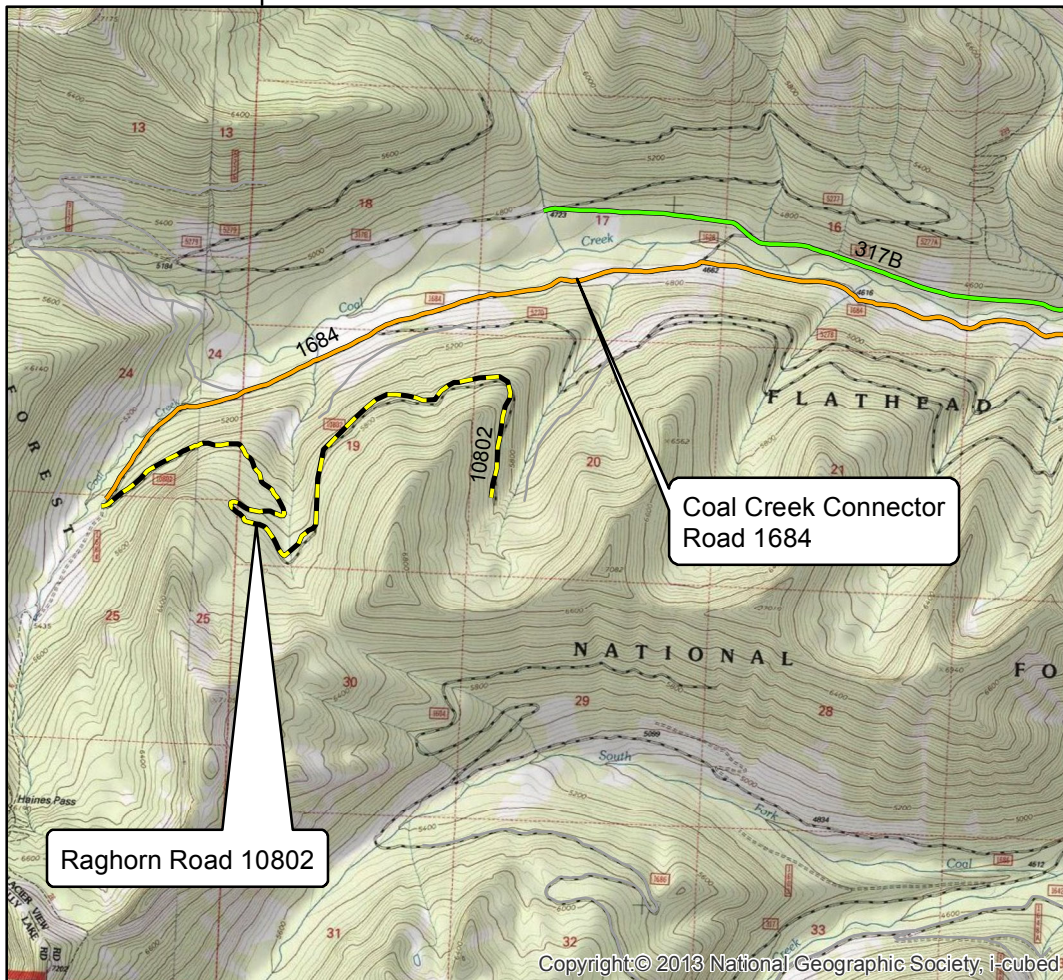


FLATHEAD NATIONAL FOREST

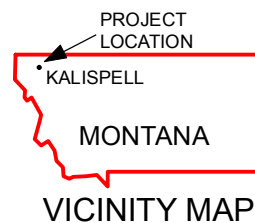
DRAWINGS FOR:

RAGHORN ROAD CULVERT REMOVAL

R23W | R22W



U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
R-1
NORTHERN REGION



INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET & VICINITY MAP
2	QUANTITIES & GENERAL NOTES
3	WATERBAR DETAIL
4 - 6	ROAD 10802 MAINTENANCE ROAD LOG

LEGEND

- CULVERTS TO BE REMOVED
- YEARLONG OPEN FOREST ROAD
- FOREST ROAD OPEN 7/1 - 8/31

Submitted By:

Project Engineer

5/10/17
Date

Recommended By:

Glacier View District Ranger

5/08/17
Date

Reviewed By:

Forest Engineer

5/11/17
Date

Approved By:

Forest Supervisor

5/12/17
Date

SUMMARY OF QUANTITIES:

ITEM NO.	ITEM DESCRIPTION	MEASUREMENT	QUANTITY
		UNIT	
807(2)	EQUIPMENT RENTAL, HYDRAULIC EXCAVATOR	HOUR	20
833(2)	CULVERT REMOVAL	EACH	38
833(3)	WATER-BAR	EACH	36
881(1)	MOBILIZATION	LS	1

GENERAL NOTES:

SURVEY & STAKING: MILE POST MARKERS WILL BE SET BY THE GOVERNMENT. CONTRACTOR IS RESPONSIBLE TO MAINTAIN AND PRESERVE ALL STAKES AND OTHER MARKS SET BY THE GOVERNMENT UNTIL AUTHORIZED TO REMOVE THEM.

SPECIFICATIONS: MATERIALS AND WORK ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE FOREST SERVICE MAINTENANCE SPECIFICATIONS FOR RAGHORN CULVERT REMOVAL PROJECT.

PROJECT ACCESS: THREE STREAM CROSSINGS ON ROAD 10802 HAVE PREVIOUSLY HAD THE CULVERTS REMOVED AND THE STREAM BANKS RESTORED AS SHOWN ON THE ROAD LOG AND LISTED BELOW. INSTALLATION OF TEMPORARY STREAM CROSSINGS AT THESE LOCATIONS WILL NOT BE ALLOWED WITHOUT PRIOR APPROVAL OF THE C.O. ONLY EQUIPMENT CAPABLE OF CROSSING THESE LOCATIONS WILL BE ABLE TO ACCESS PORTIONS OF THE ROAD BEYOND THE RESTORED STREAM CROSSINGS.

ROAD 10802 MILEPOST 0.83
ROAD 10802 MILEPOST 1.10
ROAD 10802 MILEPOST 1.30

IN-STREAM WORK: ALL IN-STREAM WORK MUST BE COMPLETED BETWEEN JULY 15 AND AUGUST 31. IN-STREAM WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT AND ALL APPLICABLE PERMITS. CONTRACTOR SHOULD ANTICIPATE STREAM WATER REQUIRING DEWATERING AT THE FOLLOWING LOCATIONS.

ROAD 10802 MILEPOST 0.30
ROAD 10802 MILEPOST 1.56
ROAD 10802 MILEPOST 1.68

SCHEDULE RESTRICTIONS: MOTORIZED EQUIPMENT WILL ONLY BE ALLOWED BEYOND MILE POST 0.83 FOR A PERIOD OF 7 CONTINUOUS CALENDAR DAYS.

807(2) EQUIPMENT RENTAL: EQUIPMENT RENTAL WILL BE UTILIZED AS DIRECTED BY THE GOVERNMENT, TO ACCOMPLISH STREAM RESTORATION OBJECTIVES AT LOCATIONS SHOWN ON THE ROAD LOG. THIS WORK MAY INCLUDE, BUT NOT BE LIMITED TO, PLACING LOGS OR VEGETATION ALONG THE RESTORED STREAM CHANNEL OR ON THE ADJACENT BANKS. EQUIPMENT RENTAL WILL ALSO BE UTILIZED FOR A ROAD CLOSURE BERM. EROSION CONTROL PRODUCTS FOR STREAM RESTORATIONS WILL BE SUPPLIED AND INSTALLED BY THE GOVERNMENT.

EROSION CONTROL PRODUCTS: EROSION CONTROL PRODUCTS FOR STREAM RESTORATIONS WILL BE SUPPLIED AND INSTALLED BY THE GOVERNMENT.

833(2) CULVERT REMOVAL: REMOVE CULVERTS WHERE SHOWN ON THE ROAD LOG ACCORDING TO SECTION 833. DISPOSE OF CULVERT MATERIAL LEGALLY OFF THE PROJECT.

