PARK COUNTY

CAPITAL IMPROVEMENT PLAN

BRIDGES

Adopted April, 2012

Prepared By:

Park County Road and Bridge Department

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Table of Contents

PART I - BASIC POLICY

Park County has adopted a policy of replacing old and unsafe bridges with culverts when feasible. The culverts shall be sized to handle the minimum storm event designated by this bridge standard. The use of multiple culverts is discouraged due to debris collection and siltation problems. Culvert materials and installation shall meet the guidelines of this bridge standard.

Should replacement with a culvert not be feasible, a new bridge shall be constructed to meet current AASHTO and MDT standards as modified or amended by this bridge standard. All new bridge and culvert designs are subject to the approval of the Park County Road and Bridge Department.

Bridges requiring rehabilitation or replacement shall be prioritized annually by the County Commission, and Road and Bridge Department. Replacement of existing structures shall follow the order of the priority list with the exception of emergencies and special exemptions.

The County Commission reserves the right to have the ultimate authority over decisions made regarding this standard. To that end, variances may be granted in circumstances that warrant deviations from the requirements included herein.

BRIDGE DEMOLITION/REHABILITATION

Structures designated for demolition or rehabilitation shall follow the County Process for the Alteration, Demolition or Disposal of County Owned Properties. Per this document, a structure determined to have significant historic or cultural resource value(s) and/or is listed or eligible to be listed with the National Register of Historic Places requires the Historic Preservation Commission and SHPO to be contacted prior to beginning demolition/rehabilitation activities. It should be noted that SHPO's current position is that structures more than fifty years of age are considered historic and are potentially eligible for listing on the National Register of Historic Places. Once contacted, these agencies will make a recommendation to the County Commission regarding the proposed alteration/demolition of the structure.

PART II – DESIGN STANDARDS

GENERAL

Quality Control

All new bridges and large culverts must be designed and stamped by a professional engineer registered with the State of Montana. For the purpose of this standard, large culverts shall be defined as those having a diameter or span of 60 inches or greater.

Geotechnical

Where a comprehensive geotechnical investigation is deemed a requirement by the County Commission/Design Engineer, a reputable geotechnical engineering firm shall be retained to determine the engineering properties of the soils through the use of borings, test pits, sampling and other methods. The geotechnical report shall be stamped by a professional engineer registered with the State of Montana.

As-Constructed Plans

Upon completion of the structure the design engineer shall provide the County Bridge Department with one set of full size and one set of half size As-Constructed plans of the project for their records.

Permits

Necessary permits shall be obtained to construct the new structure unless otherwise directed by the County. The Guide to Stream Permitting in Montana shall be followed to determine which permits are required for various type of work. A 124 Permit (FWP), 318 Permit (DEQ), 404 Permit (Corps) and Local Flood plain will generally be required for all projects. Private projects will require a 310 Permit (Park Valley Conservation District) in place of the 124 Permit. An erosion and sediment control plan may be required by the Park Valley Conservation District as well.

HYDROLOGY

Hydrologic Method

A hydraulic analysis shall be performed on new structures (all bridges and only culverts as determined necessary by the County) draining an area greater than one acre. The following factors are to be evaluated and included in the analysis:

Size, shape, slope, land use, geology and soils of the drainage basin

Geometry and configuration of stream channel
Characteristics of the flood plain

Several methods are available to analyze the design storm runoff from a drainage basin. The following methods are recognized by Park County:

USGS Rural Regression Equations per Methods for Estimating Flood Frequency in Montana Based on Data through Water Year 1998.

USGS Regional Regression Analysis per Methods for Estimating Flood Frequency in Montana Based on Data through Water Year 1998.

USGS Regional Frequency Analysis per Methods for Estimating Flood Frequency in Montana Based on Data through Water Year 1998.

Log Pearson Analysis of stream gauge data at a point near the proposed structure provided that a minimum of 10 years of gauging data is available.

SCS Curve Number Method for areas draining less than 3 square miles.

Rational Method for areas draining less than 80 acres.

FEMA 100 yr & 500 yr Floods in areas designated as being within 100 & 500 year floodplains. Contact the Park County floodplain administrator regarding whether structure is located within either floodplain.

Alternative methods may be considered should the design engineer determine that a more accurate estimate of the runoff is available.

For drainage basins with an area greater than one square mile at least two methods must be analyzed and compared to the flood history to determine the peak run-off volume.

