptible to road mortality due to their slow movements; therefore, fencing is an important issue. With the increase in the use of barrier fencing to direct wildlife towards crossing structures, it is important to determine what methods or designs are most effective. One commonly held belief is that turtles are good climbers and, thus, potentially able to breach fencing that is designed to keep them off the roadway.

I found that although turtles were able to climb wire fencing, it is unlikely that many, if any, turtles are able to breach even relatively low fencing if aluminum flashing is attached at the top. Digging behavior may not have been an issue during this experiment however; longer confinement may have been needed in order for digging behavior to begin. This information can be helpful for agencies, such as transportation departments, in deciding what types of barrier fencing to use.

There are some potential problems associated with fencing. Overall, depending on the fence type, fencing can be expensive to build, maintenance costs can be high, and aesthetics of wire fencing may be an issue. For turtles, if the mesh sizes are too large, hatchlings and juveniles can pass through or get stuck in the openings. Therefore, smaller mesh attached to the bottom of larger-mesh fences is necessary (Evink 2002). Fencing should be buried to minimize the chance of turtles breaching the fencing by digging. The type, dimensions, and materials used for barrier fencing should be dictated by the needs of the species of most concern in the project area.

In general, more studies are needed to find the most effective and low cost fencing so that a system of crossing structures and barriers will likely be successfully implemented and maintained. Some specific questions that need to be addressed include whether and how far turtles will follow fencing and if there are specific conditions that cause turtles to turn away from fencing rather than travel along them.

B-5

Letter 171, University of Montana,
Wildlife Biology Program, Kathleen Griffin (continued)

Acknowledgements: Funding was provided by the Montana Department of Transportation Project #8169 entitled “*Potential effects of road mortality and habitat fragmentation on a population of painted turtles in Montana*”. Additional support for the overall project was provided by the Confederated Salish Kootenai Tribes, the Summerlee Foundation, and the Western Transportation Institute. Dan Pletscher, Professor of Wildlife Biology and Director of the Wildlife Biology Program, University of Montana, provided important input and support throughout the course of the project.

Biographical Sketch: Kathleen Griffin is currently a Ph.D. candidate in the Wildlife Biology Program, College of Forestry and Conservation, University of Montana in Missoula, MT. Her current research focuses on population dynamics and movements of freshwater turtles in Montana.

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B-6

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B-7

Letter 171, University of Montana,
Wildlife Biology Program, Kathleen Griffin (continued)

APPENDIX C. Road Mortality Data for All Species.

The following table and graphs depict all road mortalities encountered during road mortality surveys along Highway 93 from 2002 to 2004. Surveys were conducted along a (6.4-km [4-mile] stretch between Gunlock-Olson Road and Beaverhead Lane.

Roads within the study area were walked approximately once a week from mid-May through late August, 2003-2005. In 2002, surveys were conducted between mid-July and mid-September. In 2003 and 2004, surveys began in mid-May and continued through mid-September with 1 final survey the first week of October. Crews walked each side of the roadways simultaneously and documented all dead vertebrates. Animal locations were referenced to approximately evenly spaced (0.16 km) numbered reflector posts along the highway. These road markers start at 1.0 at Gunlock-Olson Road and are approximately 160 m apart. See Figure 5 in the main document for details on marker locations.

All road mortality counts are considered minimum counts because there is no information on the probability of recovery of road killed individuals. For example, some animal carcasses may have been removed from the highway by scavengers or blown off before being counted.

C-1

Table C-1. The number of individual animals (not including turtles) found during road mortality surveys along a 6.4 km section of Highway 93 in the Ninepipe/Ronan area from 2002 through 2004.

Road Location	Reptiles-Amphibians ^{1/}			Birds ^{2/}			Small Mammals			Medium Mammals ^{3/}			Large Mammals ^{4/}	Grand Total
	2002	2003	2004	2002	2003	2004	2002	2003	2004	2002	2003	2004	2003	
1	0	0	0	1	2	2	0	2	3	0	1	0	0	11
2	0	0	0	2	2	0	0	2	1	0	2	1	0	10
3	0	0	0	7	5	1	0	0	1	0	1	1	0	16
4	0	1	0	0	3	1	3	1	0	0	0	0	0	9
5	1	0	0	7	4	0	0	1	0	0	2	0	0	15
6	0	1	1	9	7	2	0	2	2	1	2	1	0	28
7	1	2	0	9	5	0	0	0	0	0	0	0	0	17
8	0	0	0	15	6	4	1	0	1	2	1	0	0	30
9	0	0	0	22	18	11	1	1	2	0	0	1	0	56
10	2	0	1	8	11	2	0	1	0	0	1	0	0	26
11	0	0	1	3	6	1	0	1	0	2	1	1	0	16
12	2	0	0	1	2	2	2	0	2	2	1	0	0	16
13	0	0	0	1	4	0	0	0	0	0	1	0	0	6
14	0	1	0	3	0	2	0	0	1	2	5	0	0	14
15	0	1	0	0	2	0	0	0	0	0	1	1	0	5
16	0	0	0	4	1	1	0	0	0	1	4	1	0	12
17	0	3	0	0	9	2	0	1	0	3	1	0	0	19
18	0	6	0	1	5	1	0	0	0	1	3	1	0	18
19	0	5	1	1	1	0	1	0	2	1	2	1	1	16
20	0	4	0	0	1	1	1	0	0	2	0	0	0	9
21	0	1	0	1	0	0	0	0	0	0	0	0	0	2
22	0	0	0	3	0	2	0	0	0	1	3	1	0	10
23	0	1	0	4	1	0	0	0	1	2	0	0	0	10
24	0	0	0	3	1	0	0	0	3	0	2	0	0	9
25	0	0	4	1	2	3	0	0	0	0	0	1	0	11
26	0	1	0	2	1	1	0	0	0	2	8	0	0	13
27	0	0	0	4	3	2	0	0	0	0	5	0	0	14
28	0	2	1	2	3	0	1	0	0	0	0	0	0	9
29	1	1	0	8	1	0	1	0	1	0	4	0	0	17
30	0	1	1	7	0	0	1	0	0	3	1	0	0	14
31	0	0	0	9	2	1	0	0	0	2	2	0	0	16
32	0	0	1	1	2	1	0	0	0	1	3	0	0	9
33	0	0	0	1	4	0	0	1	1	1	1	1	0	10
34	1	1	0	3	5	0	0	0	0	1	0	0	0	11
35	0	0	0	0	3	0	0	0	0	2	0	0	0	5
36	0	0	0	0	1	1	0	1	0	0	1	0	0	4
37	1	3	0	4	1	0	0	0	0	1	0	0	2	12
38	0	0	0	4	1	0	0	1	0	1	0	0	0	7
39	1	1	0	2	2	0	0	0	0	0	1	0	0	7
40	0	10	0	5	0	1	2	0	0	0	0	0	0	18
41	0	6	0	8	5	1	0	1	0	2	1	0	0	24
42	0	0	0	2	1	1	0	0	0	1	0	0	0	5
43	0	1	1	0	1	1	0	0	0	0	0	0	0	4
44	0	2	1	0	0	0	1	0	0	2	0	0	0	6
45	0	0	0	1	0	2	0	0	0	0	1	0	0	4
46	0	1	0	1	0	0	0	1	0	0	0	0	0	3
47	0	0	0	2	2	2	0	1	0	0	0	0	0	7
48	0	0	0	1	1	0	0	0	0	0	0	0	0	2
49	0	0	0	2	1	0	0	3	0	0	0	0	0	6
50	0	0	0	0	0	0	0	0	1	0	0	0	0	1
51	0	2	0	1	1	1	0	0	0	0	0	0	0	5
52	0	1	0	1	6	1	1	1	0	0	0	0	0	11
53	0	0	0	0	3	2	0	0	0	0	2	0	0	7
54	0	1	0	1	0	0	0	0	0	0	0	0	0	2
Subtotal	10	60	13	176	148	86	16	22	22	36	67	13	3	644
Total Across Years		83		382		60		116		3				644

1/ Reptiles/Amphibians does not include turtles (see main report for details on turtles). All mortalities but 1 (amphibian) were snakes.
2/ Birds: Swallows made up the greatest number (57) while blackbirds (41) and pheasants (30) were next abundant in mortality.
3/ Medium mammals includes badgers, skunks, canines, cats, weasels, muskrats. The majority of road mortalities in this category were muskrats which accounted for 93 out of the 116 total.
4/ Large mammals consisted solely of deer species. This value may be low because deer could have been cleared from the road by transportation or safety agencies before being counted.

C-2

Letter 171, University of Montana,
Wildlife Biology Program, Kathleen Griffin (continued)

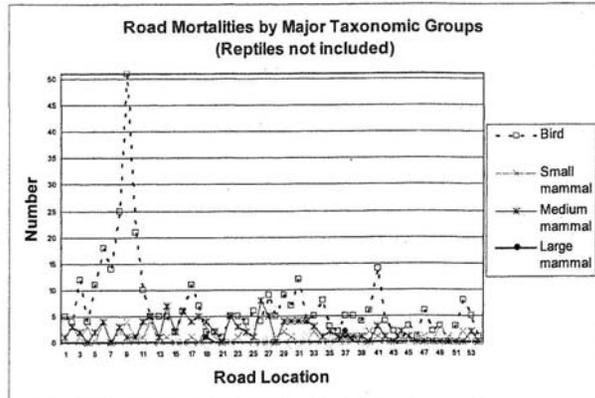


Figure C-1. The number of road mortalities of major taxonomic groups (no reptiles/amphibians) from 2002-2004 encountered along Highway 93 between Gunlock-Olson Road and Beaverhead Lane. Reptiles not included.

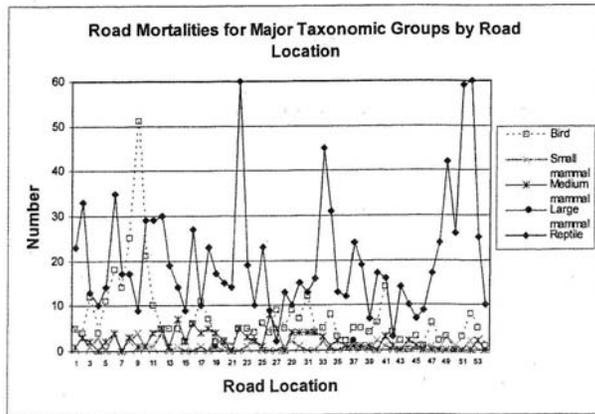


Figure C-2. The number of road mortalities of major taxonomic groups from 2002-2004 encountered along Highway 93 between Gunlock-Olson Road and Beaverhead Lane.

C-3

172

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN 8744.

172-1

As a resident of Mission Valley,

I want a BIKE/WALKING PATH,

seperate from traffic, on Hwy 93

connecting ALL communities

from Polson to Arlee.

Please provide your name and address:

Name: ED VIZCARRA

Address: 124 4th Ave SW
Ronan, MT 59864

Email: ed.vizcarra@stjohnsbaptist.org

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

OPEN HOUSES

Monday
September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Center
St. Ignatius, MT

Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Letter 172, Ed Vizcarra

172-1.—See Response #3-1.

173

Jean Riley/ Project CN B744
MDT Environmental Services
2701 Prospect Ave
PO Box 201001
Helena, MT 59620-1001

MASTER FILE
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October 3, 2006

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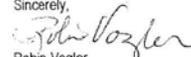
ENVIRONMENTAL

Robin Vogler
958 Blue Lake Lane
Bigfork, MT 59911

Dear project manager Riley,

- 173-1 | I oppose MDT's plan to build high-speed passing lanes through the sensitive Ninepipes area. The Ninepipe area must be preserved because it is a premier waterfowl, grizzly and turtle habitat. I ask the MDT to honor your memorandum of Agreement with the Confederated Salish & Kootenai Tribes which states of the
- 173-2 | Ninepipes area, "due to the high ecological value of the landscape, passing lanes are not appropriate and will not be included" in the reconstruction project. The roadkill along this already existing stretch of highway is unacceptably high. To add more lanes would only multiply the carnage.
- 173-3 | To help alleviate this destruction, I advocate the building of an elevated highway. As outlined in alternative 7, which is preferable to underpasses as they are impractical in wetland marshes. Please ensure that highway 93 is safe for wildlife and people. Thank you.

Sincerely,


Robin Vogler

The Humane Society of the United States

 Robin Vogler
958 Blue Lake Ln
Bigfork MT 59911-6022



Jean Riley/Project CN B744
MDT Environmental Services
2701 Prospect Ave
PO Box 201001
Helena, MT 59620-1001



Letter 173, Robin Vogler

173-1.—See Response #11-1.

173-2.—See Responses #17-2 and 49-2.

173-3.—See Responses #5-1 and 11-1.

Letter 173a, MC von der Pahlen

173a-1.—See Response #3-1.

From: adrian@accessmontana.com [mailto:adrian@accessmontana.com]
Sent: Friday, October 06, 2006 3:54 PM
To: mdteiscommentsninepipe@mt.gov
Cc: Irenz@skillings.com; Kathleen Adams
Subject: Comment on US93 Ninepipe/Ronan EIS

October 6, 2006

To whom it may concern:

173a-1 | I urge you to consider a bike/walk path along Highway 93, to the north and south of the highway, and connecting to existing walk/bike paths to the east and west of Ronan and south of Polson. A network of walk/bike paths can help reduce the negative impacts of the Highway 93 expansion, including increased traffic and speed, by providing an alternative slower route for short distance commuters. Ideally, through a well connected network of paths, bikers can also have an alternative commute to work even between Polson, Pablo and Ronan. A network of bike/walk paths can also help safeguard some of the healthy and peaceful lifestyle this area provides, as well as enhance the experience for newcomers through greatly desired services as recreational paths. A buffer of shrubs and trees between the highway and the walk/bike path would also help reduce the noise, air pollution and stress that fast commuters on the highway (including myself) project. I would personally much rather see a network of bike/walk paths some distance from the highway or along secondary roads. Functionality and connectivity are of course important since the bike/walk paths are used to commute to work and to the city's services. Thank you for the opportunity to comment,

MC von der Pahlen
2195 Twin Creek Way
Ronan, MT 59864
406-676-4512

174

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
 Please indicate comments are for project CN B744.

174-1

As a resident of Mission Valley,
 I want a BIKE/WALKING PATH,
 seperate from traffic, on Hwy 93
 connecting ALL communities
 from Polson to Arlee.

I WANT A Bike Path!

I Live by Ninepipe's And I
 Love Riding bikings!

MONTANA COPY

OPEN HOUSES
 Monday
 September 18, 2006
 6:00 - 8:00 pm
 Tribal Fitness Center
 St. Ignatius, MT

Tuesday
 September 19, 2006
 4:00 - 7:00 pm
 Ronan Community
 Center
 Ronan, MT

PUBLIC HEARING
 Tuesday
 September 19, 2006
 7:00 - 9:00 pm
 Ronan Community
 Center
 Ronan, MT

Please provide your name and address:

Name: Kirsten Wayman

Address: P.O. Box 246
Ronan MT 59904

Email: LWayman71@yahoo.com

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings
 Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
 Bureau Chief
 Environmental Services Bureau
 Montana Department of Transportation
 PO Box 201001
 Helena, MT 59620-1001
 (406) 444-7228

Letter 174, Kirsten Wayman

174-1.—See Response #3-1.

175

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MDT Environmental Division:

175-1

While developing the highway through the Nine Pipe area on highway 93 you must honor your original commitment to the wildlife in the area. By developing passing zones in this area it will only move people faster through the area killing more animals. It will be just like the area between Plains and Thompson Falls. The new highway is killing more sheep and other wildlife due to the increased speed. Once this area is developed it will be lost forever. It is now purifying a lot of water in the area and protecting many species of birds and small animals. Grizzlies will also be more vulnerable when passing over the highway. Save the area and stick to your original idea of protecting wildlife along with the purifying wetlands. Thank you for your consideration of my thoughts in this letter. Sincerely
Jack Webster, 502 River Road West, Plains, Mt. 59859

Jack Webster

Letter 175, Jack Webster

175-1.—See Response #17-2.

176

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

176-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Justine M Welker

Please provide your name and address:

Name: Justine Welker
Address: 2213 Terrace Lake Rd
Ronan, MT 59864
Email: _____

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

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OPEN HOUSES
Monday
September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Center
St. Ignatius, MT

Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING
Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Letter 176, Justine Welker

176-1.—See Response #3-1.

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

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Please indicate comments are for project CN B744.

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177-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Andrea Wellman

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Monday
September 18, 2006
6:00 - 8:00 pm
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September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING
Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Please provide your name and address:

Name: Andrea Wellman
Address: P.O. Box 3576
Ronan, MT
598264
Email: _____

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Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
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Letter 177, Andrea Wellman

177-1.—See Response #3-1.

178

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

178-1 | *I support a bike path extending south of Ronan. There are many homes in that area with children. A bike path is much safer than a shoulder.*

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Please provide your name and address:

Name: Jane Whaling

Address: 42103 Jalel Blvd.
Polson, MT 59860

Email: _____

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Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

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Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
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Tuesday
September 19, 2006
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Ronan Community Center
Ronan, MT

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Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

Letter 178, Jane Whaling

178-1.—See Response #3-1.

179

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Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

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Please indicate comments are for project CN B744.

179-1 | As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Barb Wheeler

Please provide your name and address:
Name: Barb Wheeler
Address: 140 12th Ave E
Polson MT 59860
Email: N/A

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:
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Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
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Monday
September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Center
St. Ignatius, MT
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September 19, 2006
4:00 - 7:00 pm
Ronan Community
Center
Ronan, MT
PUBLIC HEARING
Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community
Center
Ronan, MT




Letter 179, Barb Wheeler

179-1.—See Response #3-1.

100

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

180-1 *my wife and I have owned the Club Bar on the corner of 1st ave S.W and Main St for almost 17 years. we don't see where it would be feasible to buy all the right of way and make a two lane one way out of 1st ave going south, there have to be less costly prospects for the highway going through Ronan. We also don't want our livelihood destroyed, something that we have worked at for a long time.*

Please provide your name and address:

Name: *Richard J. Wheeler*

Address: *722 5th Ave S.W.
Ronan, MT 59864*

Email: _____

OPEN HOUSES

Monday
September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Center
St. Ignace, MT

Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Letter 180, Richard J. Wheeler

180-1.—The other alternatives considered were indeed somewhat less costly, but after examining the relative impacts and benefits the three proponents selected Alternative Ronan 4 as the best overall solution, designating it as the Preferred Alternative in the final SEIS. Selection of the Preferred Alternative was based on comments received and is supported by the City.

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

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Please indicate comments are for project CN B744.

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181-1

As a resident of Mission Valley,
I want a BIKE/WALKING PATH,
seperate from traffic, on Hwy 93
connecting ALL communities
from Polson to Arlee.

Krista Wier

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Monday
September 18, 2006
6:00 - 8:00 pm
Tribal Fitness Center
St. Ignatius, MT
Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community
Center
Ronan, MT
PUBLIC HEARING
Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community
Center
Ronan, MT

Please provide your name and address:

Name: Krista Wier
Address: 31988 Lost Creek Lane
Ronan MT 59864

Email:

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings
Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228



Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

182-1 | FIRST PRINCIPLE: DON'T MESS WITH THE WETLANDS

HOWEVER... SINCE WE HAVE ALREADY DISTURBED THEM BY BUILDING HIGHWAY 93 IN THE FIRST PLACE WHERE IT IS, WE NEED TO PROVIDE A WAY FOR THE ANIMALS TO CROSS WITHOUT GETTING KILLED. I HAVE TO SEE HUNDREDS OF DEAD TORTOISE EVERY YEAR.

I LIKE THE STRUCTURE OPTIONS IN PART 3. AT POST CREEK, I WOULD CHOOSE OPTION 2 AND AT NINEPIPE, OPTION 3 SEEMS ABOUT RIGHT ASSUMING THAT SOMEONE HAS FIGURED OUT THAT THOSE ARE THE PLACES WHERE THEY WILL BE USED.

182-2 | AS TO THE ALIGNMENT OPTIONS, I DON'T UNDERSTAND WHAT IS BEING PROPOSED ON PAGE 3.22, WOULD ONE LOOP BE SOUTHBOUND AND THE OTHER NORTHBOUND. THIS SOUNDS EXPENSIVE. IN GENERAL I WOULD VOTE FOR ALT 5

182-3 | WITH THE WILDLIFE CONSIDERATION MENTIONED ABOVE.

Please provide your name and address:

Name: WILMER E. WINDHAM

Address: 32970 FINLEY POINT RD.
POULSON, MT 59860

Email: WINDHAM@CENTRA1.NE.T

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

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Monday
September 18, 2006
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Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT




Letter 182, Wilmer E. Windham

182-1.—Biologists and wildlife managers determined the locations for wildlife crossing structures by considering habitat, roadkill data, and tracking information, and using their best professional judgment.

182-2.—Page 3-22 simply shows the project study area. If the comment refers to Alternative Rural 6 on Figure 3.2-5, yes the roadway northbound and southbound from Post Creek Road to the top of Post Creek Hill would be on separate alignments. Also, Figures 3.2-17 and 3.2-18 show cross sections of the couplet proposed for the section within Ronan.

182-3.—Thank you for your comment. See Response #11-1.

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US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN 8744.

183-1 | Please continue the bike path further south of Ronan toward Missoula. There is vouch a high demand for this type of thing. The paths that have previously been built are used heavily and I know the vouch between Ronan & Missoula will also be used.

Please provide your name and address:

Name: Shauna Wise

Address: 2166 Kaloer Rd
Ronan mt 59864

Email: wise@ronan.com

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:

Jean A. Riley, PE
Bureau Chief
Environmental Services Bureau
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001
(406) 444-7228

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St. Ignatius, MT

Tuesday
September 19, 2006
4:00 - 7:00 pm
Ronan Community Center
Ronan, MT

PUBLIC HEARING

Tuesday
September 19, 2006
7:00 - 9:00 pm
Ronan Community Center
Ronan, MT




Letter 183, Shauna Wise

183-1.—See Response #3-1.

Letter 184, John Wolverton

184-1.—See Responses #5-1 and 11-1.

Comment Form

US 93 NINEPIPE / RONAN IMPROVEMENT PROJECT

THANK YOU FOR PARTICIPATING IN THE PUBLIC INVOLVEMENT PROCESS! Your involvement is of great value to the project team. If you would like to submit written comments, please use this form and place it in the comment box provided. If you need more time, you are welcome to mail it in. We want to hear from you!

The Draft SEIS is also available for viewing or submitting comments at the MDT website: http://www.mdt.mt.gov/pubinvolve/eis_ea.shtml
Please indicate comments are for project CN B744.

184-1 | *In order to develop a balanced transportation asset which provides due consideration to human needs and wildlife protection, the expansion of Ninepipes Hwy 93 segment should be elevated as outlined in Alternative #7.*

Under no circumstances should there be passing lanes through these sensitive areas, unless the passing lanes are elevated bridge-like above grade.

If it is unfeasible to elevate the complete section, elevated sections over the most sensitive wildlife crossing areas should be considered. This along with enhanced wildlife underpasses as endorsed in the study by [unclear] in other locations, can provide a balanced transportation corridor.

John F. Wolverton 14 Sept 06

Please provide your name and address:
 Name: John Wolverton
 Address: 1637 S. 8th St. W.
Missoula, MT. 59801
 Email: jodelingds@hotmail.com

Please leave your comments with either MDT, Skillings Connolly or Herrera staff at the meeting, or mail to:
 Jean A. Riley, PE
 Bureau Chief
 Environmental Services Bureau
 Montana Department of Transportation
 PO Box 201001
 Helena, MT 59620-1001
 (406) 444-7228

PLEASE SUBMIT COMMENTS BY OR BEFORE OCTOBER 6, 2006




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 Monday
 September 18, 2006
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 September 19, 2006
 4:00 - 7:00 pm
 Ronan Community Center
 Ronan, MT

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185

216 N. Main St.
St. Ignatius, MT 59865

Oct 3, 2006

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Jean Riley / Project CN B744
MDT Environmental Services
2701 Prospect Ave.
PO Box 201001
Helena, MT. 59620-1001

Re: Ninepipe Ronan Draft EIS

I have two comments concerning this draft EIS.

185-1 | First is the highly improbable traffic projection. After acknowledging that the areas growth rate has dropped to less than half of its 1990's rate (and the Census Bureau anticipates this trend to continue at least through 2010) the growth rate of traffic is projected to be more than 90% of that period. This is spite of having said that the traffic rate is driven by population growth. This lowering trend of traffic generation is also likely to be exacerbated by worldwide fuel shortages and price increases.

185-2 | Additionally, there is the continuing problem of there having never been a serious evaluation of the actual existing traffic. The results of this omission is illustrated by the recommendation of a lengthy passing lane through the Ninepipe area so vehicles may more easily pass slower traffic and supposedly reduce accidents. Indeed, passing and accidents are problems, but in most cases at speeds substantially in excess of the posted speed limit. Violation of the speed limit should not be encouraged. The extra lane should not be included in the interest of both drivers and wildlife.

Sincerely,

Harold W. Young
Harold W. Young

Page 185, Harold W. Young

185-1.—The traffic projections are based on a Growth Rate agreed to by the project proponents as being a reasonable expectation for the corridor.

185-2.—The passing lane through Ninepipe has been eliminated by selecting Alternate Rural 3 for the Preferred Alternative. Also see Response #11-1.

Letter 186, Mitchell A. Young

186-1.—See Response #3-1.

From: mitchell young [mailto:may0ung@yahoo.com]
Sent: Thursday, October 05, 2006 2:11 PM
To: mdteiscommentsninepipe@mt.gov
Cc: irenz@skillings.com; Kathleen Adams
Subject: Highway 93 alternatives

To whom it may concern;

186-1 | I am writing to voice my support for a bike path continuing south of Ronan through the Ninepipe area. I am an avid road cyclist and logged more than 3000 miles this past year. While I have not been in a bicycle crash involving a motor vehicle, several of my friends have, and I have been in a number of close calls. While the majority of motorists are respectful of my rights, there are always a few who seem to resent my use of any portion of the road. Moreover, the current roads in Lake County are narrow enough that malice is not required - simple inattention can result in a collision. Obviously, cyclists bear the brunt of such accidents.

For the above reasons, and due to the high volume of traffic on Highway 93, I do not ride on that highway. However, because I ride a road bike and because there are few paved alternatives to Highway 93 south of Ronan, I am limited to riding the area between Ronan and Polson. A paved bicycle path south of Ronan would allow me a transportation alternative as well as a recreational option that I do not currently have.

I understand that the bike path alternative is more expensive than some of the other options. However, I read with interest a recent article in the Missoulian exploring the economic benefits of the Couer D'Alene bike path in Idaho. I believe that a dedicated bike route along the Mission Valley could have similar benefits here. An obvious prospect would be revival of the Tour of the Swan River Valley, an organized ride which used to proceed along Highway 93 until traffic density, and resulting bicyclist deaths, forced organizers to alter the route. The prospect of riding a car-free route through an area as beautiful as this is sure to attract cyclists from across the region, with a resulting economic benefit to the local community.

There is a growing number of cyclists in this area, and I hope others will write to support the bike path. As the number of cyclists grows, the potential for conflict between cyclists and motor vehicles grows as well. A dedicated route for cyclists dramatically increases the safety of both the cycling and motoring public, encourages an alternative to petroleum based transportation, and provides a recreational and economic boost to the area. I urge you to choose this alternative. Thank you.

Mitchell A. Young

U.S. Highway 93 Ninepipe/Ronan
Improvement Project
Draft Supplemental Environmental Impact Statement
and Draft Section 4(f) Evaluation

PUBLIC HEARING

Taken at the Ronan Community Center
300 Third Street Northwest
Ronan, Montana
Tuesday, September 19, 2006
7:00 p.m.

Dick Weaver, Hearing Officer

Reported by Barbara J. Marshall, Professional
Shorthand Reporter for the State of Montana, residing in
Polson, Montana.

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Page 3

EVENING SESSION, TUESDAY, SEPTEMBER 19, 2006

(Whereupon, the hearing was convened at 7:00 p.m. and the following proceeding was had:)

MR. WEAVER: It's seven o'clock. If all of you would find a chair, we will begin.

(Whereupon, a pause was taken in the proceeding.)

MR. WEAVER: It's seven o'clock. If all of you would find a chair, we will begin.

(Whereupon, a pause was taken in the proceeding.)

MR. WEAVER: Ladies and gentlemen, would you take a seat so we can begin the meeting.

(Whereupon, a pause was taken in the proceeding.)

MR. WEAVER: Ladies and gentlemen, I'd like to welcome you to the hearing on -- public hearing on the Route 93 Project from Red Horn to Spring Creek, approximately 11.2 miles. And we'll be taking comments a little bit later.

In the meantime, I would like to introduce myself. My name is Dick Weaver and I'm the hearing officer. And I'll be trying to facilitate this through the group that are going to be sitting here (indicating). And, of course, you, as you give comments as you wish.

I would like to make, first of all, a couple of introductions. Dwane Kailey, Montana Department of

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Page 4

Transportation, district administrator, is up here with me. Craig Genzlinger, who is operations engineer for the Federal Highway Administration. Lewis Yellowrobe is the transportation planner for the Tribes. And the project manager Lyle Renz, from Skillings Connolly.

We're going to be recording this this evening both verbally as well as a court recorder. And I want to welcome Barbara Marshall, who will be doing that.

And, as we ask for testimony, I would ask you to both state your name clearly in the microphone -- and I'll put the microphone up front -- as well as give your address. And please do that clearly. And I may have to interrupt you if you happen to forget that, but it's really important so that it will go into the record.

Should you require -- or should you request wanting to put in written comments, you're welcome to do that. I would ask that you would sign that and put your address and telephone number and all of that. And you can give comment or you can give it verbally and it will be taken in the notes. Both of those go into the record. It will be input from here. These gentlemen (indicating) will be listening, representing the agencies that I have mentioned. And so anything that you say or have written will certainly show up in the transcript.

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Page 5

We're going to provide for the opportunity -- by the way, let me see a **show** of hands of how many of you would **like** to speak this evening.

(Whereupon, a pause was taken in the proceeding.)

MR. WEAVER: All right. We will be allowing approximately five minutes to make your presentation. And what I would encourage you to do, **if** you've not done this before -- because we want to have this very succinct -- I would ask that you probably make a couple of notes so that as you speak you will have a train of thought that you can get your point across clearly and that we can all follow that.

Should it be begin to wander a little bit, I might just say go ahead -- in other words, if you start repeating yourself, I might just interject and say, "Please, bring this to a conclusion." And we hope that won't be, but we will allow about five minutes for each one of you to give your presentation. We want all comments. And we want that to go into the record.

Like I said, there is paper and pencils over on the table there (indicating) should you have. . .

At this time, I would ask Lyle Renz, the project manager, to give an overview of the project. And would you describe that, Lyle.

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Page 6

MR. RENZ: Thank you, Dick, for the introductions. Well, I'm going to read a bit in giving this description so that I get it right, but **I'll** try to refrain from **doing** a lot of reading.

The Federal Highway Administration and the Montana Department of Transportation and the Confederated Salish and Kootenai Tribes are referred to as the project proponents for this project. It's about 11.2 miles long. It's on U.S. 93 from Red Horn Road up to the north end of Ronan at Spring Creek.

The Draft Supplement Environmental Impact Statement that we're taking comments on tonight will be used by the project proponents to facilitate selection of a preferred alternative for highway improvements on this **section** of U. S. 93.

Let me give you a little bit of background about how we got **here**. There was an Environmental Impact Statement prepared in 1996. The Final Environmental Impact Statement and the Record of Decision that followed made it a -- determined that no project could take place until decisions on lane configuration, mitigation measures, and a **Section** 4(f) determination could be made.

As a result of that, the three agencies got together and, through **negotiations**, came up with a document known as

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the Memorandum of Agreement. And that Memorandum of Agreement then resulted in the construction that you're seeing out here today on the -- about 42 miles of U. S. 93 between Polson and Evaro. However, that agreement does not include the 11.2-mile section of U. S. 93 that we're taking testimony on tonight or that we've prepared the Draft Supplemental Environmental Impact Statement for.

The three governments agreed to prepare this Supplemental EIS for the Ninepipes/Ronan section because they felt it was needed to explore possible alternative alignments around the environmentally sensitive Ninepipe glacial, pothole, wetland complex and to study in more depth the effects of the highway improvement on wetland and wildlife. So that's the purpose of the Supplemental Environment Impact Statement.

Ron, if you could kind of go to the next slide there. I'll be prompting Ron for the -- for some of the visual aids that I'm going to use in the presentation.

Okay. That's just the vicinity map showing the vicinity of the project.

To describe the proposed action, the existing road is narrow, lacks shoulders, is periodically congested, and is expected to get worse in the future. Accidents have particularly high severities. Five percent of the accidents

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involve fatalities, in comparison to 1.7 percent for comparable facilities state-wide. There are also about three -- about three accidents per mile per year compared to about one per mile per year for comparable facilities in Montana. Both the accident rate and the fatality rate are about three times comparable to state-wide rates.

The portion of the non-fatal injury accidents in the corridor is also greater than for comparable roads state-wide. Of these injury accidents, 6 percent were head-on accidents versus 2 percent for comparable roads state-wide; thus, reducing the high accident severity is an objective for this project. The purpose of the project then is to improve the capacity and safety of the roadway while minimizing the impacts to the environment.

The project has been divided into two major portions. There is a rural portion and an urban portion. The rural portion is from the Red Horn Road on the south to the south city limits of Ronan. The urban portion is from the south city limits of Ronan on up to Spring Creek Road through Ronan.

Ron, if you could go on to the slides that show the alternatives -- the first slide that shows the alternatives.

Okay. There are ten action alternative and a no-action alternative rural portion of the corridor. The rural

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action alternative includes various combinations of two lane, a modified two lane, four line divided, and four lane undivided roadway configurations. Those alternatives are described in great detail in Section 3 of the Environmental Impact Statement, if you care to look at it. The slides that show these alternatives are available on the table. Over here (indicating) we've got a large board showing each one. But there are handouts that show these alternatives as well and you're invited to pick up one of those handouts.

All of the rural alternatives would include widened shoulders and left turn lanes would be provided at all public road intersections. All other rural action alternatives would also include replacement and upgrading of the existing culverts and bridges. There are -- in addition, five major wildlife crossings are planned at Post Creek, Ninepipe Reservoir, the Two Kettle ponds and at Crow Creek. In addition to that, eleven additional wildlife crossing structures are proposed on the rural segment of the project.

So let's go ahead and go through the alternatives -- the rural alternatives. I'm not going to say a long detailed description of each but kind of give the salient points of each of those alternatives.

Going to Alternative 1 -- are you able to see the

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slide up here? I see some of you going to pick up the handouts. It may be easier to follow on the handout. The Alternative 1 for the rural is simply a two-lane, undivided highway.

Alternative 2 is a two-lane undivided highway with one passing lane. It will have an uphill passing lane on Post Creek Hill.

Alternative 3 is a two-lane undivided highway with a short section of four lane, divided roadway from the south city limits of Ronan down to Brook Lane. And it would include a passing lane again on Post Creek Hill.

Alternative 4 is a two-lane roadway with a short section of -- same short section of four-lane, divided highway from Brook Lane up to Ronan. And it would include -- in addition to the passing lane on Post Creek Hill, it would be a southbound passing lane beginning just south of Post Creek. And it would go down and connect to the passing lane that is being built on the -- presently on the project just south of town.

Alternative 5 is a two-lane, undivided roadway. It would include a shorter section of four-lane road. It would be from the south -- from Innovation Lane up to the south city limits of Ronan. It would include the same -- it would include a northbound passing lane on Post Creek Hill and a

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little longer southbound passing lane beginning at West Post Creek Road and going down and joining the passing lane being built just south of this project.

Ron, next -- the next slide.

Alternative 6 is a two-lane, undivided roadway but, again, it would include a short section of four-lane, divided roadway at the north end from Bouchard Road up to Ronan. It would also include an independent alignment for a southbound lane. It would split the northbound and the southbound there on Post Creek Hill and the southbound lanes would go off to the west on an independent alignment and then join back in down around Post Creek Road. And it would include also a passing lane down at the south end from Post Creek down joining the -- down where it joins the passing lane under construction on the project to the south.

Alternative 7 is basically a two-lane, undivided roadway as well. It would have passing lanes -- northbound passing lane from just north of Crow Creek up to about the south city limits of Ronan. It would also have a short southbound passing lane in that same vicinity, starting up in Ronan and extending down just past the city limits. We have an uphill passing lane on Post Creek Hill and would have a southbound passing lane at the south end of the project going down and joining the one just south of the

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project.

The major distinguishing factor in Alternative 7 is it has about a four-mile section of elevated roadway -- elevated parkway would be on structure. There are four -- it's kind of four structure segments. There would be a turnout observation area half round at each end of the project and there would be two observation -- three observation areas; one near Ninepipe, one up where 212 joins, and one up near Mullen Pass Trail. These would be -- they would be observation areas. And they would be built on fill, not on structure.

Alternative 8 is a four-lane, undivided highway continuous throughout.

Alternative 9 is a four-lane, divided roadway continuous throughout.

And then Alternative 10 is a -- kind of a composite of a lot of the features in the other alternatives and is the preliminary preferred alternative by the three proponent agencies. I want to stress that even though it's a preliminary preferred alternative, all alternatives are still open at this point. No decision will be made until after all comments are in from this circulation of this environmental impact.

Rural 10, the preferred -- preliminary preferred

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alternative then is a two-lane, undivided roadway. It has an uphill passing lane on Post Creek Hill, which is northbound. It has a southbound passing lane in the Ninepipe vicinity. It's about a mile long. It has a four-lane, divided section from Innovation Lane up to the south city limits of Ronan. And it has a two-way, undivided left turn lane at the south end to handle all of the approaches from about south of Post Creek.

That's the description then of the rural alternatives. Let me talk a little bit about the urban -- and, Ron, you can go ahead and put the slide up that shows the urban alternatives.

There are five action alternatives and a no-action alternative for the urban portion. All of the urban action alternatives would include reconstruction of some existing roadway through Ronan. The action alternatives would include two-lane, and four-lane in a couple of configurations. Again, detail descriptions of those are contained in the environmental document. Pedestrian and bicycle facilities would be incorporated into all of the alternatives.

Okay. Alternative 1 for Ronan then is largely a four-lane highway with a raised median. So there would be - turns would be provided at intersections with left turn

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refuges, but there would not be continuous turns allowed mid-block, et cetera. It would be a raised landscape median to prevent those. There is a short four-lane section at the top where it would transition to the highway -- the improvement, which will be built and which is already approved to the north. And the project to the north is a four-lane, divided highway all the way to Polson, portions of which you see that have already been constructed and some under construction.

Alternative 2 in Ronan is a four-lane highway with a continuous two-way, left turn lane. Some refer to that as a five lane. And it would also have a four-lane transition section at the north to transition to the divided highway.

Alternative 3 is a couplet alternative. It would have a northbound roadway on existing U. S. 93 and a southbound roadway with an existing right of way on Southwest First Street through Ronan. It has the transition section at the north and would have some four-lane highway to the south to transition to the south.

Alternative 4, which is the preliminary preferred alternative by the three proponent agencies and endorsed by the City of Ronan, is also a couplet alternative. The northbound roadway is on the existing U. S. 93 through town. And the southbound leg of the couplet would be like

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Alternative 3 **except** that it would be wider and have more buffer areas. It would not be done within existing alignment. There would be about a 30-foot strip of right of way required in order to get those buffer areas. Where the buffer would be -- the right of way would be purchased on the east side of the roadway so the alignment would shift to the east, which would allow a wider buffer on the west, along with a buffer on the east. It also has the transition **section** at the north and south.

Alternative 5 is two-lane highway with continuous two-way, left turn lane, with a longer transition section at the north. It would also include paving of some city streets, one block each side of the highway, to accommodate more of the local traffic.

I have one additional group of information to give before we turn this over to -- for your comments. In that regard, I want to summarize the major environmental impacts both beneficial and adverse.

For the rural **action** alternatives traffic operations and safety would improve all other rural **action** alternatives there would be. It is estimated between 16 to 37 percent reduction in accident. All of the rural alternatives would be more visually evident than the existing highway, with the wider alternative and the elevated parkway having the

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greater visual effect. All of the rural **action** alternative displace a **minimum** of one residence and two businesses. And the four-lane alternatives would displace up to two residences and four business. They would require from approximately 35 to 103 acres of additional right of way.

Rural -- the Rural 10 and Alternatives 1 through 5 in the rural would not require acquisition of recreational, wildlife or wildlife management lands. Alternatives 6 through 9 would require acquisition of between approximately 3.3 to 26.6 acres of land that are recreational or wildlife. These are subject to the Section 4(f) provisions.

All rural **action** alternatives require alignment of twelve mainline culverts and eight canals. There would be a small impact-- on Rural 9 of historic stagecoach routes -- excuse me. The range of wetland impacts would be between 15.9 and 41.2 acres.

All alternatives would improve conditions for wildlife to cross under the highway. The rural preliminary preferred alternative then would improve traffic operations and have the potential of reducing accidents by about 20 percent, a reduction of 190 accidents, including 20 fatal accidents, by the year 2004 -- or 2024, excuse me. They require 42 acres of new right of way and displace one residence and two businesses.

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The urban **action** alternative traffic operations would be improved and accidents reduced under all of those alternatives, either by adding lanes or shoulders and signal lights on the major intersections. The urban alternatives would displace from one to five businesses. Four of the five alternatives would not displace any residences, while the fifth would displace between seven and nine residences. Right of way required is from 2.7 to 12 acres. All alternatives would include improved facilities for bicycles and pedestrians. And all would improve the air quality.

The urban preferred alternative is a couplet with improved intersections; some signal lights and two lanes in each direction about a block apart. It would improve traffic congestion, reduce accidents, facilitate cross-traffic movements for autos, pedestrians and **bicycles**. It would require about 12 acres of new right of way, no 4(f) properties, displaces seven to nine residences and two business and would require relocation of the Tribal Health Center.

Now, there is a table in the Environmental Impact Statement that compares these alternatives. I'm not going to go into that. There are handouts over there (indicating) that **show** that table and you're welcome to pick up one of those.

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In conclusion then, the schedule of events for this project include: The comment period on this project will end on October 6th. Comments will be analyzed and taken under consideration and responses prepared. Final EIS is scheduled -- Environmental Impact Statement -- is scheduled for this winter or early spring. The record of decision will then be prepared and is scheduled also in the spring 2007.

After that point, design could begin on the selected alternative. The earliest that construction could possibly begin would be about 2009 or 2010. Currently the project is not funded for construction. As a solution that comes out of this process and whatever solution comes out of that, the three proponent agencies then would take that under advisement and would start looking for a way to fund the **project**.

That's all I have in the way of explanation of the project. I hope it wasn't too long. Thank you for your attention.

MR. WEAVER: Thank you, Lyle. One of the things that always comes to the forefront when you do have these hearings is about right of way and right of way acquisition. And Dwane Kailey will give us an overview of the right of way process.