833(3) WATERBARS: INSTALL WATERBARS WHERE SHOWN ON THE ROAD LOG ACCORDING TO THE TYPICAL WATERBAR DRAWING AND SECTION 833.

SEEDING, FERTILIZING, AND MULCHING: APPLY SEED, FERTILIZER, AND MULCH TO WATERBARS PER SECTION 841 AND AT THE RATES SPECIFIED IN SECTION 625 TO ALL WATERBARS AND DISTURBED AREAS OUTSIDE OF THE ROAD SHOULDERS INCLUDING FILL SLOPES, CUT SLOPES, ECT. CARE SHALL BE TAKEN NOT TO DISTRIBUTE ANY FERTILIZER INTO STREAMS. SEEDING, FERTILIZING, AND MULCHING IS INCIDENTAL TO ITEM 833(3).

RAGHORN CULVERT REMOVAL

QUANTITIES & GENERAL NOTES

NORTHERN REGION (R1)

SHEET 2 Of 6

TIE DEPOSITION PORTION OF WATERBAR
INTO EXISTING CUT SLOPE (SEE NOTE 2)

CUT SLOPE

24" OR BOTTOM OF
EXISTING DITCH

3H:1V
(TYP)

EXISTING EDGE
OF ROADWAY

24" LOWER THAN INSIDE
BOTTOM OF SAG ELEVATION

FILL SLOPE

WATERBAR

SCALE: NO SCALE

WATERBAR NOTES:

1. DO NOT DEPOSIT ANY EXCAVATED MATERIAL ONTO EXISTING FILL SLOPES.
2. WHEN BUILT ON DITCHED SEGMENTS OF ROAD, CONSTRUCT WATERBARS TO TIE INTO THE EXISTING CUT SLOPE AND TO INTERCEPT, BLOCK, AND DRAIN DITCH ACROSS THE ROAD.
3. SEED AND MULCH ALL DISTURBED AREAS UTILIZING THE APPROPRIATE MATERIALS AND RATES SPECIFIED IN SECTION 625.
4. MATCH SKEW OF WATERBARS TO SKEW OF REMOVED CULVERT.
5. GRADE CHANGES OVER THE LENGTH OF THE WATERBAR SHALL BE SMOOTH WITH NO ABRUPT OR SHARP ANGLE BREAKS.
6. CONSERVE ROCK FROM WATERBAR EXCAVATION AND PLACE AT WATERBAR OUTLET TO ARMOR OUTLET.

RAGHORN CULVERT REMOVAL

WATERBAR DETAIL

NORTHERN REGION (R1)

SHEET 3 Of 6

MAINTENANCE ROAD LOG

SHEET NO. 4 OF 6

PROJECT: Raghorn Culvert Removal Project ROAD 10802

MILE POST	WORK DESCRIPTION	807(2) Equip. Rental	833(2) Remove Culvert	833(3) Waterbar								
0.000	• BEGIN ROADWORK - NFSR 10802											
0.002	• Existing Waterbar, Remove For Access, Replace When Other Roadwork Is Complete.			1								
0.010	• Existing Road Closure Berm, Remove For Access, Replace When Other Roadwork Is Complete.	2										
0.030	• Remove Existing 24" CMP. Live Stream Crossing.	6	1									
0.050	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.100	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.150	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.200	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.300	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.350	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.400	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.460	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.500	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.560	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.600	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.680	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								

MAINTENANCE ROAD LOG

SHEET NO. 5 OF 6

PROJECT: Raghorn Culvert Removal Project ROAD 10802

MILE POST	WORK DESCRIPTION	807(2) Equip. Rental	833(2) Remove Culvert	833(3) Waterbar								
0.700	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.750	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.830	• Existing Stream Crossing Restoration. No Work Required.											
0.850	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.890	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.930	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
0.950	• Existing Switchback. No Work Needed.											
1.000	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
1.050	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
1.100	• Existing Stream Crossing Restoration. No Work Required.											
1.150	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
1.200	• Existing Switchback. No Work Needed.											
1.250	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
1.300	• Existing Stream Crossing Restoration. No Work Required.											
1.360	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								
1.510	• Remove Existing 18" CMP. Replace With Waterbar.		1	1								

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