Design Frequency

The minimum design flood shall be the 25 year event. The structure shall be sized to accommodate the 50 year event when possible without significantly increasing the project cost.

Park County Commissioners and Road and Bridge Department personnel shall be contacted during the hydraulic analysis to provide input on historic flood volumes and site specific flow conditions.

Waterway Opening Size

The waterway opening for a bridge shall be sized to pass the design flood event while providing the minimum freeboard between the bottom of the lowest stringer and the water surface as specified in the hydraulic conveyance sections below. Additional freeboard and/or larger opening sizes may be required for mountain streams which carry a large amount of debris. The waterway opening shall be sufficiently large as to minimize backwater conditions that may cause damage to adjacent property. The waterway opening size for a culvert shall meet the requirements of the culvert section of these standards.

Bridges over large drainages or in densely populated areas should be analyzed with an appropriate modeling program, such as HEC-RAS, to accurately determine the flow characteristics and backwater elevations.

ROADSIDE DESIGN

Guardrail

Existing guardrail in the vicinity of the new structure or crossing shall be removed and replaced with new guardrail. New guardrail should meet current AASHTO standards. Should the existing guardrail be in good condition and meet current standards, it may be removed and replaced. New guardrail should not be connected to existing guardrail unless specifically approved by the County Road and Bridge Department.

In general, the length of new guardrail location should match the length of existing guardrail. The limits of the new guardrail may only be reduced when the road side slopes have been flattened to a 4:1 or flatter. The limits of the new guardrail should not be reduced from the existing length without the approval of the County Road and Bridge Department.

The ends of the guardrail leading into a bridge or culvert shall be signed with object markers per the Signing section of these Standards.

Signing

Object markers per the FHWA Manual of Uniform Traffic Control Devices for Streets and Highways shall be installed at each corner of the new bridge or at the ends of the guardrail leading to the fill section over a culvert.

BRIDGE AND LARGE CULVERT DESIGN

Design Standards

Bridge and large culvert (for the purposes of this standard, large culverts shall be defined as those having diameters of 60-inches or greater) design and construction shall conform to the following design standards unless otherwise modified or amended in this document.

AASHTO A Policy on Geometric Design of Highways and Streets, current edition and any amendments thereto.

AASHTO Guidelines for Geometric Design of Very-Low Volume Local Roads, current edition and any amendments thereto.

AASHTO LRFD Bridge Design Specifications, current edition and any amendments thereto.

Montana Department of Transportation Standard Specification for Road and Bridge Construction, current edition and any amendments thereto.

Geometric Design

Standard Dimensions

The following should be considered the standard dimensions for the geometric design of Bridges and Culvert Crossings. The County Commission however may grant variances to these standard dimensions in circumstances that warrant such deviations.

Road Width:	Min. 24' Shoulder-Shoulder for New Roads
Road Crown:	Min. 2%.

Bridge Width:	ADT>100/day – Two Lane Min. 24' Rail Face to Rail Face ADT<100/day – Single Lane 14' Rail Face to Rail Face where existing single lane bridges have demonstrated acceptable performance

Culverts shall generally be designed to extend beyond the clear zone in order to eliminate the need for guardrail. A slope of 4:1 or flatter is required within the clear zone for all large culverts.

Approaches

The roadway leading to the new bridge or large culvert should be designed in accordance with the aforementioned standards whereas the road should be reconstructed as required to provide a smooth transition that will minimize the impact forces transmitted to the structure and/or guardrail. This may require the road to be constructed for several hundred feet on either side of the bridge.

Skew

While crossings at 90 degrees to the flow line are preferred, skewed bridges and crossings may be required to best fit a specific site. When a skew is required the angle should be kept to 30 degrees or less as measured between a line normal to the roadway centerline and a line parallel to the flow line.

Bridge Design

Hydraulic Conveyance

In accordance with State and County codes, bridge openings shall be designed to have adequate hydraulic conveyance capacity as to not adversely affect the headwater elevations during a 100 year flood by more than 6 inches. In addition, bridge openings shall be sized such that the bride meets the following free board requirements:

Freeboard:	24" @ the 25 year design event
	12"@ the 50 year design event

Bridge Loading

Design loads shall be applied as specified in the AASHTO LRFD Bridge Design Specifications. The minimum design live load shall be HL-93.

Reductions from the minimum design live load may be considered on a case by case basis with a variance granted by the County Commission.

The weight of future surface overlays must be addressed in the dead loads should they be a possibility.