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MR. KAILEY: Thanks everybody. Thanks very much for coming tonight. As mentioned earlier, my name is Dwane Kailey. I'm the district administrator for MDT. As Lyle was mentioning, we hope to have the rough Record of Decision this spring. We will then initiate the final design process. It's going to take us roughly about two years to get the design to a point where we're comfortable with the right-of-way impacts and we can begin assessing the right of way and begin acquiring the right of way.

That process sounds really simple but it is a long process. It takes us time and we want it to take time because we're basically acquiring land and we don't want to make mistakes. It's painful for you guys and it's painful for us if we do.

Basically what takes place is we get the plans to a point where we're very comfortable or confident that they're not going to change. We then identify the parcels that need to be acquired. We then begin doing appraisals.

And people will come out to your property. They'll contact you and let you know that they're coming. They'll come out and review your property, look at the impacts onsite and begin appraising. It's very important, when they come to your property, that you disclose everything that is going to be impacted. At times it's very

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hard -- you know, we don't live there, our appraisers don't live there, and it's very hard to see what some of those impacts are going to be. For example, if your drainfield or septic system is within that acquisition area, do not hesitate to let the appraiser know that. If it's going to affect the way that you operate your business, your farm, your property, let them know that. They need to be aware of that.

All too often we run into -- everybody is aware the appraiser simply values it as a property. We begin negotiating with the landowner and then all of a sudden we start finding out these other issues. It's much better for us and for you if we are aware of those up front. So please talk with those individuals, let them know any issues that you have.

One individual I do want to introduce to you tonight, because he is our district right-of-way supervisor, is Ray Harbin. He's in the back of the room -- or off to the side in the maroon shirt. It will be either him or one of his staff that comes out and/or a highway consultant coming out doing the appraisal.

After we get the appraisal done and reviewed and approved, then you will basically be contacted by a negotiator. They come out, they review the appraisal with

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you. They show you what the appraisal value of your property is and we begin negotiating. One of those negotiations is to verify that we did address everything that's going to be impacted within your property. We are held to a federal standard. We have to compensate you at fair market value for any impacts that we have on your property. We'll basically go through the negotiation process and hopefully we come to an agreeable resolution.

What we're looking at timewise, as Lyle was saying, is it's going to take us about two years to get those designs done. So from the spring of '07 to about late '08 -- spring of '09, we should be getting into the right-of-way process. So hopefully what we're looking at is about spring of 2009 you should be getting contacted -- or maybe a little earlier -- but you should be contacted by an appraiser. They should be coming out to your property, if we're going to acquire right of way from you.

So I hope that kind of gives you a little bit of an idea of the right-of-way process. I did make it really quick. If you have any questions, if you have any concerns, we have a nice little pamphlet that kind of explains your rights, your rights as a landowner. Don't hesitate -- my address and e-mail and phone number are on the -- a couple

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of these boards. Don't hesitate to give me a call, give me an e-mail, whatever. We'll send you one of those pamphlets. We'll be more than willing to inform you guys of your rights. It is our requirement and actually we want you to know your rights.

So hopefully that helps you out. Thanks and hopefully you guys are enjoying tonight.

MR. WEAVER: Thank you, Dwane. Lewis, did you want to add anything at all?

MR. YELLOWROBE: No.

MR. WEAVER: And Craig?

MR. GENZLINGER: No. I'm just here to listen tonight, Dick.

MR. WEAVER: Okay. I would like to reemphasize again that these gentlemen up here are to listen. There won't be a question and answer time. This is the time for you to make your statements either in writing or verbally.

As I put the microphone up here -- what I'm going to ask is -- I've got the list of a few names of folks that want to speak. And I have raised hands, so I know there are quite a few of you. I'm going to put the microphone here and what I would like to do is begin here in the front and go towards the back and those up front will have the first

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opportunity. Once they're finished -- and you remember, I basically said we're looking for a time line of about five minutes or less. Try and make your statements succinct. It will go into the documentation and it will have the response in the documentation. So this is your opportunity to listen certainly, as these folks are going to be doing, but also to give your comments for the record.

I'm going to put this microphone up here in the front. Remember to state your name and your address very clearly for the recorder. And let's begin. And I'll just kind of point the right direction to see who is going to go first. Anybody in the first row here? Nobody?

MR. JAY PRESTON: Yeah. Can you just allow me to make a few notes before I speak. Would that be okay?

MR. WEAVER: Well, we'll pass. We'll come back. Come right ahead. Are you okay? Can you get up there?

H1-1 | MR. BOB CLARK: Yeah. Thank you for the opportunity to comment here. I just -- my name is Bob Clark and I represent the Sierra Club here in Western Montana. Our address is P. O. Box 9283, Missoula 59807. And we have 1100 members in Western Montana. We have 2200 members in Montana and 750,000 members across the nation that are

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H1, Bob Clark

H1-1.—After much debate the project proponents have selected Alternative Rural 3 as the rural Preferred Alternative in the final SEIS. Alternative Rural 3 is composed mostly of two-lane roadway, with the addition of a northbound passing lane from West Post Creek Road/East Post Creek Road to the top of Post Creek Hill, and a section of four-lane divided roadway from Brooke Lane to the south Ronan city limits. It does not include passing lanes through the Ninepipe area. The proponents determined that Alternative Rural 3 did the best job of meeting the project objective of improving the capacity and safety of this highway section while preserving the high environmental values of the area.

Alternative Rural 7 would provide an elevated highway through the Ninepipe area with less permanent wetland impacts, but would have more access and visual impacts, and more temporary wetland impacts due to detours necessary for construction and would cost \$162 million more than the preferred alternative (Rural 3) including the separated bicycle/pedestrian path.

See also response #41-1.

H1-1
Cont

interested in wildlife issues, particularly the four-mile stretch of the highway through the Ninepipe area.

And I'd like to ask that you consider Alternative 7 in your final decision-making process. We feel that that's going to be the best alternative for wildlife. We certainly do not agree with the southbound passing lane through the Ninepipe area, the sensitive area between Olson Road and Beaverhead Lane in particular. We would not like to see that happen.

There has been, during the three-year period, 600 mammals, reptiles, amphibians, and birds have been killed, 1,000 turtle. And so I think everyone recognizes it's really a sensitive area for wildlife, so we'd ask for Alternative 7. We would also ask that the southbound

H1-2

passing lane not be included in a final decision. Thank you for your time. And that's it.

MR. WEAVER: Thank you, Bob. Are you ready?

MR. JAY PRESTON: Not quite.

MR. WEAVER: Not quite, okay. Anybody else across here? The next row. Would you like to speak? Please come forward. State your name clearly and address.

H2-1

MS. Kathleen Griffin: My name is Kathleen Griffin(phonetic). I'm a graduate student at the University

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H1-2.—The alternatives which would have added passing or traffic lanes through the Ninepipe area were contentious and drew many comments. After much debate the project proponents have selected Alternative Rural 3 as the rural Preferred Alternative in the final SEIS. Alternative Rural 3 is composed mostly of two-lane roadway, with the addition of a northbound passing lane from West Post Creek Road/East Post Creek Road to the top of Post Creek Hill, and a section of four-lane divided roadway from Brooke Lane to the south Ronan city limits. It does not include passing lanes through the Ninepipe area. The proponents determined that Alternative Rural 3 did the best job of meeting the project objective of improving the capacity and safety of this highway section while preserving the high environmental values of the area and that the southbound passing lane through Ninepipe was not consistent with that goal.

H2, Kathy Griffith

H2-1.—The preferred option of crossing structures for the kettle ponds includes bridges and culverts. Bridges at the ends of the kettle ponds would span the shoreline of the pond at these locations to provide both wet and dry passage for turtles and other wildlife species. Bridge lengths in the preliminary design were approximated based on field observations of low and high water levels. Bridges at the kettle ponds will be designed to provide crossing for turtles at these locations at all water levels.

In addition to the 5 larger crossing structures, 12 smaller structures are proposed at locations to be determined during the final design. Location and size of the culverts will be determined using local knowledge and the best available science. Your research will be taken into consideration in the placement of these structures.

H2-1
Cont

of Montana. I live at 215 East Franklin Street, Missoula 59801, 544-9937.

I was funded by the Montana Department of Transportation to conduct a study on the turtles in the Ninepipe area, so from 2002 to 2004 I conducted a scientific study on the turtles in that area. I have recently turned in my final document to the Department of Transportation, and it's available online the beginning of October.

In the document I talk about the roadkill in that area. And as somebody already mentioned, there has been over 1,000 turtles killed in a three-year period in that four-mile section between Beaverhead Lane and Olson Road. That averages about 348 turtles a year. And that's about 64 turtles a mile a year, which makes that stretch of road the third deadliest stretch of road in the world for turtles. So my concerns with the current EIS are, number one, the wildlife crossing structures.

The -- in the document I talk about three priority areas, two of which are the Kettle Ponds. And I think the option there of bridging that is the way to go. The culverts that are included in that option are probably going to be useless in terms of their size. And I do make recommendations for culvert size and placement in this document.

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H2-1
Cont

The scenic turnout -- just south of the scenic turnout is the third high priority area in terms of turtle roadkill. And there is no culvert or crossing structures mentioned in the EIS for that area. That's an important travel corridor for the turtles, especially during drought years, because the pond on the west side of the highway does not go dry; whereas, the ponds on the east side of the highway do. So turtles migrate across the highway there. So we would like to see kind of some crossing structure in that area.

H2-2

My other concern is fencing -- or directional fencing or wing fencing where the crossing structures are placed. One of the appendices in my document -- also there was a side project looking at a turtle's ability to climb fences. And they can climb fences. So most of the fencing that you see that is already placed in this reconstruction project, turtles can climb that fencing or go through it. So I would like to suggest some type of turtle-specific fencing. It doesn't have to be high. It only has to be near the culverts and the crossing structures to direct the turtles to that.

If anyone has any questions or would like a copy of the document, they can talk to me afterwards. Thank you.

MR. WEAVER: Thank you very much. How are

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H2-2.—The placement and type of fencing in the Ninepipe segment of the project would be determined by wildlife biologists and habitat managers using the best available science, and will be subject to agreement by MDT, FHWA, and CSKT. Your comments and research will be considered in wildlife fencing decisions.

See response #52-11.

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we doing?

MR. JAY PRESTON: One more.

MR. WEAVER: Okay, one more. Anybody else?

MR. KAILEY: Don't worry, we'll come back

to you.

H3-1 | MR. JOE McDONALD: Joe McDonald from Ronan,
327 Eighth Avenue Northwest, 676-5541. Do you want my
social Security Number too?

MR. KAILEY: Sure. No.

MR. McDONALD: I'm just here to tell you
that I support Option 7. I realize it's expensive but I
think it's the best option. It's the one we should have for
our valley and it really gives credit to the wildlife, gives
credit to the highway constructed that way.

H3-2 | If we can't do that, then I would go for Alternative
1 or 2. I like the idea of the independent passing
alignment for Option 6, but I don't care for the four-lane
that you have at Bouchard Lane. I don't care for Options 3,
4 or 5 with four lanes south of Ronan. And I think options
8, 9 and 10 would really be devastating to wildlife. And
I'm sorry that Number 10 has been adopted as the preferred
alternative.

H3-3 | As far as Ronan is concerned, I didn't get into the
discussion with city council on couplets, but I really think

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H3, Joe McDonald

H3-1.—See Response #H1-1.

H3-2.—See Response #H1-1.

H3-3.—The project proponents have selected Alternative Ronan 4 as the urban Preferred Alternative. This alternative provides a two-lane one-way northbound roadway on existing US 93 and a two-lane one-way southbound roadway on First Avenue SW, with transitions to the four-lane sections north and south of Ronan.

H3-3
Cont

that Alternative 1 would function well and would disturb less. And we could do Alternative 1 then alternative 2. So those are my -- I had a question about the stock crossing on McDonald Lake Road. I suspect that is explained in there.

MR. WEAVER: It is. This is just to take testimony, not to have questions -- answer questions.

MR. JOE McDONALD: Okay. That's my comment.

MR. WEAVER: Thank you very much. Anybody over here? Okay, next.

H4-1

MR. GARRISH: My name is Duff Garrish. It's kind of hard to remember what my address is. I've lived in the same house for 32 years and I'm at my seventh address. I think it's 56850 Fish Hatchery Road. I live just west of the 44 Bar. I've lived in that house since October of '72. I know that junction well at Dublin Gulch Road and Highway 93.

As a side note, I'd like to say since your RamCo barriers have been put up, I see a real traffic hazard. I'd like to see you put that in your future designs. I drive a three-quarter ton, four-wheel drive pickup. The barrier is fine but if you're driving a sedan or regular automobile, your sight both north and south trying to come on that busy highway is really seriously impeded. I see it as a real

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H4, Duff Garrish

H4-1.—Generally on new construction the location of the barriers on the outside of the shoulders allows sufficient sight distance to alleviate any safety concerns for vehicles entering the roadway. The location mentioned is a temporary installation and will be referred to the construction section for review and possible modifications of placement for improved safety.

H4-1
Con't | safety issue. Plus, if I have my druthers, I'd like to see those barriers moved back maybe another four feet or so from the turnoff. You have to slow up so much to come through.

H4-2 | As far as the alternatives, I'm really only interested in the rural. Number 7 would certainly be my preference by far. My all-time never preference, I really don't like at all, is 10. I think there is just -- there is too much threat to wildlife with those proposals.

I forget which number it is where there is a little outline that is around by Ninepipe Lodge. I don't see any reason to sacrifice anymore of the wetlands. And I appreciate the design has taken the fact of wildlife crossings and culverts. I know that's been presented in the past. Montana has a good chance to really show what it is we have.

As I've said before, Banff certainly is kind of Number 1 in the world for having put together structures up, and I think we deserve the same thing for the property that we have. Thank you for your time.

MR. WEAVER: Thank you very much. The lady over here (indicating).

UNKNOWN AUDIENCE MEMBER: I wonder if could we put the microphone to be faced a little different so we

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H4-2.—See Responses #H1-1 and H1-2.

Page 30

can hear better out here.

MR. WEAVER: All right. Do you want to look at them?

UNKNOWN AUDIENCE MEMBER: I mean I'm pretty deaf but I still can't hear.

MR. WEAVER: Come up here and we'll have the speakers speak right into it.

MS. VIRGINIA PICKENS CORNELIUS: I'm Virginia Pickens Cornelius at 28 Buchanan Street Southwest in Ronan 59864, 676-8129.

I just want to comment a little bit about the road, first of all, from Ravalli to Arlee, the passing lane road. We've had a couple of occasions when we've gone down there and, because of the passing lane coming up the north, we've had people that have tried to crowd in there passing and you almost get head-on.

I do not prefer the passing lane deal. I don't feel its really great. I understand that if there is probably things that happen that prevented a four-lane highway, but the space is there. If you drive down there, there is plenty of room. This is going to have to happen eventually anyway because as traffic starts to move further north, as they project out of Missoula into this area, we're going to have to have four lanes. The traffic is going to be

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H5-1

H5, Virginia Pickens Cornelius

H5-1.—The alternatives which would have added passing or traffic lanes through the Ninepipe area were contentious and drew many comments. After much debate the project proponents have selected Alternative Rural 3 as the rural Preferred Alternative in the final SEIS. Alternative Rural 3 is composed mostly of two-lane roadway, with the addition of a northbound passing lane from West Post Creek Road/East Post Creek Road to the top of Post Creek Hill, and a section of four-lane divided roadway from Brooke Lane to the south Ronan city limits. It does not include passing lanes through the Ninepipe area. The proponents determined that Alternative Rural 3 did the best job of meeting the project objective of improving the capacity and safety of this highway section while preserving the high environmental values of the area; and that additional four-lane sections south of Brooke Lane were not consistent with that goal.

H5-1
Con't | terrific. I just needed to say that.

So my comments are on the road from Post Creek on up the hill. I feel a four-lane -- and I understand that there is animals involved -- turtle, elk, deer, whatever -- but there are also people involved. And we need to look to the safety of the human race also.

H5-2 | I'd like to say that our house is in the line of fire for the alternative in Ronan. I'm not going to comment against that. I feel that if it's necessary for the safety of Ronan and to push the traffic through -- because if you've been on Highway 93 and try to get through the light, it's terrible at certain times of the year, especially when they're commuting back and forth to Flathead Lake. If you go down to the Jolly Pack Rat and it branches out into four lanes, that is a terrific road into Polson and it's an enjoyable route to go to. These are my comments. Thank you.

MR. JAY PRESTON: I'm ready now.

MR. WEAVER: Thank you very much. I want to reemphasize again that should some of you not desire to come up and speak through the microphone, certainly you can fill out the forms that are here and sign those with your address and give it to one of those folks at the table or in the back that you want to put input.

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H5-2.—Thank you for your comment.

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Are you ready now? Okay. You might want to use the microphone.

H6-1

MR. JAY PRESTON: My is Jay Wilson Preston. I'm chairman of Ronan Telephone Company. My business address is 312 Main Street Southwest, Ronan, Montana 59864. My residential address is 53595 Timber Line Way in Charlo 59824. And that's a road off Eagle Pass Trail, so my commute into Ronan would be impacted by the choice for this road.

My first comments would be for Ronan Telephone Company. In general, Ronan Telephone Company supports the preferred couplet alternative through Ronan. The main reasons, Number 1, we think that's the least impact for building four lanes through Ronan. Number 2, it precludes a bypass of the town, which would likely be necessary ultimately and was originally proposed by the Highway Department in this process now coming on 20 years ago, I guess. Number 3, I think it's the best way to allow pedestrians to cross four lanes in town, meaning that you only have to cross two lanes at a time and you only have to worry about traffic in one direction in each crossing. So I think it increases pedestrians safety significantly over any of the four-lane alternatives in a single road. And fourth, but not least, it will retain and enhance Ronan's commercial

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H6, Jay Preston

H6-1.—Alternative Ronan 4, a couplet alternative has been selected. See Response #H3-3.

H6-1
Con't | community and the services Ronan's commercial community provides to the Mission Valley, which is critical to Ronan's economic health and quality of life.

H6-2 | In addition, though, having stated our support for the couplet, we have to make it public and clear to the Highway Department that this southbound couplet along First Avenue West conflicts with a major telephone conduit route between Round Butte Road on the north and Valley Bank on the south. Ronan Telephone Company will require special contractual accommodations and a minimum of three years to redesign and reconstruct our network to allow this four-pipe conduit system to be abandoned in order to facilitate any road construction along First Avenue West.

And our experience this summer in trying to negotiate approval for moving our facilities to the north has emphasized our need to get this negotiation done quickly in order to give us enough time to redesign and rebuild our network. We probably have a quarter of our customers impacted by this conduit system and we cannot simply, in a few months' time, make that conduit system disappear. It's going to take some time.

H6-3 | I only have two other comments. And these are for myself personally. I want to put it on the record that the intersection at Eagle Pass Trail and Highway 93 desperately

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H6-2.—The proponents are aware of the conduit system and will work with the phone company to facilitate its relocation/replacement.

H6-3.—The warrants for lighting this intersection will be reviewed during the final design process for this project. The project design for the proposed preferred alternative includes protected left turns from both the north and south directions at this intersection, as noted in the revised Section 3.2.2.

H6-3
Con't

needs to be lighted. There have been at least one fatality I'm aware of that resulted from that intersection being very difficult to see. And it's particularly difficult to see it coming from the north, which is where I always approach it when I'm coming from town and particularly at night.

The reason it's so difficult is because the lights of Ninepipe Lodge are very, very evident and distract a person from seeing the actual intersection of Eagle Pass Trail. The fatality that I'm aware of, the young man who was killed turned, oh, a couple hundred feet -- or 100 feet too soon and was run over by a truck. And it's very difficult to see and, at night, you know, you can find yourself with traffic going in both directions and not enough room to allow to pass until you turn.

So having that -- having a protected left turn there and a lighted intersection with enough light so that it is evident that that's a major intersection is necessary.

H6-4

I also want to go on record supporting the idea of a separate bike path along the route similar to the bike path being built between Ronan and Polson.

I think this will facilitate both increased local and tourist bike traffic. I think someone here referred to the Banff area in terms of some of the wildlife aspects that have been designed into that road in Canada.

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H6-4.—The preliminary designs presented in the draft SEIS incorporated a separated bicycle/pedestrian path for the north portion of the project from Baptiste Road/Spring Creek Road (where it would connect to the path coming south from Polson and Pablo) and terminating in Ronan at US 93 and Buchanan Street. As a result of comments received on the SEIS a separated bike path from Red Horn/Dublin Gulch Road to Buchanan Street in Ronan in the final PA in the final SEIS. See FSEIS Section 3.1.4.

H6-4
Cont

I remember a time I went through the Banff area, and I was absolutely astounded by the amount of bike traffic in that area in the summertime. And I think that this valley has at least the same potential to attract bike tourists that the Banff area does. If we had a separate bike path from Missoula to Polson, I think you'd see a lot of bike tourist activity that would develop. That's a world class route. It's a world class scenery. And if we had a safe way for bikes to make that route, I think it would be a very significant benefit not only for the valley but to the state -- the state's tourism. Thank you.

MR. WEAVER: Any volunteers?

MS. CONNIE STEVENS: I want to talk.

MR. WEAVER: Sure, absolutely. We're going to the back. Hang on, we'll get there.

H7-1

MS. CONNIE STEVENS: I'm Connie Stevens. I own the Tom & Connie's Countryside Cafe at the Charlo turn.

H7-2

I am very much against the Number 7. You know here about six or seven years ago we went through all the construction and everything for turn lanes and all the other mess. I mean if you do that, our businesses are gone. Urban Long and I both sold land for the turnout and the turn going to Charlo and I just -- so far I haven't seen anybody offering us money for our hand that they're going to take our

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H7, Connie Stevens

H7-1.—Thank you for your comment.

H7-2.—The business would retain access and not be displaced by any of the alternatives. See DSEIS page 5-30, and the Relocation Assistance Conceptual Study, available at the Skillings Connolly project website <http://www.skillings.com/US93/Index.htm> under “publications” (click the second bullet, then Resource Reports/Relocation Assistance Conceptual Study). This website will be maintained at least until the Record of Decision is signed following publication of the final SEIS.

H7-2
Cont'

businesses, so I'm against it.

MR. KAILEY: Thank you, Connie.

MR. WEAVER: Thank you. Back in here, across here. We're getting there. All right. Ladies first.

H8-1

MS. PAT HURLEY: My name is Pat Hurley. I live at 27000 Highway 93 in Ravalli. And, first of all, I vigorously oppose the southbound passing lane that is part of Alternative Number 10. The rest of that alternative is moderately acceptable but the southbound passing lane occurs in one of the sensitive parts of a very sensitive area and adds nothing to the level of service and safety as described in the document.

H8-2

There are three better alternatives from my point of view. Numbers 3 and 4 are equal to or better than Alternative 10 in regards to level of service and safety and doesn't seem to speed up the traffic quite as much for the wildlife. In both of those cases the opportunistic passer is up at the area where traffic is being recruited and being moved, not down into the wildlife area where traffic is moving smoothly anyway.

H8-3

But, of course, the best alternative from my point of view is Alternative 7, which is the raised parkway.

We've chosen to make Highway 93 a model for the

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H8, Pat Hurley

H8-1.—See Response #H1-2.

H8-2.—The Preferred Alternative selected for the final SEIS is Alternative Rural 3.

H8-3.—See Response #H1-1.

H8-3
Cont

country for wildlife and human-friendly travel. And Ninepipe is the jewel of this area. So it would seem perfectly rational to go out of our way to develop a highway design that satisfies and honors Highway 93 as the best of the best of the best in the area. Thank you.

MR. WEAVER: Thank you, Ms. Hurley. In the back.

MR. BEARHEAD SWANEY: Can I go now?

MR. WEAVER: You betcha.

H9-1

MR. BEARHEAD SWANEY: My name is Bearhead Swaney and I live on the highway down at Post Creek right on the creek. And we seem to be talking about sensitive areas as Ninepipe but we're not mentioning my place there at Post Creek, which is more sensitive, in my opinion, than Ninepipe is. We've had two grizzly bears killed there in the last three years. We've had a number of deer killed there. And there is a deer crossing and a grizzly bear crossing.

It impacts my place because I don't know what is going to happen if they talk about building a bridge from about Hunts Timber to the top of the hill and how that will impact me there at Post Creek. Will it be taking more land? I don't know.

H9-2

And as far as the causeway or whatever you call it up at Ninepipe -- and you say it will cost an extra \$110

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H9, Bearhead Swaney

H9-1.—This long bridge feature was included in Alternative Rural 7, which was not selected. See Response H1-1 for the rationale for selecting Alternative Rural 3. The Post Creek bridge is not as long on Alternative Rural 3. Alternative 3 will have less impact to your property than Alternative Rural 7. A narrow strip of land will be required, but will not include acquisition of any of the existing improvements and there may be access issues with your approach under the selected alternative. The amount of land required and the access issues will be further examined during the final design process and if access cannot safely be provided at the existing location, the existing access may have to be relocated.

H9-2.—See Response #H1-1.

H9-2
Con't

million. Well, for your information, that would last in Iraq war about 10 hours. So don't worry about the money involved. And if you include the causeway at Post Creek, which I once heard, then we'll say, "Okay, it's a day of Iraq war."

H9-3

But, in any event, we all moved here, we live here. I've lived here all my life because we like the small community. We like the small atmosphere of the community. And all of us talked -- and many of us talked conservative and liberal -- we didn't want to turn into the Bitterroot. We didn't want to be another Bitterroot. And other people say, "Well, it's going to happen anyhow" and didn't want to fight it. That's buffalo dust. They should fight it. If I had my way, I would have solved your problem. I would have plowed up Highway 93 from Evaro north to the reservation border, but I didn't have my way. And so the council -- the Tribal Council had the best opportunity to do the most for or against this highway, but there is none of them here tonight. None. Our representation as tribal members is damn poor.

H9-4

So while I guess I can't stop the highway, I certainly can say -- and I -- because I just had supper at Connie's Restaurant tonight, why do you want to extend a parkway that long past her place. I wasn't realized that

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H9-3.—Comment noted.

H9-4.—The limits of the raised parkway in Alternative Rural 7 were extended north of Ninepipe to Crow creek because of the concern for wildlife and wetlands.

Also see Response H9-1 above.

H9-4
Con't

Ninepipe Reservoir went all the way up there.

But to me I don't know what is going to happen at my place and my daughter's place. What are we going to do? Are we going -- what kind of arrangements have been made? Are they going to take some of the land? Are they not? I don't know. So those are my statements.

Oh, by the way, I didn't give you my address.

Bearhead Swaney, Box 524, St. Ignatius.

MR. KALLEY: Thank you, Bearhead.

MR. WEAVER: Thank you.

Mr. Swaney.

H10-1

MR. BUD CHEFF: My name is Bud Cheff, Junior. My address is 2390 Pullman Pass Trail. And I'm a lifetime resident here in this valley. I was born here and my -- some of the comments I've heard on the wildlife, I'm a person who wants to try to save every wildlife or turtle, whatever you have, if possible, but I'm definitely against Alternative 7. I think it's a pretty dumb thing. And I am for Alternative 10. But I would like to see some changes in it, but that can come later during the studies. I guess that takes care of it.

MR. KALLEY: Thanks, Bud.

MR. WEAVER: Richard. Oh, no.

H11-1

MR. TOM SMITH: I'm Tom Smith. I live at

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H10, Bud Cheff, Jr.

H10-1.—See Response #H1-1.

H11, Tom Smith

H11-1.—The 1996 final US 93 EIS contained an extensive comparison of the safety effects of a four-lane highway versus a two-lane highway for a section of US 93 from RP 0.6 to 6.3, which is about 30 miles south of this project. The comparison was for a 5-year period before and after this section was improved from a two-lane roadway to a four-lane roadway. Since this is a Supplemental EIS, we did not repeat the presentation in the SEIS. The comparison showed that even though there was a 31 percent increase in traffic volumes, there was a significant reduction in numbers of accidents, accidents per mile, accidents per million vehicle miles, and fatalities. There was, however, an increase in accidents in icy or snowy conditions.

H11-1
Cont

53950 Marsh Creek Road, Charlo. I have a couple things I'd like to mention. One is that on the EIS, which I have had the chance to read, most of it, four-lane highways are uniformly described as a safety benefit.

And I think it's worth keeping in mind that there are some negatives too. And that's been well demonstrated by a lot of studies. There is no question we need a safer road and everybody is for wider shoulders and left-hand turns and fewer entrances and things like that. But everybody knows also that on a four-lane highway people drive faster. Speed is already a factor in a lot of accidents.

And they're planning to have a left-hand turn base at all the major intersections, like where there are county roads, but there is an average of about -- I think even with the fewer entrances they're planning, I think there is still going to be an average of something like eight or nine per mile between those county roads, entrances to driveways and things like that.

And so all the people turning left into those off the highway will be coming to a dead stop in the fast lane. And especially in winter, on icy roads and things, that can be a hazard.

So there are certain ways in which on highways where there are a lot of entrances per mile like ours, two lanes

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H11-1
Cont

sometimes actually have lower accident rates in those kinds of situations. Another thing is that all those intersections become more complicated when you have multiple lanes.

And so if you're turning left onto the highway or if you're crossing the highway, there is just a lot more to keep track of. And there have been studies right here in Montana that have shown that, particularly for elderly drivers, this increases the accident rate. There was a study in 1998 that showed that.

Another thing with the four-lane highways is that drivers get less attentive. They don't pay as close attention. Especially out-of-state drivers that come into an area and see a four-lane highway and just kind of get that interstate mentality and they're not kind of keeping track of things as much. And that that can also be a factor in accidents.

And finally in winter, when the stripes are covered up by snow or ice and when there is icy conditions, it can kind of become a free-for-all.

I'm not saying it's all bad, but I'm saying these are all real factors that really happen and none of them are mentioned in this EIS. And that's a real problem because an environmental impact statement is suppose to be a fair,

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H11-1
Cont

objective look at the facts. And this one seems to leave out some things that argue against what they want to kind of get across.

H11-2

Another thing along those lines is that the usual way you measure the -- compare highways for safety is a statistic that is called "accidents per million vehicle miles." And what that means is for every million cars that go by a certain point on the highway, how many accidents do you have. The statistics that they use repeatedly in this EIS so far -- in this draft anyway -- is accidents per mile of road. And the reason that's deceptive, I think, is that you could have the safest highway in the world -- or you could have, excuse me, the most dangerous highway in the world and if it only has 100,000 vehicles a year, though, it could show up with very few accidents per mile of road. And then you could have the safest highway in the world but it has a gazillion (phonetic) cars every year and it's going to have more accidents per mile. So it's not really telling you which is the safer design. The safer design is measured by this other statistic.

And I just think it's odd that they don't use that statistical system in the EIS. That's another indication to me that at this point, this draft at least, it's not a fair look at the facts. It's trying to get you to some point of

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H11-2.—We did include some references to accident rates per million vehicle miles, but we were not consistent throughout the discussion. We believe both accidents per mile and accidents per million vehicle miles should be shown and have made the appropriate modifications to the text.

H11-2
Cont

view. Again, I can't figure it out because everybody agrees that we need safety improvements. And they don't have a four-lane as **their** preferred alternative. And neither do I.

Bearhead makes a good point when he says -- when he proposed ripping up the highway. I've **heard** him say -- **describe** it before as making it into a one-lane, rutted gravel **road**, which is almost what we have right now.

H11-3

Well, there have been a lot of fatalities on that **road**, **except** for the terrible thing that happened in Ravalli, who was someone drunk running from the cop. That is another story. But the point is that if you go slow, you have fewer fatalities and you have fewer accidents. When you go fast, there is lots of problems. And that factor isn't really taken into account enough, I don't think, in this analysis

You know, we're all making trade-offs between safety, speed and the impact in the environment and the communities. Every plan balances those things in some way or another.

And I think that the cost considerations that **Bearhead** **raises** are true, that, you know, really we should build the best highway. This is a place of international importance, this little jewel we have that we all live around and drive by everyday. I live a mile from it. None of us ever take it for granted. I mean that's one of the

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H11-3.—Speeds on State Highways are set by the State Legislature. US 93 already has a reduced speed limit of 65 mph versus 70 mph on other comparable highways. A compelling case will have to be made to keep it at 65 mph after improvements have been made.

H11-3
Cont' | amazing things about everyone who lives here. None of us take it for granted when you look at those mountains everyday and drive through places like Ninepipe. And that should be honored.

H11-4 | And none of the money has been raised yet for any of these designs. They don't have 30 million and they don't have 100 million. So if they're going to ask for money, if they're going to raise bonds, they might as well get what they need.

H11-5 | I would like to see -- just very quickly -- some of the elements of a lot of these plans. Some of Alternative 7, some of the 3 and 4. I don't want to see Bud Cheff run out of business. I would like to see bike paths.

H11-6 | And finally I'd just like to mention there should be some bus and van service provided too. Any highway design in this day and age should have bike paths and it should also provide some kind of van or bus service for folks who can't drive or who want another way to get around. And there could be funding gotten for that.

H11-7 | The Ronan couplet needs to be reexamined too. There are designs around the country on the ground that are working that have ADT's, that's average daily traffic, beyond what they're projecting for this highway. They handle it without going to a couplet design. And a couplet

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H11-4.—The objective of the project proponents is to propose a fiscally responsible project. Therefore, the preferred alternative was selected as doing the best job of meeting the project objective of improving the capacity and safety of this highway section while preserving the high environmental values of the area. The preferred alternative (Rural 3) including the separated bicycle/pedestrian path costs \$162 million less than the most expensive alternative, Alternative Rural 7.

H11-5.—Thank you for your comment. See Response #H1-2.

H11-6.—See Response #H6-4.

H11-7.—See Response #H3-3.

H11-7
Cont'

design makes a little town feel like it's run over by two highways instead of one.

So I urge reconsideration and bringing some experts that can at least help you relook at that design. Thank you.

MR. WEAVER: Anybody else back behind there? You will be next. Anybody over in this area (indicating).

MR. RICHARD EGGERT: My name is Richard Eggert. I'm from Dixon, a small town. And the letter will get to me at that, 59831.

UNKNOWN AUDIENCE MEMBER: We can't hear you.

H12-1

MR. RICHARD EGGERT: Richard Eggert from Dixon, 59831, small town, et cetera. I'd like to start with a quote. And that is "Due to the high ecological value of the Ninepipe landscape, passing lanes are not appropriate and will not be included." And although I totally agree with this sentiment, those aren't my words. I'm a member of the Flathead resource organization which has been working on this highway for 18 years now. And that's also not their words. That sentiment was also expressed by the U.S. Fish & Wildlife Service and the Montana Fish & Game who have the responsibility of managing Ninepipe lands and also oppose

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H12, Richard Eggert

H12-1.—The Preferred Alternative selected for the final SEIS, Alternative Rural 3, does not include passing lanes through the Ninepipe area.

H12-1
Cont'

passing lanes as in that statement. And the statement also didn't come from either the Sierra Club, which commented **here already** tonight, nor the National Wildlife Federation, who opposed the passing lane, the preferred alternative in Alternative 10. And both, I think, support Alternative 7.

Those words actually came from the governing document which defined the framework for this EIS study. In other words, it was these guys right **here (indicating)** that constructed that statement. And I'm just kind of wondering exactly what the last six years have been all about if after six years we are actually behind where we **were** six years ago, that there was a positive statement of the need for the Ninepipe area in 2000 and now there seems to be a doubt.

H12-2

And I would **like** to go on record as supporting Alternative 7 or at least some alternative that does not include a passing lane, as did the organizations that developed the initial statement on the Ninepipe area. Thank you.

MR. KALLEY: Thanks.

MR. WEAVER: Thank you, Richard. **Yes, sir.**

H13-1

MR. JOHN GRANT: My name is John Grant, 52928 Ninepipe **Road**, Charlo. I work for the Fish, Wildlife & Parks. I manage the Ninepipe wildlife area. I've been at it for over 16 years. Not quite as long as the process has

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H12-2.—See Response #H1-1.

H13, John Grant

H13-1.—See Response #H1-2.

H13-1
Cont'

been going on but I've been involved in it all that time. I probably had more hair but it wasn't nearly as long and none of it was grey and I didn't need to see what I had to say. Just a couple of points.

Birds are the most abundant wildlife at Ninepipe and will get little benefit from the proposed wildlife structures. Less pavement and slow speeds will provide the most benefit to them. There should only be two lanes through Ninepipe, with left-hand turn bays at all road intersections and no southbound passing lane. There should be ample access points for recreationalists and photographers. And reducing speed, or at least not designing the highway for high speeds, as Tom Smith just described, will make it safer for people and wildlife. Thank you.

MR. WEAVER: Thank you, John. Is there anyone else that would desire to speak this evening?

(Whereupon, no verbal response was given.)

MR. WEAVER: Well, as the hearing's officer I would like to thank you all very much for coming and giving your input. The opportunity still presents itself to have written input. And you can leave that here or mail it in. And on behalf of the gentlemen sitting at the table, I'd like to say thank you again. Certainly browse around

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but -- and at this time the hearing is closed
(Whereupon, the proceeding was concluded at
8:15 p.m. this 19th day of September, 2006.)

C E R T I F I C A T E

I, Barbara J. Marshall, Professional Shorthand Reporter and Notary Public of the State of Montana, do hereby certify that I was present at and reported in shorthand the proceedings in the foregoing matter, that I thereafter reduced my shorthand notes to typewritten form, comprising the foregoing transcript; further, the foregoing transcript is a full and accurate record of the proceedings in this matter on the date set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 12th day of October, 2006.

My Commission Expires: June 10, 2010

Barbara J. Marshall
Professional Shorthand Reporter
Notary Public for the State of
Montana, residing in Polson,
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APPENDIX K

Bicycle/Pedestrian Pathway Correspondence

207 Main St. S.W., Suite A

C I T Y O F
R · O · N · A · N

(406) 676-4231

Ronan, Montana 59864

Lyle Renz
Project Manager
Skillings Connolly
PO Box 5080
Lacey, WA 98509

RECEIVED

JAN 29 2007

Skillings-Connolly, Inc.
Consulting Engineers

Re: NHF 5-1(9) 6F CN B744
US-93, Ronan/Ninepipe SEIS Project
Bicycle/Pedestrian Path

Dear Lyle,

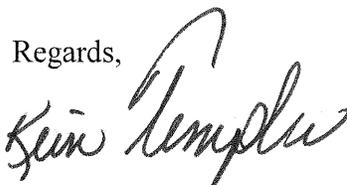
As per your January 19, 2007 letter (#01001), in regards to the above referenced items as well as our conversation yesterday, I am writing this letter on behalf of the City of Ronan. At the January 22, 2007 Ronan City Council meeting the Council briefly discussed your letter as well as the possibility of assuming the maintenance responsibility for the separated bicycle/pedestrian path from US-93 at Buchanan Street to the end of the project at Dublin Gulch Rd/Red Horn Rd.

Unfortunately, the City of Ronan will not be able to assume the maintenance for the project to Dublin Gulch/RedHorn Rd for a number of reasons. First and foremost, as a City entity, our jurisdiction falls within the City limits of Ronan and our limited operating funds and department budgets are mandated specifically for our public works system.

However, the City of Ronan is open to considering maintenance or assistance in maintaining the section of the separated bicycle/pedestrian path that falls within the city limits of Ronan. At this time, we would require and appreciate more detailed information on what this would entail from a logistical and financial standpoint.

Please feel free to contact me with any further discussion or interest in this or any other related project, as I would like to keep abreast of the progression of the Highway 93 project in and around the City of Ronan. We look forward to working with you in the near future.

Regards,



Kevin Templer
Public Works Director
City of Ronan





January 19, 2007
#01001

Kim Aipperspach, Mayor
City of Ronan
9 Hwy 93 S
Ronan, MT 59864

Re: NHF 5-1(9) 6F CN B744
US-93, Ronan/Ninepipe SEIS Project
Bicycle/Pedestrian Path

Dear Mr. Aipperspach:

I am writing this letter on behalf of the Montana Department of Transportation (MDT). As you are aware, the Draft Supplemental Environmental Impact Statement (SEIS) for the above referenced project was circulated to the public for comment on August 9, 2006. The comment period concluded on October 6, 2006. There were approximately 110 written comments requesting that a separated bicycle/pedestrian path be added to the project.

The preliminary designs presented in the Draft SEIS have already incorporated a separated bicycle/pedestrian path for the north portion of the project from Baptiste Rd/Spring Creek Rd (where it would connect to the path coming south from Polson and Pablo) terminating in Ronan at US-93 and Buchanan Street. Within the City of Ronan, pedestrians are also planned to be accommodated on sidewalks on both sides of both couplet roadways of the preliminary preferred alternative, while bicyclists would be accommodated on a 5' wide bicycle lane adjacent to the right side driving lane on each couplet roadway. South of Ronan, bicyclists and pedestrians would be accommodated on the 8' wide shoulders of the preliminary preferred alternative.

We have done a conceptual preliminary design for a separated bicycle/pedestrian path from US-93/Buchanan St. in Ronan, south to the end of the project at Dublin Gulch Rd/Red Horn Rd. We find it could largely be accommodated within the planned right-of-way, however, it would be quite expensive. It would also require a considerable maintenance effort.

The MDT has not made a final decision concerning recommending to the other project proponents, the CSKT and FHWA, whether they could support adding a separated bicycle/pedestrian path to the project. Before making this decision, they are soliciting

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further assistance from you on this project by agreeing to assume the maintenance responsibility for the separated bicycle/pedestrian path, should they agree to build it.

We would appreciate a response to this request for assistance by February 5, 2007. Your response will help facilitate a timely decision on this issue, so we can proceed with preparation of the Final SEIS.

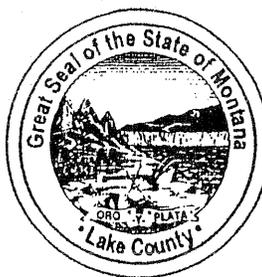
Sincerely,

SKILLINGS CONNOLLY, INC.

Lyle Renz
Project Manager

Cc: Dwane Kailey, MDT
Lewis Yellowrobe, CSKT
Craig Genzlinger, MDT

LR:sc R:\PROJECT\01001MDT US-93 SEIS\Task 126 FSEIS\Ronan ltr bikeped path 1-19-07.doc



Lake County Commissioners

406-883-7204

Fax (406) 883-7283

LAKE COUNTY

106 4th Avenue East

Polson, Montana 59860

RECEIVED

FEB 05 2007

Skillings-Connolly, Inc.
Consulting Engineers

Jan. 31, 2007

Lyle Renz, Project Manager
Skillings Connolly, Inc.
P. O. Box 5080
Lacey, WA 98509

SUBJECT: US-93, RONAN/NINEPIPE SEIS PROJECT
BICYCLE/PEDESTRIAN PATH

Dear Mr. Renz:

We realize how popular bicycle/pedestrian pathways are becoming and encourage them being built and used.

However, we do not have the funds at this time to commit to the maintenance of this project.

BOARD OF LAKE COUNTY COMMISSIONERS

Handwritten signature of Chuck Whitson in cursive.

Chuck Whitson, Chairman

Handwritten signature of Mike Hutchin in cursive.

Mike Hutchin, Member

Handwritten signature of Paddy Trusler in cursive.

Paddy Trusler, Member

jd



January 19, 2007
#01001

Lake County Commissioners
106 Fourth Ave East
Polson, MT 59860

Re: NHF 5-1(9) 6F CN B744
US-93, Ronan/Ninepipe SEIS Project
Bicycle/Pedestrian Path

Dear Commissioners:

I am writing this letter on behalf of the Montana Department of Transportation (MDT). As you are aware, the Draft Supplemental Environmental Impact Statement (SEIS) for the above referenced project was circulated to the public for comment on August 9, 2006. The comment period concluded on October 6, 2006. There were approximately 110 written comments requesting that a separated bicycle/pedestrian path be added to the project.

The preliminary designs presented in the Draft SEIS have already incorporated a separated bicycle/pedestrian path for the north portion of the project from Baptiste Rd/Spring Creek Rd (where it would connect to the path coming south from Polson and Pablo) terminating in Ronan at US-93 and Buchanan Street. Within the City of Ronan, pedestrians are also planned to be accommodated on sidewalks on both sides of both couplet roadways of the preliminary preferred alternative, while bicyclists would be accommodated on a 5' wide bicycle lane adjacent to the right side driving lane on each couplet roadway. South of Ronan, bicyclists and pedestrians would be accommodated on the 8' wide shoulders of the preliminary preferred alternative.

We have done a conceptual preliminary design for a separated bicycle/pedestrian path from US-93/Buchanan St. in Ronan, south to the end of the project at Dublin Gulch Rd/Red Horn Rd. We find it could largely be accommodated within the planned right-of-way, however, it would be quite expensive. It would also require a considerable maintenance effort.

The MDT has not made a final decision concerning recommending to the other project proponents, the CSKT and FHWA, whether they could support adding a separated bicycle/pedestrian path to the project. Before making this decision, they are soliciting

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further assistance from you on this project by agreeing to assume the maintenance responsibility for the separated bicycle/pedestrian path, should they agree to build it.

We would appreciate a response to this request for assistance by February 5, 2007. Your response will help facilitate a timely decision on this issue, so we can proceed with preparation of the Final SEIS.

Sincerely,

SKILLINGS CONNOLLY, INC.

Lyle Renz
Project Manager

Cc: Dwane Kailey, MDT
Lewis Yellowrobe, CSKT
Craig Genzlinger, MDT

LR:sc R:\PROJECT\01001MDT US-93 SEIS\Task 126 FSEIS\Lake Co ltr bikeped path 1-19-07.doc

APPENDIX L

City of Ronan Preferred Alternative Correspondence

207 Main St. S.W., Suite A

RECEIVED

FEB 12 2007

Skillings-Connolly, Inc.
Consulting Engineers

February 6, 2007

C I T Y O F
R · O · N · A · N

(406) 676-4231

Ronan, Montana 59864

Lyle Renz
Project Manager
Skillings Connolly
P.O. Box 5080
Lacey, WA 98509

Dear Lyle:

This letter is to inform you that the City of Ronan is still endorsing Alternate 4, the Dual Couplet Design of Highway 93.

Please keep in mind during the design stage, the 21 different items we talked about on 09/04/03 and the impact items mentioned in the meeting you had on 10/23/06 with our city public works employees. I would like to remind everyone that we are a small town with a very limited budget. We would expect most construction equipment to stay within the construction corridor and expect repair to any city roads or property outside of that area that may be damaged due to construction practices and operations. Please remember also during the design phase of the extension of the southbound couplet, that new roads should come with the relative basic infrastructure, water, sewer, electricity, communications, etc. After all, there is no sense digging the same hole twice at the expense of the taxpayers.

Also, as mentioned in Jennifer's letter last week, somewhere during the design stage we would entertain a conversation on the bike path within city limits and possibly a maintenance agreement.

Thank you,
Sincerely,



Kim Aipperspach, Mayor
City of Ronan





January 23, 2007
#01001

Kim Aipperspach, Mayor
City of Ronan
9 Hwy 93 S
Ronan, MT 59864

Re: NHF 5-1(9) 6F CN B744
US-93, Ronan/Ninepipe SEIS Project
Preferred Alternative for Final SEIS

Dear Mr. Aipperspach:

I am writing this letter on behalf of the Montana Department of Transportation (MDT), Confederated Salish and Kootenai Tribes (CSKT), and Federal Highway Administration (FHWA), the proponents of the above referenced project. As you are aware, the Draft Supplemental Environmental Impact Statement (SEIS) for this project was circulated to the public for comment on August 9, 2006. The comment period concluded on October 6, 2006.

We are preparing responses to the comments received and preparing the Final SEIS at the present time. Recently, on a telephone conversation, we discussed the City of Ronan's endorsement of Alternative Ronan #4, the couplet with wide buffers, for the Final SEIS. You mentioned that there was a meeting with MDT where a list of 21 issues were discussed and notes concerning agreement or disagreement were documented; however, you had misplaced your copy and would like to review the resolution of those issues prior to providing any endorsement.

Attached is a copy of the September 19, 2003 letter from our files that Gerry Smith was to deliver on that date. The letter and attachments document the discussions at a meeting September 4, 2003 on the 21 items you mentioned. I trust the resolution of those issues as documented in the September 19, 2003 letter and attached notes is still acceptable to you. If so, please respond with a letter endorsing Alternative Ronan #4 as the Preferred Alternative for the Final SEIS. If not, please advise so I can arrange a meeting to discuss your concerns. A response prior to February 7 would be appreciated.

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In a telephone conversation today, you mentioned the next Council meeting is scheduled for February 5. Mr. Dwane Kailey and/or I would be available to attend, if you believe it would be beneficial.

Sincerely,

SKILLINGS CONNOLLY, INC.

Lyle Renz
Project Manager

Cc: Dwane Kailey, MDT
Lewis Yellowrobe, CSKT
Craig Genzlinger, MDT

Attachments:

LR:sc R:\PROJECT\01001MDT US-93 SEIS\Task 126 FSEIS\Ronan ltr Pref Alt 1-23-07.doc

September 19, 2003

Mayor Kim Aipperspach
City of Ronan
207 Main Street SW, Suite A
Ronan, MT 59864

RE: NH-F 5-1 (9) 6F
Evaro to Polson SEIS
Control No. B744

Dear Mayor Aipperspach:

Thank you for meeting with Loran Frazier, Lewis YellowRobe, and I on September 4. We had a very good discussion about Ronan's needs if the couplet system is the preliminary preferred alternative.

Included with this letter are a short summary of the meeting and the list of needs as I heard them. Please look this over to make sure I recorded the thoughts correctly. I am also returning your sketch on sign ideas. Sorry, but I accidentally punched a couple holes in the original. We scanned this into an electronic format to share with other people.

Since we met, MDT and FHWA have looked for a way to participate in the paving of 1st Avenue SE. There is no program or funds to do so. This need will not be met.

Skillings-Connolly, Inc., is busy making design additions to the alternatives as requested at the meeting. New plans will be available at the Advisory Committee meeting on September 30.

I trust you will find these notes acceptable and the agreement to use the couplet with neighborhood buffers as the preliminary preferred alternate may move forward. Please contact me immediately if this is not the case.

We appreciate your participation in this project. Please feel free to contact me with any question at any time.

Skillings-Connolly, Inc.
Consulting Engineers

Gerald E. Smith, P.E.
Senior Project Engineer

Attachments: Meeting Notes
List of Ronan Needs
Original Sign Sketch

Cc: Loran Frazier, Montana Dept. of Transportation
Lewis YellowRobe, Confederated Salish & Kootenai Tribes
Craig Genzlinger, FHWA
Lyle Renz, Skillings-Connolly, Inc.
Kittie Ford, Herrera Environmental

Lyle Renz

From: Frazier, Loran [lfrazier@state.mt.us]
Sent: Thursday, September 11, 2003 2:21 PM
To: 'Gerry Smith'; Lewis YellowRobe; Frazier, Loran
Cc: Lyle Renz PE
Subject: RE: SEIS Meeting 9/4

Gerry it looks pretty good except the pave the City Street Option....I have looked again and MDT does not have a program that would allow me to pave 1st Ave East.

-----Original Message-----

From: Gerry Smith [mailto:gsmith@skillings.com]
Sent: Monday, September 08, 2003 11:17 AM
To: Lewis YellowRobe; Loran Frazier
Cc: Lyle Renz PE
Subject: SEIS Meeting 9/4

Here are my notes and the mayor's sign sketch from our meeting on Thursday. Please look at these and offer any additions or corrections. When I have heard from both of you I will make any necessary changes and get a copy to the mayor.

Thanks.

Gerry Smith, PE
Senior Project Manager
Skillings-Connolly, Inc.
(406)541-7877

Evaro – Polson SEIS
NH-F 5-1(9)6F CN: B744
Meeting Notes September 4, 2003

Attendees:

Kim Aipperspach, Mayor, City of Ronan
Lewis YellowRobe, CSKT
Loran Frazier, MDT
Gerry Smith, Skillings-Connolly, Inc.

A meeting was held at 2:00 p.m. in the Ronan office of Skillings-Connolly, Inc., to discuss with Mayor Aipperspach the city's preliminary preferred alternate. The mayor indicated the "why" of the city issues: the city needs some basic things, yet has no money to participate in anything.

The mayor presented a list (see attached) of issues, in no particular order, needing resolution. If these can be resolved, the city agrees to proceed with the one-way couplet system as a preliminary preferred alternate.

Loran Frazier agreed most will be resolved during design. Two issues may be difficult:

1. Five or so homes will be left in the block between the couplet legs. Something must be done to help/relocate these people if they don't want to stay.

There is no program available to do this to the participants knowledge. It was agreed to approach FHWA again about all possibilities.

2. Ronan will rebuild the base of 1st Avenue SE if MDT will agree to pave it.

1st Avenue SE is not on any state system and there is no MDT money to do things off system. Loran agreed to explore options.

It was agreed the SEIS could proceed with the one-way couplet with neighborhood buffers as the preliminary preferred alternate.

Attachments: Ronan Issues
Sign Proposal Sketch

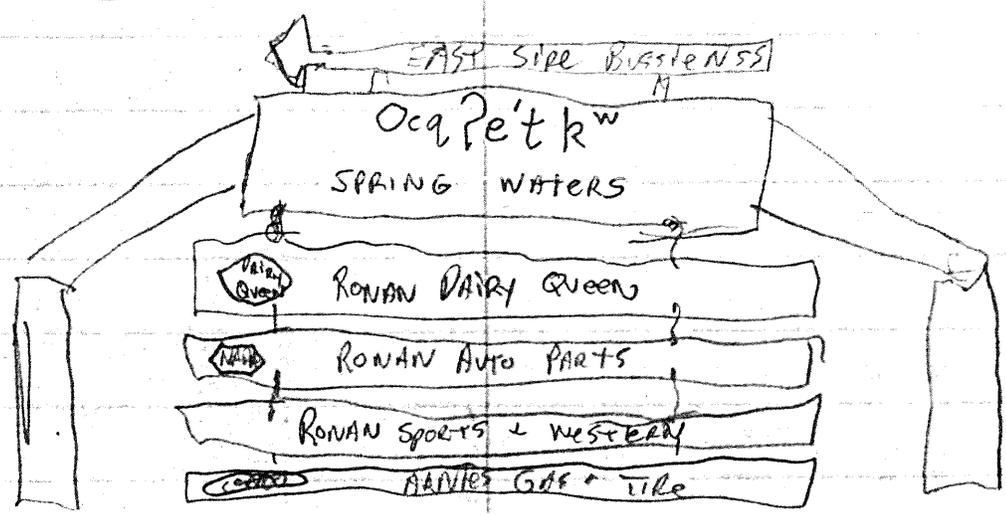
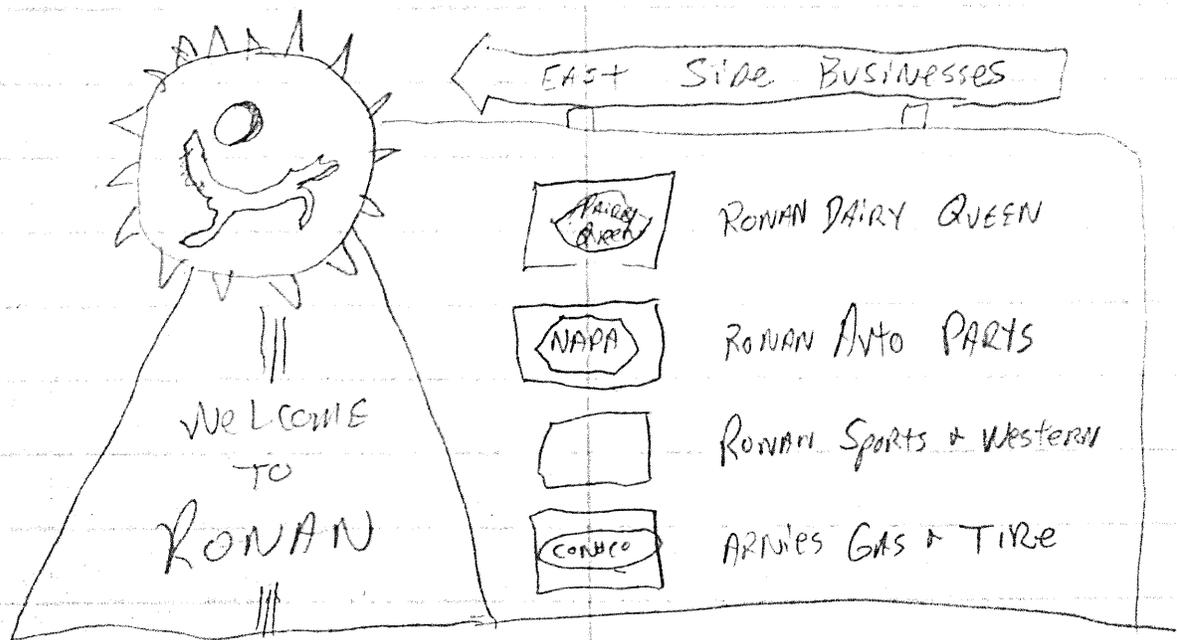
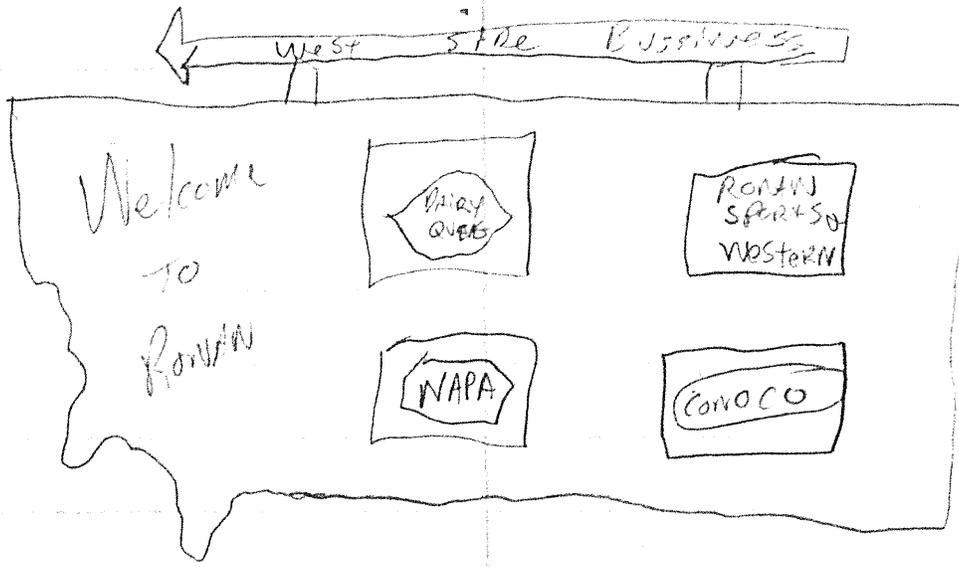
One-way Couplet with Neighborhood Buffers
City of Ronan Issues
September 4, 2003

1. A u-turn route is needed at the north end of the couplet. Will need to be in the vicinity of the current Boys & Girls Club.
2. Request an additional cross-over at south side of Valley Bank. Ronan might extend this street to east. Extend the eastside frontage road to here. Leave the more southerly cross-over.
3. Provide a one-way access from the southbound couplet to behind Old Creamery Mall or additional right turn opportunity for Old Creamery Mall.
4. Ronan will rebuild the base of 1st Avenue SE if MDT will agree to pave it. Concern is truck traffic will be diverted to this street.
5. Improve all cross streets, not just at the signals. Right-of-way may be adequate.
6. Concern about signals being in right location. How soon will Buchanan and Main signals be needed? Co-ordination of signals is suggested.
7. Requesting mid-block pedestrian signals so traffic does not cut off school children. Location: on northbound in block with Ronan Sports; on southbound in block with Mission Mart and senior center. Gerry Smith to obtain information on mid-block crossings from WSDOT.
8. Ronan wants to maintain the existing 25 mph speed limit. Loran indicates state law does not allow raising an existing speed limit without city concurrence.
9. A construction liaison is needed. Needs good public skills and common sense. Needs to keep workers from parking in driveways.
10. There is an overlay that was placed in 1980-1982 that had too much oil. It is still causing problems today. Be aware in pavement design.
11. Something better than the normal blue rectangle is needed for business signing. Mayor Aipperspach shared some sketches, attached. Loran believes Tourist Oriented Directional Signing program will work. Sign shapes can be worked through. FHWA has agreed to pay business rental fees for a couple of years.
12. The city foreman needs to be involved in the design detail; especially the right-of-way on 1st Avenue SW.

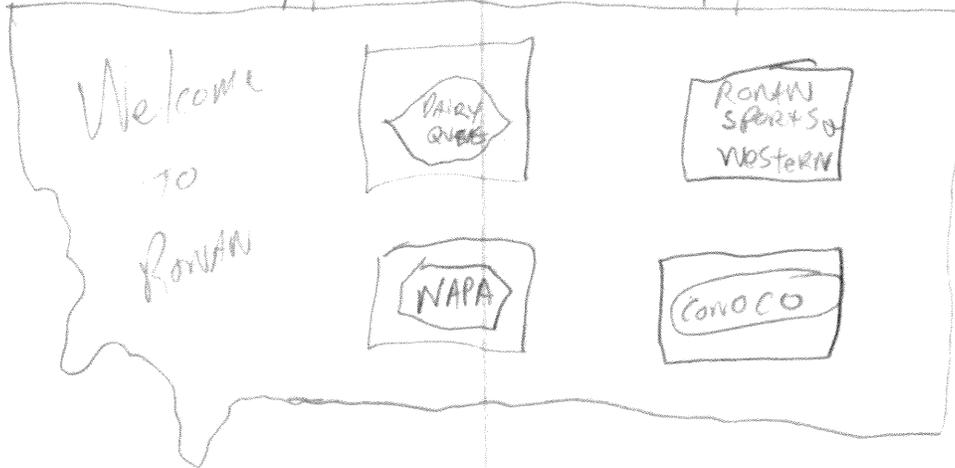
13. Concern about moving traffic closer to the city park. Suggesting, at least, a short fence with shrubs to keep kids off the street.
14. Would like to have a bicycle information center at the south end of the park. Suggesting benches, tables, information kiosk.
15. Concern about where stormwater will go. Suggesting enclosed system with outlet to wet areas along Spring Creek at Eisenhower or Buchanan.
16. There is much concern about the economic report. 85% of business base is on highway. Signs and access need to be excellent. City Council wants to be involved in access design. There should be no access control in the city; manage access in city for safety only.
17. Concern that some Main Street angle parking will be lost. Suggesting replacement could be a parking lot on north side of Main Street just west of southbound.
18. Five or so homes will be left in the block between the couplet legs. Something must be done to help/relocate these people if they don't want to stay.

Need to find a reason to help them. Noise? More discussion required with FHWA.
19. Lots of concern with existing utilities. Cast iron and concrete joints are a problem. Ronan has no money. Main waterline is on 1st Avenue SW.

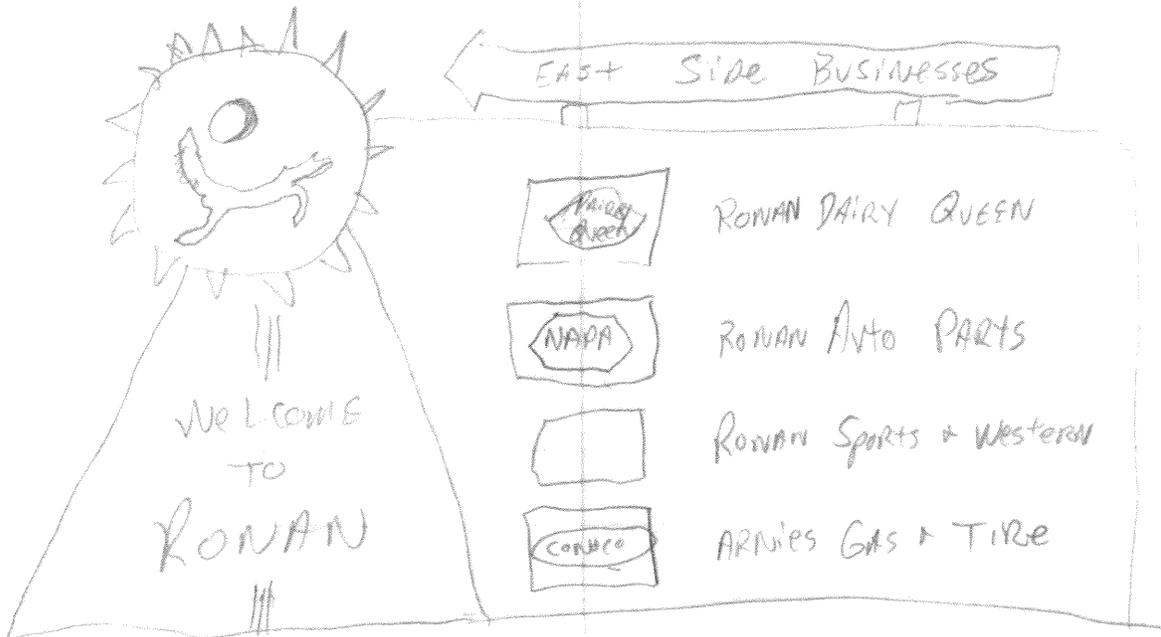
Subsurface utility engineering will be done during design. MDT indicates any utility impacted on new right-of-way, (i.e. 1st Avenue SW) will be paid 100% by MDT. Existing has only crossings.
20. Ronan does have some CTEP money they could use for bike path or "horse trade".
21. Streetlights that are something nicer than normal are needed. Need to blend with landscaping.



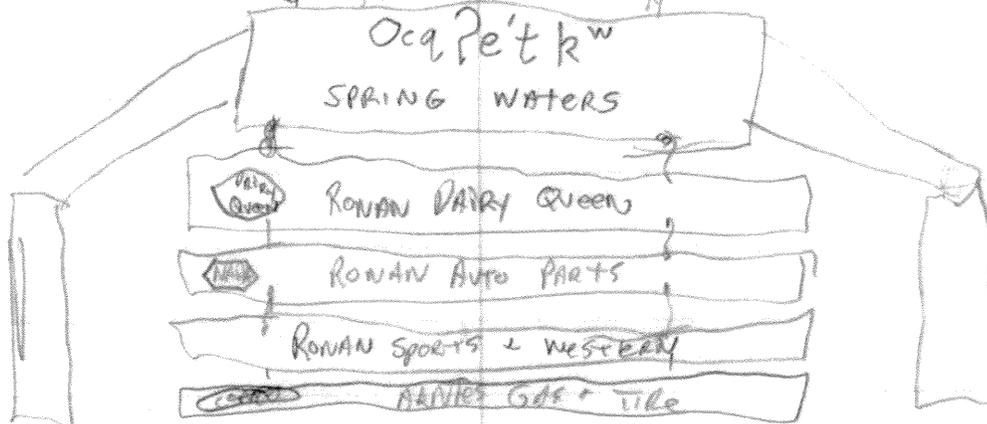
← West Side Businesses



← East Side Businesses



← EAST SIDE BUSINESS



APPENDIX M

Biological Opinions

BIOLOGICAL OPINION

For the Effects to Threatened Bull Trout
and Threatened Grizzly Bears

ENDANGERED SPECIES ACT SECTION 7 CONSULTATION

BIOLOGICAL OPINION

for the effects to threatened bull trout (*Salvelinus confluentus*)
and threatened grizzly bears (*Ursus arctos horribilis*)
from the reconstruction of U.S. Highway 93
between Evaro and Polson (Ninepipe Area)
in Lake County, Montana

Project: US 93 Ninepipe / Ronan
NH-F 5-1(9)6 F; Control Number B744

Agency:

Federal Highway Administration
Montana Division
Helena, Montana

Consultation Conducted by: U.S. Fish and Wildlife Service
Montana Field Office
Helena, Montana

August 29, 2005

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BIOLOGICAL OPINION

I. Description of proposed action

The Montana Department of Transportation (Department, MDT) and the Federal Highway Administration (Administration), in cooperation with the Confederated Salish and Kootenai Tribes (CSKT), are proposing to reconstruct approximately 18 kilometers (km) of U.S. Highway 93 in Lake County, Montana, referred to as the US 93 Ninepipe/Ronan project (NH-F 5-1(9)6 F; Control No. B744). The project lies within the Flathead Indian Reservation and would begin at Red Horn Road / Dublin Gulch Road (reference post (RP) 37.1) and extend north to Baptiste Road / Spring Creek Road (RP 48.3). The purpose of the project would be to improve US 93 for traffic flow, roadway safety, and to reduce future road maintenance needs (Herrera 2005).

This project was previously part of a larger reconstruction project extending from Evaro (RP 6.5) to Polson (RP 62.8). That project previously had an Environmental Impact Statement prepared for it and underwent formal consultation pursuant to section 7 of the Endangered Species Act (Act). However, an 18-km portion of the corridor in the Ninepipe area (this US 93 Ninepipe / Ronan project) was excluded from those efforts. A Supplemental Environmental Impact Statement (SEIS) is currently being prepared for this project, and this biological opinion completes formal section 7 consultation requirements for this project.

Much of the Flathead Indian Reservation is a rural landscape containing diverse ecosystems that are used by humans for agriculture, recreation, and cultural purposes while also providing high quality habitat features for a wide variety of fish and wildlife species. The Ninepipe area is within the Mission valley and is bounded generally by the Crow Creek riparian corridor on the north, the Post Creek riparian corridor on the south, the town of Charlo on the west and the Mission Mountains on the east. Within this Ninepipe area, the proposed project bisects a large, high density glacial pothole wetlands complex that serves as key habitat for terrestrial wildlife, breeding and migratory birds, aquatic species of fish and wildlife, herpetiles, grassland plant species, and plants adapted to wetland and riparian conditions. At the center of this highly sensitive ecosystem is the Ninepipe National Wildlife Refuge, which includes the 676-hectare Ninepipe Reservoir. This area provides important habitat linkages to the Mission Mountain Tribal Wilderness, the Flathead River corridor, the National Bison Range, and other lands protected by Tribal, State, and Federal entities, as well as by private organizations. These protected lands contribute to the value of this area and the abundance of wildlife using it (Herrera 2005).

The US 93 Ninepipe / Ronan project corridor has been divided into rural and urban portions. The rural section has been further divided into two segments; the Post Creek Hill segment and the Ninepipe segment. The Post Creek Hill segment extends from Red Horn Road / Dublin Gulch Road on the south to the top of Post Creek Hill (approximately RP 40), just south of Olson Road / Gunlock Road. The Ninepipe segment extends from the top of Post Creek Hill northerly to the southern city limits of Ronan. The urban portion extends from the southern city limits of Ronan northerly through Ronan to the Baptiste Road / Spring Creek Road intersection. Each of these segments has a number of alternative designs that have been proposed. This biological

opinion will be based on the preliminary preferred alternative that is identified in the biological assessment (BA) for this project, and includes the Rural 10 Alternative for the rural portion and the Ronan 4 Alternative for the urban portion (Herrera 2005).

Rural segment: The rural portion of the preliminary preferred alternative would include reconstruction of the existing roadway. The reconstruction would provide for curvilinear horizontal alignment roughly following the existing roadway to minimize impacts to adjacent lands. Construction of roadway shoulders sufficiently wide to accommodate bicycles and pedestrians would be included. The design speed would be 100 km/hr. Channelization and left-turn lanes would be constructed at all public road intersections. The vertical alignment would be revised to accommodate wildlife crossing structures (including single and multiple-span bridges and large culverts) at Post Creek, Ninepipe Reservoir, two Kettle Ponds, and Crow Creek, with additional structures at intermediate locations throughout the project length. At the wildlife crossing locations, these bridges and large culverts would provide a minimum vertical clearance of three meters. Where stormwater will discharge to sensitive waters, such as Post Creek, treatment facilities would be constructed (Herrera 2005).

The rural portion of this proposed project would be composed of a two-lane roadway with some sections of auxiliary lanes and four-lane divided roadway as described below:

- A 0.8-km two-way left-turn lane extending from Dublin Gulch Road / Red Horn Road (RP 37.1) northward to a business entrance driveway on the east side of US 93 at RP 37.5.
- A 2.9-km northbound passing lane from West Post Creek Road / East Post Creek Road (RP 38.2) to the top of Post Creek Hill (RP 40).
- A 1.9-km southbound passing lane from the top of Post Creek Hill (RP 40) to Eagle Pass Trail (RP 41.2).
- A 1.5-km section of four-lane divided roadway from Innovation Lane (RP 45.1) to the south Ronan city limits (RP 46).

The rural portion of the preliminary preferred alternative would represent a combination of the following two typical roadway cross-sections:

- The two-lane roadway would be undivided with one travel lane in each direction, each 3.6 meters wide with 2.4-meter shoulders. The typical pavement width would be 12 meters. Where auxiliary lanes would be provided, turning lanes would be 4.2 meters wide. The minimum desirable right-of-way width would be 49 meters. However, narrower widths have been used at selected sensitive locations to keep the new roadway within the existing right-of-way to minimize impacts. Also considered in the preliminary preferred alternative is a variation of the two-lane roadway that would include one 3.6-meter passing lane. Where the passing lane would be added, the minimum desirable right-of-way width would increase to 55 meters, with some narrower areas at selected sensitive locations to keep the new roadway within the existing right-of-way.

- The four-lane divided roadway includes two travel lanes in each direction, each 3.6 meters, depressed center median, 2.4-meter outside shoulders, and 1.2-meter inside shoulders. At intersections where left-turn lanes would be provided, the turning lane would be located within the center median area. The typical cross-section width would be 33.6 meters and the minimum right-of-way width would be 67 meters (Herrera 2005).

The preliminary preferred alternative for this project would also include replacement and upgrade of the existing culverts and bridges. In addition, wildlife crossing structures are planned at several locations in the rural portion of the project. The vertical alignment of the roadway would be revised to accommodate these structures (large culverts or bridges of varying lengths) and provide a minimum vertical clearance of three meters. These wildlife crossing structures are proposed for five locations; Post Creek, Ninepipe Reservoir, two large kettle ponds, and Crow Creek, with additional smaller structures crossing waterways and riparian areas at intermediate locations throughout the project length. A description of the structures proposed at these five primary locations that have been designed to facilitate wildlife crossing is provided below:

- BT
CH
- Post Creek (approximately RP 37.7):
 - One 152-meter multiple-span bridge
 - One 3-meter x 4-meter culvert
 - Ninepipe Reservoir:
 - Two 4-meter x 8-meter culverts
 - Two 3-meter x 4-meter culverts
 - One 200-meter multiple-span bridge
 - Kettle Pond 1 (approximately RP 41.7):
 - Two 18-meter single-span bridges
 - Two 1.2-meter x 1.8 meter culverts
 - Kettle Pond 2 (approximately RP 42.5):
 - Two 18-meter single-span bridges
 - Two 1.2-meter x 1.8-meter culverts
 - Crow Creek:
 - One 37-meter multiple-span bridge
 - One 46-meter multiple-span bridge (Herrera 2005).

Because of the importance of the Post Creek drainage to the species being consulted on for this project, threatened bull trout (*Salvelinus confluentus*) and threatened grizzly bears (*Ursus arctos horribilis*), the approximate construction sequence for bridge removal and replacement at the Post Creek crossing is described below.

Post Creek is presently conveyed under U.S. Highway 93 via a 15.5-meter long, 9.5-meter wide, two span bridge. The center pier occurs within the Post Creek channel. The channel under the bridge has been narrowed and stabilized with large riprap. The new bridge, proposed to be a

multiple-span structure 152 meters long, would not include a pier within the Post Creek channel. This much longer bridge would result in less channel constriction and allow the stream more interaction with its floodplain (Herrera 2005).

Post Creek bridge construction: No traffic would be re-routed during construction. The new bridge would be constructed along side the existing bridge, allowing for two-way traffic to continue on the old structure until the new bridge is completed. Once traffic can be switched to the new structure, the existing bridge would be demolished.

- Grading and construction practices that unnecessarily disturb natural features, promote erosion, and require extensive revegetation would be avoided.
- Bridge piers would be located outside the ordinary high-water mark for Post Creek.
- The newly constructed lanes would be graded in preparation for paving (arriving at the finished elevation and shape of roadway).
- Intersections with existing roads that would be affected by the new traffic lanes approaching the bridge would be reconfigured.
- The full length of the new lanes approaching the bridge would be paved, and any new driveway connections and intersections would be created. Centerlines and fog lines would be painted and signs would be installed.
- Traffic would be relocated to the new bridge. Traffic may be routed to the new bridge prior to paving of the roadway approaches if it would not affect traffic flow (Herrera 2005).

Post Creek bridge removal:

- Instream work required to remove the bridge abutments would be limited to the time period identified by the Tribal fisheries program permitting process.
- The existing bridge would be demolished after traffic is switched to the new Post Creek bridge.
- Cofferdams, or similar structures, may be constructed around areas of abutment removal to control sediment erosion during removal of the abutments.
- The Department is required to cut off or remove substructures to a depth of 305 millimeters below the stream bed and that the removal areas be shaped and contoured to blend with the surrounding stream bed terrain.
- Upon removal of the bridge abutments, the streambanks would be regraded to match surrounding conditions and would likely be stabilized with a combination of shrubs and a riparian grass seed mix (Herrera 2005).

Post Creek site restoration:

- Remaining portions of the old bridge and roadway would be removed upon completion of the new bridge and approach lanes.
- A detailed revegetation plan would be developed for the site (Herrera 2005).

Conservation measures to be implemented during Post Creek bridge construction:

Conservation measures and best management practices to be implemented during removal of the existing bridge and construction of the new bridge include:

- If vegetation is removed along the banks of Post Creek during construction, the disturbed ground would be revegetated with desirable riparian species, thereby reducing erosion and the subsequent introduction of sediment into the creek.
- Federal, State, and Tribal regulations for erosion and sediment and spill control would be followed during all aspects of bridge construction. Erosion control measures would be implemented prior to construction activities.
- Equipment staging areas, refueling locations, and other chemical storage or waste disposal sites would be located and protected so that no spills could enter Post Creek or any other waterway.
- Work bridges shall be constructed to withstand winter icing and spring runoff to prevent collapse of the bridge during these conditions and potential impacts to the stream bed. At this time, however, the need for a work bridge is not anticipated.
- Efforts would be taken to minimize debris from demolition of the existing bridge and piers from entering Post Creek. If portions of the existing bridge are dropped or fall into Post Creek during construction they would be lifted and removed and not dragged from the channel to the bank, thus preventing further impact to the streambed (Herrera 2005).

Other fisheries conservation measures included in the project design: The preliminary construction plans for this project incorporate numerous measures to minimize impacts on streams in the project corridor. For example, all of the proposed wildlife crossing structures would also provide benefits to aquatic species by spanning a greater portion of the floodplain and allowing areas to be restored by improving hydrologic connections and enhancing vegetative cover on stream banks and in riparian wetlands. In addition, proposed roadway alignments for all alternatives remain generally within the existing alignment, so as to minimize new impacts on streams (Herrera 2005).

The following additional measures have been incorporated into the preliminary construction plans and specifications to minimize project effects on fisheries resources.

- The proposed project would reduce effects on fisheries resources by steepening fill slopes to 4:1 (the Department typically requires 6:1 slopes). This would be incorporated into all rural alternatives. Fill slopes for the approaches to bridge structures have also been steepened to 2:1 because these slopes would already contain protective approach guardrails necessary to provide a transition to the barrier rail on the bridges. These steeper slopes reduce the width of the roadway footprint and consequently reduce impacts to floodplains, wetlands, and wildlife refuge and wildlife management lands.
- Stormwater treatment measures would be designed to reduce suspended solids from stormwater.
- The amount of fill placement in floodplains would be minimized.
- Preservation fencing would be installed to protect vegetation at riparian areas (Herrera 2005).

Other wildlife conservation measures included in the project design: Few data are available regarding the use of crossing structures for wildlife. The proposed crossing structures were sited and selected based on the best available data on functional structures at highway locations throughout North America. Therefore, no specific dimensions are proposed for most of the crossing structures at this time. Instead, general sizes and characteristics have been provided in the preliminary preferred alternative (Herrera 2005).

Another key factor in use of structures by carnivores is proximity to human activity. Because significant portions of the project corridor are protected lands, and the U.S. Fish and Wildlife Service (Service, USFWS), Montana Fish, Wildlife and Parks (MFWP), and CSKT are pursuing ongoing efforts to preserve lands through purchase or easement, no additional measures aimed at land preservation are proposed (Herrera 2005).

Post-construction monitoring is being implemented for the US 93 Evaro to Polson reconstruction project at wildlife crossings. The information gathered from this monitoring effort may be applicable to wildlife crossings associated with this project (Herrera 2005).

During construction, the following conservation measures would be implemented to minimize project effects on grizzly bears:

- Educate contractors and construction crews regarding the need for proper sanitation in grizzly bear habitat, and instruct workers to report all grizzly bear sightings immediately to Tribal wildlife program biologists.
- Ensure that contractors and construction crews store all food and garbage in bear-proof containers and remove all garbage daily from temporary offices and sleeping quarters.
- In the vicinity of Post Creek, locate construction staging areas, field offices, and sleeping quarters according to the following restrictions:
 - On the west side of the corridor, locate these facilities south of Dublin Gulch Road / Red Horn Road or north of RP 38.2 (approximately West Post Creek Road / East Post Creek Road).
 - On the east side of the corridor, locate these facilities south of Dublin Gulch Road / Red Horn Road (Herrera 2005).

Urban segment: The urban portion of the preliminary preferred alternative would entail reconstruction of some existing roadway through Ronan, including construction of curb, gutter, and sidewalks on both sides of the roadway. Reconstruction at all major intersections throughout Ronan would include channelization to provide left-turn lanes and, in some cases, right-turn lanes. The project would also construct a separated 3-meter wide pedestrian / bicycle path from Ronan City Park to Baptiste Road / Spring Creek Road. This path would connect with a pathway extending north to Polson, which is currently being designed and constructed as part of the US 93 - Evaro to Polson project (Herrera 2005).

The urban portion of this project would be a couplet, with a two-lane, one-way northbound roadway on existing US 93, and a two-lane, one-way southbound roadway on First Avenue SW with a wider neighborhood buffer. Transition sections of four-lane roadway with turning lanes would be necessary south of the couplet where the roadway would connect to the rural lane configuration and north of the couplet to a four-lane divided section between Old Highway 93 and the Baptiste Road / Spring Creek Road intersection (Herrera 2005).

The northbound leg of the couplet would be on the existing US 93 alignment, with two 3.6-meter travel lanes, a 3-meter parking lane on the west side of the road, and a 1.5-meter bicycle lane on the east side of the road. Curbs and gutters, 3-meter planting areas, and 1.8-meter sidewalks would be provided on both sides of the roadway, for a typical right-of-way width of approximately 23.6 meters (Herrera 2005).

The southbound leg of the couplet would include two 3.6-meter travel lanes, a 3-meter parking lane on the east side of the road, a 1.5-meter bicycle lane on the west side of the road, and curbs and gutters. In addition, the southbound couplet roadway section would have 1.8-meter sidewalks, a 3-meter planting area, and 3.6-meter buffer on the east side of the road. The typical right-of-way width for the southbound leg of the Ronan couplet would be 27 meters (Herrera 2005).

Ronan Spring Creek would be removed from its present culvert to flow in an open channel between US 93 and First Avenue SW (Herrera 2005).

II. Status of the species and critical habitat

II.A. Bull Trout

II.A.1. Species description

Prior to 1980, bull trout and Dolly Varden (*Salvelinus malma* Girard) were considered a single species, the Dolly Varden (*Salvelinus malma* Walbaum). In 1980, the American Fisheries Society recognized bull trout and Dolly Varden as distinct species (see Cavender 1978). Bull trout are found mostly inland and Dolly Varden occupy primarily coastal drainages. Though identification may be difficult, genetic analysis in recent years has supported the distinctiveness of these species. Bull trout have an elongated body, somewhat rounded and slightly compressed laterally, and covered with cycloid scales numbering 190-240 along the lateral line. The mouth is large with the maxilla extending beyond the eye and with well-developed teeth on both jaws and head of the vomer (none on the shaft). Bull trout have 11 dorsal fin rays, 9 anal fin rays, and the caudal fin is slightly forked. Although they are often olive green to brown with paler sides, color is variable with locality and habitat. Their spotting pattern is easily recognizable, showing pale yellow spots on the back, and pale yellow, orange, pink, or red spots on the sides. Bull trout fins are often tinged with yellow or orange, while the pelvic, pectoral, and anal fins have white margins. Bull trout have no black or dark markings on the dorsal fin and no halos around their spots, which is useful in distinguishing them from brook trout (*Salvelinus fontinalis*).

II.A.2. Listing history

In September 1985, bull trout in the coterminous United States were designated as a category 2 candidate for listing, in the Animal Notice of Review (USDI 1997). Category 2 candidates show some evidence of vulnerability but not enough information is available to support a listing of the species (USDI 1997). Their status changed in May 1993 when the Service placed bull trout in category 1 of the candidate species list (USDI 1997). The listing of category 1 species was justified, but precluded due to other higher priority listing actions (USDI 1997).

In June 1998, the Service published the final rule listing the Klamath River and Columbia River distinct population segments (DPS) as threatened (USDI 1998a), with an effective date of July 10, 1998. In November 1999 the Service published a rule listing all populations of bull trout as threatened throughout its entire range in the coterminous United States (USDI 1999), with an effective date of December 1, 1999. This coterminous listing effectively eliminated the five separate DPS designations within the United States. For the purpose of consultation and recovery the separate population segments are recognized as interim recovery units and referred to in this document as populations (USDI 1999).

II.A.3. Current known range

Bull trout are found throughout the northwestern United States and in British Columbia in western Canada (Rieman and McIntyre 1993; USDI 2002a). Within Montana and Alberta, Canada bull trout also exist in the headwaters of the South Saskatchewan River basin and further north in drainages along the east side of the Continental Divide. In the Klamath River basin, only isolated, resident bull trout are found in higher elevation headwater streams of the Upper Klamath Lake, Sprague River, and Sycan River watersheds (Goetz 1989; Light et al. 1996). In the state of Washington, bull trout are found in coastal drainages of the Olympic Peninsula and in streams surrounding Puget Sound (USDI 2004a). In Montana, bull trout occur in the headwaters of the Columbia River basin in the Clark Fork and the Kootenai subbasins (USDI 2002c and 2002d).