Bridge Rail

Must meet AASHTO standards with a minimum TL-2 load rating. When the bridge is or may be utilized for stock crossing, additional railing height shall be provided as directed by the County. Neoprene pads should be placed between the base plate and bridge deck on concrete structures.

Bridge Deck

The surface of the bridge deck shall have a skid resistant texture preferably consisting of a roughened concrete surface or gravel surface.

The bridge deck shall also be sufficiently cambered, crowned or super elevated to provide for adequate drainage.

Bridge Scour

Scour shall be evaluated on a case by case basis. Historically scour has not been a problem on end abutments properly armored with riprap and underlain with a geotextile. However, should the abutment be located on the outside of a channel bend a scour analysis may be warranted.

A scour analysis is also required whenever a pier(s) is placed within the stream channel.

The substructure (spread footing or piles) must extend a minimum of 6' below the scour depth unless a geotechnical investigation indicates otherwise or revetment measures have been taken to eliminate the potential for scour below substructure elements.

Revetment

Riprap revetment shall generally be used to provide erosion protection on bridge abutments as necessary. When utilized, rip rap shall be designed in accordance with FHWA Design of Riprap Revetment, Hydraulic Engineering Circular No. 11 (HEC-11).

Riprap shall extend to a minimum of two feet below the lowest portion of the adjacent channel and when possible keyed at the bottom of the slope.

The placement of riprap around piers set in the stream channel shall not serve to reduce the minimum footing/pile depth required for scour.

Temperature Effects

The effect of temperature shall be investigated when designing the stringer-substructure connection. The use of elastomeric bearing pads is recommended when precast/pre-stressed beams are incorporated into the design.

Culvert Design

General

Culvert alignment shall match the horizontal and vertical configuration of the existing channel as closely as possible to minimize sedimentation. Culverts shall be adequately sized to accommodate debris or ice that may occur in the channel.

Open bottom culverts, such as aluminum boxes, should be considered where feasible to minimize the impact on the streambed. Open bottom culverts shall be set on either a metal or concrete footing per the manufacturer's recommendation.

Culverts carrying large volumes of water shall have concrete cutoff walls on both the upstream and downstream ends to prevent erosion below the pipe. Cutoff walls are not required when an open bottom culvert is utilized.

The minimum culvert diameter shall be 15" for cross drains to allow for routine maintenance and cleaning.

Hydraulic Conveyance

Culvert headwater (HW) should be kept to a reasonable level at the design flow to prevent flooding of adjacent property. Headwater depths at design flow shall generally follow the MDT design criteria listed below where D is the diameter of a circular pipe and R is the rise of an arch pipe.

Pipe Size	HW @ Design Flow
< = 42"	<3D or 3R
48"-108"	<1.5D or 1.5R
> = 120"	<D+2' or R+2'

The headwater at the entrance during a 100 year flood may not exceed historic levels by more than 6" in FEMA floodplains per State and County codes.

Revetment

The upstream fill slope must be adequately protected against erosion. Slopes of 3:1 or less may only require reseeding whereas a more severe slope (>3:1) should either have riprap or a headwall. Culverts with upstream fill slopes exceeding 2:1shall have concrete headwalls.

PARK COUNTY PREFERENCES

Bridge Substructure

For bridges with overall spans of less than or equal to 60 ft, concrete spread footings protected with riprap revetment is preferred. For bridges with span greater than 60 ft deep foundations consisting of driven pile or drilled shafts with a reinforced concrete cap are preferred. HP section, Steel Pipe and Timber are acceptable pile materials. Timber piles may not be spliced.

Bridge Superstructure

Selection of the bridge superstructure shall be done on a case by case basis. All bridge decks shall have a skid resistant surface. For smaller bridges with spans less than 40 ft located on gravel roads it is generally preferred to utilize steel stingers with steel decking and a gravel road surface. For bridges located on paved roads and bridges with spans ranging from 40 ft to approximately 100 ft it is generally preferred to utilize precast/prestressed concrete superstructures. Bulb Tees, Tridecks, Twin Tees and Channels are acceptable types of precast, prestressed beams. For bridges with spans greater than approximately 100 ft it is generally preferred to utilize steel girders with and conventional cast in place concrete deck.

Culverts

Culverts shall generally be constructed of corrugated HDPE, reinforced concrete (RCP), aluminum, aluminized steel or CMP coated with bitumastic to prolong service life. CMP culverts shall be annular. Uncoated CMP culverts may be acceptable.