II.A.4. Life history

II.A.4.1. Life history forms

Two distinct life-history types, migratory and resident, occur throughout the range of bull trout (Pratt 1992; Rieman and McIntyre 1993). Migratory bull trout rear in natal tributaries for several years before moving to larger rivers (fluvial form), lakes (adfluvial form), or the ocean (amphidromous) to mature (USDI 2002b). Migratory forms return to natal tributaries to spawn (USDI 2002b). Migratory bull trout may use a wide range of habitats ranging from first to sixth order streams and varying by season and life stage. Resident populations often live in small headwater streams where they spend their entire lives (Thurrow 1987; Goetz 1989).

Most bull trout spawning occurs between late August and early November (Pratt 1992; USDI 2002b). They may spawn each year or in alternate years (Fraley and Shepard 1989). Hatching occurs in winter or early spring, and alevins may stay in the gravel for extended periods, typically emerging from the gravel in April. Growth is variable with different environments, but first spawning is usually noted after age 4, and the fish may live 10 or more years (Pratt 1992; Rieman and McIntyre 1993). Although spawning typically occurs in second to fifth order streams, juveniles may move upstream or downstream of reaches used by adults for spawning, presumably to forage in other accessible waters (Fraley and Shepard 1989; Ratliff 1992). Seasonal movements by adult bull trout may range up to 300 kilometers as migratory fish move from spawning and rearing areas into over-winter habitat in large lakes or rivers in the downstream reaches of large basins (Bjornn and Mallet 1964; Fraley and Shepard 1989).

II.A.4.2. Habitat requirements

Common predators and competitors of juvenile bull trout are larger bull trout and introduced fish species of the same genus, namely lake trout (*Salvelinus namaycush*) and brook trout (Pratt and Huston 1993; Rieman and McIntyre 1993). Other piscivorous species such as brown trout (*Salmo trutta*), northern pike (*Esox lucius*), and walleye (*Stizostedion vitreum*) are also considered potential threats in some core areas (USDI 2002a, 2002b and 2005). Disease is not believed to be a critical factor in the long-term health and survival of bull trout populations (USDI 1999), although whirling disease has been detected in wild bull trout (USDI 2005) and may have unpredictable effects on species complexes.

Hybridization with brook trout poses a threat to the persistence of isolated or remnant populations. These hybrids are likely to be sterile and may experience developmental problems, but could play a role in eliminating local populations of bull trout (Leary et al. 1993; Rieman and McIntyre 1993; USDI 2005). The degree of hybridization, other interactions, and distribution of the two species is likely influenced by habitat condition (Rieman and McIntyre 1993). Bull trout are rare, if present at all, in many streams supporting large numbers of brook trout (Buckman et al. 1992; Ziller 1992; Rich 1996). Rich (1996) found brook trout occupied more degraded stream reaches than bull trout. Leary et al. (1993) documented a shift in community dominance from bull trout to brook trout in Lolo Creek, Montana, and expect the trend to continue until bull trout are displaced from the stream. Habitat degradation appears to give brook trout a competitive advantage over bull trout in streams where water temperature and/or sediment levels increase.

Bull trout are sensitive to environmental disturbance at all life stages, and have very specific habitat requirements. Bull trout growth, survival, and long-term population persistence appear to be dependent upon five habitat characteristics: water temperature, substrate composition, migratory corridors, channel stability and cover (Rieman and McIntyre 1993). Cover includes undercut banks, large woody debris, boulders, and pools that are used as rearing, foraging and resting habitat, and protection from predators (Fraley and Shepard 1989; Watson and Hillman 1997). Deep pools also help moderate stream temperatures, offering refuge from warmer water temperatures during summer low-flow conditions. Stream temperatures and substrate types are especially important to bull trout.

Temperature: Like other char species, bull trout are relatively intolerant of warm water and are typically associated with the coldest stream reaches within basins they inhabit (Craig 2001; Selong et al. 2001). The most heavily populated reaches in several Oregon streams seldom exceed 15°C (Buckman et al. 1992; Ratliff 1992; Ziller 1992). Cold water temperatures are required for successful bull trout spawning. Many studies report water temperatures near 9° or 10°C during the onset of spawning (Riehle et al. 1997; Chandler et al. 2001). Bull trout spawning typically occurs in areas influenced by groundwater (Allan 1980; Shepard et al. 1982; Fraley and Shepard 1989; Ratliff 1992). In Montana's Swan River drainage, bull trout spawning site selection occurred primarily in stream reaches directly influenced by groundwater upwelling or directly downstream from upwelling reaches (Baxter et al. 1999; Baxter and Hauer 2000). Cold water upwellings may moderate warmer summer stream temperatures (Bonneau and Scarnecchia 1996; Adams and Bjornn 1997) and extreme winter cold temperatures, which can result in anchor ice.

Cold water temperature also influences the development of embryos and the distribution of juveniles (Fraley and Shepard 1989; Saffel and Scarnecchia 1995; Dunham and Chandler 2001). Selong et al. (2001) report the predicted ultimate upper incipient lethal temperature for age-0 bull trout during 60-day lab trials to be 20.9°C and peak growth to occur at 13.2°C. Goetz (1994) reports juvenile bull trout in the Cascade Mountains were not found in water temperatures above 12°C.

Substrate composition: Bull trout are more strongly oriented to the stream bottom and substrate than most other salmonids (Pratt 1992). Substrate composition has been repeatedly correlated with bull trout occurrence and abundance (Rieman and McIntyre 1993; Watson and Hillman 1997; Earle and McKenzie 2001) as well as selection of spawning sites (Graham et al. 1981; Boag and Hvenegaard 1997). Bull trout are more often found in areas with boulder and cobble substrate rather than areas of finer bed material (Watson and Hillman 1997).

Preferred spawning habitat includes low gradient reaches of mountain valley streams with loose, clean gravel and cobble substrate (Fraley and Shepard 1989; Reiser et al. 1997; MBTSG 1998; USDI 2002b). Fine sediments fill spaces between the gravel needed by incubating eggs and fry, lowering incubation survival and emergence success (Everest et al. 1987, USDI 2002a). If fine sediment is deposited into interstitial spaces during incubation, it can impede the movement of water through the gravel, lowering the levels of dissolved oxygen as well as inhibiting the removal of metabolic waste (MBTSG 1998). Because bull trout eggs incubate about 7 months (e.g., mid-September to mid-April) in the gravel, they are especially vulnerable to fine sediment accumulation and water quality degradation (Fraley and Shepard 1989). Some embryos can incubate and develop successfully but emerging fry can be trapped by fine sediment and entombed (MBTSG 1998).

Juveniles are similarly affected, as they also live on or within the streambed cobble (Pratt 1984). The accumulation of sediment leads to a reduction in pool depth and interstitial spaces, as well as causing channel braiding or dewatering (Shepard et al. 1984; Everest et al. 1987). Substrate interstices also provide important over wintering cover (Goetz 1994; Jakober 1995). Sub adults

and adults tend to occupy deep pools with boulder-rubble substrate and abundant cover (MBTSG 1998).

Migratory corridors: Migratory bull trout ensure regular interchange of genetic material between local populations within core areas (USDI 2002a), and sometimes facilitating genetic interchange among core areas on an evolutionary time scale, thereby promoting genetic variability. Intact migratory corridors also allow for the potential reestablishment of extirpated local populations (USDI 2002b). Unfortunately, many populations of migratory bull trout have been restricted or eliminated due to stream habitat alterations, including seasonal or permanent obstructions, detrimental changes in water quality, increased temperatures, and the alteration of natural stream flow patterns. Migratory corridors tie seasonal foraging, migrating and overwintering habitat (USDI 2002a, 2002b) to spawning and rearing habitat (USDI 2002a, 2002b) for anadromous, adfluvial, and fluvial forms. Such corridors could potentially allow for dispersal of resident forms for recolonization of recovering habitats (Rieman and McIntyre 1993), though evidence indicates that resident fish are naturally less likely to disperse. Dam and reservoir construction and operation have altered major portions of migratory bull trout habitat throughout the Columbia River Basin (USDI 2002a, 2002b, 2002c, 2005). Dams without fish passage create barriers to fluvial and adfluvial bull trout which isolates populations, and dams and reservoirs alter the natural hydrograph, thereby affecting forage, water temperature, and water quality (USDI 1999). In addition, reservoirs sometimes do not contain suitable bull trout habitat during certain portions of the year when temperature or other factors may be limiting (USDI 2002b, 2005).

Channel Stability and Stream Flow: Bull trout are exceptionally sensitive to activities that directly or indirectly affect stream channel integrity. Juvenile and adult bull trout frequently inhabit areas of reduced water velocity, such as side channels, stream margins, and pools. These areas can be eliminated or degraded by management activities (Rieman and McIntyre 1993). Bull trout also are sensitive to activities that alter stream flow. Incubation to emergence may take up to 200 days during winter and early spring. The fall spawning period and strong association of juvenile fish with stream channel substrates make bull trout vulnerable to flow pattern changes and associated channel instability (Fraley and Shepard 1989; Pratt 1992; Pratt and Huston 1993; Rieman and McIntyre 1993).

Patterns of stream flow and the frequency of extreme flow events that influence substrate are important factors in population dynamics (Rieman and McIntyre 1993). Embryo and juvenile bull trout, closely associated with the substrate, may be particularly vulnerable to flooding and channel scour associated with rain-on-snow events common in some parts of the range (Rieman and McIntyre 1993). Channel dewatering and bed aggradation also can block access for spawning fish.

Cover: All life history stages of bull trout are associated with complex forms of cover, including large woody debris, undercut banks, boulders and pools (Fraley and Shepard 1989; Goetz 1989; USDI 2002a). Young-of-the-year bull trout tend to use areas of low velocity such as side channels, staying close to substrate and submerged debris (Rieman and McIntyre 1993). Juveniles live close to undercut banks, coarse rock substrate and woody debris in the channel

(Pratt 1984; Goetz 1991; Pratt 1992). Adult fish use deep pools with boulder-rubble substrate, undercut banks and areas with large woody debris (Pratt 1984, 1985; MBTSG 1998; USDI 2002a and 2002b). Cover also plays an important role to spawning bull trout by protecting the adults from disturbance or predation as well as providing security (MBTSG 1998). Large migratory bull trout typically spawn in small streams during low flow periods, the combination making them exceptionally vulnerable to humans and other predators. Jakober (1998) observed bull trout overwintering in deep beaver ponds and pools containing large woody debris in the Bitterroot River drainage, and suggested that suitable winter habitat may be more restrictive than summer habitat.

II.A.5. Population dynamics

II.A.5.1. Population size

Bull trout have declined in overall range and numbers of fish. Though still widespread, there have been numerous local extirpations reported throughout the Columbia River basin (Thomas 1992; Goetz 1994; USDI 2002b). According to the Bull Trout Draft Recovery Plan (USDI 2002b), the Service recognizes 121 bull trout core areas within the coterminous U.S. range. The ensuing baseline and effects analysis uses the "core area" and its component local populations as the unit of biological organization (USDI 2002b) to demonstrate the influences of human activities on bull trout population persistence at several scales.

The concept of establishing core areas "that contain bull trout populations with the demographic characteristics needed to ensure their persistence and with the habitat needed to sustain those characteristics" (Rieman and McIntyre 1993) for the purposes of bull trout conservation is reflected in the scientific literature (e.g., Rieman and McIntyre (1993); MBTSG (1998); Frissel 1993). Further, specific information on bull trout presence, population status, migratory behavior, spawning behavior, and habitat relationships has been developed since the 1998 listing action (USDI 2002b, 2005).

As a result of the availability of this new information, as well as a reconsideration of the scientific literature in light of the new information, the draft recovery plan (USDI 2002b) abandoned the subpopulation concept/definition used in the 1998 final rule (USDI 1998). The draft recovery plan defined population units more appropriate for the purposes of assessing the current status of bull trout and tracking progress towards recovery. The population terminology in the remainder of this document will no longer refer to the subpopulations as described at the time of listing.

The following definitions are from the draft recovery plan (USDI 2002b):

Local population: A group of bull trout that spawn within a particular stream or portion of a stream system. Multiple local populations may exist within a core area. A local population is considered to be the smallest group of fish that is known to represent an interacting reproductive unit. In most areas a local population is represented by a single headwater tributary or complex of headwater tributaries where spawning occurs. Gene flow may occur between local

populations (e.g., those within a core population), but is assumed to be infrequent compared with that among individuals within a local population.

Core area: The combination of core habitat (i.e., habitat that could supply all elements for the long-term security of bull trout) and a core population (a group of one or more local bull trout populations that exist within core habitat) constitutes the basic unit on which to gauge recovery. Core areas require both habitat and bull trout to function, and the number (replication) and characteristics of local populations inhabiting a core area provide a relative indication of the core area's likelihood to persist. A core area represents the closest approximation of a biologically functioning unit for bull trout. Local populations within a core area have the potential to interact because of connected aquatic habitat.

Recovery unit: Recovery units are the major units for managing recovery efforts; recovery units were described in separate chapters in the draft recovery plan (USDI 2002b). Most recovery units, as proposed, consist of one or more major river basins. Several factors were considered in our identifying recovery units; for example, biological and genetic factors, political boundaries, and ongoing conservation efforts. In some instances, recovery unit boundaries were modified to maximize efficiency of established watershed groups, encompass areas of common threats, or accommodate other logistic concerns. Some proposed recovery units included portions of mainstem rivers (e.g., Columbia and Snake rivers) when biological evidence warranted such inclusion.

Public comment on the draft recovery plan for the Klamath River and Columbia River populations (USDI 2002b) closed on February 27, 2003. Public comment for the Jarbidge and Coastal-Puget Sound populations closed on October 29, 2004. Peer review was also conducted on all of the draft recovery plan documents in approximately the same respective time periods. Although suggestions to more accurately identify the delineation of specific local populations and their relationships to identified core areas were received, no issues were raised relative to the general concept of the local population/core area definitions or relationships. There were, however, substantial concerns with the definition of "recovery unit." As a result, the Service's current draft of the draft recovery plan for all populations of bull trout has substituted the term "management unit" for "recovery unit" (i.e., because "recovery unit" is a unique term relative to Service consultation and listing programs with a biological threshold that these units do not consistently meet). We acknowledge that the existing management units have no consistent biological significance across the range, but they do provide an orderly avenue for management and coordination with other stakeholders. The final resolution of how recovery units will be described has not been fully completed. Pending completion of the current bull trout five-year review and decisions forthcoming from that process, additional resolution of the recovery unit structure is anticipated. Regardless, we do not anticipate that the basic structure of core areas and local populations will be modified, except in response to new biological information that causes refinement within individual core areas.

To evaluate the current status of bull trout distribution and abundance for the five-year review, the Service analyzed the most recent information on bull trout relative to core areas and local populations (USDI 2005).

Some core areas are considered at inherently higher risk of extirpation from naturally occurring or human-caused events, especially where the core areas are:

1. Unlikely to be reestablished by individuals from another core area (i.e., functionally or geographically isolated from other core areas);
2. Limited to a single spawning area (i.e., spatially restricted); and either
3. Characterized by low individual or spawning numbers; or
4. Primarily of a single life-history form.

For example, a core area that is isolated in a small watershed upstream of an impassable waterfall (e.g., several of those found in Glacier National Park) would be considered at elevated risk of extirpation from naturally occurring events, especially if the core area had low numbers of fish that spawn in a restricted area. In such cases, an event such as a fire or flood affecting the spawning area could eliminate bull trout from the core area, and the impassable waterfall would prevent reestablishment from fish downstream.

However, a core area residing downstream of the waterfall might not be considered at the same level of risk of extirpation from naturally occurring events because there would be potential for immigration of fish from adjacent core areas either upstream or downstream. Because resident bull trout may exhibit limited downstream movement, the potential for reestablishment of extirpated core areas under such conditions may be limited.

In the process of reviewing information relative to the bull trout listing process, the status of subpopulations was based on modified criteria of Rieman et al. (1997), including the abundance, trends in abundance, and the presence of life-history forms of bull trout. In the listing, the Service considered a subpopulation "strong" if 5,000 individuals or 500 spawners likely occurred in the subpopulation, abundance appeared stable or increasing, and life-history forms were likely to persist. The Service considered a subpopulation "depressed" if less than 5,000 individuals or 500 spawners likely occurred in the subpopulation, abundance appeared to be declining, or a life-history form historically present had been lost. The complete review of this evaluation is found in a status summary compiled by the Service (USDI 1998c).

Based on abundance, trends in abundance, and the presence of life-history forms, bull trout were considered strong in 13 percent of the occupied range in the interior Columbia River basin (Quigley and Arbelbide 1997). Using various estimates of bull trout range, Rieman et al. (1997) estimated that bull trout populations were strong in 6 percent of the subwatersheds in the Columbia River basin. Bull trout declines have been attributed to the effects of land and water management activities, including forest management and road building, mining, agricultural practices, livestock grazing (Meehan 1991; Frissell 1993), isolation and habitat fragmentation from dams and agricultural diversions (Rode 1990; Jakober 1995), fisheries management practices, poaching and the introduction of non-native species (Rode 1990; Bond 1992; Donald

and Alger 1993; Leary et al. 1993; Pratt and Huston 1993; Rieman and McIntyre 1993; MBTSG 1998; USDI 2002).

II.A.5.2. Population variability

Distribution of existing bull trout populations is often patchy even where numbers are still strong and habitat is in good condition (Rieman and McIntyre 1993, 1995). It is unlikely bull trout historically occupied all of the accessible streams within the range at any one time. The number of bull trout within a population can vary dramatically both spatially and temporally. Redd counts are commonly used to assess population trends. Existing long-term redd count data indicate a high degree of variability within and between populations (Rieman and McIntyre 1996, USDI 2002b, USDI 2005). Habitat preferences or selection is likely important (Rieman and McIntyre 1995; Dambacher and Jones 1997; Baxter and Hauer 2000), but more stochastic extirpation and colonization processes may influence distribution even within suitable habitats (Rieman and McIntyre 1995).

Based on the work of Rieman and McIntyre (1993), the draft recovery plan identified four elements to consider when assessing long-term viability of bull trout populations: (1) number of local populations, (2) adult abundance (defined as the number of spawning fish present in a core area in a given year); (3) productivity, or the reproductive rate of the population; and (4) connectivity (as represented by the migratory life history form).

II.A.5.3. Population stability

The draft recovery plan (USDI 2002a) defined core areas as groups of partially isolated local populations of bull trout with some degree of gene flow occurring between them. Based on this definition, core areas can be considered metapopulations. A metapopulation is an interacting network of local populations with varying frequencies of migration and gene flow among them (Meeffe and Carroll 1994). In theory, bull trout metapopulations (core areas) can be composed of two or more local populations, but it has been suggested that for a bull trout metapopulation to function effectively, at a minimum between five and 10 local populations are required. Bull trout core areas with fewer than five local populations are at increased risk of local extirpation, core areas with between five and 10 local populations are at intermediate risk, and core areas with more than 10 local interconnected local populations are at diminished risk (USDI 2002c).

The best available information indicates that bull trout are in widespread decline across their historic range and are restricted to numerous reproductively isolated units in the Columbia River basin with many recent local extirpations (Rieman et al. 1997; USDI 1998b). The largest contiguous areas supporting bull trout are central Idaho and western Montana. Many bull trout units in the Columbia River population are characterized by declining trends.

II.A.6 Status and distribution

II.A.6.1. Historic and current distribution

The historic range of bull trout was restricted to North America (Cavender 1978; Haas and McPhail 1991). Bull trout were historically recorded from the McCloud River in northern California, the Klamath River basin in Oregon and throughout the Columbia River basin in much of interior Oregon, Washington, Idaho, northern Nevada, and western Montana. They also occurred in coastal and interior British Columbia, extending along the east slopes of the Rockies in Alberta and including a small area in northern Montana (Rieman et al. 1997).

Bull trout may be a glacial relict and their broad distribution has probably contracted and expanded periodically with natural climate change (Williams et al. 1997). Genetic variation suggests an extended and evolutionarily important isolation between populations in the Klamath basin and those in the Columbia River basin (Leary et al. 1993). Populations within the Columbia River basin are more closely allied and are thought to have expanded from at least two common glacial refugia in recent geologic time (Williams et al. 1997; Haas and McPhail 2001).

Despite occurring widely across a major portion of the historic potential range, many areas support only remnant populations of bull trout. Bull trout were reported present in 36 percent and unknown or unclassified in 28 percent of the subwatersheds within the potential historic range. Strong populations were estimated to occur in only 6 percent of the potential historic range (Rieman et al. 1997). Bull trout are now extirpated in California and only remnant populations are found in portions of Oregon (Ratliff and Howell 1992). A small population still exists in the headwaters of the Jarbidge River, Nevada, which represents the present southern limit of the species' range.

Though bull trout may move throughout entire river basins seasonally, spawning and juvenile rearing appear to be restricted to the coldest streams or stream reaches. The downstream limits of habitat used by bull trout are strongly associated with gradients in elevation, longitude, and latitude, which likely approximate a gradient in climate across the basin (Goetz 1994). The patterns indicate that spatial and temporal variation in climate may strongly influence habitat available to bull trout. While temperatures are probably suitable throughout much of the northern and mountainous portions of the range, predicted spawning and rearing habitat are restricted to increasingly isolated high elevation or headwater "islands" toward the south (Goetz 1994; Rieman and McIntyre 1995).

II.A.6.2. Status of bull trout in the Columbia River basin

Range-wide, local populations of bull trout within their respective core areas are often isolated and remnant. Migratory life histories have been lost or limited throughout major portions of the range (Ratliff and Howell 1992; Pratt and Huston 1993; Rieman and McIntyre 1993, 1995; Goetz 1994; Jakober 1995; MBTSG 1998; USDI 2002b; USDI 2005) and fluvial bull trout populations in portions of the upper Columbia River basin appear to be nearly extirpated (USDI

2002b, 2005). Resident populations existing in headwater tributary reaches are isolated and generally low in abundance (Thomas 1992).

The Service recognizes 121 bull trout core areas rangewide in Idaho, Montana, Oregon, Nevada and Washington (USDI 2002b). Core areas were previously defined as approximating interacting biological units for bull trout. Within the Columbia River basin, a total of 98 core areas are described (USDI 2002b). Bull trout are threatened by habitat loss and degradation, passage restrictions at dams, and competition from non-native species, especially brook trout and lake trout. The American Fisheries Society listed bull trout as a species of concern in all of its range (California, Idaho, Montana, Nevada, Oregon, Washington, Alberta, and British Columbia) except Alaska, because of present or threatened destruction, modification, or curtailment of its habitat or range and introduction of exotic species (Williams et al. 1989). Bull trout have been categorized as an indicator species of forest and ecosystem health as they are particularly sensitive to environmental change (Rieman and McIntyre 1993).

Generally, where status is known and population data exists, bull trout populations throughout the Columbia River basin are at best stable and more often declining (Thomas 1992; Schill 1992; Pratt and Huston 1993; USDI 2005). Presently, bull trout in the Columbia basin occupy about 45 percent of their estimated historic range (Quigley and Arbelbide 1997). Many of the bull trout core areas occur as isolated watersheds in headwater tributaries, or in tributaries where the migratory corridors have been lost or restricted. Few bull trout core areas are considered strong in terms of relative abundance and core area stability (USDI 1998c; USDI 2005). Strong core areas are generally associated with large areas of contiguous habitat.

Although there are multiple resources that contribute to the subject, Spruell et al. (2003) best summarized genetic information on bull trout population structure. Spruell et al. (2003) analyzed 1,847 bull trout from 65 sampling locations, 4 located in three coastal drainages (Klamath, Queets, and Skagit Rivers), one in the Saskatchewan River drainage (Belly River), and 60 scattered throughout the Columbia River Basin. They concluded that there is a consistent pattern among genetic studies of bull trout, regardless of whether examining allozymes, mitochondrial DNA, or most recently microsatellite loci. Typically, the genetic pattern shows relatively little genetic variation within populations, but substantial divergence between populations. Microsatellite loci analysis supports the existence of at least three major genetically differentiated groups (or lineages) of bull trout (Spruell et al. 2003). They were characterized as:

- **“Coastal”**, including the Deschutes River and all of the Columbia River drainage downstream, as well as most coastal streams in Washington, Oregon, and British Columbia. A compelling case also exists that the Klamath Basin represents a unique evolutionary lineage within the coastal group.
- **“Snake River”**, which also included the John Day, Umatilla, and Walla Walla Rivers. Despite close proximity of the John Day and Deschutes Rivers, a striking level of divergence between bull trout in these two systems was observed.

- **“Upper Columbia River”** which includes the entire basin in Montana and northern Idaho. A tentative assignment was made by Spruell et al. (2003) of the Saskatchewan River drainage populations (east of the continental divide), grouping them with the upper Columbia River group.

Spruell et al. (2003) noted that within the major assemblages, populations were further subdivided, primarily at the level of major river basins. Taylor et al. (1999) surveyed bull trout populations, primarily from Canada, and found a major divergence between inland and coastal populations. It has been suggested that the patterns reflected the existence of two glacial refugia, consistent with the conclusions of Spruell and the biogeographic analysis of Haas and McPhail (2001). Both Taylor et al. (1999) and Spruell et al. (2003) concluded that the Deschutes River represented the most upstream limit of the Coastal lineage in the Columbia River Basin.

Status of the Clark Fork River subbasin: Within the upper portions of the Columbia River basin in Montana and northern Idaho, upstream of the impassible barrier Albeni Falls Dam on the outlet of Lake Pend Oreille, bull trout are found in 38 core areas within the Clark Fork River drainage (USDI 2002c). At least 152 local populations of bull trout have been identified associated within these core areas (USDI 2002c).

The Service considers many of the core areas in the Clark Fork River drainage to be at risk of extirpation due in part to natural isolation, single life-history form, and low abundance. Expansion of nonnative lake trout into headwater lakes is the single largest human-caused threat in most of the 31 primarily adfluvial core areas, and dams and degraded habitat have contributed significantly to bull trout declines in the 7 core areas centered primarily in fluvial habitat in the Clark Fork subbasin.

A discussion of bull trout status in major watersheds of the Clark Fork subbasin follows. The purpose of this discussion is to describe bull trout status at a smaller spatial scale than the larger subbasin (generally by core areas) and to put the proposed project into proper spatial context.

Core areas within the Clark Fork subbasin are described in the following upstream order, beginning at Albeni Falls Dam on the Pend Oreille River, which is located downstream of the natural outlet of Lake Pend Oreille. Current status is taken from the template analysis produced for the bull trout 5-year review (USDI 2005). For core area descriptions, see USDI 2002c.

Lake Pend Oreille: The Lake Pend Oreille watershed is one of the largest, most complex, and best-documented bull trout core areas in the upper Columbia River watershed, encompassing 95,000-acre Lake Pend Oreille (the largest and deepest natural lake in Idaho) and extending into western Montana. An extensive redd count monitoring program was devised by Idaho Department of Fish and Game and has been in place since 1983 (USDI 2005). These redd counts accurately reflect the population trend. Data is collected from six index tributary streams: two in the lower Clark Fork River (downstream of Cabinet Gorge Dam), and four other systems tributary to the lake. Index counts average about two-thirds to three-fourths of the known spawning in the contiguous Pend Oreille basin. Bull trout index redd counts have ranged from about 300-700 throughout the 22-year period of record (averaging 505). In the 7 years post-

listing (1998-2004), index redd counts have ranged between 462 and 691, averaging 582. There is some indication that numbers have been more robust since 1998. The status and trend of bull trout in this core area was considered "depressed" and "declining" based on information available at the time of listing (USDI 1998). Based on recent analysis, there are as many as 5,000 adult bull trout in this core area and the recent trend is considered stable or increasing. These findings reflect improved monitoring and expanded knowledge about population demographics in this core area as much or more than recent population response. The potential for increased bull trout recruitment to this core area from the Clark Fork River watershed as a result of artificial upstream passage of spawning bull trout over the dams is promising, but untested. The range of this core area has also been expanded to include the lower portions of the Priest River watershed, based on results of bull trout radio telemetry studies. The precarious status of kokanee salmon (*Oncorhynchus nerka*) (the primary forage fish) and apparent expansion of the lake trout population, which may currently exceed bull trout abundance in Lake Pend Oreille, are the biggest threats to recovery and the magnitude and imminence of the nonnative species threat remains high.

Priest Lakes: The status and trend of bull trout in this core area was considered "depressed" and "declining" based on information available at the time of listing (USDI 1998). Based on recent analysis, there are fewer than 100 adult bull trout in this core area and the recent trend is considered stable at best, more probably declining (USDI 2005). The range of this core area has declined as the lower portions of the Priest River watershed, based on results of bull trout radio telemetry studies, are now considered part of the Lake Pend Oreille core area. In addition, former local populations of bull trout in the main basin of Priest Lake are increasingly weak and fragmented. Annual efforts to remove lake trout from Upper Priest Lake are, at best, a stopgap measure. The precarious status of kokanee (a primary forage fish) and continuing expansion of the lake trout population are the biggest threats to recovery and the magnitude and imminence of the nonnative species threat, including brook trout, remains high. The conclusion that bull trout in this core area are threatened with extirpation is inescapable.

Cabinet Gorge Reservoir: A large amount of recent data has been collected, characterizing both bull trout abundance and demographics in this core area since the Avista Native Salmonid Restoration Program began conducting surveys in 2000 (USDI 2005). Prior to that there was only limited and partial monitoring of bull trout in this core area. Results of redd counts since 2000 indicate approximately 10-50 redds per year have been constructed in portions of the Bull River drainage (Lockard et al. 2002; MFWP 2004). Additional limited spawning is thought to occur in Rock Creek, though identification of redds has been problematic. Passage of transmitters over Cabinet Gorge Dam has contributed to the total since 2003. Extensive radio tracking of fish has led to many important observations of timing and movement patterns related to spawning. Preliminary conclusions are that the abundance of adult bull trout in Cabinet Gorge Reservoir is around 100 fish. The determination is complicated by movement patterns over two dams (Cabinet Gorge and Noxon Rapids) that sandwich the core area and the influx and egress of adult bull trout that has been documented to occur in this core area. There is insufficient data to reveal any trend indication, though it is known that the trap and transport program has enhanced the number of bull trout spawning in the core area. Spruell et al. (2000) reported on the findings of a scientific panel that investigated the genetic structure of bull trout in

the Lake Pend Oreille – Lower Clark Fork system, with particular attention to strategies for retaining genetic connectivity of bull trout in Lake Pend Oreille with upstream portions of the Clark Fork River drainage in Montana, including local populations isolated in Cabinet Gorge Reservoir. The panel endorsed strategies, which would restore connectivity (including trap and transfer of migratory bull trout over dams) to allow the full expression of bull trout life histories and maximize the potential for natural gene flow. Genetic data supported the hypothesis that bull trout migrating to the base of Cabinet Gorge Dam were individuals that hatched in upstream tributaries, reared in Pend Oreille, and were blocked by the dams from returning to their natal tributaries to spawn (Neraas and Spruell 2001). More recent work has lent credibility to the use of genetic markers as an accurate indicator of which source populations fish are derived from, allowing managers to transport individual trapped fish to the general vicinity of their stream of origin. The findings to date support previous conclusions that upstream and downstream connectivity to this core area should be restored so that under recovered conditions it should function as part of a larger core area complex (USFWS 2002c).

Many of the actions conducted under the Avista Fish Passage and Native Salmonid Restoration Plan of the Clark Fork FERC Settlement Agreement have been directed at transporting bull trout upstream and downstream over Cabinet Gorge and Noxon Rapids Dams, with a goal of establishing functional connectivity for migratory bull trout between Lake Pend Oreille and upstream watersheds blocked by the dams. In 2002, a total of 416 juvenile bull trout were captured in fish traps while migrating downstream in Rock Creek, Bull River, Graves Creek and the Vermilion River. Of that total, about 40 percent (167 fish) were transported to Idaho and released in the Clark Fork River below Cabinet Gorge Dam. All were marked for future identification. In 2003, 221 juvenile bull trout were captured migrating downstream and 88 were successfully transported below Cabinet Gorge Dam. A second phase of the Avista Native Salmonid Restoration Program involves capture and transfer of adult bull trout migrating to the base of Cabinet Gorge Dam. In 2003, a total of 42 adult bull trout were captured and transferred from the Clark Fork River into Cabinet Gorge Reservoir. Seven of those were fish that had been captured and transported over the dam in previous years (2001 or 2002). Of 36 bull trout that were that were implanted with transmitters and radio tracked in 2003, upstream movements of 20 were detected in the Bull River drainage, 2 were detected in the Rock Creek drainage, and 14 staged below Noxon Rapids Dam, the next upstream barrier on the Clark Fork River. Tracking of bull trout to the spawning areas, combined with redd counts, led to the conclusion that most (73-89 percent) of the potential bull trout egg deposition in the Bull River drainage in 2003 was from migratory fish transported over Cabinet Gorge Dam. Additional information gathered from radio tracked fish in 2003 and 2004 has also supported the hypothesis that Rock Creek, despite its' chronically dewatered condition, continues to support migratory bull trout .

Extensive information is being collected on the overlap with and potential superimposition of brown trout redds in important bull trout drainages. Studies are ongoing related to concerns that northern pike negatively interact with bull trout and predate on juvenile bull trout in Cabinet Gorge Reservoir. There are also concerns about negative interactions with high densities of brook trout in many watersheds and the potential for an increasing population of recently illegally introduced walleye that are reproducing in Noxon Reservoir. To date, control actions on these species have not been initiated, pending further analysis.

In 1997 and 1998 a total of 780 fish were collected among nine sites in Montana above Cabinet Gorge Dam and 384 fish from four sites in Idaho below the dam for pathogen surveys. Only one fish was a bull trout, but the study was conducted in response to concerns that transport of bull trout over the dam might introduce new fish pathogens upstream. The soluble antigen of *R. salmoninarum*, the causative agent for bacterial kidney disease, was detected in fish from all sample sites across the study area, though no clinical cases of the disease were found. *F. psychrophilum*, the bacterium that causes cold water disease, was isolated from samples below the dam, but not above. However, the pathogen is generally regarded as a widely distributed organism and because it's ubiquitous it was not determined to be an agent of concern for the fish transport program. IPN virus was also isolated from brook trout in the Mosquito Creek drainage, but previous cases had already occurred in the drainage and this pathogen was also known from upstream waters in Montana. No evidence of *M. cerebralis*, the parasite that causes whirling disease, was detected in any of the samples. With these findings, the fish transport program moved forward.

The status and trend of bull trout in this core area was considered "depressed" and "unknown" based on information available at the time of listing (USDI 1998). Since that time, intensively focused monitoring and research efforts have occurred in this core area as part of the Avista Native Salmonid Restoration Program. Based on that recent analysis, we conclude that the abundance of adult bull trout in Cabinet Gorge Reservoir is around 100 fish. The determination is complicated by movement patterns over two dams (Cabinet Gorge and Noxon Rapids) that sandwich the core area and the influx and egress of adult bull trout that has been documented to occur in this core area. There is insufficient data to reveal any trend indication, though it is known that the trap and transport program has enhanced the number of bull trout spawning in the core area. The potential for increased bull trout recruitment to this core area from the Clark Fork River watershed as a result of artificial upstream passage of spawning bull trout over the dams is promising, but untested. Suitability of the reservoir habitat for adult bull trout remains limiting, thus the emphasis on connectivity to restore this core area as a functioning portion of a larger complex of core areas. This core area cannot stand alone as a functioning unit for bull trout recovery. The current approach of restoring functional connectivity to allow upstream and downstream migration will benefit the entire Lake Pend Oreille/Lower Clark Fork ecosystem, though obstacles remain to achieving that goal and it will require a focused and long-term effort.

Noxon Rapids Reservoir: The status and trend of bull trout in this core area was considered "depressed" and "unknown" based on information available at the time of listing (USDI 1998). Since that time, intensively focused monitoring and research efforts have occurred in this core area as part of the Avista Native Salmonid Restoration Program (USDI 2005). Based on that recent analysis, we conclude that the abundance of adult bull trout in Noxon Reservoir is greater than 100 fish. The determination is complicated by movement patterns over two dams (Noxon Rapids and Thompson Falls) that sandwich the core area and the influx and egress of adult bull trout that has been documented to occur in this core area. There is insufficient data to reveal any trend indication, though it is anticipated that expansion of the trap and transport program will further enhance the number of bull trout spawning in the core area. The potential for increased bull trout recruitment to this core area from the Clark Fork River watershed as a result of

artificial upstream passage of spawning bull trout over the dams is promising, but untested. Suitability of the reservoir habitat for adult bull trout remains limiting, thus the emphasis on connectivity to restore this core area as a functioning portion of a larger complex of core areas. The establishment of a reproducing walleye population in Noxon Reservoir elevates the magnitude and imminence of that threat.

Lower Clark Fork River (Section 3 – Thompson Falls Dam to Flathead River): The status and trend of bull trout in this core area were both considered “unknown” based on information available at the time of listing (USDI 1998). That is still largely the case, though since that time some monitoring and research efforts have occurred in the Thompson River portion of this core area, primarily as part of the Plum Creek Native Fish Habitat Conservation Plan (USDI 2005). Preliminary conclusions are that the abundance of adult bull trout in Reach 3 of the Clark Fork River is about 100 fish. The determination is complicated by losses that may occur over Thompson Falls Dam, which forms the lower bound of this reach. Additionally, if efforts to restore bull trout populations in the Jocko River watershed on the Flathead Reservation (upstream of this reach) are successful, some of those fish will use a portion of this core area as overwinter and migratory habitat. Influx and egress patterns of adult bull trout in this core area are not documented. There is insufficient data to reveal any trend indication, though it is anticipated that expansion of the trap and transport program to Thompson Falls Dam will further enhance the number of bull trout spawning in the core area. The potential for increased bull trout recruitment to this core area from the Clark Fork River watershed as a result of artificial upstream passage of spawning bull trout over the dams is promising, but untested. Suitability of the Clark Fork River habitat for adult bull trout is partially limiting, due to thermal and water quality concerns. Similarly, portions of the Thompson River watershed experience warm summer water temperatures. Thus, the emphasis has been placed on connectivity to restore this core area as a functioning portion of a larger complex of core areas.

Lower Flathead River: Kerr Dam blocks fish passage between the lower Flathead and Clark Fork Rivers and Flathead Lake. Additionally, dams constructed to create irrigation reservoirs isolate tributaries of the Jocko River drainage from the lower Flathead River. This core area is almost entirely on the Flathead Reservation of the CSKT. Data from Tribal monitoring programs is typically not public information, but to our knowledge redd counts are not being routinely conducted in this core area (USDI 2005). Extensive bull trout restoration activities are occurring in the Jocko River watershed, which is where most of the bull trout habitat in this core area occurs. Information from informal discussion with Tribal representatives indicates that numbers of adult bull trout in this core area are generally low, on the order of 100 adult fish or fewer in the migratory population. There is no available information on the population trend. The status and trend of bull trout in this core area were both considered “unknown” based on information available at the time of listing (USFWS 1998). That is still largely the case. The CSKT has begun an extensive effort to restore bull trout habitat in the Jocko River watershed. No trend is indicated by the short period of record of monitoring. In the isolated headwaters there is evidence that Mission Reservoir bull trout are approaching extirpation. Information from informal discussion with Tribal representatives indicates that numbers of adult bull trout in this core area are generally low, on the order of 100 adult fish or fewer in the migratory population (excluding McDonald Lake, where numbers are higher). Most local populations are well below

historical levels of natural abundance, with juvenile bull trout widely distributed but at low densities. With fish passage now provided over lower Clark Fork dams and additional habitat restoration efforts, the past fragmentation of this core area is being improved. However, significant habitat limitations remain (e.g. dewatering, thermal enrichment, nonnative species, impacts of whirling disease, expanding recreational use) and full recovery of bull trout is at best an uncertain prospect. Potentially, this core area should be able to support at least several hundred migratory adult bull trout. Thus, the emphasis has been placed on connectivity to restore this core area as a functioning portion of a larger complex of core areas.

Flathead Lake: The Flathead Lake watershed is one of the largest, most complex, and best-documented bull trout core areas in the upper Columbia River watershed, encompassing 125,000-acre Flathead Lake (the largest freshwater lake in the U.S. west of the Mississippi River) and a large portion of northwest Montana extending into British Columbia, Canada. An extensive redd count monitoring program was devised by MFWP and has been in place since 1980 (MFWP 2004). These redd counts accurately reflect the population trend (USDI 2005). Based on data collected from eight index tributary streams in the North Fork and Middle Fork Flathead River (collectively representing about half the known spawning in the basin), bull trout index redd counts ranged from about 300-600 in the 1980's (averaging 392), then dropped drastically in the early 1990's, to a range of 83-243 in the seven years prior to listing (averaging 137 between 1991 and 1997). In the 5 years post-listing (1998-2002), a brief rebound was experienced (range 187-251; average 215), but the 2003 redd count was only 130 and in 2004 only 136 redds were found (MFWP 2004). The Flathead Lake food web was significantly altered in the 1980's, with the introduction of *Mysis*, resulting in tremendous increases in lake trout and lake whitefish (*Coregonus clupeaformis*) populations in this core area and the extirpation of a formerly robust kokanee population. These changes had significant negative effects on populations of native bull trout and westslope cutthroat trout, which were already below historical levels of the early 1900's. There is uncertainty over the level of ecological balance that is ultimately achievable. Because bull trout appear to compete directly with lake trout, and lake trout currently outnumber bull trout by manifold in the population of fish in the lake, bull trout are not driving food web interactions. The status and trend of bull trout in this core area was considered "depressed" and "declining" based on information available at the time of listing (USFWS 1998). Based on recent analysis, there are fewer than 1,000 adult bull trout in this core area and the redd count trend, which temporarily increased in the late 1990's from historic lows reached in 1996, has again declined by nearly half since 2000. Predation, competition, or other forms of negative interaction with lake trout is the single factor most responsible for the decline of bull trout in this core area (USDI 2002c). The collective assessment of the extensive research and monitoring program indicates that the lake trout population has stabilized at a high level and that bull trout redd numbers are currently below secure levels. The range of this core area is stable, but threatens to decline if some weak local populations are extirpated. The magnitude and imminence of the nonnative species threat remains high.

Upstream of Flathead Lake, in the headwaters of the North and Middle Forks of the Flathead River drainage, there are numerous smaller bull trout core areas. These include the watersheds of Whitefish Lake, Upper Whitefish Lake, Upper Stillwater Lake, Cyclone Lake, Frozen Lake,

Kintla Lake, Upper Kintla Lake, Upper Quartz Lakes, Lower Quartz Lake, Akokala Lake, Logging Lake, Bowman Lake, Arrow Lake, Trout Lake, Isabel Lakes, Harrison Lake, Lake McDonald, and Lincoln Lake; including 21 lakes in all. Some of these lakes, primarily those at high elevation and under 100 acres in size, have been isolated from two-way fish passage by natural barriers for thousands of years. Sizes range from 23 acres to nearly 7,000 acres. Most are in protected habitat in Glacier National Park or the Great Bear Wilderness Area. Collectively, these lakes support an important aspect of the evolutionary legacy of the adfluvial form of bull trout. Of the 21 lakes, at least eight are currently occupied by expanding lake trout populations, including all five lakes that are over 1,000 acres. The incompatibility of bull trout with invading lake trout in these waters is currently considered a very high risk, likely to result in eventual extirpation of bull trout and there are no existing strategies to remove lake trout once they become established. Several more lakes appear to be at risk of invasion.

Swan Lake (Holland lake, Lindbergh Lake): Historically bull trout in Flathead Lake had access to the Swan River drainage and were widely distributed in the Swan River drainage. Completion of the Bigfork Dam in 1902 severed this connection. Bull trout from Flathead Lake no longer have access to the Swan River. The status of bull trout in this core area was considered "stable" and trend was "increasing" based on information available at the time of listing (USDI 1998). The current status of the species in this core area is amongst the strongest in the entire range, though numerically redd counts are down about 30 percent since the peak level recorded in 1998, so the trend is no longer considered increasing (USDI 2005). Continuous redd count history dating to 1982 is available for four index streams (MFWP 2004). An increasing trend in bull trout was indicated between 1982 and 1998 (approximately 200 redds in index streams in early 1980's, rising to approximately 600 redds in 1998). Since 1998, redd counts have stabilized at a slightly lower level, with about 425-435 index redds each year in 2002-2004. Bull trout may have reached equilibrium in this system at a population level of about 2,000 adults and the current trend appears stable.

In 1998 through 2003, a total of 11 lake trout (20 to 30 inches long) were reported caught by anglers from Swan Lake and the Swan River. These were the first documented reports of lake trout in the drainage (MFWP file records). In September 2003, the first evidence of lake trout reproduction was recorded with a gill net catch of a 9-inch specimen. In the fall of 2004, seven more juvenile lake trout were caught in a single gill net at the same location (MFWP file records). The Montana Bull Trout Scientific Group, in their Swan Lake Status Report (1996), concluded: "Swan Lake supports an introduced *Mysis* shrimp population and, if lake trout were also introduced, it is likely they would rapidly become the dominant fish species." The USFWS concurs with that assessment and considers nonnative lake trout to be the single greatest threat to bull trout in this core area (USDI 2002c). In other ecosystems within the Flathead River drainage lake trout invasion or introduction has resulted in the collapse of bull trout populations within a brief 25-30 year period. In ecosystems with established food chains that can support high rates of lake trout expansion and survival, particularly those such as Swan Lake where *Mysis* and kokanee are present, resulting collapse of bull trout has been profound and (to date) irreversible. If newly identified lake trout expansion in Swan Lake (perhaps exacerbated by the undetermined effects of whirling disease) cannot be halted or mitigated, it is expected that bull trout abundance in this core area will experience steep declines within the next 10-25 years.

Two additional core areas are located in the headwaters of this drainage in Holland and Lindbergh Lakes. Both of those lakes support non-native rainbow trout (*Oncorhynchus mykiss*) and kokanee populations and it is feared the potential for lake trout to move upstream from Swan Lake is high. Lake trout invasion is considered a high risk for these systems, which both appear to have low, but stable numbers of bull trout.

South Fork Flathead River (Hungry Horse Reservoir, Big Salmon Lake, Doctor Lake):

Hungry Horse Dam, completed in 1954, isolates the South Fork Flathead River drainage from its former connectivity with Flathead Lake. The status and trend of bull trout in this core area was considered "strong" and "stable" based on information available at the time of listing (USDI 1998). This was the only Montana core area accorded that combination of attributes. Based on recent analysis, the numbers remain stable. The entire upper watershed is within the Bob Marshall Wilderness. Hungry Horse Reservoir and the South Fork Flathead is the largest bull trout habitat in the northwest with a mostly native fish species assemblage. MFWP has recognized the importance of that and is proposing measures to systematically remove nonnative salmonids in the limited headwater basins where they occur (as a result of historical stocking programs with rainbow trout and Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*). The core area is protected from downstream invasion by the impassable concrete structure of Hungry Horse Dam and will likely remain so. Two headwater core areas in this drainage, in 800-acre Big Salmon Lake and 80-acre Doctor Lake, are both within the Bob Marshall Wilderness. Both appear to have long-term security, so long as the integrity of the Hungry Horse Reservoir species complex is protected.

An extensive redd count monitoring program was devised by MFWP and has been in place since 1993 (MFWP 2004). These redd counts accurately reflect the population trend. Based on data collected from eight index tributary streams, four each that are direct tributaries to either the reservoir or the upper watershed in the Bob Marshall Wilderness, bull trout index redd counts ranged from about 210-453, averaging 278 in the five-year period prior to listing (1993-1997). Approximately 20-25 percent of the total was in the four reservoir tributaries, with most of the spawning occurring in the upper South Fork watershed. In the period since 1998, redd counts in the eight index tributaries were conducted three times (1999, 2001 & 2004). Numbers were remarkably consistent, with 470-483 redds totaled in the eight streams, which represent up to 85 percent of the total basinwide spawning of bull trout. Recent redd counts may indicate an adult bull trout population base of about 2,500-3,000 fish. Because this is a reservoir that inundated a portion of the previous migratory corridor for fish from Flathead Lake, there was no established previous record of natural carrying capacity for this portion of the system in isolation. Rather, this core area incorporated about 38 percent of the spawning and rearing habitat for the Flathead Lake core area (Zubik and Fraley 1987). The loss statement for the Hungry Horse Mitigation program concluded that the dam construction eliminated between 1,840 and 2,089 adult bull trout from the Flathead Lake population (Zubik and Fraley 1987). Based on that analysis, we can conclude that the adult bull trout population occupying this core area (estimated 2,500-3,000 fish) is similar in size to natural carrying capacity of the area when it was still attached to Flathead Lake. MFWP concluded that the bull trout population had expanded after harvest was eliminated and has stabilized around a higher level of equilibrium since 1995. This analysis was

used in part as the basis for proposing reestablishment of an experimental bull trout sport fishery in the reservoir, which was permitted by USFWS beginning in 2004.

Operations of the Federal Columbia River Power system have led to extreme variability in the pool of Hungry Horse Reservoir, at times being drawn down over 200 feet from full. While drawdowns of that magnitude have been eliminated in recent years, the State of Montana continues to express concern over the effect of water level fluctuation on native fish and recreation. Despite these variable pools, bull trout populations have not shown any measurable negative response. This core area is an important refugium for protecting the native gene pool of Flathead bull trout. Extensive Bonneville Power Administration-funded monitoring efforts have continued and problem areas for fish passage and habitat have been restored as a result of this program. Since the entire core area is on the National Forest, and most of the upper watershed is in wilderness, the habitat trend is relatively stable, although recent high-intensity forest fires may present some new concerns. Information generated from the experimental bull trout fishery will be used to further refine management of that resource.

Middle Clark Fork River (Section 2 – Flathead River to Milltown Dam): More intensive bull trout surveys have been conducted in recent years, primarily by MFWP, in this portion of the Clark Fork River drainage. Local spawning populations in Cedar Creek, Fish Creek, Rattlesnake Creek, and the Saint Regis River have been monitored sporadically (MFWP 2004). The surveys have identified up to 17 redds in Cedar Creek (2002), 20 redds in Fish Creek (2003), 33 redds in Rattlesnake Creek (2003), and 18 redds in the Saint Regis River (2003). Counts in the high single digits or low double digits have also occurred in most systems. These results indicate adult bull trout numbers in this core area range from roughly 100-200 fish, although there's uncertainty in that estimate. No trend is indicated by the short period of record. Most local populations are well below historical levels of natural abundance and inadequate to maintain long-term genetic viability.

Milltown Dam, which has blocked fish passage at the upper boundary of this core area since 1908, is slated for complete removal as early as January 2006 (Missoulia *in litt.* 12/21/04). While benefits are more likely to accrue to the next core area upstream, by allowing bull trout that migrate to return to natal headwaters, tangible benefits to this core area will accrue as well. Benefits of restoring fish passage throughout the system, over four major dams as a result of both the Avista and Thompson Falls projects as well as the Milltown Dam removal, cannot be fully anticipated, nor will they be fully realized for several bull trout generations.

The status and trend of bull trout in this core area were both considered "unknown" based on information available at the time of listing (USDI 1998). That is still largely the case, though since that time MFWP has conducted extensive monitoring efforts in significant portions of this core area. Preliminary conclusions are that the abundance of adult bull trout in Reach 2 of the Clark Fork River ranges from roughly 100-200 fish, although there's uncertainty in that estimate. No trend is indicated by the short period of record. Most local populations are well below historical levels of natural abundance, with juvenile bull trout widely distributed but at low densities. With fish passage now provided at Rattlesnake Dam (Missoulia *in litt.* 05/16/02) and the pending removal of Milltown Dam and additional efforts past fragmentation of this core area

is being improved. However, significant habitat limitations remain (e.g., dewatering, thermal enrichment, nonnative species, impacts of whirling disease, expanding recreational use) and full recovery of bull trout is at best an uncertain prospect. Potentially, this core area should be able to support 1,000 or more adult bull trout. Thus, the emphasis has been placed on connectivity to restore this core area as a functioning portion of a larger complex of core areas.

Bitterroot River: This is a complex core area containing a mixture of fluvial and resident populations of bull trout. Nine local populations were identified, but bull trout occupancy occurs at some level in many more tributaries. The high frequency of resident bull trout populations in this drainage makes interpretation of status and trend information difficult. The strong presence of resident populations suggests that fragmentation has eliminated much of the former migratory component. Regular redd count monitoring has been conducted since 1994, with data available for only 3 local populations (upper East and West Forks of the Bitterroot River and Skalkaho Creek). In general, the counts indicate that as few as 43 and as many as 104 redds were constructed annually in the monitored reaches of those watersheds, indicating adult abundance of at least 200 migratory adult fish may remain in this drainage (MFWP 2004). Trend information is difficult to interpret, due to missing counts and other factors, and no trend is discernible from the sparse data. Additional years of more intensive monitoring will be required to accurately interpret trends in redd counts. The Bitterroot River has been considered an example of a watershed where systematic decline of the migratory life history form of bull trout has resulted in the increased prominence of isolated and fragmented populations of resident fish. Researchers used extensive trapping of migrating fish in three drainages (Sweathouse, Skalkaho, and Sleeping Child Creeks) of the Bitterroot River watershed to evaluate the persistence of migratory bull trout life history forms. They observed that by 1996-1997, the migratory form which was historically much more common was now rare or absent in two of the tributaries, but still present at a low level in the third. They determined that in the drainages they studied there were not physical barriers to migratory fish, indicating that other downstream mortality factors such as predation or temperature played a bigger role in the extirpation of those stocks. It was suggested that the isolated, nonmigratory remnants of the population were at increased risk of extinction, and that restoration of the migratory form was an important conservation goal. The status and trend of 26 individual resident bull trout subpopulations were originally identified in this core area. Status of all subpopulations was considered "depressed" and trend was "unknown" based on information available at the time of listing (USDI 1998). Further consideration determined that these subpopulations were the result of extensive fragmentation and loss of the migratory form in this drainage, rather than a natural condition, so the subpopulations were combined into a single core area in the draft recovery plan (USDI 2002c). Generally, weak monitoring efforts have occurred of adult bull trout populations across this core area over the recent decade. The high frequency of resident bull trout populations in this drainage makes interpretation of status and trend information difficult. In general, the counts indicate adult abundance of at least 200 migratory adult fish may remain in this drainage (MFWP 2004), but there is no evidence these populations are increasing. Additional years of more intensive monitoring will be required to accurately interpret trends in redd counts. With the pending removal of Milltown Dam on the mainstem Clark Fork River some migratory fish that have previously been lost downstream will have spawning access restored to this core area. The habitat trend is expected to decline in this watershed due to extremely high rates of development on private lands, complications of

complex multiple ownership patterns, heavy demands for irrigation water, impacts of recent fires, and other factors. Increasing human use and angler pressure, competition with nonnative fish, and other impacts make prospects for recovery of bull trout to 1,000 or more migratory adult fish unlikely.

Upper Clark Fork River (Section 1 – Milltown dam to headwaters): Historically, bull trout were likely distributed throughout the upper Clark Fork River, as there are no major natural barriers excluding bull trout from major portions of the drainage. A century of mining and smelting has polluted streams in the upper Clark Fork River system with toxic metals and other chemicals (MBTSG 1995c). Degradation, resulting primarily from historic mining and associated water pollution effectively extirpated migratory bull trout from much of its historic range in the upper Clark Fork River above Milltown dam, upriver from Missoula. Monitoring of bull trout redds in two local populations (Boulder and Warm Springs Creeks) has occurred regularly since 1999. Total redd counts have ranged from 21-70, averaging 49 over the past six years (MFWP 2004). These represent a majority of the known spawning populations in this core area, indicating a total adult bull trout population of 100-200 fish. No trend is indicated by the short period of record. Most local populations are well below historical levels of natural abundance and some inadequate to maintain long-term genetic viability. Milltown Dam, which has blocked fish passage at the lower boundary of this core area since 1908, is slated for complete removal as early as January of 2006 (Missoulian *in litt.* 12/21/04). Direct benefits will accrue to this core area, by allowing bull trout that migrate to return to natal headwaters. Benefits of restoring fish passage throughout the system, over four major dams as a result of both the Avista and Thompson Falls projects as well as the Milltown Dam removal, cannot be fully anticipated, nor will they be fully realized for several bull trout generations. However, once Milltown Dam is removed, it will be possible for bull trout from Lake Pend Oreille to return to the headwaters of the Clark Fork River (through a combination of trap and transport as well as natural migration) for the first time in a century. The status and trend of bull trout in this core area were both considered “unknown” based on information available at the time of listing (USFWS 1998). That is still largely the case, though since that time MFWP has conducted some monitoring efforts in portions of this core area. Preliminary conclusions are that the abundance of adult bull trout in Reach the upper Clark Fork River ranges from roughly 100-200 fish, although there’s uncertainty in that estimate. No trend is indicated by the short period of record. Most local populations are well below historical levels of natural abundance, with juvenile bull trout at low densities. Within this core area, populations of bull trout are heavily fragmented. With the pending removal of Milltown Dam and additional FRIMA passage projects and other efforts the extreme fragmentation of this core area is being improved. However, significant habitat limitations remain (e.g., dewatering, thermal enrichment, heavy metals, nonnative species) and full recovery of bull trout is an uncertain prospect. Potentially, this core area should be able to support several hundred adult bull trout. Thus, the emphasis has been placed on connectivity to restore this core area as a functioning portion of a larger complex of core areas.

Blackfoot River (Clearwater River and Lakes): Data obtained from MFWP (2004a) indicates a continuous redd count history dating to 1989 on three index streams, with two additional index streams added in 1998. Generally, an increasing trend is indicated beginning about the mid-1990s (approximately 50 redds in index streams in late 1980’s and early 1990’s, rising to

approximately 150-200 redds in 2000-2003). However, redd counts in 2004 were low in two of the most significant local populations (Monture Creek and the North Fork Blackfoot River), indicating that the increasing trend is not as strong or consistent as previously suggested. Overall, bull trout are expanding in this system, which is currently at a level of about 500-1,000 adults. Intensive efforts have been made over the past decade to reopen blocked portions of the basin through renovation of irrigation and culvert barriers as well as by providing instream flow enhancements to improve seasonal migratory deficiencies (Pierce et al. 2001). Other projects are addressing acid mine runoff and point sources of thermal enrichment that may contribute to seasonal or migratory fragmentation. As a result of this and positive response from restrictive angling regulations bull trout are becoming more common in formerly unoccupied or low occupancy habitat. Status of bull trout in this core area was considered “depressed” and trend was “unknown” based on information available at the time of listing (USDI 1998). The current status of bull trout in this core area is one of the strongest among fluvial populations in the Clark Fork management unit. Generally, an increasing trend is indicated beginning in about the mid-1990s, though redd counts in 2004 were low in some significant local populations, indicating that the increasing trend may not be as strong or consistent as previously suggested. Overall, bull trout are expanding in this system, which is currently at a level of about 500-1,000 adults. Increasing recreational fishing pressure along with angler inability to distinguish bull trout from legally harvestable species of trout (e.g., brook trout) has adversely impacted bull trout in the past and continues to be a concern (MBTSG 1995b; Pierce et al. 2001).

Due to extensive watershed-based habitat restoration efforts, spearheaded by the Blackfoot Challenge, remarkable amounts of funding and effort have been expended in the watershed over the past decade or longer. These results are contributing to increasing populations of native bull trout and westslope cutthroat trout. With the removal of Milltown Dam just downstream of the confluence of the Blackfoot with the Clark Fork River, and additional ongoing habitat-based restoration efforts the future looks bright. However, trouble spots remain (e.g., dewatering, thermal enrichment, nonnative species, impacts of whirling disease, expanding recreational use) and full recovery of bull trout is still an uncertain prospect. Potentially, this core area should be able to support 1,000 or more adult bull trout.

The Clearwater Lakes chain is a series of fluvial and adfluvial habitats associated with a major tributary to the Blackfoot River. This core area was considered a part of the Blackfoot River subpopulation at the time of listing. The status bull trout in this core area was considered “depressed” at the time of listing and the trend was “unknown”(USDI 1998). Based on updated information, low numbers of adult bull trout remain in this core area, with the stronghold populations increasingly restricted to the headwater lakes and upper drainage. There is no data upon which to base recent trend analysis. The increasingly robust population of illegally introduced northern pike, established in the lacustrine habitat of most of the lakes in this core area, causes elevated magnitude and imminence of the nonnative species threat to highest levels.

Rock Creek: This is one of the most complex core areas for fluvial populations of bull trout in Montana, with 16 local populations identified. Complex movement patterns of migratory fish occur (Carnefix at al. 2001), with overlap of some resident bull trout populations, which makes interpretation of some status and trend information difficult. Regular redd count monitoring has

been conducted since 1993, with some data available for about 11 local populations. In general, the counts indicate that about 100-300 redds are constructed annually in the monitored reaches, indicating adult abundance of at least 500 and as many as 1,000 or more fish (MFWP 2004). Trend information is difficult to interpret, due to missing counts and other factors, but the data indicate this core area population may have declined since the time of listing. Total basinwide redd counts were 200-270 in 1996-1998, but only about 100-163 in 2002-2004. Some or all the decline may have been due to natural variation as a result of systemwide drought conditions in recent years. Additional years of monitoring will be required to accurately interpret the effect of the current decline in redd counts.

The status and trend of bull trout in this core area were both considered "unknown" based on information available at the time of listing (USDI 1998). Extensive monitoring efforts have occurred across this core area over the recent decade. Redd counts indicate that about 100-300 redds are constructed annually in the monitored reaches, indicating adult abundance of at least 500 and as high as 1,000 or more fish (MFWP 2004). Trend information is difficult to interpret, due to missing counts and other factors, but the data indicate this core area population may have declined since the time of listing.

With the pending removal of Milltown Dam on the mainstem Clark Fork River some migratory fish that have previously been lost downstream will have spawning access restored to this core area. The habitat trend will improve as this watershed is highly valued for recreation and largely protected from intrusive management and development. However, due to increasing human use and angler pressure, competition with nonnative fish, and other impacts, full recovery of bull trout to 1,000 or more adult fish remains problematic.

II.A.6.3. New threats

Since listing, no substantial new threats have been identified (Wade Fredenberg, USFWS, pers. comm. 2005).

Effects of projects: No new threats have been identified through section 7 consultation across the Columbia River population. Effects of projects that have been analyzed through section 7 consultation as reported in a biological opinion are summarized in this section. These effects are an important component of objectively characterizing the current status of the species. To assess the effects of these actions/projects on bull trout we reviewed all of the biological opinions received by the Service's Region 1 and Region 6 offices, from the time of listing until August 2003; this summed to 137 biological opinions (USDI 2003). Of these, 124 biological opinions (91 percent) applied to activities affecting bull trout in the Columbia River population, 12 biological opinions (9 percent) applied to activities affecting bull trout in the Coastal-Puget Sound population, 7 biological opinions (5 percent) applied to activities affecting bull trout in the Klamath River population, and 1 biological opinion (<1 percent) applied to activities affecting the Jarbidge and St. Mary Belly populations. (Note: these percentages do not add up to 100 because several biological opinions applied to more than one population). The geographic scale of these consultations varied from individual actions (e.g., construction of a bridge or pipeline) within one basin to multiple-project actions occurring across several basins.

This analysis showed that we consulted on a wide array of actions which had varying levels of effects. No actions that have undergone consultation were found to appreciably reduce the likelihood of survival and recovery of the bull trout. Furthermore no actions that have undergone consultation were anticipated to result in the loss of any subpopulations (USDI 2003).

Since August 2003, Region 6 of the Service has issued an additional 20 biological opinions under section 7 for the Montana portion of the Clark Fork management unit. After review of these opinions, the Service determined that actions that had undergone consultation were not anticipated to result in the loss of any core area (USDI 2002c) or subpopulation (USDI 1998) of bull trout. Sixteen of the 20 biological opinions resulted in short-term adverse effects with long-term benefits. To date, in Regions 1 and 6 of the Service, no actions that have undergone section 7 consultation for adverse effects to bull trout have resulted in a jeopardy finding (i.e., an appreciable reduction in the likelihood of both the survival and recovery of bull trout).

II.A.7 Analysis of the species and critical habitat likely to be affected

Bull trout were listed as threatened species under the Act in 1998. Bull trout critical habitat was proposed for the Klamath River and Columbia River distinct population segments in November 2002. Within this project's action area, Post Creek was included in the proposed rule for critical habitat. However, in the final critical habitat designation of October 2004, no critical habitat for bull trout in Montana was included. Therefore, no further discussion of critical habitat is included in this biological opinion.

The proposed action would occur in the Clark Fork Recovery Unit for bull trout, within the Lower Clark Fork Recovery Subunit and in the Lower Flathead River core area. The Lower Flathead River core area contains seven local populations. The action area for this project includes portions of the Post Creek local population described in the draft recovery plan. Post Creek, from its confluence with Mission Creek upstream 26.1 km to a manmade barrier at McDonald Reservoir, is occupied, at a minimum, by migratory bull trout from the reservoir, and provides foraging, migratory and overwintering habitat necessary for the recovered distribution of bull trout, including maintaining populations and the migratory life history form essential to the conservation of bull trout (USDI 2002c).

II.B. Grizzly Bear

II.B.1. Species description

Grizzly bears are among the largest terrestrial mammals in North America. South of the U.S. - Canada border, adult females range from 114 to 159 kilograms (kg) and adult males range from 182 to 273 kg. Grizzly bears are relatively long-lived, living 25 years or longer in the wild. Grizzlies are omnivorous, opportunistic feeders that require foods rich in protein or carbohydrates in excess of maintenance requirements in order to survive seasonal pre-and post-denning requirements. Grizzly bears are homeo-hypothermic hibernators, meaning their body temperature drops no more than 5° C during winter when deep snow, low food availability, and low ambient air temperatures appear to make winter sleep essential to grizzly bears' survival

(Craighead and Craighead 1972a, 1972b). Grizzly bears excavate dens and require environments well-covered with a blanket of snow for up to five months, generally beginning in fall (September-November) and extending until spring (March-April) (Craighead and Craighead 1972b; Pearson 1972).

II.B.2. Listing History

The grizzly bear was classified as threatened in the lower 48 states under provisions of the Endangered Species Act on July 28, 1975 (40 FR 31736). The Service identified the following as factors establishing the need to list: (1) present or threatened destruction, modification, or curtailment of habitat or range; (2) overutilization for commercial, sporting, scientific, or educational purposes; and (3) other manmade factors affecting its continued existence. The two primary challenges in grizzly bear conservation are the reduction of human-caused mortality and the conservation of remaining habitat (USFWS 1993). Critical habitat has not been designated for the grizzly bear.

The Grizzly Bear Recovery Plan (Recovery Plan) was completed during January 1982, and was revised during 1993 (USFWS 1993). The 1993 revised Recovery Plan delineated grizzly bear recovery zones in six mountainous ecosystems in the U.S. The Recovery Plan details recovery objectives and strategies for the grizzly bear recovery zones in the ecosystems where grizzly bear populations still persist. These recovery zones are the Northern Continental Divide Ecosystem, Greater Yellowstone Ecosystem, Cabinet-Yaak Ecosystem, and Selkirk Ecosystem. The Recovery Plan also includes recovery strategies for the North Cascades ecosystem in Washington, where only a very few grizzly bears are believed to remain, and for the Selway-Bitterroot ecosystem of Idaho and Montana, where suitable grizzly bear habitat still occurs (USFWS 1993).

II.B.3. Life history

The search for energy-rich food appears to be a driving force in grizzly bear behavior, habitat selection and intra/inter-specific interactions. Grizzlies historically used a wide variety of habitats across the North America, from open to forested, temperate through alpine and arctic habitats, once occurring as far south as Mexico. They are highly dependent upon learned food locations within their home ranges. Adequate nutritional quality and quantity are important factors for successful reproduction. Diverse structural stages that support wide varieties of nourishing plants and animals are necessary for meeting the high energy demands of these large animals. Grizzly bears follow phenological vegetative, tuber or fruit development, would seek out concentrated food sources including carrion, live prey (fish, mammals, insects), and are easily attracted to human food sources including gardens, grain, compost, bird seed, livestock, hunter gut piles, bait, and garbage. Bears that lose their natural fear and avoidance of humans, usually as a result of food rewards, become habituated, and may become food-conditioned. Grizzly bears will defend food and have been known to charge when surprised. Both habituation and food conditioning increase chances of human-caused grizzly bear mortality as a result of real or perceived threats to human safety or property. Nuisance grizzly bear mortalities can be a result of legal management actions, defense of human life, or illegal killing.

Adult grizzly bears are individualistic and normally solitary, except females with cubs, or during short breeding relationships. They will tolerate other grizzly bears at closer distances when food sources are concentrated, and siblings may associate for several years following weaning (Murie 1944, 1962; Jonkel and Cowan 1971; Craighead 1976; Egbert and Stokes 1976; Glenn et al. 1976; Herrero 1978). Across their range, home range sizes vary from about 130 km² or more for females to several hundred square kilometers for males, and overlap of home ranges is common. Grizzlies may have one of the lowest reproductive rates among terrestrial mammals, resulting primarily from the late age at first reproduction, small average litter size, and the long interval between litters. Mating occurs from late May through mid-July. Females in estrus will accept more than one adult male (Hornocker 1962), and can produce cubs from different fathers the same year (Craighead et al. 1995). Age of first reproduction and litter size may be nutritionally related (Herrero 1978; Russell et al. 1978). Average age at first reproduction in the lower 48 states for females is 5.5 years, and litter size ranges from one to four cubs who stay with the mother up to two years. Males may reach physiological reproductive age at 4.5, but may not be behaviorally reproductive due to other dominant males preventing mating.

Natural mortality is known to occur from intra-specific predation, but the degree to which this occurs in natural populations is not known. Parasites and disease do not appear to be a significant cause of natural mortality (Jonkel and Cowan 1971; Kistchinskii 1972; Mundy and Flook 1973; Rogers and Rogers 1976). As animals highly dependent upon learned habitat, displacement into unknown territory (such as subadult dispersal) may lead to submarginal nutrition, reduced reproduction or greater exposure to adult predatory bears or human food sources (which can lead to human-caused mortality). Starvation and loss in dens during food shortages have been surmised, but have not been documented as a major mortality factor. Natural mortality in rare, relatively secretive animals such as grizzlies can be extremely difficult to document or quantify.

Human-caused mortality has been slightly better quantified, but recent models speculate that reported mortality may be up to 50 percent of actual mortality (McLellan et al. 1999). Between 1800 and 1975, grizzly populations in the lower 48 states have declined drastically. Fur trapping, mining, ranching, and farming pushed westward, altering habitat and resulting in the direct killing of grizzly bears. Grizzly bears historically were targeted in predator control programs in the 1930's. Predator control was probably responsible for extirpation in many states that no longer support grizzlies. More recent human-caused mortality in Montana includes legal hunting (canceled in 1991), management control actions, defense of life, vehicle and train collisions, defense of property, mistaken identity by black bear or other big game hunters, poaching, and malicious killing. Grizzly bears normally avoid people, possibly as a result of many generations of bear sport hunting and human-caused mortality. Displacement away from human activities has been documented to reduce fitness of grizzly bears, affecting survival in some instances. Avoidance of roads can lead grizzly bears to either avoid essential habitat along roads, or could put them at greater risk of exposure to human-caused mortality if they do not avoid roads.

II.B.4. Status and distribution

The grizzly bear originally inhabited a variety of habitats from the Great Plains to the mountains of western North America, from central Mexico to the Arctic Ocean. With the advent of Euroamerican colonization in the early nineteenth century, grizzly bear numbers were reduced from over 50,000 to less than 1,000 in North America south of the Canadian border. The current distribution of grizzly bears south of Canada is less than two percent of their former range. In the conterminous 48 states, only five remaining areas in mountainous ecosystems of Washington, Wyoming, Idaho, and Montana currently contain either self-perpetuating or remnant populations of grizzly bears (USFWS 1993). These remaining populations are often associated with National Parks and wilderness areas.

The Recovery Plan (USFWS 1993) established recovery zones for the grizzly bear in each grizzly bear ecosystem. Recovery zones are areas large enough and of sufficient habitat quality to support a recovered bear population, and are the areas within which the population and habitat criteria for achievement of recovery will be measured. The Recovery Plan details recovery objectives for each of the following grizzly bear recovery zones in the ecosystems where grizzly bear populations persist. These ecosystems are described below.

II.B.4.1. Status of grizzly bears in the NCDE

The Northern Continental Divide Ecosystem (NCDE) contains 24,800 km² of occupied grizzly bear habitat in the Rocky Mountains of northern Montana into contiguous areas of Alberta and British Columbia, Canada. It includes Glacier National Park, parts of the Flathead and Blackfoot Indian Reservations, parts of the Flathead, Helena, Kootenai, Lewis and Clark, and Lolo National Forests, Bureau of Land Management lands, and a significant amount of State and private lands. Four wilderness areas (Mission Mountains, Bob Marshall, Great Bear, and Scapegoat) are included (USFWS 1993). Grizzly bears also frequently use areas outside the defined NCDE recovery zone (U.S. Forest Service 2002). U.S. Highway 93 does not occur within the boundaries of the NCDE recovery zone in the vicinity of this project, but sections of the highway corridor within the project area (e.g., Post Creek riparian zone, Ninepipe Reservoir area) do occur within occupied grizzly bear range.

The exact size of the grizzly bear population in the NCDE or elsewhere is unknown. The nature of the species and the rugged terrain it inhabits makes a complete population census difficult, if not impossible. Population parameters more readily monitored are used as an alternative index to population size (Knight and Eberhardt 1987). The Recovery Plan identified unduplicated females with cubs as one surrogate index for estimating a minimum number of grizzly bears within a recovery zone. The Recovery Plan does not rely entirely on this minimum population estimate to assess the status of grizzly bear populations. Instead, the Recovery Plan incorporates a number of measurable parameters with which to assess population status: number of females with cubs, the distribution of family groups, and the relationship between the minimum population estimate and known, human-caused grizzly bear mortality (USFWS 1993).

Recovery zones were formally delineated into smaller Bear Management Units (BMUs) for the purpose of habitat evaluation and monitoring. The NCDE recovery zone encompasses 23 BMUs (USFWS 1993). BMUs were designed to:

- Assess the effects of existing and proposed activities on grizzly bear habitat without having the effects diluted by consideration of too large an area;
- Address unique habitat characteristics and grizzly bear activity and use patterns;
- Identify contiguous complexes of habitat which meet year-long needs of grizzly bears; and
- Establish priorities for areas where land use management needs would require cumulative effects assessments.

Bear Management Units are usually subdivided into smaller units, termed subunits. Subunits are approximately the size of an adult female grizzly bear home range (roughly 130 km²) and usually provide the basic scale for the analysis of impacts to grizzlies from a variety of land management activities (USFWS 2004c). Because the U.S. Highway 93 corridor does not occur within the NCDE recovery zone, this proposed project does not occur within any delineated BMU.

The Recovery Plan defines a recovered grizzly bear population as one that can sustain the existing level of known and unknown human-caused mortality that exists in the ecosystem and that is well distributed throughout the recovery zone. Demographic recovery criteria outlined for the NCDE recovery zone include:

- observation of ten females with cubs-of-the-year (unduplicated sightings) inside Glacier National Park and 12 females with cubs outside Glacier National Park over a running six-year average both inside the recovery zone and within a ten mile area immediately surrounding the recovery zone, excluding Canada;
- 21 of 23 BMUs occupied by females with young from a running six-year sum of verified observations with no two adjacent BMUs unoccupied;
- known human-caused mortality not to exceed 4 percent of the population estimates based on the most recent three-year sum of females with cubs;
- no more than 30 percent of this 4 percent mortality limit shall be females;
- mortality limits cannot be exceeded during any two consecutive years for recovery to be achieved; and
- recovery in the NCDE cannot be achieved without occupancy in the Mission Mountains portion of the ecosystem (USFWS 1993).

Monitoring results reported through 1999 indicate that the NCDE grizzly bear population criteria for several population recovery parameters were met, including 1) numbers of females with cubs, 2) numbers of BMUs with family groups, 3) occupancy requirements for BMUs, and 4) total human-caused grizzly bear mortality. However, female grizzly bear mortality exceeded recovery criteria limits during that time period. Calendar year 2001 was the first year that annual total mortality (six-year average) and annual female mortality (six-year average) were both exceeded (Servheen, unpublished, 2002). In 2002, three population parameters did not meet demographic recovery criteria: females with cubs inside Glacier National Park (six-year average), annual mortality (six-year average) and annual female mortality (six-year average) (Servheen, unpublished, 2003). In 2003, five parameters were not within recovery goals: six-year average for total females with cubs both inside and outside of Glacier National Park, six-year average for annual mortality and female mortality (USFWS, unpublished, 2004a). The Mission Mountains are currently occupied with a population estimated at approximately 15-20 grizzly bears.

Preliminary data for 2004 indicate an increase in overall grizzly bear mortality within the NCDE recovery zone over the past several years. Total known human-caused mortality in the NCDE during 2004 was 31; 18 of which were female grizzly bears (Table 1)(Servheen, USFWS, pers. comm.. 2005).

Table 1. 2004 status of the NCDE grizzly bear population in relation to the demographic recovery criteria (Chris Servheen, USFWS, pers. comm. 2005).

Population Parameter	Target / Limit	2004 Number
Females w/ cubs (6-year average)	32	Unknown as yet
Inside GNP* (6-year average)	10	16.5 (6-yr. avge)
Outside GNP (6-year average)	12	Unknown as yet
Mortality limit as 4 percent of minimum population estimate	Less than 12.9	31 known in 2004 19.5 (6-yr. avge)
Female mortality limit as 30 percent of total mortality	Less than 3.9	18 known in 2004 8.5 (6-yr. avge)
Distribution of females with young	21 of 23 BMUs Missions occupied	Unknown as yet Missions occupied

* Glacier National Park

Grizzly bear population trend information is limited in the NCDE. During 1987 to 1996, research in the Swan Mountains indicated a tenuous finite rate of increase of 0.977, which was related to high female mortality (Mace and Waller 1998). It is important to note that annual mortality rates for bears utilizing private rural and wilderness areas was 21 and 15 times higher, respectively, than for bears using only multiple-use lands (Mace and Waller 1998). Mortalities in the wilderness areas resulted from mistaken identities during the black bear hunting season and human defense of life. In rural areas, mortalities resulted from malicious killing and the management removal of habituated or food-conditioned bears (Mace and Waller 1998). Recent data (Servheen, unpublished, 2004a) indicate that the majority of human-caused mortalities in the NCDE continue to be management removal of nuisance or habituated grizzly bears, collision

with trains and illegal killings. The majority of these mortalities occur on roaded, rural private lands.

Although the Service is concerned with the recent number of grizzly bear mortalities in the NCDE recovery zone, recent information suggests that the mortality limits in the Recovery Plan are clearly conservative. Currently, the mathematics used to calculate sustainable mortality limits depend on field counts of females and cubs. There is no established protocol for this count, and counting effort varies considerably between years. The Service acknowledges that females with cubs are typically poorly counted in the NCDE recovery zone, therefore the number of female grizzly bears recorded each year represents a conservative minimum.

Years during which the effort to count female grizzly bears is poor yield very conservative counts of females with cubs. These conservative counts result in a conservative minimum population estimate, which results in conservative sustainable mortality limits. The conservative nature of the human-caused mortality estimates are in part intentional, as the Recovery Plan attempted to incorporate limits that assured recovery of the population. However, recent information indicates the sustainable mortality limits in the Recovery Plan may be unreasonably conservative. The U.S. Geological Survey (USGS) initiated a survey in the northern one-third of the NCDE (including Glacier National Park, adjacent national forest lands and a portion of the Blackfoot Indian Reservation). Preliminary results provide evidence that the minimum unduplicated females with cubs population parameter as currently estimated may underestimate the total number of grizzly bears in this ecosystem by a substantive margin.

For example, the methodology used in the Recovery Plan (Knight et al. 1988, 1993 in Servheen 1993) and observations of unduplicated females with cubs from 1999 through 2001 (Servheen, unpublished, 2002) results in an estimated minimum number of grizzly bears in the NCDE in 2001 of 316 bears. The USGS DNA-based mark-recapture study in the greater Glacier area collected information from 1998 through 2000. Preliminary, provisional population estimates from USGS suggested 381 grizzly bears in 1998 and 273 in 2000 for the northern one-third of the NCDE alone. Analysis of the USGS data is not yet complete, nor are estimates peer reviewed or published. However, comparison of population estimates derived from these two methods illustrates the limitations of using a conservative *minimum* population estimate alone to derive sustainable mortality rates for the NCDE grizzly bear population. The DNA-based study is ongoing and a peer-reviewed estimate of the grizzly bear population in the entire NCDE recovery zone could be available by 2006 (Kendall 2003).

Further, a recent mapping effort (U.S. Forest Service 2002) used the last five years of location data to map the area outside the recovery zone where grizzly bears may occur. Although information is limited, grizzly bear occurrences are being increasingly documented to the east, the south and the west (in northern portion) of the recovery zone line. Additional information, although not statistically validated, suggests that the grizzly bear population in the NCDE is expanding. Location data documents a relatively recent (five to ten years) expansion of grizzly bears outside the recovery zone boundaries to the east, south and west of the NCDE (U.S. Forest Service 2002). Because of the broad distribution of grizzly bear locations and known grizzly bear distribution within the recovery zone, this expansion is likely due to increased grizzly bear numbers in several areas of the recovery zone.

Factors affecting baseline habitat in the NCDE

Fragmentation: Grizzly bear habitat is being fragmented by human developments and activities that are concentrated in intermountain valleys. Habitat fragmentation is significant to large carnivores requiring wide vegetative and topographic habitat diversity (Servheen 1986). Loss and fragmentation of habitat is particularly relevant to the survival of grizzly bears. Grizzly bears are large animals with great metabolic demands requiring extensive home ranges. Movements of grizzly bears may approach 100 airline kilometers and their home ranges can encompass from 130 km² to over 260 km² in the NCDE. Large expanses of unfragmented habitat are important for feeding, breeding, sheltering, traveling, and other essential behavioral patterns. Grizzly bears occur at low densities, have low reproductive rates, exhibit individualistic behavior and are largely dependent on riparian habitats such as those found in valley bottoms, also used extensively by people; thus grizzly bear populations are susceptible to human influences. Grizzly bears may avoid key habitats due to human generated disturbances, or become habituated and food conditioned, which ultimately leads to the animal being destroyed. Historically, as human settlements, developments, and roads increased in grizzly bear habitat, grizzly bear populations became fragmented. As fragmented population segments become smaller and/or isolated, they are more vulnerable to extinction, especially when human-caused mortality pressures continue. Linkage zones are rather recent concepts in broad management direction for grizzly bears and other wide-ranging species (Servheen and Sandstrom 1993). Linkage zones, or zones of habitat connectivity within or between populations of animals, foster the genetic and demographic health of the species.

Access management: The Recovery Plan (USFWS 1993) identifies access management on public lands, particularly national forests and parks which contain the majority of grizzly bear habitat, as an important tool for conserving grizzly bears and their habitat. Generally, the miles of open roads on national forests in the NCDE increased substantially during the late 1970s and the early 1980s as a product of an aggressive timber harvesting program. Since that time, road management on national forests has changed and road inventories have been updated. For example, miles of open roads on the Flathead National Forest decreased by 25 percent between 1986 and 1995, the miles of roads restricted year-long decreased by approximately 33 percent, and the miles of roads closed year-long increased by over 50 percent. The number of miles of roads open on the Flathead Forest in 1993 was approximately equal to the number of miles open in the early 1970s (USFWS 2004c).

Most of the public land within the NCDE occurs within four national forests (Flathead, Lewis and Clark, Helena, and Lolo) and Glacier National Park. These lands have been formally delineated into BMUs, and most BMUs have been divided into smaller subunits. The Flathead National Forest is the largest administrator of lands within the NCDE, with 11 BMUs divided into 70 subunits within its boundaries. Sixteen of these subunits occur entirely within designated wilderness and are not subject to land management actions such as timber harvest or road construction. Of the remaining 54 subunits within the Flathead Forest, 40 are comprised predominantly of national forest lands (i.e., they are interspersed with less than 25 percent private, corporate, or State lands). Of these 40 subunits, 18 are meeting current access standards

for security core area; 18 are meeting open motorized access density standards; and 21 subunits are meeting current standards for total motorized access density (USFWS 2004c).

Fourteen of the 54 non-wilderness subunits delineated on the Flathead National Forest encompass more than 25 percent private or corporate lands along with national forest lands. On these subunits with intermingled landowners, it is reasonable to assume that additional road building, timber harvest, and residential or other human development, would continue. Eleven of these subunits are managed under the Swan Valley Conservation Agreement, a cooperative access and timber management strategy between the Forest Service, Montana Department of Natural Resource and Conservation, Plum Creek Timber Company and the Service. The objectives of the agreement are to maintain connectivity for grizzly bears across the Swan Valley and to reduce mortality risks to grizzly bears. Access management in the agreement area includes a cooperative effort to limit high open road densities to less than 33 percent of a subunit, and to voluntarily limit high open road densities to much lower proportions of a subunit (USFWS 2004c).

One BMU with three subunits of the NCDE is located within the Helena National Forest. These subunits meet access guidelines with the exception of the Red Mountain subunit, which currently contains an open motorized access density of 24.7 percent of the subunits exceeding 1 mile per square mile. There are seven BMU subunits on the Lolo National Forest. Of these, all but one subunit has met access objectives, and work to reduce road densities is ongoing in the Swan subunit. The Lewis and Clark National Forest's six BMUs consist of four BMUs with less than 75 percent ownership, which are highly roaded. Of the other two BMUs with greater than 75 percent Forest Service ownership, one is in a wilderness area and one is partially within a wilderness. The subunits within these BMUs are considered low or sparsely roaded. Glacier National Park is largely unroaded (USFWS 2004c).