Materials

All materials and workmanship shall be in accordance with AASHTO Specifications and MDT Road and Bridge Specifications or as amended in this document.

Reinforcement Steel:	Reinforcement steel shall be ASTM A615 Grade 60 steel minimum. Heating of reinforcement steel for bending will not be allowed.
Structural Steel:	ASTM A36, A50 shop primed and painted or ASTM A588 weathering steel.
Portland Cement Concrete:	Class “AD” or “DD” concrete shall be used for all cast-in-place structures. Minimum 6.5 Sack Mix, 3000 PSI @ 28 days.

Class “BD” concrete shall be used for all cast-in-place deck structures. Minimum 7.0 Sack Mix, 4000 PSI @ 28 days.

Class “Pre” concrete shall be used for all prestressed members.

Timber: The use of timber structures (stringers, decking, and backwalls) is discouraged in new structures. Treated timber may be used for piles although they may not be spliced. All timber shall be treated with a preservative approved by the American Wood Products Association (AWPA).

Park County Bridges

Inventory Summary-April, 2012

Bridge Number	Location	Latitude	Longitude	Crossing	Road	Structural Condition	Suff Rating	Bridge Geometry: Max Span	length	Width	Min Repl Deck Area	Est Repl Cost	Notes
1	L34019001+06001 9M E Clyde Park	45°54'12"	110°25'60"	Rock Creek	Rock Creek Rd N	Struct Def - Elg Repl	18.0	9.75 m	10.36 m	4.54 m	47 S	43,835	
2	L34061000+04001 2M S Wilsall	45°57'27"	110°38'07"	Shields River	Indian Creek Rd	Func Obs - Elg Repl	33.2	22.86 m	23.47 m	4.57 m	107 S	156,424	
3	134082005+02001 10M S Wilsall	45"56'59"	110"27'15"	Cottonwood Creek	Cox's Crossing/Lower Cott	Not Defici ent	36.5	18.65 m	18.65 m	4.36 m	81 S	108,363	
4	134030001+06001 2M S Clyde Park	45°51'38"	110°36'56"	Brackett Creek	Castle Mounta in Rd	Func Obs - Elg Repl	38.8	7.32 m	8.36 m	5.89 m	49 S	37,171	
5	L34301000+03001 15M S Emisrant	45°12'17"	110"54'07"	Yellowstone River	Carbella Bridge	Not Deficient	4L3	53.34 m	53.64 m	4.6 m	247 S	489,004	
6	L34072001+01001 3M W Wilsall	45'59'32"	110 43'48"	Flathead Creek	Flathead Creek Rd	Not Deficient	41.9	6.4 m	7.01 m	6.1 m	43 S	28,731	
7	L34049000+04001 1M N Wilsall	46°00'45"	110°39'26"	Potter Creek	Potter Creek Rd	Not Deficient	44.6	22.86 m	23. 16 m	4.72 m	109 S	159,424	
8	L34210004+06001 35M S Sprngdale	4517' 18"	110°14'30"	Boulder River	Main Boulder Rd NF-6639	Func Obs - Elg Repl	45.3	24.38 m	30. 18 m	3.35 m	101 S	151,468	
9	L34008000+02001 Wilsall	45.59'17"	110"39'14"	Flathead Creek	Horse Creek Rd	Func Obs - Elg Repl	46.8	10.36 m	10.59 m	7.01m	74 S	71,969	
10	L34007000+04001 8M NE Livin gston	45.45'47"	110"29'33"	Shields River	Shields River East Rd.	Not Defi cient	47.2	27.43 m	28.35 m	6.04 m	171 S	269,005	
11	L34006000+07001 3M NE Wil;all	46.01'34"	110"38'27"	Shields River	Elk Creek Rd	Func Obs - Elg Repl	55.0	9.14 m	19.1m	7.24 m	138 S	123,358	
12	L34322001+08001 3KM W Corwin Spr ng	45°07'11"	110°49'14"	MOL Heron Creek	Cinnabar Basin Rd	Not Deficient	57.7	6.1m	7.32 m	5.49 m	40 S	25,810	
13	L34221002+01001 10MS Livingston	45"32'33"	110"32'24"	Deep Creek	Deep Creek Rd	Not Deficient	58.9	6.7 m	7.44 m	13m	97 S	67,724	
14	L34016008+07001 2 M SW Clyde Park	45"51'54"	110"38'47"	Brack ett Creek	Canyon Cr. Rd	Not Deficient	59.4	7.01m	7.52 m	5.79 m	44 S	31,704	
15	L34210000+08001 31M S Sprngdale	45.20'08"	110"13'52"	Boulder River	Main Boulder Rd NF-6639	Not Deficient	60.1	17.68 m	26.21 m	4.51 m	118 S	153,628	
16	L34082002+02001 6M NE Clyde Park	45.56'29"	110"29'44"	Cottonwood Creek	Enyart Ln	Func Obs - Elg Reha	61.6	7.32 m	7.92 m	4.97 m	39 S	29,714	
17	L34046002+04001 5M NE Clyde Park	45.56'25"	110"31 17"	Cottonwood Creek	Lower Cottonwood Dr	Not Deficient	63.2	9.75 m	10.36 m	5.79 m	60 S	55,904	
18	L34200007+07001 18M E Livingston	45.36'37"	110"14'30"	W Boulder River	Swingley Rd	Not Deficient	72.3	12.8 m	27.43 m	4.39 m	120 S	132,473	
19	L34010000+05001 4M NE Livingston	45°43'34"	110"27'46"	Shields River	Convict Grade Rd	Not Deficient	73.1	12.8 m	26.57 m	5.79 m	154 S	169,242	
20	L34395000+01001 Jardne	45°04'13"	110"38'03"	Bear Creek:	Jardine NF-493	Not Deficient	73.5	14.95 m	15.45 m	4.74 m	73 S	87,589	
21	L34017007+04001 5 M E Clyde Park	45"53'53"	110"30'00"	Rock Creek	Hammond Creek Rd	Not Deficient	74.9	7.62 m	8.84 m	7.04 m	62 S	48,523	
22	M34074000+00101 Livingston - Sacajawe;	45"39'18"	110"33'31"	Fleshman Creek	S. Yellowstone St	Not Deficient	76.0	7.92 m	19.51 m	7.44 m	145 S	116,639	
23	L34008000+03001 E Wilsall	45"59'19"	110"38'44"	Shields River	Horse Creek Rd	Not Deficient	76.8	31.7 m	32 m	7.32 m	234 S	388,922	
24	L34391000+01001 Livingston - 9th St	45"38'60"	110"33'43"	Yellowstone River	S. 9th St Island Dr	Not Defi cient	78.9	30.73 m	61.47 m	5.05 m	310 S	509,454	
25	L34211002+06001 3M SE Emigrant	45.19'15"	110 42'36"	Emigrant Creek	Colin Rd.	Not Defi cient	79.0	9.14 m	9.14 m	2.74 m	25 S	22,340	
26	L34048000+05001 8M NE Wil;all	46.06'38"	110"36'46"	Shields River	Coal Camp Rd.	Not Defi cient	79.9	12.19 m	12.24 m	7.01m	86 S	91,804	
27	L34321000+02001 9M SW Emigrant	45°18'40"	110"53'50"	Big Creek	Hyaite Cr. Rd	Not Deficient	814	8.53 m	9.14 m	5.18 m	47 S	40,215	
28	134001000+03001 NE Wilsall	46"00'08"	110"39'28"	Flathead Creek	Shields River Rd	Not Deficient	85.6	7.62 m	15.85 m	7.38 m	117 S	91,203	
29	L34304018+02001 1M N Emigrant	45°22'50"	110°43'23"	Irrigation Canal	Capricorn Dr	Not Defi cient	85.9	9.14 m	9.45 m	7.68 m	73 S	64,742	
30	L34210000+03001 30M S Sprngdale	45 20'29"	110"13'55"	Four Mile	Main Boulder Rd NF-6639	Not Deficient	87.0	8.84 m	9.45 m	7.32 m	69 S	60,281	
31	L34209003+01001 6M S Emigrant	45 17'13"	110'46'01"	Sixmile Creek	Six Mile Creek Rd	Not Deficient	87.2	7.47 m	9.14 m	5.24 m	48 S	36,754	
32	L34001003+09001 4M NE Wil;all	46"02'44"	110"38'21"	Shields River	Shields River Rd	Not Deficient	87.9	13.72 m	21.57 m	7.32 m	158 S	180,470	
33	L34050000+01001 10MNE Wilsall	46"08'44"	110"35'49"	Shields River	Ander son Rd.	FuncObs	88.0	11.89 m	12.4 m	5.49 m	68 S	71,790	
34	L34307003+01001 9M SW Emigrant	45"18'29"	110"52'58"	Big Creek	Big Creek: Rd NF-132	Not Deficient	89.0	9.07 m	9.14 m	6.1 m	56 S	49,471	
35	134001014+07001 14M NE Wilsall	46"09'60"	110"32'52"	Shields River	Shields River Rd	Not Defi cient	89.3	7.62 m	7.62 m	7.32 m	56 S	43,490	
36	L34003001+07001 1M N livingston	45"42'05"	110"31'11"	Ferry Creek	Old Clyde Park Rd	Not Deficient	89.5	4.88 m	15.24 m	6.1 m	93 S	46,891	
37	L34307004+08001 11M SW Emigra nt	45"18'32"	110"54'38"	Big Creek	Big Creek Rd NF-132	Not Defi cient	90.0	10.21m	10.82 m	5.82 m	63 S	60,482	
38	L34022000+05001 2 M NE Wil ;all	46°01'02"	110"38'25"	Shields River	Daisy Dean Rd	Not Defi cient	91.0	13.72 m	14.33 m	5.91 m	85 S	96,801	
39	L34204000+05001 3M NE Pray	45 25'11"	110"38'32"	Yellowstone River	Mill Creek Road	Not Defi cient	91.6	30.48 m	110.95 m	7.32 m	812 S	1,328,774	
40	L34204006+00001 7M E Emigrant	45.21'03"	110"36'35"	Mill Creek	Mill Creek Road	Not Defi cient	92.1	22.86 m	23.77 m	9.6 m	228 S	332,793	
41	L34204003+06001 5M E Emigrant	45.22'40"	110"38'01"	Mill Creek	Mill Creek Road	Not Deficient	92.1	28.96 m	29.87 m	9.6 m	287 S	460,096	
42	L34005000+01001 W Clyde Park	45"53'08"	110"37'05"	Shields River	5th St Brackett Creek Rd	Not Defi cient	94.9	27.74 m	28.35 m	7.62 m	216 S	340,873	
43	134007004+00001 7M SE Clyde Park	45°48'21"	110"31'02"	Fiddle Creek	E Shields River Rd	Not Defi cient	97.0	9.75 m	10.06 m	6.02 m	61 S	56,441	
44	L34007000+03001 8M NE Livingston	45.45'43"	110°29'38"	Shields River Overfl	E Shields River Rd	Not Defi cient	97.9	7 m	7 m	6.65 m	47 S	33,854	
45	134029000+03001 6M SE Clyde Park	45"48'36"	110"31'49"	Shields River	Chadbourn Bridge	Not Defi cient	99.0	10.7 m	28.5 m	7.2 m	205 S	203,027	
46	134203001+07001 1M W PinE Creek	45"30'40"	110"34'54"	Yellowstone River	Pine Creek Rd	Not Deficient	99.9	43.89 m	114m	7.32 m	834 S	1,553,268	
47	134322000+02001 Corwin Springs	450642	1104736	Yellowstone River	Old Yellowstone Trail 5	Not Defi cient	99.9	36 m	106m	9.2 m	975.2	1695812.517	