II.B.4.2. Status of grizzly bear populations in other recovery zones

Grizzly bears presently occupy over 23,300 km² in and surrounding Yellowstone National Park. This ecosystem includes Yellowstone National Park, Grand Teton National Park, John D. Rockefeller Memorial Parkway, significant portions of the Shoshone, Bridger- Teton, Targhee, Gallatin, Beaverhead, and Custer National Forests, Bureau of Land Management lands, and over 222 km² of State and private lands in Montana, Wyoming and Idaho (USFWS 1993).

As in other ecosystems, the exact size of the grizzly bear population in the Yellowstone ecosystem is not known. Recovery parameters had been met for at least the last six years, but were not all met for 2004. The Grizzly Bear Recovery Plan (USFWS 1993) provides criteria for determining if human-caused grizzly bear mortalities have exceeded annual thresholds established in the plan for the Yellowstone population. Under these criteria, 17 known human-caused grizzly bear mortalities, including six adult females and nine total females, were applied to the calculation of mortality threshold for 2004. One of these mortalities was the result of the bear being struck and killed by a vehicle. Using these results, total human-caused mortality was under, but female mortalities exceeded the annual mortality thresholds during 2004. The female mortality threshold had not been exceeded since 1997 (Haroldson and Frey 2005). The number

of females with cubs has surpassed the recovery criterion for a number of years (Haroldson 2005) and bears now occur where they have not been reported for many years. The population recovery requirements include occupancy of 16 of 18 BMUs by female grizzlies with young on a running six-year sum, with no two adjacent BMUs unoccupied. Seventeen of 18 BMUs had verified observations of female grizzly bears with young during 2004 (Podruzny 2005). The six-year running average of females with cubs within the Recovery Zone and a 10-mile perimeter has gradually increased from 15 in 1986 to 40 in 2004 (Haroldson 2005). In 2002, the highest annual count of females with cubs for the greater Yellowstone area was documented: 52 females with 102 cubs (Haroldson 2005). During 2004, 49 female grizzlies produced 96 cubs. The mean litter size of two in 2004 was consistent with past years (Haroldson 2005).

The best available information suggests the Yellowstone Ecosystem grizzly bear population is stable and is likely increasing. However, the long term conservation of the population continues to depend largely on managing bear-human conflict, which often results in human-caused mortality of grizzly bears. Years in which natural bear food production and availability are high can result in younger age classes of grizzly bears accustomed to fairly good food availability. A year of drought and poor food production can compel grizzly bears to search widely for food. Such wide ranging movements can bring grizzly bears into closer contact with humans, increasing bear-human conflicts and resultant control/management actions.

The Cabinet/Yaak Ecosystem in northwestern Montana and northeastern Idaho has over 5,100 km² of forested and mountainous habitat occupied by grizzly bears. The population in the Cabinet Mountains portion of this area is thought to be less than 15 bears. The Yaak section of this ecosystem currently supports a minimum of approximately 20 bears. The Yaak population estimate does not include credible reports from the public of grizzly bear observations, which suggest a population estimate of 20 to 30 bears in the Yaak section of the Cabinet-Yaak Ecosystem would be conservative (Kasworm et al. 2000). There are grizzly bears to the north of the U.S./Canada border, and interchanges of radio-collared bears across the border have been documented (USFWS 1993).

Grizzly bear populations in the Cabinet-Yaak Ecosystem, which includes 22 BMUs, and the Selkirk Ecosystem, which contains 10 BMUs on the U.S. side of the border, have never attained the Recovery Plan criteria for females with cubs. As of 1999, neither the criterion for running six-year average number of females observed with cubs nor the recovery goal of distribution of those females throughout these ecosystems were reached. The Recovery Plan criterion for known, human-caused mortality was met for the Cabinet-Yaak population, but not for the Selkirk Ecosystem. However, the mortality goal for the Cabinet-Yaak Ecosystem is zero due to low population size and precarious status of this population, and actual mortality exceeded that goal. In 1999, the Service determined that the combined Selkirk - Cabinet-Yaak ecosystem grizzly bear recovery zones were warranted for endangered status, but this action was precluded by higher priority listing actions. At that time, the Service suggested that these two populations might be interconnected (FR 26725-26733).

The Selkirk Ecosystem of northwestern Idaho, northeastern Washington, and southeastern British Columbia includes 2,800 km² in the U.S. portion and 2,270 km² in the Canadian portion

of the recovery zone. The Selkirk recovery zone is the only defined grizzly bear recovery zone that includes part of Canada because the habitat in the U.S. portion is not of sufficient size to support a minimum population. The habitat is contiguous across the border and radio-collared bears are known to move back and forth across the border. Therefore, the grizzlies north and south of the border are considered one population (USFWS 1993).

Grizzly bear recovery efforts in the Selway-Bitterroot Ecosystem and North Cascades Ecosystem are in the planning stages. In the North Cascades Ecosystem, most of the grizzly bear population occurs north of the Canada - U.S. border, but a few grizzlies persist south of the border. Grizzly bears were extirpated from the Selway-Bitterroot Ecosystem decades ago, however suitable habitat occurs. The Service released a final environmental impact statement and decision notice addressing the impacts of reintroducing grizzly bears into the Bitterroot Ecosystem in east central Idaho (USFWS 2000).

II.B.5. Analysis of the species likely to be affected

The BA addendum prepared for the U.S. Highway 93, Ninepipe / Ronan project determined that the proposed activities would be likely to adversely affect grizzly bears. Therefore, formal consultation with the Service has been initiated and this biological opinion has been written to determine whether or not activities associated with this project are likely to jeopardize the continued existence of grizzly bears or result in the destruction or adverse modification of grizzly bear critical habitat. This project is proposed to occur within the Northern Continental Divide Ecosystem currently occupied by grizzly bears as described in the BA for this project (Herrera 2005). Grizzly bears are listed as threatened under the Act. Critical habitat has not been designated for this species, therefore none would be affected by this proposed project.

II.C. Other listed species

In addition to bull trout and grizzly bears, other federally-listed species that may be present in the project area include the threatened bald eagle (*Haliaeetus leucocephalus*). Based on information provided in the BA for this project, including implementation of the stated design features and conservation measures, the Service concurs with the Administration that the proposed project may affect, but would not be likely to adversely affect this species. Therefore, further consultation under the Act is not required relative to bald eagles and they will not be considered further in this biological opinion. If an occurrence of a listed species is newly discovered in the proximity of this project corridor as construction progresses, the Administration should consult with the Service regarding that new information.

III. Environmental baseline

Regulations implementing the Act, as amended (16 U.S.C. 1531 et seq.) (50 CFR 402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated impacts of all proposed Federal projects in the action area, which have already undergone section 7 consultation, and the impacts of State and private actions in the action area,

which are contemporaneous with the consultation in progress. Such actions include, but are not limited to, previous timber harvest, road construction, residential development and other land management activities.

Action area, as defined by the Act, includes the entire area that would be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. For the purposes of this biological opinion, the action area is defined as a 1.6-km swath on either side of affected portions of U.S. Highway 93, as well as around other areas where construction related activities would occur.

III.A. Bull Trout

III.A.1. Status of the species within the action area

Streams in the US 93 Ninepipe / Ronan project corridor drain the Post Creek subbasin of the Mission watershed and the Crow Creek watershed. Post Creek flows into Mission Creek, a tributary to the lower Flathead River. Crow Creek flows directly into the lower Flathead River. All streams in the area flow from east to west due to geologic controls. Other aquatic habitat in the project corridor includes the Ninepipe Reservoir, an off-channel storage facility (Herrera 2005).

Fisheries resources and aquatic habitat within the project corridor have been heavily impacted by urbanization and water diversions for irrigation. Irrigation withdrawals from almost every natural stream are common in both watersheds and irrigated agriculture is one of the prominent land uses along the project corridor. A transbasin diversion from Post Creek to Crow Creek exists at the base of the Mission Mountains and connects the two watersheds. Numerous major feeder and lateral canals are present on lands adjacent to the proposed project. Three major canals, the Post F, Post A, and Ronan canal cross under U.S. Highway 93 within the project limits. Some of these canals can provide fish passage between and within streams when in operation (Herrera 2005).

A total of seven streams and one reservoir have been identified in the project corridor that may be used by aquatic species and would be affected by the proposed road improvement alternatives. Four streams are crossed by U.S. Highway 93, and the remaining three streams flow parallel to the roadway for some of their length within the existing roadway right-of-way. They are as follows: Post Creek and an unnamed tributary to Post Creek are crossed by the highway within the project corridor. Three additional tributaries to Post Creek, including Ashley Creek and two other unnamed tributaries, flow parallel to the roadway within the project corridor. Crow Creek, and its tributary Ronan Spring Creek, are also crossed by the highway within the project corridor. An inlet to Ninepipe Reservoir is also crossed by the US 93 Ninepipe / Ronan project corridor. Water from Post Creek supplies Ninepipe and Kicking Horse Reservoirs (Herrera 2005).

Of these water bodies, bull trout are only known to occur in the project area in Post Creek. Historically, the Mission Creek drainage, including Post Creek, was one of the most important spawning tributaries for bull trout residing between Flathead Lake and the Clark Fork River

(Herrera 2005). Post Creek originates as a high elevation stream in the Mission Mountains and has a drainage area of 158.2 km². Land uses in the upper reaches of the Post Creek watershed are wilderness, commercial and non-commercial forestry, and some irrigated agriculture. A shift to predominantly irrigated agriculture land rather than forested land occurs in the lower watershed. In general, within the Mission Creek watershed, nutrient concentrations increase in a downstream direction. Water temperature also increases significantly in a downstream direction. Irrigation return flows and other nonpoint sources of pollution in the form of stormwater runoff from various sources, including U.S. Highway 93, contribute to degraded water quality in Post Creek. The degraded water quality may prevent fish in Mission Creek from migrating into Post Creek (Herrera 2005).

There is little information available on the life history of bull trout living in Post Creek. It is assumed that bull trout using Post Creek have always been of the migratory form. McDonald Reservoir, located at the headwaters of Post Creek, currently supports an isolated migratory population of bull trout. This population spawns in Post Creek above the reservoir. Redd counts have averaged 23 redds per year since 1986 (Herrera 2005).

Actual occurrence of bull trout within Post Creek below the reservoir is not well known. Electroshocking of the mainstem of Post Creek has produced a few bull trout, and less than 50 individuals are assumed to use the stream. In general, numbers are thought to increase from the mouth of the stream to the headwaters near McDonald Reservoir. It is not known if the bull trout present in Post Creek below the reservoir are the result of outmigration from McDonald Reservoir, migrants from the Jocko River population that have entered through the Pablo feeder canal (the Pablo feeder canal is an irrigation canal that intercepts numerous streams in the project vicinity and may transport fish from other systems into Post Creek), or individuals migrating up from the Flathead River. Captures of bull trout immediately below the dam of McDonald Reservoir suggest that the reservoir population exports individuals into Post Creek, but the low numbers found in the stream suggest that bull trout are not successfully spawning below the reservoir. Three individuals were captured in 1984 and 1985 moving from the Flathead River into Mission Creek, but movement from there into Post Creek was considered unlikely due to degraded water quality in the lower reaches. There is not enough information available to determine the status of the species in Post Creek below the reservoir, but occurrence of small numbers within the project reach is assumed. Little spawning and rearing habitat occurs in the area of U.S. Highway 93 and use of the stream in this area is most likely limited to migration (Herrera 2005).

Table 2 displays the results of the “Matrix of Diagnostics / Pathways and Indicators” (matrix), the objective of which is to integrate the biological and habitat conditions to arrive at a determination of the potential effect of land management activities on a listed species. The columns in the matrix correspond to levels of condition of the indicator. There are three condition levels: “functioning appropriately;” “functioning at risk;” and “functioning at unacceptable risk.” These three categories of function are defined for each indicator in the matrix. In concept, indicators in a watershed are “functioning appropriately” when they maintain strong and significant populations that are interconnected and promote recovery of a listed species or its critical habitat to a status that will provide self-sustaining and self-regulating

Table 2: Checklist for documenting environmental baseline and effects of proposed action on relevant indicators for bull trout in the Post Creek drainage (Herrera 2005).

DIAGNOSTICS/ PATHWAYS	POPULATION AND ENVIRONMENTAL BASELINE			EFFECTS OF THE ACTION (C=construction, P=post- construction)		
	Functioning Appropriately	Functioning At Risk	Functioning at Unacceptable Risk	Improve	Maintain	Degrade
<u>Subpopulation Chars.:</u> Subpopulation Size			X		C, P	
Growth and Survival			X		C, P	
Life History Diversity & Isolation		X			C, P	
Persistence & Genetic Integrity			X		C, P	
<u>Water Quality:</u> Temperature		X			C, P	
Sediment		X		P	P	C
Chemical Contam./Nutrients		X			C, P	
<u>Habitat Access:</u> Physical Barriers			X		C, P	
<u>Habitat Elements</u> Substrate Embeddedness		X		P		C
Large Woody Debris			X	P	C	
Pool Frequency & Quality			X		C, P	
Large Pools		X			C, P	
Off-channel Habitat		X			C, P	
Refugia			X		C, P	
<u>Channel Cond. & Dynamics:</u> Width-to-Depth Ratio	X			P	C	
Streambank Condition		X			P	C
Floodplain Connectivity		X		P	C	
<u>Flow/Hydrology:</u> Change in Peak/Base Flows		X			C, P	
Drainage Network Increase			X		C, P	
<u>Watershed Conditions:</u> Road Density & Location			X			C, P
Disturbance History		X			C, P	
Riparian Reserves		X			C, P	
Disturbance Regime		X			C, P	
<u>Integration of Species and Habitat Conditions</u>		X			C, P	

populations. When the indicators are “functioning at risk,” they provide for persistence of the species but in more isolated populations and may not promote recovery of a listed species or its critical habitat without active or passive restoration efforts. “Functioning at unacceptable risk” suggests the listed species continues to be absent from historical habitat, or is rare or being

maintained at a low population level, although the habitat may maintain the species at this low persistence level, active restoration is needed to begin recovery of the species.

Action agencies authorizing activities within lands occupied by bull trout are mandated by the Act to consider the environmental baseline in the action area and effects to bull trout that would likely occur as a result of management actions. To that end, agency biologists use the four biological indicators and the 19 physical habitat indicators in the matrix for bull trout to assess the environmental baseline conditions and determine the likelihood of take per interagency guidance and agreement on section 7 consultation on the effects of actions to bull trout (USDI 1998a, 1998d). Take could occur as direct harm or harassment of individuals or indirectly through adverse impacts to bull trout habitat. The majority of the matrix analysis consists of specific consideration of the 19 habitat indicators. Analysis of the matrix habitat indicators relative to project effects provides a very thorough assessment of the existing habitat conditions and potential impacts to bull trout habitat.

III.A.2. Factors affecting species environment within the action area

Dams have been one of the most important factors in fragmenting and likely reducing the bull trout population of the Clark Fork Recovery Unit. Large hydroelectric dams permanently interrupted established bull trout migration routes, eliminating access from major portions of the tributary system to the productive waters of Lake Pend Oreille and Flathead Lake. Also, these dams impact the habitat that was left behind by affecting reservoir and lake levels, water temperature, and water quality. Smaller irrigation storage dams have further fragmented some of the previously connected watersheds and made it increasingly difficult for migratory bull trout to thrive. In some locations dams formed isolation barriers that have prevented the movement of nonnative fish (USDI 2002c).

For over 100 years, forestry practices have caused major impacts to bull trout habitat throughout the Clark Fork Recovery Unit, and because forestry is the primary landscape activity in much of the basin, the impacts have been widespread. Primary effects of timber harvest, such as road construction, log skidding, riparian tree harvest, clear-cutting, splash dams, and others, have been reduced by the more recent development of more progressive practices. However, the legacy effects of the past century have included lasting impacts to bull trout habitat, including increased sediment in streams, increased peak flows, hydrograph and thermal modifications, loss of instream woody debris and of channel stability, and increased accessibility for anglers and poachers. These impacts will continue and are irreversible in some drainages. In addition, insufficient funding to maintain the existing road system had resulted in maintenance deficiencies, even on some well-designed roads. Consequently, impacts of the existing road system are compounded (USDI 2002c).

Agricultural impacts to bull trout in the Clark Fork Recovery Unit are primarily a result of water demand. Diversions for irrigation can destabilize stream channels, severely interrupt migratory corridors (blockages and dewatering), and in some cases, entrain fish, which are then lost down the ditches. A second, and potentially more serious, issue is the increased water temperature regime common to streams that are heavily diverted and/or subject to receiving irrigation return

flows. All of these problems occur and are widespread in the project area and throughout the recovery unit. Some of the worst impacts are in the upper drainages, and these problems are then transmitted to the receiving waters downstream. Overall, agricultural practices represent a significant threat to bull trout recovery in this recovery unit (USDI 2002c).

In portions of the lower Flathead River drainage downstream of Kerr Dam, agricultural impacts may have been the primary cause of the loss of bull trout. From the 1910s until the mid-1980s, stream dewatering for irrigated agriculture was considered a major fisheries problem in the Flathead River portion of the drainage. In 1985, the CSKT were able to establish instream flows on streams that are impacted by the Flathead Agency Irrigation District. Although stream dewatering is no longer a major problem in this portion of the drainage, agricultural impacts to water quality remain (USDI 2002c).

The Flathead Agency Irrigation District, which was constructed beginning about 1910, broke the connection between many of the tributary streams and the lower Flathead River. Many tributary streams also contain dams, including Crow, Mission, Post, and Dry Creeks. All of these streams, except Crow Creek, are known to have been historical bull trout spawning and rearing streams. The impacts of these tributary dams vary depending on the situation. Some have blocked migratory fish from spawning tributaries, and some have created isolated local populations of bull trout. Each case is unique, and the effects should be evaluated on a case-by-case basis. In total, construction of irrigation diversions, canals, and dams on the tributaries eliminated access to more than 100 km of tributary spawning and rearing habitat in the lower Flathead River watershed, though some of the watershed may have been unoccupied by bull trout because of natural conditions (USDI 2002c).

In the lower Flathead River drainage, three irrigation storage reservoirs are now considered to hold isolated fragments of the bull trout populations that once occupied the Mission Creek drainage. Tabor Reservoir (St. Mary's Lake) is an irrigation storage facility (approximately 111 surface hectares when full). Its spawning and rearing habitat is compromised because the only tributary stream (Dry Lake Creek) is completely flooded at full pool and mostly inaccessible due to gradient barriers at minimum pool. Spawning can only occur when there are suitable lake water levels to inundate passage barriers while still exposing an adequate length of stream. Rearing habitat becomes lentic (without current) during late spring and summer because the entire accessible portion of the stream is inundated at full pool. The lack of spawning and rearing habitat raises concerns about the long-term viability of this local population. Water enters the system from the Upper Jocko canal and may translocate some bull trout from that system. Appropriate dam operations are vital for continued successful reproduction in this local population. The outflow waters are transported through the Dry Creek irrigation ditch system and no longer have a functional connection to Mission Creek. Reconnection of this fragmented population to its historical source (Mission Creek) is unlikely (USDI 2002c).

In Mission Reservoir (approximately 117 hectares when full), another small natural lake (terminal glacial moraine) that was dammed, the lake environment is a limiting component of bull trout habitat due to extreme drawdowns for irrigation. The greatest risks to bull trout in this system are hybridization with brook trout, washout of adult fish through the dam, overwinter

stress from deficiencies in reservoir habitat, and illegal harvesting. A higher minimum pool was recently negotiated in Mission Reservoir, but further research is necessary to determine the extent that drawdown affects the bull trout in this local population (USDI 2002c).

McDonald Reservoir (approximately 100 hectares when full) on Post Creek, a Mission Creek tributary, is also used for irrigation storage. It supports a now isolated local population of migratory bull trout. This local population is believed to be more secure than those at Tabor and Mission Reservoirs because of more adequate pool volume, a higher quality spawning stream, and the absence of brook trout. Dam operations have a minor negative impact on this local population (USDI 2002c).

The water management operations of the Flathead Agency Irrigation District are severely limiting to the potential recovery of the local populations of bull trout in the Mission Creek complex and the Jocko River. The isolated populations in the three reservoirs on Mission Creek will probably never become secure, but with better management strategies, drawdown limits, and instream flow protection, the chances of persistence would increase (USDI 2002c).

Transportation systems were a major contributor to the decline of bull trout in this recovery unit. Separating the direct effect of the roads and railroads from the development associated with their construction is difficult. Separating the effects of transportation corridors in forested habitat from the legacy effects of forest management is also difficult. Construction methods during the late 19th and early 20th century, primarily channelization and meander cutoffs, caused major impacts on many of these streams; impacts that are still being manifested. Such impacts seldom occur with new roads. However, significant problems remain and are associated with passage barriers, sediment production, unstable slopes, improper maintenance, and high road densities. All of these problems impact bull trout and can only be addressed on a site-by-site basis (USDI 2002c).

The legacy effects of mining, particularly in the upper Clark Fork River drainage, will continue to impact bull trout for many decades to come. Because of extreme water quality degradation in the upper watershed, dating back to the 19th century, continued vigilance and purposeful improvement will be required for many decades before the full potential of the aquatic resources can be restored. Some major portions of the Clark Fork River watershed have never been materially impacted by mining. Meanwhile, existing mines and new mine proposals continue to develop and have the potential to negatively impact some core areas and local bull trout populations (USDI 2002c).

Much of northwestern Montana remains sparsely populated. However, in recent years the human population has been increasing, and in the future, rural residential development may be a high risk to the restoration of bull trout. In the decade of the 1990s, Lincoln, Sanders, Lake and Mineral Counties grew 7.8 percent, 18.0 percent, 26.0 percent, and 17.2 percent, respectively. Growth is particularly evident in watersheds bordered by private lands, such as along the Jocko River. Ultimately, unmanaged growth and residential sprawl may be among the biggest threats to the recovery of bull trout in this recovery unit. The entire recovery unit holds many of the attributes that are increasingly attractive to people seeking relief from the urban environment,

and human population growth in western Montana has accelerated. The way in which this growth is managed and our ability to limit the impacts of growth, in particular on bull trout spawning and rearing streams, are pivotal to the success of the bull trout recovery effort. Increasing human populations have a direct impact on all of the other categories of risk that affect bull trout (USDI 2002c).

The introduced fish species in the lower portions of the Clark Fork River drainage in Montana include Yellowstone cutthroat trout, brook trout, brown trout, rainbow trout, lake trout, lake whitefish, largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), black crappie (*Pomoxis nigromaculatus*), northern pike, yellow perch (*Perca flavescens*), pumpkinseed (*Lepomis gibbosus*), burbot (*Lota lota*), yellow bullhead (*Ameiurus natalis*), black bullhead (*Ameiurus melas*), fathead minnow (*Pimephales promelas*), and central mudminnow (*Umbra limi*). Individual walleye, apparently from illegal transplants, have been found in several waters. To date, however, walleye are not known to have established reproducing populations (USDI 2002c).

Brook trout are believed to be a particularly high risk in lentic environments and are present in most streams in the lower Clark Fork River drainage that are currently used by bull trout. Brook trout are known to be extensively hybridized with bull trout in Mission Creek (USDI 2002c).

Of all the threats to bull trout recovery, the expanding presence of nonnative species may prove to be the most intractable. In particular, expansion of congeneric lake trout and brook trout is of greatest concern for bull trout recovery in the Clark Fork Recovery Unit. Scientists currently have limited tools available to deal with these intruders, and in many cases, there is strong public opposition to controlling or eliminating other salmonids that provide sport fisheries. The impact of introductions of nonnative species may be permanent. While the status of stream habitat for bull trout in many watersheds throughout the recovery unit has had an improving trend, the effects of nonnative introductions, particularly in large lakes, may permanently reduce the capacity of these waters to support bull trout. This issue ranks as one of the highest priorities for expenditure of research, education, and enforcement dollars. Angling regulations in most waters have gone as far as they can to protect native species, short of completely closing angling to further reduce take that occurs from hooking mortality and species misidentification. A key to successful bull trout restoration is educating both anglers and the nonangling public about the value of native species. Intact native fish ecosystems are increasingly rare, and we must allocate substantial resources to protecting and restoring those that remain (USDI 2002c).

III.B. Grizzly Bear

III.B.1. Status of the species within the action area

The project corridor is located on the western front of the Northern Continental Divide grizzly bear recovery area, which roughly corresponds with the northern Rocky Mountain Range. While the project corridor is not located within the recovery area, grizzly bears range into the valley and into the project corridor during the spring (April to June) and late fall (September to November) to forage (Herrera 2001).

Prior to more extensive human settlement and the development of agriculture, grizzly bears utilized habitat throughout the Flathead Valley. As a result of habitat alteration and increased mortality due to human encounters, grizzly bears have been restricted to the Mission Mountains and lowlands adjacent to the mountains (Herrera 2001).

Grizzlies in the Mission and Rattlesnake mountains exhibit patterns of elevational movement with different seasons. Bears spend from five to six months in winter dens and emerge from dens in spring and move to lower elevations when early green vegetation and other food sources, such as carrion and insects, become available. Important spring habitat (April 15 to June 15) in the Mission Valley includes seeps and riparian areas with abundant bear food. Heavily used spring habitat, several miles to the east of the proposed project, is present at the base of the Mission Mountains near March, Mollman, Poison Oak, and Valentine creeks (Herrera 2001).

During summer, grizzlies usually move to higher elevations in the Mission and Rattlesnake mountains where they feed on newly emergent vegetation and insects, such as ladybird beetles and army cutworm moths. During late summer and early fall, bears move to lower elevations on west slopes of the Mission Mountains to feed on fruit in orchards and on native fruits and berries (Herrera 2001).

Although the highest grizzly bear densities in the project area occur in the Mission Mountains and adjacent lands in the Mission Valley, grizzlies also are periodically present in the Evaro area, Ninepipe, Post Creek, Dixon, and west of US Highway 93 near Perma and Magpie Creek. Grizzlies periodically utilize habitat near Allentown and the Ninepipe National Wildlife Refuge, and are known to cross U.S. Highway 93 to use habitats in the valley to the west of the project corridor. There was an unconfirmed report during 2000 of a female grizzly with cubs in the valley west of the Ravalli Hill. Areas that are known to be important crossing locations for bears in the project corridor occur in the Ninepipe area from Post Creek to the reservoir (Herrera 2001).

The Ninepipe area provides a variety of foraging opportunities for bears, including eggs, small mammals, succulent aquatic vegetation and tubers. During the summer of 1998, a bear was observed foraging at the edge of Ninepipe Reservoir after the water had receded. It was determined that the bear had been foraging on snails. There is also some evidence that bears are particularly attracted to the area when vole (*Microtus* spp.) populations in the wildlife management grasslands are peaking, approximately every five years (Herrera 2005).

The existing U.S. Highway 93 roadway through the project area is likely a barrier to most wildlife species. However, some wildlife do cross the corridor. Currently, wildlife crossing areas in the corridor are centered around the Post Creek riparian corridor at RP 37.7, and the core pothole area from RP 39.4 to RP 44.1. Additional crossings occur at the Crow Creek riparian area at RP 44.2 (Herrera 2005).

The Post Creek riparian area provides a movement corridor for wildlife from the Mission Mountains to the valley. It is one of the few corridors in the Mission valley (the lands associated

with the Mission Creek watershed) that is not highly fragmented by urban development. The riparian corridor is fairly intact, although the condition of the habitat is compromised in some areas. Restoration efforts are currently underway to further improve the condition of this corridor. This site is used by white-tailed deer (*Odocoileus virginianus*), grizzly and black bears (*Ursus americanus*), small mammals, and an occasional mountain lion (*Felis concolor*). Ideally, wildlife traveling through a riparian corridor could cross roadways by passing underneath the roadway bridge. The existing US 93 bridge over Post Creek does not provide adequate space for dry land passage by wildlife, so wildlife are forced to cross over the roadway. While current levels of wildlife mortality at this crossing location are low, three grizzly bear mortalities have been reported in this area since 1998 and signify its importance as a wildlife crossing corridor. In 1998, a sub-adult female grizzly bear was struck and killed by a vehicle on the highway near the Ninepipe Reservoir. On August 28, 2001, an approximately five to six year-old female grizzly bear was struck and killed in the evening hours in the Post Creek vicinity. Yet another female grizzly was struck and killed on June 6, 2002 in the early morning near the same location. White-tailed deer are also commonly struck and killed in the Post Creek vicinity (Herrera 2005).

The number of grizzly bears in the project vicinity is highly variable and generally ranges from one to four individuals. Grizzly bears likely access the area from the Mission Mountains via the Post Creek riparian area, and perhaps the Crow Creek riparian area. Once they are in the project area, many bears are compelled to cross U.S. Highway 93 in the Ninepipe area. Some bears in the Ninepipe area appear to use habitat around the refuge without dispersing much farther to the west. There is limited habitat available west of the project vicinity and the risk of human-bear conflicts is greater. However, bears have been reported in the Moiese Hills area west of Charlo and it is believed that these bears are also likely to cross Highway 93 in the Ninepipe area (Herrera 2005).

The *Flathead Indian Reservation Grizzly Bear Management Plan* (CSKT 1981) designated the Ninepipe area as Management Situation III grizzly bear habitat. Within Situation III habitat, grizzly bear presence is possible but infrequent. Within these areas, high human presence generally makes grizzly presence difficult to maintain and minimization of grizzly/human conflicts is a high priority.

III.B.2. Factors affecting species environment within the action area

Grizzly bear habitat and populations were once continuous and contiguous throughout the Rocky Mountains. Grizzly numbers, habitat, and distribution were reduced through the actions of humans. Present grizzly bear range south of Canada consists of six fragments of habitat supporting five populations and constituting 2 percent of their former range. Valleys containing human developments of varying intensity separate each of these populations. As human development continues in these intervening areas, they become increasingly effective barriers to grizzly bear movement (Servheen et al. 2001). It is widely accepted in conservation biology that island populations of any species are subject to high rates of extinction and that these rates are directly related to the size of the island. Wide ranging mammals are particularly sensitive to the detrimental effects of insular distribution (USFWS 1993).

Bears that occur in areas like the Mission Valley, and other areas within the NCDE where human development immediately adjacent to grizzly habitat is extensive, live with high levels of mortality risk from a number of human-related causes. Known, human-caused, non-hunting mortality for grizzly bears in the NCDE averaged nine bears per year from 1987-1992. Total human-caused mortality averaged 11 bears per year. These mortalities will likely continue due to inevitable interactions between bears and people throughout the ecosystem and will likely increase as the population increases. Average annual non-hunting mortality has remained almost constant since 1975, indicating that these kills are not likely to decline from present levels despite further intensive management (USFWS 1993). Total known human-caused mortality in the NCDE during 2004 was 31 grizzly bears; 18 of which were female. Three grizzlies were known to be struck and killed by cars in the NCDE during 2004, two males and one female (Servheen, USFWS, pers. comm. 2005).

Identified sources of direct mortality include poaching, killing by vandals, and malicious killing. Accidental killings are a result of mistaken identity by black bear hunters. Control by livestock operators, apiarists, outfitters, hunter defense of quarry, and resort operators for protection of property also results in direct mortality. Accidental deaths also result from road kills by automobiles and trains, and from handling errors when bears are captured for management or research. Mortality occasionally results from actions of private citizens for self-defense or defense of others (USFWS 1993).

Identified sources of indirect mortality are those actions that bring bears and people into conflict such as road use, land development, and recreation. These actions include, but are not limited to, road construction, livestock grazing operations, timber harvest, mining, water development, and energy exploration and development (USFWS 1993). Many of these types of activities occur within proximity to this project corridor.

There have been several analyses on grizzly bear mortalities for the NCDE. During 1992-2001, MFWP reported 143 grizzly bear deaths that were known and human-caused. These mortalities were attributed to the following sources (percentages have been rounded to the nearest whole number): 22 percent (32) management removal due to food conditioning; 15 percent (21) due to illegal, malicious killing; 13 percent (18) due to train collisions; 11 percent (16) under investigation; 8 percent (12) illegal mistaken identification; 8 percent (12) livestock conflicts; 6 percent (9) legal self defense; 6 percent (9) related to human fatalities; 3 percent (5) vehicle collision; 3 percent (5) unknown; 3 percent (4) capture related (USFWS 2002).

During 1999-2003, the Service reported a total of 84 known human-caused grizzly bear mortalities in the NCDE. They were attributed to the following causes: 31 human food/livestock; 22 train and vehicle collision; 17 malicious illegal; 11 legal self-defense/hunter; 3 human fatality. Of the human-caused mortalities during this period, 31 were female, 48 were male and 5 were unknown (USFWS 2004b).

Throughout the NCDE, there have been a total of 16 known grizzly bear mortalities caused by collisions with vehicles since 1980. Only two of those fatalities occurred during each of the

decades of the 1980s and 1990s. However, twelve known road kill mortalities have occurred in the NCDE in just the past five years (2000 - 2004) (Servheen, USFWS, pers. comm. 2005).

Since 1975, the grizzly bear has been afforded threatened status under the Act. Much effort has been expended by various Federal and State land and wildlife agencies, tribal governments, and segments of the public to conserve the species. Currently, the two leading challenges in grizzly bear conservation are the reduction of human-caused mortality and the conservation of remaining habitat. In the NCDE, annual monitoring of population parameters demonstrates that progress is being made. This has been achieved through rigorous sanitation projects within and surrounding the recovery zone, education and information programs, and increased law enforcement. In 1985, Federal and State agencies cooperated in the development of the Interagency Grizzly Bear Management Guidelines. The Guidelines detail protocol for nuisance bear management and also detail grizzly bear habitat management policies. Since the inception of the Guidelines, all agencies have worked to implement the policies stated in the Guidelines within and surrounding grizzly bear recovery zones (USFWS 1993).

IV. Effects of the action

"Effects of the action" refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action that would be added to the environmental baseline. Direct effects are considered immediate effects of the project on the species or its habitat. Indirect effects are those caused by the proposed action and are later in time, but are still reasonably certain to occur. Interrelated actions are those that are part of a larger action and depend upon the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consultation. The effects of the action are added to the environmental baseline to determine the future baseline and to form the basis for the determination in this opinion. Should the Federal action result in a jeopardy situation and/or adverse modification conclusion, the Service may propose reasonable and prudent alternatives that the Federal agency can take to avoid violation of section 7(a)(2). The effects discussed below are the result of direct and indirect impacts of implementing the proposed project.

IV.A. Bull Trout

IV.A.1. General effects of transportation projects on bull trout

Direct effects are impacts caused by specific projects that occur at the same time and place and have immediate effects on the species or its habitat (e.g., construction equipment destroys eggs by running across a redd in the river channel, or fill material deposited in the stream kills a fish). Transportation improvement projects can potentially have direct impacts on bull trout in five ways: 1) direct mortality of individual fish at all life stages; 2) major disturbance of fish in the project area; 3) major temporary displacement of fish species in the vicinity of the project area; 4) major elimination of supporting aquatic and/or riparian habitat in the project area (important habitat features); and 5) project activities causing substantial, long-term reductions water quality

due to excessive sedimentation and toxic substances, resulting in reduced availability of prey or increased toxicity of prey through bio-accumulation of contaminants (MDT 2004).

Indirect effects are impacts caused by or resulting from actions of specific projects that are later in time and space and are reasonably certain to occur (e.g., degradation of aquatic and riparian habitat or water quality to the point where fish survival and/or production is substantially reduced during any life stage). Indirect effects, with the exception of direct mortality of fish, can be similar to direct effects, but are less severe and immediate in observable impacts to sensitive fish species and their habitat. Indirect impacts can also manifest themselves after completion of project activities, and can change long-term human use and resource condition. Transportation improvement projects can potentially have indirect impacts on bull trout in four ways: 1) increased seasonal disturbance of fish in the project area; 2) temporary displacement of fish in the vicinity of the project area; 3) elimination of supporting vegetation in the project area; and 4) project activities causing substantial, long-term reductions to water quality and stream habitat, due to excessive sedimentation and persistent, toxic substances (MDT 2004).

Project related activities could create disturbed areas that, over the long-term, could increase sediment loads into the water body, thereby reducing availability, quality, and abundance of substrate needed for macroinvertebrate production. Also, refueling and equipment storage areas would pose risks through possible leaks of chemical contaminants into the river, which could have long-term effects on fish production by reducing egg survival and macroinvertebrate production in stream gravel (MDT 2004).

IV.A.2. Project specific effects on bull trout

Much of the information in the following section relative to the effects of this proposed project on bull trout was excerpted from the Department's BA for this project (Herrera 2005). The Service agrees with these analyses and does not expect any effects to bull trout other than those described below.

Bull trout in Post Creek may be affected by project construction if runoff from recently cleared and graded areas and soil stockpiles results in increased sediment entering streams in the US 93 Ninepipe / Ronan project corridor. Replacement of the bridge over Post Creek may also have short-term effects on bull trout use of the project area. Implementation of best management practices and adherence to temporary erosion and sediment control plans during construction would minimize these effects. Accidental spills of fuels, oils, concrete leachate, and chemicals used during construction could also enter project area streams. However, a spill prevention, control, and countermeasures plan would be implemented to manage spills. Because bull trout are rare in Post Creek and do not occur in other project area streams, short-term construction effects on bull trout as a result of the US 93 Ninepipe / Ronan project are not expected to be major. Short-term effects from construction related sediment inputs into Post Creek would be reduced through implementation of conservation measures. Adherence to these measures would reduce, but not eliminate, sediment input to Post Creek during construction. Therefore, they would not preclude all adverse effects to bull trout in Post Creek (Herrera 2005).

Because bull trout are rare in Post Creek and do not occur in other project area streams, long-term effects from habitat loss or construction disturbance are also expected to be minimal. In addition, long-term beneficial effects of increased structure length for the Post Creek bridge on bull trout are also expected to be minimal (Herrera 2005).

Indirect effects may result from operation of the proposed project or future activities related to the project, such as induced land use changes, growth, or increased traffic. The proposed project may influence where development takes place because access to the highway would be improved at a few key intersections. However, the proposed project is not expected to increase the rate of development in the corridor. One exception may be the urban portion of the project, which would construct a southbound couplet on 1st Avenue SW in Ronan. The preliminary preferred alternative would likely induce commercial development along the southbound couplet. But because the area along the couplet does not support bull trout, no indirect effects are expected in that area (Herrera 2005).

Interrelated actions for the proposed project include development and use of material source sites. If material source sites are located near bull trout streams, development of these sites may result in additional impacts to bull trout if runoff from the sites is not controlled or if the sites disturb riparian habitat. Interrelated effects may also include the effects of storm drainage and the use of sand and deicing materials on bridges and the roadway during winter conditions. Such inputs of sediment and contaminants and the subsequent impacts to bull trout habitat would diminish the ability of the instream habitat to function for all realized and potential uses. No interdependent actions have been identified for this project (Herrera 2005).

As described above, activities associated with this proposed project would result in temporary increases in sediment in Post Creek. Increases in sedimentation can affect incubation, emergence and survival rates of eggs and fry. Because it is unlikely that bull trout use Post Creek as spawning habitat, this is not a major concern for this project. However, sediment can also affect adult and juvenile bull trout by changing behavior, reducing available habitat, increasing stress, and reducing food supply. Salmonid fishes will generally avoid undesirable conditions when migrating, such as high temperatures, low dissolved oxygen, high levels of suspended sediments, or pollutants. In streams where unavoidable turbidity is elevated over a long distance or for a long period of time, this can result in reaches of stream devoid of fish and the cessation of migration. In addition, high levels of suspended sediment can result in the loss of visual capability, leading to reduced feeding and depressed growth rates. High levels of sediment can deplete benthic invertebrate populations, reducing available food supplies for fish. Sediment can also fill pools and blanket structural cover, reducing the available habitat for adult and juvenile bull trout (Thomas 1999). Although turbidity may delay migration, it does not appear to affect the homing ability of salmonids. However, if this proposed project creates undesirable conditions in the stream during bull trout migration, it could affect bull trout behavior and spawning success.

Direct mortality of fish from suspended sediment has been documented, but generally only at either very high levels of sediment or a long duration of increased suspended sediment. It seems likely that fish have evolved behavioral or physiological adaptations to temporary high

concentrations of suspended sediment in order to survive short term conditions caused by natural floods. The exact levels of sediment at which sublethal effects occur are unknown. It is known that both the concentration of sediment and the duration of exposure affect the response of the fish. For this reason, it would be best to make every effort to reduce both the amount of sediment produced and the duration of the sediment increase. However, although some adverse effects may occur to bull trout from construction related activities, most of the sediment producing activities proposed as part of this construction project would be relatively short term and would not be expected to act as barriers to fish migrations in the lower Flathead River drainage. Application and monitoring of best management practices for pollutant/sediment/erosion control during and following construction as required in the Department's specifications, and in permits from the CSKT, would substantially reduce these adverse effects.

Mechanical manipulation of stream channel habitat, as well as increases in sedimentation from activities related to this project, are expected to adversely affect bull trout populations. These impacts are considered more than insignificant or inconsequential and would adversely affect aquatic habitat as well as the associated life history stages of bull trout in the lower Flathead River drainage. However, most of these impacts are relatively short-term.

Implementation of the proposed action is not likely to affect the long-term viability and persistence of bull trout in the action area. Resident bull trout are known to exist upstream of the project and are not expected to be subjected to the primary impact of the proposed action (sediment). Anticipated impacts to bull trout are unlikely to occur outside of the action area and would not effect other local populations in the core area.

IV.B. Grizzly Bear

IV.B.1. General effects of roads on grizzly bears

Negative impacts associated with roads have influenced grizzly bear populations and habitat use patterns in numerous, widespread areas. The Interagency Grizzly Bear Committee (1987) summarized impacts reported in the literature, including:

- Avoidance/displacement of grizzly bears away from roads and road activity;
- Changes in grizzly bear behavior, especially habituation to humans, due to ongoing contact with roads and human activities conducted along roads;
- Habitat loss, modification, and fragmentation due to roads and road construction, including vegetative and topographic disturbances; and
- Direct mortality from road kills, legal and illegal harvest, and other factors resulting from increased human-bear encounters.

Mortality is the most serious consequence of roads in grizzly bear habitat. Mortalities result directly from collisions with vehicles and illegal shooting, or indirectly through habituation to human presence. Continued exposure to human presence, activity, noise, and other elements without negative consequence can result in habituation, which is essentially the loss of a grizzly bear's natural wariness of humans. Habituation increases the potential for conflicts between people and grizzly bears. Habituated grizzly bears often obtain human food or garbage and become involved in nuisance bear incidents, and/or threaten human life or property. Such grizzly bears generally experience high mortality rates as they are eventually destroyed or removed from the population through management actions. Habituated grizzly bears are also more vulnerable to illegal killing because of their increased exposure to people. In the Yellowstone region, humans killed habituated grizzly bears over three times as often as non-habituated grizzly bears (Mattson et al. 1992). Recent information indicates that the majority of NCDE grizzly bear mortalities occur on roaded, rural private lands, such as those traversed by this project, as opposed to multiple-use public lands or wilderness areas (Servheen, unpublished, 2004a).