PART IV – IMPLEMENTATION SCHEDULE

In addition to the bridges indicated in the Park County Bridge Inventory which lists all bridges with spans greater than 20 ft long, Park County is also responsible for an estimated 200 minor bridges and large culverts. In an effort to provide long term planning of the entire infrastructure of bridges and large culverts Park County is currently working on obtaining additional funding to assist in the inventory and condition assessment of all minor bridges and large culverts.

During the period of elevated flows which occurred in spring 2011 several of these minor structures were substantially damaged. As such, Park County addressed these emergency issues throughout 2011 and is currently working on addressing current deficiencies on several minor bridges and culvert crossings.

Minor Structures					
Rank	Name	Condition	Sufficiency Rating	Estimated Cost	Year
1	Coal Camp Culvert	Unstable	N/A	$13,000	2012
2	Miller Drive Bridge	Failed – Removed	0	$57,600	2012
3	Tom Minor Bridge	Structurally Deficient	30	$89,280	2012

Major Structures					
Rank	Name	Condition	Sufficiency Rating	Estimated Cost	Year
1	Rock Cr Rd – Bridge over Rock Creek	Struct Def	18	$91,000	2013
2	Indian Creek Road – Bridge over Shields River	Func Obs	33.2	$56,490	2013
3	Cottonwood Bench Rd – Bridge over Cottonwood Cr.	Not Def	36.5	$38,570	2014
4	Castle Mtn Road – Bridge over Brackett Creek	Func Obs	38.8	$33,930	2014