Some grizzly bears, particularly subadults, readily habituate to humans and consequently suffer increased mortality risk. However, many grizzly bears under-use or avoid otherwise preferred habitats that are frequented by people. Such under-use of preferred habitat represents modification of normal grizzly bear behavior. Negative association with roads arises from the grizzly bears' fear of vehicles, vehicle noise and other human-related noise around roads, human scent along roads, and hunting and shooting along or from roads. Grizzly bears that experience such negative consequences learn to avoid the disturbance and annoyance generated by roads. Even occasional human-related vehicle noise can result in annoying grizzly bears to the extent that they continue to avoid roads.

All factors contributing to direct links between roads and displacement from habitat have not been quantified. As with mortality risk, the traffic level is likely an important factor in assessing the potential displacement caused by any road. Research indicates, however, that grizzly bears consistently were displaced from roads and habitat surrounding roads, often despite relatively low levels of human use (Mattson et al. 1987, McLellan and Shackleton 1988, Aune and Kasworm 1989, Kasworm and Manley 1990, Mace and Manley 1993, Mace et al. 1996), and despite these areas containing preferred habitat for breeding, feeding, shelter and reproduction (Aune and Stivers 1982). Mace et al. (1996) also reported that as traffic levels of roads increased, grizzly bear use of adjacent habitat decreased. Many studies have found that grizzly bears generally avoid habitat within 500 meters of roads (Mattson et al. 1987, Aune and Kasworm 1989, Kasworm and Manley 1990, Mace et al. 1996, Waller and Servheen 2005). In Yellowstone National Park, Mattson et al. (1992) reported that wary grizzly bears avoided areas within two kilometers of major roads and four kilometers of major developments or town sites. Roads in low elevation habitats may result in avoidance of or displacement from important spring seasonal habitat for some grizzly bears or high mortality risk for those individuals that venture into and attempt to exploit resources contained in these low elevation areas (Mace et al. 1999).

IV.B.2. Project specific effects on grizzly bears

Effects of the proposed action on grizzly bears include an increased risk of human-bear conflicts during construction, disturbance of foraging habits during construction, loss of habitat, a potential decrease in habitat value for some areas adjacent to the corridor, a period of continued mortality on the roadway until bears learn to use the new crossing structures, and an impediment to grizzly bear movement through the corridor for some individual bears (Herrera 2005).

The preferred alternative would require temporary construction staging areas, including offices and lodging, which may attract bears if food, garbage, and other attractants are not properly stored. Contractors and construction crews would be instructed on the need and techniques for proper sanitation in grizzly bear habitat. Adherence to these instructions would serve to minimize human – grizzly conflicts within construction areas. All grizzly bear sightings would be reported to Tribal Wildlife Program biologists (Herrera 2005).

Construction activities in the project corridor may cause grizzly bears to avoid foraging habitats near construction sites. The proposed project would also result in the loss of habitat in such areas as well. Bears are most likely to use the wildlife management area grasslands, fruit trees, and some wetlands with tuberous vegetation. Although the preliminary preferred alternative includes an additional lane for passing in the Ninepipe segment, construction of the widened roadway would mostly occur within the existing right-of-way, and few new areas of grasslands would be directly affected. However, because bears generally avoid roadways, a greater area of habitat would be reduced in value with the operation of a wider road surface. But, because the habitat in the project corridor does not represent key habitat for the survival of bears in this area and its use is highly variable, minor loss of, or disruption of grizzly bear access to, these habitats is expected to have only minor effects on bears (Herrera 2005).

Large amounts of fill material would be removed below the long elevated bridge structure near Ninepipe Reservoir to restore and reconnect habitat. This would require extensive hauling to dispose of the excavated material. Disposal locations have not yet been identified. As long as disposal sites are not in or near habitats frequented by bears (i.e., apple orchards, riparian corridors, or the Ninepipe National Wildlife Refuge), activities at these material disposal sites would not have a substantial effect on bears (Herrera 2005).

Under existing conditions, bears must cross over the surface of U.S. Highway 93 to access habitats on the west side of the corridor. Some bears appear to regularly cross the corridor in the Ninepipe area. Direct effects of roadway projects usually include a contribution to the impediment of wildlife movement through the road corridor and increased risk of mortality from vehicle collisions. The proposed action includes several wildlife crossing structures aimed at reducing fragmentation of habitats in the project area, facilitating wildlife through the corridor, and reducing wildlife mortality from vehicle collision. The effectiveness of these structures in reducing or preventing grizzly bears from being struck by vehicles and providing grizzly bears access to habitats on the other side of the highway is unknown. The effectiveness of wildlife crossing structures constructed in other areas has been variable (Herrera 2005).

The proposed project does not include wildlife fencing in the Ninepipe segment that could have helped reduce wildlife crossings over the roadway by funneling wildlife toward the passage structures. So, bears would not be precluded from crossing the roadway under this proposal. Therefore, at least in the near-term as bears learn to use the passage areas, the level of mortality risk from vehicle collisions may not change. However, as traffic levels in the corridor increase, the barrier effect of the road is likely to increase, deterring more individuals from attempting to cross over the road and further disrupting movement patterns (Herrera 2005).

Indirect effects may result from operation of the proposed project or future activities related to the project, such as induced land use changes or growth or increased traffic. The proposed project may influence where development takes place because access to the highway would be improved at a few key intersections. However, the proposed project is not expected to increase the rate of development in the corridor. One exception may be the urban portion of the project, which would construct a southbound couplet on 1st Avenue SW in Ronan. The preliminary preferred alternative would likely induce commercial development along the southbound couplet. But because the area along the couplet is already developed, no effects to grizzly bears are expected in that area (Herrera 2005).

Interrelated actions for the proposed project include development and use of material source sites. Development of material source sites would likely occur as near the project corridor as feasible. If such sites were developed near riparian corridors or lands managed for wildlife, grizzly bear access to habitats in the valley could be disrupted (Herrera 2005).

V. Cumulative effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they will require separate consultation pursuant to section 7 of the Act.

Current population growth and development patterns in the project area render it likely that future residential and commercial development would occur within this improved transportation corridor (e.g., a new, privately developed motel and restaurant are planned in Ronan). It is expected that future development would not directly impact bull trout habitat, although wetlands and riparian areas may be affected. Indirect effects on bull trout could result from runoff generated by new impervious surface areas that is not adequately detained and treated prior to discharge. The completion of a programmatic assessment of the Flathead Agency Irrigation District, which operates numerous reservoirs, stream diversions, and irrigation canals throughout the Flathead Indian Reservation, would likely benefit bull trout in the long-term by changing irrigation maintenance and coordination practices to reduce fisheries impacts. Recognizing the high probability of highway-induced growth and development, the US 93 Evaro to Polson project (of which this Ninepipe / Ronan project is a part) includes guidelines for the development of a corridor land use plan. Ultimately, controlling land use and development in the corridor would limit potential threats to listed species using this area (Herrera 2005).

Potential threats to grizzly bears from future development include loss of vegetative cover within the road corridor, along travel corridors between the mountains and the valley, and the presence of human activity near crossing structures. Loss of cover and the presence of humans could deter grizzly bears from using these areas or cause human/grizzly conflicts. Measures such as implementing a corridor land use plan and limiting development adjacent to wildlife crossing areas would minimize these potential threats.

In addition to a number of State and Federal road projects soon to occur in the area, several Tribal road projects are also being proposed throughout the project vicinity. Residential development is expected to continue with several subdivisions being planned in this area (Herrera 2005).

Many of these projects may contribute to cumulative downstream sedimentation in project area streams during construction. The proposed action along the US 93 Evaro to Polson corridor would rectify some impacts on streams from other actions by replacing or adding culverts where they are currently undersized or lacking, by replacing some culverts with bridges or larger culverts to improve hydrologic connectivity in the system, and by restoring streams in the highway right-of-way. With implementation of the improved structures, the cumulative effect of these projects on fisheries resources may be reduced. Similarly, construction of wildlife crossing structures as proposed for the US 93 Evaro to Polson project would facilitate wildlife movement across the project corridor and would reduce some of the cumulative effects of other activities (Herrera 2005).

The CSKT Kerr Dam Fish and Wildlife Mitigation settlement with PPL Montana is a mitigation plan and monetary settlement aimed at mitigating the impacts of Kerr Dam during the period from 1985 to 2035. The settlement includes acquisition of approximately 1,375 hectares of wildlife habitat, much of it surrounding the Ninepipe National Wildlife Refuge and Kicking Horse Reservoir. These lands would then be restored and enhanced for wildlife production. A key component of the mitigation work would be to acquire habitats that are adjacent to or complement those owned by MFWP and the USFWS. Such areas provide foraging habitat for grizzly bears. The greatest benefit from this habitat protection project for bull trout would occur if lands in the Post Creek riparian corridor were preserved (Herrera 2005).

VI. Conclusion

The implementing regulations for section 7 (50 CFR 402) define “jeopardize the continued existence of” as “to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.”

VI.A. Jeopardy analysis for bull trout

After reviewing the current status of the Columbia Basin DPS of bull trout, the environmental baseline for the action area, the effects of the highway reconstruction and bridge replacement activities associated with the proposed US 93 Ninepipe / Ronan project in Lake County,

Montana, and the cumulative effects, it is the Service's biological opinion that this project, as proposed, would not be likely to jeopardize the continued existence of the Columbia Basin DPS of bull trout, nor any recovery subunit thereof. No critical habitat has been designated for bull trout in the vicinity of this project, therefore none would be affected. The Service's rationale for this conclusion includes, but is not limited to, the following factors:

- The Clark Fork River recovery unit consists of major river drainages, including the Blackfoot, Clark Fork, Swan, Flathead, and Bitterroot Rivers.
- Bull trout populations are considered strong in Rock Creek of the upper Clark Fork River and in the South Fork Flathead, Blackfoot, and Swan Rivers.
- Trends in abundance of bull trout are stable in the South Fork Flathead River and increasing in the Blackfoot and Swan Rivers.
- Although the lower Clark Fork recovery subunit contains several hundred miles of potentially occupied bull trout habitat, this represents only a relatively minor portion of the approximately 8,000 miles of such habitat within the Clark Fork watershed, accounting for only a fraction of the total bull trout abundance, reproduction, and distribution in the Clark Fork River recovery unit.
- Although there would be a very slight possibility that some mortality of bull trout may occur as a result of implementation of the proposed action, implementation would not be anticipated to reduce the reproduction, numbers, or distribution of bull trout within the action area to the degree that the likelihood of the lower Clark Fork recovery subunit's survival or recovery would be appreciably reduced.
- The Clark Fork River watershed is only one of at least 20 major watersheds forming the Columbia River basin DPS, although it is amongst the largest.
- This demonstrates the small fraction of bull trout abundance, reproduction, and distribution of the Columbia River basin bull trout DPS represented by this subpopulation and that the probability of persistence of bull trout in the Columbia River basin bull trout DPS would not be significantly reduced by implementation of this project.
- The proposed action has a low risk of bull trout mortality as few bull trout have been documented in the project area. Implementation is not anticipated to reduce the reproduction, numbers, or distribution of bull trout within the action area to the degree that the likelihood of the subpopulation's survival or recovery in the lower Flathead River core area is appreciably reduced.

Implementation of the proposed action is not likely to reduce appreciably the likelihood of survival or recovery of bull trout in the action area or any of the local populations in the lower Flathead River core area. Therefore, based on the magnitude of the project effects in relation to

the listed DPS at the Columbia River basin scale, the proposed action is not likely to jeopardize the Columbia River basin bull trout DPS.

VI.B. Jeopardy analysis for grizzly bears

After reviewing the current status of grizzly bears, the environmental baseline for the action area, the effects of the highway reconstruction and bridge replacement activities associated with the proposed US 93 Ninepipe / Ronan project in Lake County, Montana, and the cumulative effects, it is the Service's biological opinion that this project, as proposed, is not likely to jeopardize the continued existence of the NCDE grizzly bear population. No critical habitat has been designated for this species, therefore none would be affected. Our rationale for this non-jeopardy conclusion is summarized in, but not limited to, the following factors:

- Although not statistically validated, there is information that suggests the grizzly bear population in the NCDE is expanding. Location data documents a relatively recent (five to ten years) expansion of grizzly bears outside the recovery zone boundaries to the east, south and west of the NCDE. Due to the broad distribution of grizzly bear locations and known grizzly bear distribution within the recovery zone, this expansion is likely due to increased grizzly bear numbers in several areas of the recovery zone.
- Recent survey work in the northern one-third of the NCDE (including Glacier National Park, adjacent national forest lands and a portion of the Blackfeet Indian Reservation) suggests that the minimum unduplicated females with cubs population parameter as currently employed conservatively underestimates the total number of grizzly bears in this ecosystem. The USGS conducted a DNA-based mark-recapture study in the greater Glacier area from 1998 through 2000. Preliminary, provisional population estimates suggested 381 grizzly bears in 1998, and 273 in 2000 for the northern one-third of the NCDE alone.
- Recent information indicates that the majority of human-caused mortalities in the NCDE continue to be management removal of habituated nuisance bears, collision with trains, and illegal killings. Vehicle collisions comprise a relatively small percentage of grizzly bear mortalities in the NCDE.
- There are several measures included in the proposed action that would minimize impacts to grizzly bears (see the **Description of proposed action** section).

Our conclusion that the proposed action is not likely jeopardize the continued existence of the NCDE grizzly bear population is based primarily on information presented in the BA (Herrera 2005) and BA addendum (MDT 2005) prepared for the proposed US 93 Ninepipe / Ronan project, information in our files, and informal discussions between the Service and biologists and other personnel from other agencies and groups.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as an intentional or negligent act or omission that creates the likelihood of injury to listed wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the Federal Highway Administration and their designated non-Federal representative (Montana Department of Transportation) so that they become binding conditions of any grant, permit or contract issued to the construction contractors who are selected to construct the bridge associated with this project, as appropriate, for the exemption in section 7(o)(2) to apply. The Administration has a continuing duty to regulate the activity covered by this Incidental Take Statement. If the Administration: (1) fails to assume and implement the terms and conditions; or (2) fails to require the chosen construction contractors to adhere to the terms and conditions of the Incidental Take Statement through enforceable terms that are added to the permit, grant or contract document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Administration must report the progress of the action and its impact on the species to the Service as specified in the Incidental Take Statement [50 CFR 402.14(i)(3)].

Amount or extent of take anticipated

Bull trout: The Service expects some level of adverse effects to bull trout associated with implementation of the US 93 Ninepipe / Ronan project. However, we do not anticipate that project effects would rise to the level of incidental take. Therefore, no take is exempted. Data related to bull trout use of the project area are lacking, but the best information available indicates that bull trout occurrence in the project area is rare. Small amounts of potential nodal habitat near the Post Creek bridge would be impacted for a relatively short period of time, but the portions of Post Creek that more commonly support bull trout are upstream from the project area and would be unaffected by the proposed project activities. The US 93 Ninepipe / Ronan project may adversely affect infrequent bull trout use of small amounts of potential habitat. However, these modifications to bull trout habitat within the action area are not likely to significantly disrupt normal behavior patterns, including breeding, feeding or sheltering to levels resulting in injury to bull trout.

Grizzly bear: Roads affect wildlife at both the individual and population levels, especially for rare species like grizzly bears with large home ranges that include many roads. Individuals are affected through traffic mortality, and also by the behavioral or physical barrier presented by the road. Local effects occur through reductions in the local population size because of traffic mortality, and also through reduced landscape connectivity because of the barrier effect of the road. Ultimately, regional effects may then occur in the form of reduced regional population size and persistence resulting from this combination of mortality and reduced connectivity. However, it is difficult to differentiate between the effects of increased mortality and the effects of decreased landscape connectivity on the regional population scale (Forman et al. 2003). The effects at the population level may not be as apparent, at least not for several generations. This is especially true for carnivore species, as a result of their long life spans that allow individuals to exist for some time without persisting as a population (Evink et al. 1998).

Individual animals react differently to roads. Dispersing individuals (most often males) may travel hundreds of miles and obviously cross major highways when doing so. Many have huge home ranges that include a network of roads, including highways. These ranges are traversed on a regular basis and would include females with young. Roads may act as a more complete deterrent to crossing for females and young, and a partial obstacle for solitary males.

In addition to the need to access habitat requirements, an animal's individual behavior also plays an important role in wildlife crossings of roads. Little is known about the movement behavior of animals crossing roads. However, the few studies carried out so far indicate varied responses between species and between individuals of the same species. Response to traffic volumes, road surface composition, use of highway crossing structures, and types of terrain used for crossing sites all varied amongst and between the mid to large-sized carnivore species studied (Forman et al. 2003).

As previously stated, there were twelve known grizzly bear fatalities caused by collisions with vehicles on roads within the NCDE between 2000 and 2004, although it is likely that other lethal or non-lethal collisions have occurred between grizzly bears and highway vehicles. Three grizzly bears have been hit by cars and confirmed as killed on U.S. Highway 93 within the limits of this proposed project since 1998; a female in 1998 near Ninepipe Reservoir, a female in 2001 near Post Creek, and another female in 2002 near Post Creek. Other grizzly bear road kills have been reported in this area as well, but could not be verified. The number of individual grizzly bears affected by the proposed improvements to a segment U.S. Highway 93 is likely relatively low; however, these effects are still considered a taking even if only one grizzly bear is involved. The Service considers that road killed grizzly bears are a result of, but not the purpose of, the existence and operation of highways. Such takings are, therefore, considered incidental to the highway's existence and operation.

It is the opinion of the Service that the current level of incidental take associated with the existing highway, based on known lethal collisions, is not at a level that is likely to jeopardize the continued existence of the Northern Continental Divide population of grizzly bears. This is based, in part, on the fact that many measured population parameters have met established recovery plan levels, although the recovery plan threshold for overall mortality, as well as female

grizzly mortality, have been exceeded in recent years. However, recent information indicates that the majority of human-caused mortalities in the NCDE continue to be management removal of habituated nuisance bears, collision with trains, and illegal killings. Vehicle collisions comprise a relatively small percentage of grizzly bear mortalities in the NCDE.

As described earlier, the US 93 Ninepipe / Ronan project is located within the boundaries of the larger US 93 Evaro to Polson project. On October 19, 2001, the Service issued its biological opinion and incidental take statement for the US 93 Evaro to Polson project. The grizzly bear incidental take statement for that project was written such that it encompassed the entire U.S. Highway 93 corridor from Evaro to Polson, including the Ninepipe SEIS area. Therefore, incidental take has already been exempted for the US 93 Ninepipe / Ronan project and no additional take need be exempted in this incidental take statement. The amount of incidental take of grizzly bears anticipated as a result of implementation of this project is included in the October 19, 2001 incidental take statement for the entire corridor. That take statement remains current and valid for this project as well.

The October 19, 2001 incidental take statement for the entire US 93 Evaro to Polson corridor that includes the Ninepipe / Ronan segment states, in part: The Service anticipates that the direct and indirect effects of implementing the proposed highway improvements could result in increases in traffic volume and speed in this highway corridor, which in turn could add to the existing level of incidental take. This "take" may be in the form of lethal collisions or non-lethal collisions resulting in harm to grizzly bears. However, the Service also anticipates that construction of the wildlife crossing structures and implementation of the conservation measures proposed as part of this project will attenuate the effects of the increases in highway traffic volume and speed. Therefore, the Service anticipates that future levels of incidental take associated with this segment of U.S. Highway 93 will not exceed those that currently exist. Thus, the anticipated level of incidental take associated with the existence and operation of the reconstructed segment of U.S. Highway 93 from Evaro to Polson, Montana is two grizzly bears during any ten-year period in the future. The incidental take level will be calculated beginning in 2002 and move forward into the future. Therefore, should more than two grizzly bears be taken incidentally to the operation of this segment of highway during any ten-year period in the future (2002 through 2011, 2003 through 2012, etc.), the Administration must reinstate formal consultation with the Service immediately.

At the present time, one grizzly bear has been taken incidentally to the operation of this segment of highway since the US 93 Evaro to Polson consultation was concluded (the female grizzly killed on the highway near Post Creek during 2002). Should one more grizzly bear be killed in association with the existence and operation of this stretch of highway by the end of 2011, the level of incidental take anticipated for this project will have been reached, but not exceeded. In that case, or any similar instance in the future where the level of incidental take is reached but not exceeded, the Administration should informally consult with the Service regarding the adequacy of existing mechanisms to minimize potential take.

Effect of the take

Bull trout: In the accompanying biological opinion, the Service determined the anticipated level of adverse impacts from this project would not substantially reduce the potential for persistence or recovery of the lower Clark Fork River Recovery Subunit encompassing the action area, and thus would not be likely to result in jeopardy to the Columbia Basin DPS of bull trout. The Administration and the Department are implementing many measures which would sufficiently minimize impacts to bull trout (see the **Description of proposed action** section).

Grizzly bear: In the accompanying biological opinion, the Service has determined that this level of anticipated take is not likely to result in jeopardy to the grizzly bear population within the NCDE recovery zone. Critical habitat has not been designated for the grizzly bear; therefore, none would be affected. There are several measures included in the proposed action that would minimize impacts to grizzly bears (see the **Description of proposed action** section).

Reasonable and prudent measures

Incidental take statements typically provide reasonable and prudent measures which are expected to reduce the amount of incidental take. Reasonable and prudent measures are those measures necessary and appropriate to minimize the incidental take resulting from the proposed action. These reasonable and prudent measures are non-discretionary and must be implemented by the Administration in order for the exemption in section 7(o)(2) to apply.

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize impacts of incidental take of listed species.

Bull trout: Because the Service does not anticipate that project related adverse effects would rise to the level of incidental take of bull trout, no reasonable and prudent measures to minimize incidental take are required for bull trout.

Grizzly bear: The following measures are nearly identical to those provided in the incidental take statement for the US 93 Evaro to Polson project issued by the Service on October 19, 2001. No additional measures have been required of the Administration or Department above what had been previously required.

1. The Administration and Department shall identify and implement means to reduce the potential for incidental take of grizzly bears from direct mortality as a result of high traffic levels present on U.S. Highway 93, and from habitat fragmentation and displacement for these species as a result of project-related increases in highway width and increases in traffic volume and speed.
2. The Administration and the Department shall monitor reconstruction of the highway, as well as the construction of wildlife crossing structures, to ensure that these activities and structures comply with the Re-evaluation of the Final Environmental Impact Statement, BA, BA Supplement, Memorandum of Agreement, and biological opinion for the US 93

Evaro to Polson project, and the BA, BA addendum, and SEIS for the US 93 Ninepipe / Ronan project. The Administration and the Department shall also implement the reporting requirements as described in the terms and conditions below.

Terms and conditions

In order to be exempt from the prohibitions of section 9 of the Act, incidental take statements typically provide terms and conditions which implement the reasonable and prudent measures and outline reporting and monitoring requirements. These terms and conditions are non-discretionary.

Bull trout: Because the Service does not anticipate that project related adverse effects would rise to the level of incidental take of bull trout, and no reasonable and prudent measures to minimize incidental take are required, it follows that no terms and conditions implementing such measures would be required for bull trout.

Grizzly bear: To fulfill reasonable and prudent measure #1, the following terms and conditions shall be implemented:

- a) The wildlife crossing structures for this project shall be constructed as proposed and shall include implementation of all of the conservation measures described in this project's BA and SEIS.

To fulfill reasonable and prudent measure #2, the following terms and conditions shall be implemented:

- a) A monitoring plan shall be implemented, such as or similar to the August 2001 draft "US 93 Evaro to Polson Wildlife Crossing Structures Evaluation" proposed by the Western Transportation Institute in conjunction with the CSKT and the Department. The evaluation program implemented shall include monitoring of wildlife crossings of the U.S. Highway 93 corridor before, during, and after construction of this project and shall be used to guide and adapt the design, maintenance, and potential modification of the crossing structures and fencing constructed during this project and in the future.
- b) Upon locating a dead, injured or sick bull trout or grizzly bear, notification must be made within 24 hours to the Service's Montana Field Office at (406)449-5225, or the Tribal Fish, Wildlife, Recreation and Conservation Office at (406)675-2700. Record information relative to the date, time and location of dead or injured listed species when found, and if possible, the cause of injury or death of each animal and provide this information to the Service.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from direct and indirect effects associated with improvements made to the U.S. Highway 93 corridor. With implementation of these measures, we expect that take of grizzly bears is not expected to exceed

the anticipated levels discussed. If the terms and conditions outlined above are not adhered to, the level of incidental take anticipated in this biological opinion may be exceeded. Such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The Administration must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

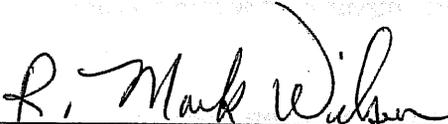
1. To assist in meeting the Administration's responsibilities under Section 7(a)(1) of the Act, and to utilize authorities granted within the recent transportation funding laws, the Service strongly recommends that the Administration and the Department work proactively with the Service, MFWP, CSKT, and others to identify and remedy impacts to salmonids, including bull trout, within the lower Clark Fork River recovery subunit that are the result of transportation systems. Within this area, many rivers were channelized during road and railroad construction, resulting in shortening of stream channels, increased erosion, higher water velocities, and loss of fish habitat. In addition, there is a risk of future toxic spills occurring and materials entering these rivers. Nearly 184 miles of 14 streams are reported to suffer water quality impairment within this area because of highway, road, and bridge development.
2. The Service recommends the Administration and the Department explore potential opportunities to utilize their expertise and authorities to promote innovative and non-traditional fisheries enhancement projects within the lower Flathead River system by partnering in some manner with other agencies or groups to share knowledge and resources to restore or enhance fisheries habitat within the lower Flathead watershed that has been degraded by activities other than those related to transportation. The draft Bull Trout Recovery Plan recommends many recovery tasks that need to be accomplished to protect, restore, and maintain suitable habitat conditions for bull trout in this area. These tasks pertain to transportation and non-transportation related impacts to bull trout habitat (USDI 2002b).
3. The Service recommends the Administration and the Department actively participate in the Interagency Grizzly Bear Committee's task force concerning highways to address long-term planning and project design of highway reconstruction projects. This interagency group hopes to develop and recommend best management practices that address key areas of grizzly bear linkage zone management that pertain to highway issues. These linkage zone management tools would also benefit many other species of wildlife.

4. The Service urges and recommends that the Administration and the Department continue and expand their efforts to fund applicable and needed wildlife and fisheries research in Montana that is directed toward better understanding how transportation systems affect these resources, particularly listed species, and how to plan, design, and construct highway systems to minimize their effects on fish and wildlife.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the actions outlined in the request. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.



August 29, 2005

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BIOLOGICAL OPINION

For the Effects to Designated Critical
Habitat For Threatened Bull Trout

ENDANGERED SPECIES ACT SECTION 7 CONSULTATION

BIOLOGICAL OPINION

for the effects to designated critical habitat
for threatened bull trout (*Salvelinus confluentus*)
from the reconstruction of U.S. Highway 93
between Evaro and Polson (Ninepipe Area)
in Lake County, Montana

Project: US 93 Ninepipe / Ronan
NH-F 5-1(9)6 F; Control Number B744

Agency: Federal Highway Administration
Montana Division
Helena, Montana

Consultation Conducted by: U.S. Fish and Wildlife Service
Montana Field Office
Helena, Montana

June 27, 2006

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Appendix A: USFWS biological opinion issued August 29, 2005 for US 93 Ninepipe/Ronan project effects on bull trout and grizzly bears.

Appendix B: Bull trout PCE analysis and matrix crosswalk.

BIOLOGICAL OPINION

I. Introduction

This document represents the U.S. Fish and Wildlife Service's (Service, USFWS) biological opinion based on our review of the proposed US 93 Ninepipe / Ronan Project Biological Assessment (BA). This biological opinion addresses project related effects to the designated critical habitat of threatened bull trout (*Salvelinus confluentus*) in accordance with the Endangered Species Act (Act) of 1973 as amended (16 U.S.C. 1531 et seq.).

Section 7(b)(3)(A) of the Act requires that the Secretary of Interior issue biological opinions on federal agency actions that may affect listed species or critical habitat. Biological opinions determine if the action proposed by the action agency is likely to jeopardize the continued existence of listed species or destroy or adversely modify critical habitat. Section 7(b)(3)(A) of the Act also requires the Secretary to suggest reasonable and prudent alternatives to any action that is found likely to jeopardize the continued existence of listed species or result in an adverse modification of critical habitat, if any has been designated.

The Service defines destruction or adverse modification as "a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical." However, recent decisions by the 5th and 9th Circuit Court of Appeals have invalidated this definition. Pursuant to current national policy and the statutory provisions of the Act, destruction or adverse modification is determined on the basis of whether, with implementation of the proposed action, the affected critical habitat would remain functional (or retain the current ability for the primary constituent elements to be functionally established) to serve the intended conservation role for the species (USFWS 2004a).

This biological opinion addresses only impacts to designated bull trout critical habitat and does not address the overall environmental acceptability of the proposed action.

II. Description of proposed action

The Montana Department of Transportation (Department) and the Federal Highway Administration (Administration), in cooperation with the Confederated Salish and Kootenai Tribes (CSKT), are proposing to reconstruct approximately 18 kilometers (km) of U.S. Highway 93 in Lake County, Montana, referred to as the US 93 Ninepipe/Ronan project (NH-F 5-1(9)6 F; Control No. B744). The project lies within the Flathead Indian Reservation and would begin at Red Horn Road / Dublin Gulch Road (reference post (RP) 37.1) and extend north to Baptiste Road / Spring Creek Road (RP 48.3). The purpose of the project would be to improve US 93 for traffic flow, roadway safety, and to reduce future road maintenance needs (Herrera 2005a).

This project was previously part of a larger reconstruction project extending from Evaro (RP 6.5) to Polson (RP 62.8). That project previously had an Environmental Impact Statement prepared

for it and underwent formal consultation pursuant to section 7 of the Act (USFWS biological opinion issued October 19, 2001). However, an 18-km portion of that corridor in the Ninepipe area (this US 93 Ninepipe / Ronan project) was excluded from those efforts. A Supplemental Environmental Impact Statement is currently being prepared for this project. The Service previously issued a biological opinion (issued August 29, 2005; Appendix A) relative to this project's effects to threatened bull trout and threatened grizzly bears (*Ursus arctos horribilis*). Now that critical habitat for bull trout has been designated and will be adversely affected by this proposed project, issuance of this biological opinion will complete formal section 7 consultation requirements for this project.

Much of the Flathead Indian Reservation is a rural landscape containing diverse ecosystems that are used by humans for agriculture, recreation, and cultural purposes while also providing high quality habitat features for a wide variety of fish and wildlife species. The Ninepipe area is within the Mission valley and is bounded generally by the Crow Creek riparian corridor on the north, the Post Creek riparian corridor on the south, the town of Charlo on the west and the Mission Mountains on the east. Within this Ninepipe area, the proposed project bisects a large, high density glacial pothole wetlands complex that serves as key habitat for terrestrial wildlife, breeding and migratory birds, aquatic species of fish and wildlife, herpetiles, grassland plant species, and plants adapted to wetland and riparian conditions. At the center of this highly sensitive ecosystem is the Ninepipe National Wildlife Refuge, which includes the 676-hectare Ninepipe Reservoir. This area provides important habitat linkages to the Mission Mountain Tribal Wilderness, the Flathead River corridor, the National Bison Range, and other lands protected by Tribal, State, and Federal entities, as well as by private organizations. These protected lands contribute to the value of this area and the abundance of wildlife using it (Herrera 2005a).

The US 93 Ninepipe / Ronan project corridor has been divided into rural and urban portions. The rural section has been further divided into two segments; the Post Creek Hill segment and the Ninepipe segment. The Post Creek Hill segment extends from Red Horn Road / Dublin Gulch Road on the south to the top of Post Creek Hill (approximately RP 40), just south of Olson Road / Gunlock Road. The Ninepipe segment extends from the top of Post Creek Hill northerly to the southern city limits of Ronan. The urban portion extends from the southern city limits of Ronan northerly through Ronan to the Baptiste Road / Spring Creek Road intersection. Each of these segments has a number of alternative designs that have been proposed. This biological opinion will be based on the preliminary preferred alternative that is identified in the BA for this project, and includes the Rural 10 Alternative for the rural portion and the Ronan 4 Alternative for the urban portion (Herrera 2005a).

Rural segment: The rural portion of the preliminary preferred alternative would include reconstruction of the existing roadway. The reconstruction would provide for curvilinear horizontal alignment roughly following the existing roadway to minimize impacts to adjacent lands. Construction of roadway shoulders sufficiently wide to accommodate bicycles and pedestrians would be included. The design speed would be 100 km/hr. Channelization and left-turn lanes would be constructed at all public road intersections. The vertical alignment would be revised to accommodate wildlife crossing structures (including single and multiple-span bridges

and large culverts) at Post Creek, Ninepipe Reservoir, two Kettle Ponds, and Crow Creek, with additional structures at intermediate locations throughout the project length. At the wildlife crossing locations, these bridges and large culverts would provide a minimum vertical clearance of three meters. Where stormwater will discharge to sensitive waters, such as Post Creek, treatment facilities would be constructed (Herrera 2005a).

The rural portion of this proposed project would be composed of a two-lane roadway with some sections of auxiliary lanes and four-lane divided roadway as described below:

- A 0.8-km two-way left-turn lane extending from Dublin Gulch Road / Red Horn Road (RP 37.1) northward to a business entrance driveway on the east side of US 93 at RP 37.5.
- A 2.9-km northbound passing lane from West Post Creek Road / East Post Creek Road (RP 38.2) to the top of Post Creek Hill (RP 40).
- A 1.9-km southbound passing lane from the top of Post Creek Hill (RP 40) to Eagle Pass Trail (RP 41.2).
- A 1.5-km section of four-lane divided roadway from Innovation Lane (RP 45.1) to the south Ronan city limits (RP 46).

The rural portion of the preliminary preferred alternative would represent a combination of the following two typical roadway cross-sections:

- The two-lane roadway would be undivided with one travel lane in each direction, each 3.6 meters wide with 2.4-meter shoulders. The typical pavement width would be 12 meters. Where auxiliary lanes would be provided, turning lanes would be 4.2 meters wide. The minimum desirable right-of-way width would be 49 meters. However, narrower widths have been used at selected sensitive locations to keep the new roadway within the existing right-of-way to minimize impacts. Also considered in the preliminary preferred alternative is a variation of the two-lane roadway that would include one 3.6-meter passing lane. Where the passing lane would be added, the minimum desirable right-of-way width would increase to 55 meters, with some narrower areas at selected sensitive locations to keep the new roadway within the existing right-of-way.
- The four-lane divided roadway includes two travel lanes in each direction, each 3.6 meters, depressed center median, 2.4-meter outside shoulders, and 1.2-meter inside shoulders. At intersections where left-turn lanes would be provided, the turning lane would be located within the center median area. The typical cross-section width would be 33.6 meters and the minimum right-of-way width would be 67 meters (Herrera 2005a).

The preliminary preferred alternative for this project would also include replacement and upgrade of the existing culverts and bridges. In addition, wildlife crossing structures are planned at several locations in the rural portion of the project. The vertical alignment of the roadway would be revised to accommodate these structures (large culverts or bridges of varying lengths) and provide a minimum vertical clearance of three meters. These wildlife crossing structures are

proposed for five locations; Post Creek, Ninepipe Reservoir, two large kettle ponds, and Crow Creek, with additional smaller structures crossing waterways and riparian areas at intermediate locations throughout the project length. A description of the structures proposed at these five primary locations that have been designed to facilitate wildlife crossing is provided below:

- Post Creek (approximately RP 37.7):
 - One 152-meter multiple-span bridge
 - One 3-meter x 4-meter culvert

- Ninepipe Reservoir:
 - Two 4-meter x 8-meter culverts
 - Two 3-meter x 4-meter culverts
 - One 200-meter multiple-span bridge

- Kettle Pond 1 (approximately RP 41.7):
 - Two 18-meter single-span bridges
 - Two 1.2-meter x 1.8 meter culverts

- Kettle Pond 2 (approximately RP 42.5):
 - Two 18-meter single-span bridges
 - Two 1.2-meter x 1.8-meter culverts

- Crow Creek:
 - One 37-meter multiple-span bridge
 - One 46-meter multiple-span bridge (Herrera 2005a).

Because of the designation of Post Creek as bull trout critical habitat, and therefore its importance to this consultation, the approximate construction sequence for bridge removal and replacement at the Post Creek crossing is described below.

Post Creek is presently conveyed under U.S. Highway 93 via a 15.5-meter long, 9.5-meter wide, two span bridge. The center pier occurs within the Post Creek channel. The channel under the bridge has been narrowed and stabilized with large riprap. The new bridge, proposed to be a multiple-span structure 152 meters long, would not include a pier within the Post Creek channel. This much longer bridge would result in less channel constriction and allow the stream more interaction with its floodplain (Herrera 2005a).

Post Creek bridge construction: No traffic would be re-routed during construction. The new bridge would be constructed along side the existing bridge, allowing for two-way traffic to continue on the old structure until the new bridge is completed. Once traffic can be switched to the new structure, the existing bridge would be demolished.

- Grading and construction practices that unnecessarily disturb natural features, promote erosion, and require extensive revegetation would be avoided.
- Bridge piers would be located outside the ordinary high-water mark for Post Creek.

- The newly constructed lanes would be graded in preparation for paving (arriving at the finished elevation and shape of roadway).
- Intersections with existing roads that would be affected by the new traffic lanes approaching the bridge would be reconfigured.
- The full length of the new lanes approaching the bridge would be paved, and any new driveway connections and intersections would be created. Centerlines and fog lines would be painted and signs would be installed.
- Traffic would be relocated to the new bridge. Traffic may be routed to the new bridge prior to paving of the roadway approaches if it would not affect traffic flow (Herrera 2005a).

Post Creek bridge removal:

- Instream work required to remove the bridge abutments would be limited to the time period identified by the Tribal fisheries program permitting process.
- The existing bridge would be demolished after traffic is switched to the new Post Creek bridge.
- Cofferdams, or similar structures, may be constructed around areas of abutment removal to control sediment erosion during removal of the abutments.
- The Department is required to cut off or remove substructures to a depth of 305 millimeters below the stream bed and that the removal areas be shaped and contoured to blend with the surrounding stream bed terrain.
- Upon removal of the bridge abutments, the streambanks would be regraded to match surrounding conditions and would likely be stabilized with a combination of shrubs and a riparian grass seed mix (Herrera 2005a).

Post Creek site restoration:

- Remaining portions of the old bridge and roadway would be removed upon completion of the new bridge and approach lanes.
- A detailed revegetation plan would be developed for the site (Herrera 2005a).

Conservation measures to be implemented during Post Creek bridge construction:

Conservation measures and best management practices to be implemented during removal of the existing bridge and construction of the new bridge include:

- If vegetation is removed along the banks of Post Creek during construction, the disturbed ground would be revegetated with desirable riparian species, thereby reducing erosion and the subsequent introduction of sediment into the creek.
- Federal, State, and Tribal regulations for erosion and sediment and spill control would be followed during all aspects of bridge construction. Erosion control measures would be implemented prior to construction activities.
- Equipment staging areas, refueling locations, and other chemical storage or waste disposal sites would be located and protected so that no spills could enter Post Creek or any other waterway.

- Work bridges shall be constructed to withstand winter icing and spring runoff to prevent collapse of the bridge during these condition and potential impacts to the stream bed. At this time, however, the need for a work bridge is not anticipated.
- Efforts would be taken to minimize debris from demolition of the existing bridge and piers from entering Post Creek. If portions of the existing bridge are dropped or fall into Post Creek during construction they would be lifted and removed and not dragged from the channel to the bank, thus preventing further impact to the streambed (Herrera 2005a).

Other conservation measures included in the project design: The preliminary construction plans for this project incorporate numerous measures to minimize impacts on streams in the project corridor, including Post Creek. For example, all of the proposed wildlife crossing structures would also provide benefits to aquatic species by spanning a greater portion of the floodplain and allowing areas to be restored by improving hydrologic connections and enhancing vegetative cover on stream banks and in riparian wetlands. In addition, proposed roadway alignments for all alternatives remain generally within the existing alignment, so as to minimize new impacts on streams (Herrera 2005a).

The following additional measures have been incorporated into the preliminary construction plans and specifications to minimize project effects on fisheries resources.

- The proposed project would reduce effects on fisheries resources by steepening fill slopes to 4:1 (the Department typically requires 6:1 slopes). This would be incorporated into all rural alternatives. Fill slopes for the approaches to bridge structures have also been steepened to 2:1 because these slopes would already contain protective approach guardrails necessary to provide a transition to the barrier rail on the bridges. These steeper slopes reduce the width of the roadway footprint and consequently reduce impacts to floodplains, wetlands, and wildlife refuge and wildlife management lands.
- Stormwater treatment measures would be designed to reduce suspended solids from stormwater.
- The amount of fill placement in floodplains would be minimized.
- Preservation fencing would be installed to protect vegetation at riparian areas (Herrera 2005a).

Other wildlife conservation measures included in the project design: Few data are available regarding the use of crossing structures for wildlife. The proposed crossing structures were sited and selected based on the best available data on functional structures at highway locations throughout North America. Therefore, no specific dimensions are proposed for most of the crossing structures at this time. Instead, general sizes and characteristics have been provided in the preliminary preferred alternative (Herrera 2005a).

Another key factor in use of structures by carnivores is proximity to human activity. Because significant portions of the project corridor are protected lands, and the Service, Montana Fish, Wildlife and Parks (MFWP), and CSKT are pursuing ongoing efforts to preserve lands through purchase or easement, no additional measures aimed at land preservation are proposed (Herrera 2005a).

Post-construction monitoring is being implemented for the US 93 Evaro to Polson reconstruction project at wildlife crossings. The information gathered from this monitoring effort may be applicable to wildlife crossings associated with this project (Herrera 2005a).

During construction, the following conservation measures would be implemented to minimize project effects on grizzly bears:

- Educate contractors and construction crews regarding the need for proper sanitation in grizzly bear habitat, and instruct workers to report all grizzly bear sightings immediately to Tribal wildlife program biologists.
- Ensure that contractors and construction crews store all food and garbage in bear-proof containers and remove all garbage daily from temporary offices and sleeping quarters.
- In the vicinity of Post Creek, locate construction staging areas, field offices, and sleeping quarters according to the following restrictions:
 - On the west side of the corridor, locate these facilities south of Dublin Gulch Road / Red Horn Road or north of RP 38.2 (approximately West Post Creek Road / East Post Creek Road).
 - On the east side of the corridor, locate these facilities south of Dublin Gulch Road / Red Horn Road (Herrera 2005a).

Urban segment: The urban portion of the preliminary preferred alternative would entail reconstruction of some existing roadway through Ronan, including construction of curb, gutter, and sidewalks on both sides of the roadway. Reconstruction at all major intersections throughout Ronan would include channelization to provide left-turn lanes and, in some cases, right-turn lanes. The project would also construct a separated 3-meter wide pedestrian / bicycle path from Ronan City Park to Baptiste Road / Spring Creek Road. This path would connect with a pathway extending north to Polson, which is currently being designed and constructed as part of the US 93 - Evaro to Polson project (Herrera 2005a).

The urban portion of this project would be a couplet, with a two-lane, one-way northbound roadway on existing US 93, and a two-lane, one-way southbound roadway on First Avenue SW with a wider neighborhood buffer. Transition sections of four-lane roadway with turning lanes would be necessary south of the couplet where the roadway would connect to the rural lane configuration and north of the couplet to a four-lane divided section between Old Highway 93 and the Baptiste Road / Spring Creek Road intersection (Herrera 2005a).

The northbound leg of the couplet would be on the existing US 93 alignment, with two 3.6-meter travel lanes, a 3-meter parking lane on the west side of the road, and a 1.5-meter bicycle lane on the east side of the road. Curbs and gutters, 3-meter planting areas, and 1.8-meter sidewalks

would be provided on both sides of the roadway, for a typical right-of-way width of approximately 23.6 meters (Herrera 2005a).

The southbound leg of the couplet would include two 3.6-meter travel lanes, a 3-meter parking lane on the east side of the road, a 1.5-meter bicycle lane on the west side of the road, and curbs and gutters. In addition, the southbound couplet roadway section would have 1.8-meter sidewalks, a 3-meter planting area, and 3.6-meter buffer on the east side of the road. The typical right-of-way width for the southbound leg of the Ronan couplet would be 27 meters (Herrera 2005a).

Ronan Spring Creek would be removed from its present culvert to flow in an open channel between US 93 and First Avenue SW (Herrera 2005a).

III. Status of the critical habitat

On September 26, 2005, the final rule for bull trout critical habitat was published for the Klamath River, Columbia River, Jarbidge River, Coastal Puget Sound, and Saint Mary-Belly River populations of bull trout (USFWS 2005). This final designation encompasses approximately 6,161 km of streams, 57,958 hectares of lakes in Idaho, Montana, Oregon, and Washington, and 1,585 km of shoreline paralleling marine habitat in Washington. The lateral extent for rivers and streams is defined by the ordinary high water line or the bankfull elevation. The lateral extent of designated lakes is defined by the perimeter of the water body mapped on 1:24,000 scale topographic maps.

All areas designated as critical habitat for bull trout are within the species' historic geographic range and contain enough of the primary constituent elements (PCEs) identified as essential to its conservation in the area designated to enable the bull trout to carry out normal behavior. Much of what is known about the specific physical and biological requirements of bull trout are described in the proposed designation of critical habitat rule (USFWS 2002a). PCEs include, but are not limited to: space for individual and population growth, and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing (or development) of offspring; and habitats that are protected from disturbance (USFWS 2004b). Based on our current knowledge of the life history, biology, and ecology of the species and the requirements of the habitat to sustain the essential life history functions of the species, we have determined that the bull trout's PCEs are:

1. Water temperatures that support bull trout use. Bull trout have been documented in streams with temperatures from 32 to 72 °F (0 to 22 °C) but are found more frequently in temperatures ranging from 36 to 59 °F (2 to 15 °C). These temperature ranges may vary depending on bull trout life history stage and form, geography, elevation, diurnal and seasonal variation, shade, such as that provided by riparian habitat, and local groundwater influence. Stream reaches with temperatures that preclude any bull trout use are specifically excluded from designation;

2. Complex stream channels with features such as woody debris, side channels, pools, and undercut banks to provide a variety of depths, velocities, and instream structures;
3. Substrates of sufficient amount, size, and composition to ensure success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival. This should include a minimal amount of fine substrate less than 0.25 inch (0.63 centimeter) in diameter.
4. A natural hydrograph, including peak, high, low, and base flows within historic ranges or, if regulated, currently operate under a biological opinion that addresses bull trout, or a hydrograph that demonstrates the ability to support bull trout populations by minimizing daily and day-to-day fluctuations and minimizing departures from the natural cycle of flow levels corresponding with seasonal variation;
5. Springs, seeps, groundwater sources, and subsurface water to contribute to water quality and quantity as a cold water source;
6. Migratory corridors with minimal physical, biological, or water quality impediments between spawning, rearing, overwintering, and foraging habitats, including intermittent or seasonal barriers induced by high water temperatures or low flows;
7. An abundant food base including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish; and
8. Permanent water of sufficient quantity and quality such that normal reproduction, growth, and survival are not inhibited (USFWS 2005).

This designation protects PCEs necessary to support the life history functions which were the basis for the designation. Because not all life history functions require all the PCEs, not all habitat will contain all the PCEs (USFWS 2005).

The Ninepipe / Ronan portion of the U.S. Highway 93 reconstruction effort crosses designated bull trout critical habitat at Post Creek within the Clark Fork River basin bull trout critical habitat unit. Project related effects to critical habitat at this creek crossing are addressed in this biological opinion.

Effects of previous projects

No new threats have been identified through section 7 consultation across the Columbia River bull trout population. Effects of projects that have been analyzed through section 7 consultation as reported in a biological opinion are summarized in this section. These effects are an important component of objectively characterizing the current status of the species and its habitat. To assess the effects of these actions on bull trout we reviewed all of the biological opinions received by the Service's Region 1 and Region 6 offices, from the time of listing until August 2003; this summed to 137 biological opinions (USFWS 2003). Of these, 124 biological opinions

(91 percent) applied to activities affecting bull trout in the Columbia River population, 12 biological opinions (9 percent) applied to activities affecting bull trout in the Coastal-Puget Sound population, 7 biological opinions (5 percent) applied to activities affecting bull trout in the Klamath River population, and 1 biological opinion (<1 percent) applied to activities affecting the Jarbidge and St. Mary Belly populations. (Note: these percentages do not add up to 100 because several biological opinions applied to more than one population). The geographic scale of these consultations varied from individual actions (e.g., construction of a bridge or pipeline) within one basin to multiple-project actions occurring across several basins.

This analysis showed that we consulted on a wide array of actions which had varying levels of effects. No actions that have undergone consultation were found to appreciably reduce the likelihood of survival and recovery of the bull trout. Furthermore no actions that have undergone consultation were anticipated to result in the loss of any subpopulations (USFWS 2003).

Since August 2003, Region 6 of the Service has issued an additional 23 biological opinions relative to bull trout under section 7 for the Montana portion of the Clark Fork management unit. After review of these opinions, the Service determined that actions that had undergone consultation were not anticipated to result in the loss of any core area or subpopulation of bull trout. Nineteen of the 23 biological opinions resulted in short-term adverse effects with long-term benefits. To date, in Regions 1 and 6 of the Service, no actions that have undergone section 7 consultation for adverse effects to bull trout have resulted in a jeopardy finding (i.e., an appreciable reduction in the likelihood of both the survival and recovery of bull trout). Similarly, none have resulted in a destruction or adverse modification finding for designated bull trout critical habitat. Taken in sum, the impact of all these actions adversely affected a small portion of the overall range of the species in the Clark Fork management unit.

Analysis of the critical habitat likely to be affected

Critical habitat was designated for bull trout under the Act in September 2005 and was divided into 29 Critical Habitat Units. The segment of critical habitat likely to be affected by the proposed action is located in Unit 2, the Clark Fork River basin (USFWS 2005). Within this project's action area, Post Creek was included in the final rule designating bull trout critical habitat. Post Creek from its confluence with Mission Creek upstream 26.1 km to a manmade barrier at McDonald Lake, is occupied, at a minimum, by migratory bull trout from the lake, and provides foraging, migratory, and overwintering habitat necessary for the recovered distribution of bull trout, including maintaining populations and the migratory life history form essential to the conservation of bull trout. Post Creek also provides occupied spawning and rearing habitat for approximately 3.2 km above the lake to a natural barrier (USFWS 2002a). The proposed action would result in adverse effects to bull trout critical habitat in Post Creek (Herrera 2005b).

IV. Environmental baseline

Regulations implementing the Act, as amended (16 U.S.C. 1531 et seq.) (50 CFR 402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are

the anticipated impacts of all proposed Federal projects in the action area which have already undergone section 7 consultation, and the impacts of State and private actions in the action area which are contemporaneous with the consultation in progress. Such actions include, but are not limited to, previous timber harvest, road construction, residential development and other land management activities.

Action area, as defined by the Act, includes the entire area that would be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. For the purposes of bull trout critical habitat and this biological opinion, the action area is defined as the U.S. Highway 93 corridor as it crosses Post Creek, and the habitat 60 meters upstream and 0.8 km downstream of this corridor crossing.

Please refer to the Service's August 29, 2005 biological opinion issued relative to the effects to bull trout from implementation of the US 93 Ninepipe / Ronan highway reconstruction project for a discussion of the status of bull trout within the action area, as well as factors affecting bull trout and bull trout habitat within the action area (Appendix A; pages 43-49).

Table 1 displays the results of the "Matrix of Diagnostics / Pathways and Indicators" (matrix), the objective of which is to integrate the biological and habitat conditions to arrive at a determination of the potential effect of land management activities on a listed species. There are three levels of condition for each indicator: "functioning appropriately;" "functioning at risk;" and "functioning at unacceptable risk." These three categories of function are defined for each indicator in the matrix. In concept, indicators in a watershed are "functioning appropriately" when they maintain strong and significant populations that are interconnected and promote recovery of a listed species or its critical habitat to a status that will provide self-sustaining and self-regulating populations. When the indicators are "functioning at risk," they provide for persistence of the species but in more isolated populations and may not promote recovery of a listed species or its critical habitat without active or passive restoration efforts. "Functioning at unacceptable risk" suggests the listed species continues to be absent from historical habitat, or is rare or being maintained at a low population level, although the habitat may maintain the species at this low persistence level, active restoration is needed to begin recovery of the species.

Table 1 provides a summary of baseline conditions for bull trout in the Post Creek drainage near the project corridor, as well as anticipated effects of the project on bull trout and bull trout habitat. Overall, considering both subpopulation status and habitat conditions, bull trout in this reach of Post Creek are functioning at unacceptable risk.

Action agencies authorizing activities within lands occupied by bull trout are mandated by the Act to consider the environmental baseline in the action area and effects to bull trout that would likely occur as a result of management actions. To that end, agency biologists use the four biological indicators and the 19 physical habitat indicators in the matrix for bull trout to assess the environmental baseline conditions and determine the likelihood of take per interagency guidance and agreement on section 7 consultation on the effects of actions to bull trout (USFWS 1998a, 1998b). The majority of the matrix analysis consists of specific consideration of the 19 habitat indicators. Analysis of the matrix habitat indicators relative to project effects provides a

very thorough assessment of the existing habitat conditions and potential impacts to bull trout habitat.

Table 1. Summary of baseline conditions for bull trout, Post Creek drainage and anticipated effects of the action on baseline conditions (Herrera 2005b).

Indicators	Baseline Condition FA, FAR, FUR ^a	Comments	Effects of the Action (Construction / Post-construction)	Comments
Subpopulation Characteristics				
Subpopulation Size	FUR	It is unknown if bull trout occupying this reach of Post Creek are part of a functional, self sustaining population. They may be individuals from the McDonald Lake subpopulation, strays from a different drainage or subpopulation (Jocko). It is assumed that fewer than 50 individuals use the stream. It is doubtful that all life stages of bull trout are present in Post Creek below McDonald Lake.	Maintain/Maintain	Implementation of the proposed project is not expected to affect the subpopulation size in Post Creek.
Growth & Survival	FUR	Fish residing in this reach of Post Creek can not be determined to be part of a functional self-sustaining population. It is reasonable to assume that the subpopulation condition will not improve in two generations. If active restoration of passage barriers and entrainment issues higher in the system are addressed, recovery of the subpopulation may be feasible.	Maintain/Maintain	With implementation of BMPs and construction windows, the proposed project will not measurably affect bull trout growth and survival, recruitment or the recovery rate of the Post Creek subpopulation.
Life History Diversity & Isolation	FAR	The migratory form of this subpopulation may be present based on the assumption that individuals migrate from the McDonald Lake population. The nearest subpopulations exist in Mission Creek (above Tabor Dam) and the Jocko River drainage. It is possible for genetic exchange with Jocko River subpopulation to occur.	Maintain/Maintain	The proposed project will not affect bull trout life history diversity or bull trout population isolation.
Persistence & Genetic Integrity	FUR	The subpopulation exists in low numbers and hybridization is well documented in the drainage. Little connectivity within the drainage remains.	Maintain/Maintain	The proposed project will not affect connectivity between bull trout populations.
Water Quality				
Temperature	FAR	The stream is intermittently shaded throughout the reach and upstream of the reach, depending on land use. Water temperature data collected by CSKT since 1982 approximately 2.4 kilometers (1.5 miles) upstream of the US 93 crossing shows summer water temperature periodically exceed 15°C (59°F) in late summer (CSKT 2000a). Upstream of the project corridor Post Creek was determined to be partially supporting designated beneficial aquatic life uses for water temperature. Causes of degradation were depletion from irrigation withdrawals and riparian canopy modifications (CSKT 2000a).	Maintain/Maintain	The proposed project will not measurably affect water temperatures in Post Creek. Minor losses of streamside vegetation may occur during construction of the bridge over Post Creek, but revegetation of disturbed areas is included in project coordination measures.

Indicators	Baseline Condition FA, FAR, FUR ^a	Comments	Effects of the Action (Construction / Post-construction)	Comments
Water Quality (continued)				
Sediment	FAR	Approximately 305 meters (1,000 feet) upstream of the US 93 crossing, substrate was measured to have 25% of particles less than 6 mm (0.24 inches) and 5% less than 1 mm (0.04 inches). Wolman Pebble Count data showed 11% surface fines less than 6 mm (0.24 inches). Upstream of the project corridor Post Creek was determined to be partially supporting designated beneficial aquatic life uses for siltation. Causes were agricultural runoff, bankside sources and roads.	Degrade/Maintain- Improve	Structure removal, fill removal and construction of a new structure and roadway over Post Creek will likely result in the delivery of sediment to the stream even with BMPs and sediment control measures in place. No spawning habitat for bull trout exists in this reach. Tributaries draining to Post Creek in the project area would be recreated and sediment sources would be stabilized.
Chemical Contamination/Nutrients	FAR	Agricultural and stormwater runoff enter Post Creek and its tributaries along the length of the stream. The CSKT Nonpoint Source Assessment indicates this segment of Post Creek is partially supporting designated beneficial aquatic life uses as related to the pollutant stressor nutrients (CSKT 2000b). Causes were agricultural runoff and stormwater runoff.	Maintain/Maintain	Due to the extent of construction activities planned it is likely that pollutants could enter Post Creek; however, levels will be minimal with the implementation of BMPs and spill control plans. With implementation of stormwater treatment facilities, the level of contaminants in runoff from the road surface would be slightly reduced.
Habitat Access				
Physical Barriers	FUR	Upstream of the project corridor there are three irrigation facilities which act as partial or total fish movement barriers. These are the Kicking Horse Feeder Canal headworks and diversion structure, the Pablo Feeder canal headworks and diversion structure, and McDonald Dam. There are no known physical downstream barriers which would impede fish movement to the Flathead River.	Maintain/Maintain	Implementation of the proposed project will not create any permanent barriers to upstream and downstream fish passage. Temporary barriers to fish movement may be created if dewatering of the stream is required during construction.

Indicators	Baseline Condition FA, FAR, FUR ^a	Comments	Effects of the Action (Construction / Post-construction)	Comments
Habitat Elements				
Substrate Embeddedness	FAR	Wolman Pebble Count data showed 11% surface fines less than 6 mm (0.24 inches) (CSKT 2000a). Information collected in the field for this assessment at cross sections directly above and below the US 93 crossing found substrate embeddedness up to 25%.	Degrade/Improve	Structure removal, fill removal and construction of a new structure and roadway over Post Creek will likely result in the delivery of sediment to the stream even with BMPs and sediment control measures in place. If excess amounts of sediment reach the channel, increased substrate embeddedness may occur. However, this reach is not rearing habitat for bull trout. With an increase in hydraulic capacity and removal of instream piers, this indicator may improve after construction.
Large Woody Debris	FUR	Within the project corridor [approximately 60 meters (200 feet) up and downstream of the US 93 crossing], only 2 pieces of large wood were observed under the US 93 bridge. Recruitment potential is low upstream of the project reach, with the majority of streamside vegetation being herbaceous. Observations from other reaches of Post Creek also indicated low recruitment and reduced in stream wood accumulations.	Maintain/Improve	Existing streambank vegetation will be preserved to the extent possible. Important vegetation will be marked to ensure protection. This area would receive additional plantings after construction is complete.
Pool Frequency & Quality	FUR	Pool occurrence was observed in the project reach. Three pools were observed in the 30 meters (100 feet) of stream observed. The largest pool was associated with the bridge where the channel deepened and a few large pieces of wood had accumulated. Within the project reach two lateral scour pools with good riparian shrub cover were present. Pool frequency observed in upstream reaches equated to approximately 8 pools/km (14 pools/mile) of stream (CSKT 2000b). Pool quality was variable.	Maintain/Maintain	Implementation of the proposed project will not affect pool frequency or quality.
Large Pools	FAR	There are infrequent large pools observed in this reach. The largest was associated with the crossing structure due to deepened flows and wood accumulation.	Maintain/Maintain	Implementation of the proposed project will not affect large pools.

Indicators	Baseline Condition FA, FAR, FUR ^a	Comments	Effects of the Action (Construction / Post-construction)	Comments
Habitat Elements (continued)				
Off-Channel Habitat	FAR	There are numerous springs located in the floodplain of Post Creek along the project reach. Two spring fed streams and a large stream with associated springs enter Post Creek directly up and downstream of the bridge. Typically, these areas would offer ideal off-channel habitat for rearing and inflows of cooler temperature waters, however, all three streams are heavily degraded with heavy siltation and are probably not used at any stage by bull trout migrating through the reach.	Maintain/Maintain	Implementation of the proposed project will affect three small tributary streams to Post Creek, however, none of these streams function as off-channel habitat for bull trout. It is possible that if these streams are relocated they could be restored to provide off-channel habitat.
Refugia	FUR	Post Creek above the dam and the headwater forks of the Jocko River are both refugia areas in moderately close proximity for Post Creek bull trout. Neither location is presently accessible, due to McDonald Dam and the Upper S Canal diversion. It is possible for passage at these structures to be restored in the future.	Maintain/Maintain	Implementation of the proposed project will not affect bull trout refugia.
Channel Condition and Dynamics				
Wetted Width / Max Depth Ratio	FA	The average wetted width of Post Creek within the project reach was 10 meters (30 feet). Maximum depth measured was 1.5 meters (5 feet) (under the US 93 bridge). The ratio of these two values is 6. Streams with w/d ratios of 10 or less are considered FA. Maximum depths were only 1 meter (3 feet) at cross sections up and downstream of the bridge, with stream widths at 10 meters (30 feet). The ratio of these values is 10. Post Creek is not over widened in the project reach.	Maintain/Improve	Reconstruction of the Post Creek bridge will allow restoration of the channel under the bridge to a more natural w/d ratio.
Streambank Condition	FAR	No quantitative assessment of streambanks in the project reach, and up and downstream of the project corridor were done, but field observations were recorded. It is estimated that between 50 and 80% of the reaches are 90% or more stable. Within the project reach the streambanks are well vegetated with herbaceous wetland plants and some shrubs. Weedy species are also prevalent.	Degrade/Maintain	Structure removal and stream restoration under the existing structure may cause a temporary degradation in this indicator. Existing streambank vegetation will be preserved to the extent possible. Bank stabilization of the area under the bridge and revegetation of disturbed banks with native shrubs will lead to a long-term improvement of this indicator.
Floodplain Connectivity	FAR	Floodplain connectivity has been slightly reduced through the project reach from the highway construction and berm and fill placement.	Maintain/Improve	Removal of fill from the existing Post Creek floodplain will restore floodplain connectivity.

Indicators	Baseline Condition FA, FAR, FUR ^a	Comments	Effects of the Action (Construction / Post-construction)	Comments
Flow Hydrology				
Change in Peak/Base Flows	FAR	Peak flows in the watershed are controlled by releases from the McDonald Dam. Base flows in the project corridor and in Post Creek are depleted from irrigation withdrawals. There are also a number of small streamflow additions from irrigation return flows, however much of this occurs below the project corridor.	Maintain/Maintain	Implementation of the proposed project will not result in changes to peak/base flows.
Drainage Network Increase	FUR	There have been both increases and decreases in the drainage network in the watershed. These are attributed to human-caused disturbance from creating a canal network. Canals have truncated and eliminated several segments of the smaller tributaries in Post Creek, decreasing the drainage network. Irrigation canals and irrigation return flow are directly interconnected with Post Creek and increase the overall drainage network. In the project reach, three streams enter Post Creek. All of these are intercepted by irrigation canals somewhere along their length before entering Post Creek. These streams have also been routed into roadside drainage ditches, increasing the drainage network.	Maintain/Maintain	Implementation of the proposed project will not result in increases in the drainage network.
Watershed Conditions				
Road Density & Locations	FUR	Road density is approximately 1.2 km/square km (2 mi/square mile) in roaded parts of the Post Creek drainage. US 93 crosses Post Creek in the project reach.	Degrade/Degrade	Road density will increase because of the proposed project. In addition, road widths along Post Creek may widen.
Disturbance History	FAR	Most of the valley floor of Post Creek has been converted from a native grassland and prairie to irrigated agriculture and rangeland. These and other uses have had a significant disturbance impact in the watershed.	Maintain/Maintain	Implementation of the proposed project will maintain the pattern of disturbance history in the project area.
Riparian Conservation Area	FAR	Based on 1998 aerial photo observations done by the CSKT, large segments of the riparian community maintain desired riparian functions. Within the project corridor, riparian wetland is intact and maintains necessary functions. LWD recruitment has been reduced, and areas adjacent to the stream have been disturbed and revegetated with less desirable species.	Maintain/Maintain	The proposed project will not affect riparian conservation areas. Existing streambank vegetation along Post Creek will be preserved to the extent possible. Additionally, relocated streams and streambanks will be revegetated with native shrubs.

Indicators	Baseline Condition FA, FAR, FUR ^a	Comments	Effects of the Action (Construction / Post-construction)	Comments
Watershed Conditions (continued)				
Disturbance Regime	FAR	Environmental disturbance within the watershed is generally predictable and the habitat recovery potential is high. Due to current land use impacts, natural processes are in disequilibrium and may not be stable. Although altered, the stream in the project corridor is still able to absorb environmental disturbances due to a large floodplain.	Maintain/Maintain	Implementation of the proposed project will not alter the current disturbance regime in the project area.
Integration of Species & Habitat Condition	FAR	The subpopulation size is small, and habitat is degraded and fragmented. With no active restoration, the population will most likely not become stable within one generation (5 years), but the conditions have the potential to improve in the future if connectivity is restored.	Maintain/Maintain	The proposed project will not affect this indicator

mm = millimeters

km = kilometer

mi = mile

^a FA refers to indicators functioning appropriately, FAR refers to indicators functioning at risk, and FUR refers to indicators functioning at unacceptable risk.

While assessing the environmental baseline and potential effects to bull trout as a species, agency biologists concurrently provide a companion analysis of effects to the PCEs for designated critical habitat and related habitat indicators (Appendix B). Based on the matrix crosswalk, at least one habitat indicator in each of the eight PCEs is rated as “functioning at risk” or “functioning at unacceptable risk.” Therefore, in summary, based on the site specific environmental baseline of bull trout habitat conditions provided in the biological assessment for this project, linkage to the PCEs considering those habitat indicators described in Appendix B, and other factors as necessary, all PCEs in Post Creek within the project corridor are functioning in less than optimal condition.

V. Effects of the action

"Effects of the action" refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action that would be added to the environmental baseline. Direct effects are considered immediate effects of the project on the species or its habitat. Indirect effects are those caused by the proposed action and are later in time, but are still reasonably certain to occur. Interrelated actions are those that are part of a larger action and depend upon the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consultation.

Effects of the action on critical habitat

Please refer to the Service’s August 29, 2005 biological opinion issued relative to the effects to bull trout from implementation of the US 93 Ninepipe / Ronan highway reconstruction project for a discussion of general and project specific effects to bull trout from transportation projects (Appendix A; pages 53-56).

In the BA for this project, the population and habitat indicators from the bull trout matrix in Table 1 were used as the basis for determining effects to bull trout and critical habitat as a result of the proposed action. PCE analysis is based on the linkage between the PCEs and the matrix (Appendix B) and any other factors pertinent to the project analysis.

Analysis for the proposed US 93 Ninepipe/Ronan highway improvement project found that activities associated with this project were likely to result in short-term impacts to the habitat indicators *sediment*, *substrate embeddedness*, and *streambank conditions* but would ultimately maintain or improve these indicators in the long-term. These impacts are anticipated to result in a minor short-term degradation and a long-term restoration of the *sediment* and *substrate embeddedness* indicator and subsequent PCE 3. These impacts are also anticipated to result in a minor short-term degradation and a long-term restoration of the *streambank conditions* at least within the immediate project area (subsequent PCEs 1 and 2). Effects on subsequent PCE 1 would likely remain unchanged while effects on subsequent PCE 2 would likely improve because fill material would be removed from the floodplain at the bridge crossing. The project would also result in long-term degradation of habitat indicator *road density and location*. However, there are no subsequent PCEs for this indicator. The determination resulting from

these analyses is that the impacts associated with the proposed action are not discountable, insignificant, or entirely beneficial. As such, the proposed US 93 Ninepipe/Ronan improvement project is likely to adversely affect proposed critical habitat for bull trout in Post Creek.

Critical habitat response to the proposed action

Construction related increases in sedimentation near the project site are anticipated to adversely affect and degrade habitat parameters including food supply, migratory corridors and overwintering habitat in the short-term. Therefore, PCE 3 is expected to be adversely affected in the short-term. However, because the proposed bridge to be constructed over Post Creek would be much longer than the existing bridge, with no piers located within the stream channel, and with fill material being removed from the creek's floodplain, long-term habitat improvements are expected with respect to sediment, substrate embeddedness and streambank condition. Thus, long-term improvements are expected to critical habitat PCEs 2 and 3 as a result of implementation of this project.

VI. Cumulative effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they will require separate consultation pursuant to section 7 of the Act. On the State, private, and Tribal lands within the U.S. Highway 93 corridor, existing types of activities will likely continue.

Current population growth and development patterns in the project area render it likely that future residential and commercial development would occur within this improved transportation corridor (e.g., a new, privately developed motel and restaurant are planned in Ronan). It is expected that future development would not directly impact bull trout critical habitat, although wetlands and riparian areas may be affected. Indirect effects on bull trout could result from runoff generated by new impervious surface areas that is not adequately detained and treated prior to discharge. The completion of a programmatic assessment of the Flathead Agency Irrigation District, which operates numerous reservoirs, stream diversions, and irrigation canals throughout the Flathead Indian Reservation, would likely benefit bull trout in the long-term by changing irrigation maintenance and coordination practices to reduce fisheries impacts. Recognizing the high probability of highway-induced growth and development, the US 93 Evaro to Polson project (of which this Ninepipe / Ronan project is a part) includes guidelines for the development of a corridor land use plan. Ultimately, controlling land use and development in the corridor would limit potential threats to listed species using this area (Herrera 2005a).

In addition to a number of State and Federal road projects soon to occur in the area, several Tribal road projects are also being proposed throughout the project vicinity. Residential development is expected to continue with several subdivisions being planned in this area (Herrera 2005a).

Many of these projects may contribute to cumulative downstream sedimentation in project area streams during construction. The proposed action along the US 93 Evaro to Polson corridor would rectify some impacts on streams from other actions by replacing or adding culverts where they are currently undersized or lacking, by replacing some culverts with bridges or larger culverts to improve hydrologic connectivity in the system, and by restoring streams in the highway right-of-way. With implementation of the improved structures, the cumulative effect of these projects on fisheries resources, including bull trout critical habitat, may be reduced (Herrera 2005a).

The CSKT Kerr Dam Fish and Wildlife Mitigation settlement with PPL Montana is a mitigation plan and monetary settlement aimed at mitigating the impacts of Kerr Dam during the period from 1985 to 2035. The settlement includes acquisition of approximately 1,375 hectares of wildlife habitat, much of it surrounding the Ninepipe National Wildlife Refuge and Kicking Horse Reservoir. These lands would then be restored and enhanced for wildlife production. A key component of the mitigation work would be to acquire habitats that are adjacent to or complement those owned by MFWP and the USFWS. The greatest benefit from this habitat protection project for bull trout would occur if lands in the Post Creek riparian corridor were preserved (Herrera 2005a).

VII. Conclusion

Adverse modification analysis for designated bull trout critical habitat

After reviewing the current status of the Lower Flathead River core area of bull trout and its relationship to the Upper Columbia River bull trout population, the status of bull trout critical habitat in Post Creek within the Clark Fork River basin bull trout critical habitat unit, the environmental baseline for the action area, the effects of the proposed action and cumulative effects, it is the Service's biological opinion that the actions, as proposed, are not likely to destroy or adversely modify designated bull trout critical habitat. The Service defines destruction or adverse modification as "a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical." However, recent decisions by the 5th and 9th Circuit Court of Appeals have invalidated this definition. Pursuant to current national policy and the statutory provisions of the Act, destruction or adverse modification is determined on the basis of whether, with implementation of the proposed action, the affected critical habitat would remain functional (or retain the current ability for the primary constituent elements to be functionally established) to serve the intended conservation role for the species.

Given the design for the new bridge over Post Creek, which would remove instream piers and increase the hydraulic capacity of the structure, along with the construction techniques and conservation measures that would be utilized during project implementation (i.e., best management practices and sediment control measures), adverse effects to PCE 3 in Post Creek would be short-term. Therefore, PCE 3 is likely to retain its ability to be functionally

established. Overall, even though some short-term construction-related impacts are anticipated, the proposed action would maintain or improve the long-term condition of bull trout critical habitat in Post Creek within the project area in the Clark Fork River basin bull trout critical habitat unit.

Although PCE 3 is currently not in optimal condition in Post Creek, it is functioning and would remain functional in the long-term after implementation of this proposed project. This stretch of Post Creek is not considered spawning or rearing habitat for bull trout. This project would not change the functioning status of PCEs in Post Creek, nor in the Clark Fork River basin bull trout critical habitat unit. Therefore, no destruction or adverse modification of bull trout critical habitat would occur as a result of the implementation of this proposed action.

INCIDENTAL TAKE STATEMENT

An incidental take statement for federally-listed species was provided for this project along with the Service's previous biological opinion issued on August 29, 2005 (Appendix A; pages 63-68). That statement determined that the level of adverse effects to bull trout associated with implementation of the US 93 Ninepipe / Ronan project was not anticipated to rise to the level of incidental take. In addition, because the incidental take provisions of the Act (sections 7(b)(4) and 7(o)(2)) do not apply to designated critical habitat, no take of bull trout or designated bull trout critical habitat is expected, or exempted, for this project.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. To assist in meeting the Administration's responsibilities under Section 7(a)(1) of the Act, and to utilize authorities granted within the recent transportation funding laws, the Service strongly recommends that the Administration and the Department work proactively with the Service, MFWP, CSKT, and others to identify and remedy impacts to salmonid habitat, including bull trout critical habitat, within the lower Clark Fork River recovery subunit that are the result of transportation systems. Within this area, many rivers were channelized during road and railroad construction, resulting in shortening of stream channels, increased erosion, higher water velocities, and loss of fish habitat. In addition, there is a risk of future toxic spills occurring and materials entering these rivers. Nearly 184 miles of 14 streams are reported to suffer water quality impairment within this area because of highway, road, and bridge development.
2. The Service recommends the Administration and the Department explore potential opportunities to utilize their expertise and authorities to promote innovative and non-traditional fisheries enhancement projects within the lower Flathead River system by

partnering in some manner with other agencies or groups to share knowledge and resources to restore or enhance fisheries habitat within the lower Flathead watershed that has been degraded by activities other than those related to transportation. The draft Bull Trout Recovery Plan recommends many recovery tasks that need to be accomplished to protect, restore, and maintain suitable habitat conditions for bull trout in this area. These tasks pertain to transportation and non-transportation related impacts to bull trout habitat (USFWS 2002b).

3. The Service urges and recommends that the Administration and the Department continue and expand their efforts to fund applicable and needed wildlife and fisheries research in Montana that is directed toward better understanding how transportation systems affect these resources, particularly listed species, and how to plan, design, and construct highway systems to minimize their effects on fish and wildlife.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the actions outlined in the request. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (3) a new species is listed or critical habitat designated that may be affected by the action.

June 27, 2006

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Appendix

PCEs for bull trout critical habitat and associated matrix habitat indicators.

Crosswalk to support PCE analysis through the matrix of pathway indicators for bull trout

PCEs for bull trout critical habitat and associated matrix habitat indicators.

PCE #	PCE description	Associated matrix habitat indicators
1	Water temperatures that support bull trout use. Bull trout have been documented in streams with temperatures from 32 to 72 °F (0 to 22 °C), but are found more frequently in temperatures ranging from 36 to 59 °F (2 to 15 °C). These temperature ranges may vary depending on bull trout life history stage and form, geography, elevation, diurnal and seasonal variation, shade, such as that provided by riparian habitat, and local groundwater influence. Stream reaches with temperatures that preclude any bull trout use are specifically excluded from designation.	<ul style="list-style-type: none"> - Temperature - Refugia - Average wetted width/maximum depth ratio in scour pools in a reach - Streambank condition - Change in peak/base flows - Riparian conservation areas - Floodplain connectivity
2	Complex stream channels with features such as woody debris, side channels, pools, and undercut banks to provide a variety of depths, velocities, and instream structures.	<ul style="list-style-type: none"> - Large woody debris - Pool frequency and quality - Large pools - Off channel habitat - Refugia - Average wetted width/maximum depth ratio in scour pools in a reach - Streambank condition - Floodplain connectivity - Riparian conservation areas
3	Substrates of sufficient amount, size, and composition to ensure success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival. This should include a minimal amount of fine substrate less than 0.25 inch (6.3 millimeters) in diameter.	<ul style="list-style-type: none"> - Sediment - Substrate embeddedness - Large woody debris - Pool frequency and quality
4	A natural hydrograph, including peak, high, low, and base flows within historic ranges or, if regulated, currently operates under a biological opinion that addresses bull trout, or a hydrograph that demonstrates the ability to support bull trout populations by minimizing daily and day-to-day fluctuations and minimizing departures from the natural cycle of flow levels corresponding with seasonal variation.	<ul style="list-style-type: none"> - Change in peak/base flows - Increase in drainage network - Disturbance history - Disturbance regime
5	Springs, seeps, groundwater sources, and subsurface water to contribute to water quality and quantity as a cold water source.	<ul style="list-style-type: none"> - Floodplain connectivity - Change in peak/base flows - Increase in drainage network - Riparian conservation areas - Chemical contamination/nutrients
6	Migratory corridors with minimal physical, biological, or water quality impediments between spawning, rearing, overwintering, and foraging habitats, including intermittent or seasonal barriers induced by high water temperatures or low flows.	<ul style="list-style-type: none"> - Life history diversity and isolation - Persistence and genetic integrity - Temperature - Chemical contamination/nutrients - Physical barriers - Average wetted width/maximum depth ratio in scour pools in a reach - Change in peak/base flows - Refugia
7	An abundant food base including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish.	<ul style="list-style-type: none"> - Growth and survival - Life history diversity and isolation - Riparian conservation areas - Floodplain connectivity (importance of aquatic habitat condition-indirectly covered by previous 6 PCEs)
8	Permanent water of sufficient quantity and quality such that normal reproduction, growth, and survival are not inhibited.	<ul style="list-style-type: none"> - Sediment - Chemical contamination/nutrients - Change in peak/base flows

Crosswalk to Support Primary Constituent Element Analysis Through the Matrix of Pathway Indicators for Bull Trout

This matrix crosswalk provides information supporting the rationale that the PCEs for bull trout critical habitat are thoroughly addressed and evaluated when the bull trout matrix analysis is utilized. It recognizes that the environmental baseline and determination of effect for bull trout consist of both biological and habitat components that are addressed in the PCEs listed in the Final Rule designating critical habitat (USFWS 2005). Below are the eight PCEs and the supporting rationale:

PCE 1. Water temperatures that support bull trout use. Bull trout have been documented in streams with temperatures from 32 to 72 °F (0 to 22 °C) but are found more frequently in temperatures ranging from 36 to 59 °F (2 to 15 °C). These temperature ranges may vary depending on bull trout life history stage and form, geography, elevation, diurnal and seasonal variation, shade, such as that provided by riparian habitat, and local groundwater influence. Stream reaches with temperatures that preclude any bull trout use are specifically excluded from designation.

This PCE is addressed directly by the analysis of *temperature*. It is addressed indirectly through consideration of *refugia*, which by definition is high quality habitat of appropriate temperature. Important components of refugia include pool frequency and quality and large pools. *Average wetted width/maximum depth ratio in scour pools* is an indication of water volume, which indirectly indicates water temperature, (i.e., low ratios indicate deeper water, which in turn indicates possible refugia). This indicator, in conjunction with *change in peak/base flows*, is an indicator of potential temperature and refugia concerns, particularly during low flow periods. *Streambank condition, floodplain connectivity* and *riparian conservation areas* address the components of shade and groundwater influence, both of which are important factors of water temperature. Stable streambanks and intact riparian areas, which include part of the floodplain, typically support adequate vegetation to maintain thermal cover to streams during low flow periods.

PCE 2. Complex stream channels with features such as woody debris, side channels, pools, and undercut banks to provide a variety of depths, velocities, and instream structure.

The analysis of *large woody debris*, such as current values and sources available for recruitment, directly addresses this PCE. Large woody debris increases channel complexity and creates pools and undercut banks. *Pool frequency and quality* would also directly address this PCE, showing the number of pools per mile as well as the amount of cover and temperature of water in the pools. *Average wetted width/maximum depth ratio in scour pools in a reach* is an indicator of channel shape and pool quality. Low ratios suggest deeper, higher quality pools. *Large pools*, consisting of a wide range of water depths, velocities, substrates and cover, are typical of high quality habitat and are a key component of channel complexity (USFWS 1998b). An analysis of *off-channel habitat* would describe side-channels and other off-channel areas. *Streambank condition* would analyze the stability of the banks, including such features as undercut banks. The analysis of both *riparian conservation areas* and *floodplain connectivity* would directly address this PCE. Floodplain and riparian functions include the maintenance of habitat and

channel complexity, the recruitment of large woody debris and the connectivity to off-channel habitats or side channels (USFWS 1998b). Complex habitats provide refugia for bull trout and in turn, *refugia* analysis would assess complex stream channels. All of these habitat indicators consider the numerous characteristics of instream bull trout habitat and quantify critical components that are fundamental to creating and maintaining complex instream habitat over time.

PCE 3. Substrates of sufficient amount, size, and composition to ensure success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival. This should include a minimal amount of fine substrate less than 0.25 inch (6.3 millimeters) in diameter.

This PCE is addressed directly by analysis of *sediment* in areas of spawning and incubation and considers directly the size class composition of instream sediments, particularly fine sediments <6.3 mm. This PCE is also addressed directly by analysis of *substrate embeddedness* in rearing areas, which is a function of sediment size class and bedload transport. Both of these indicators would assess substrate composition and stability in relation to the various life stages of bull trout as well as sediment transportation and deposition. *Large woody debris* and *pool frequency and quality* affect sediment transport and redistribution within a stream and would indirectly affect substrate composition and amounts.

PCE 4. A natural hydrograph, including peak, high, low, and base flows within historic ranges or, if regulated, currently operates under a biological opinion that addresses bull trout, or a hydrograph that demonstrates the ability to support bull trout populations by minimizing daily and day-to-day fluctuations and minimizing departures from the natural cycle of flow levels corresponding with seasonal variation.

This PCE is addressed by analysis of *change in peak/base flows*, which considers changes in hydrograph amplitude or timing with respect to watershed size, geology, and geography. Considering *increase in drainage network* and *disturbance history* provides further information. Roads and vegetation management both have effects strongly linked to a stream's hydrograph. *Disturbance regime* ties this information together to consider how a watershed reacts to disturbance and the time required to recover back to pre-disturbance conditions.

PCE 5. Springs, seeps, groundwater sources, and subsurface water to contribute to water quality and quantity as a cold water source.

This PCE is addressed by analysis of *floodplain connectivity* and *riparian conservation areas*. *Floodplain connectivity* considers hydrologic linkage of off-channel areas with the main channel and overbank flow maintenance of wetland function and riparian vegetation and succession. Floodplain and riparian areas provide hydrologic connectivity for springs, seeps, groundwater upwelling and wetlands and contribute to the maintenance of the water table (USFWS 1998b). The analysis of *changes in peak/base flows* would address subsurface water connectivity. *Increase in drainage network* would address potential changes to groundwater sources and subsurface water connectivity. *Chemical contamination/nutrients* would address concerns regarding groundwater water quality.

PCE 6. Migratory corridors with minimal physical, biological, or water quality impediments between spawning, rearing, overwintering, and foraging habitats, including intermittent or seasonal barriers induced by high water temperatures or low flows.

The biological indicator *life history diversity and isolation* addresses the function of migration and/or subsequent isolation with respect to the population. The biological indicator *persistence and genetic integrity* indirectly reflects the status of migratory corridors. Physical, biological or chemical barriers to migration are addressed directly through water quality habitat indicators, including *temperature, chemical contamination/nutrients* and *physical barriers*. The analysis of these indicators would assess if barriers have been created due to impacts such as high temperatures, high concentrations of contaminants or physical barriers. Analysis of *change in peak/base flows* and *average wetted width/maximum depth ratio in scour pools in a reach* would assess whether changes in flow might create a seasonal barrier to migration. An analysis of *refugia*, which considers the habitat's ability to support strong, well distributed, and connected populations for all life stages and forms of bull trout, would also be pertinent to this PCE.

PCE 7. An abundant food base including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish.

An analysis of *floodplain connectivity* and *riparian conservation areas* would assess these contributions to the food base. Floodplain and riparian areas provide habitat to aquatic invertebrates, which in turn provides a forage base to bull trout (USFWS 1998a). This PCE is indirectly addressed through the biological indicator of *growth and survival* and *life history diversity and isolation*. Both of these indicators look at habitat quality and subpopulation condition, which provides information on food base. This PCE is a synthesis of the previous PCEs. It is addressed through the analysis of biological and habitat indicators in that, if a bull trout population either exists or could exist in a watershed, then there is an adequate forage base. A healthy habitat provides a forage base for the target species. Any potential impairment to the forage base has been addressed by way of summarizing the biological and habitat indicators.

PCE 8. Permanent water having low levels of contaminants such that normal reproduction, growth and survival are not inhibited.

Flow conditions, such as perennial or ephemeral would be analyzed through *changes in peak/base flows*, and addressed in consideration of current base flows. Changes in hydrograph amplitude or timing with respect to watershed size, geology, and geography would be considered. The level of contaminants is addressed directly by the analysis of *chemical contamination/nutrients* and *sediment*. Current listing under 303(d) status should be considered, as well as the causes for that listing. *Sediment* is considered a contaminant especially in spawning and rearing habitat and analysis would apply to this PCE.

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