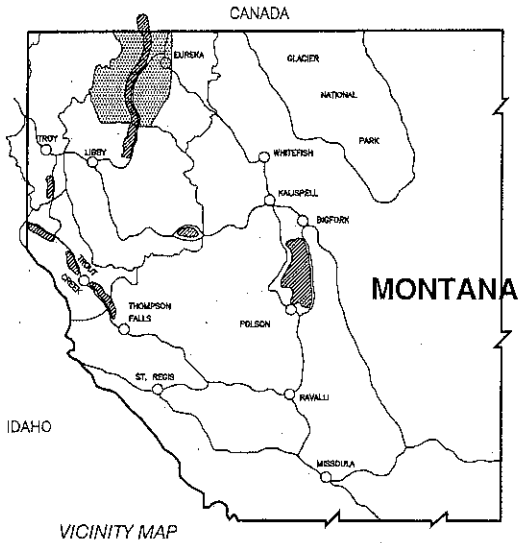
UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE – REGION ONE
KOOTENAI NATIONAL FOREST

REXFORD RANGER DISTRICT

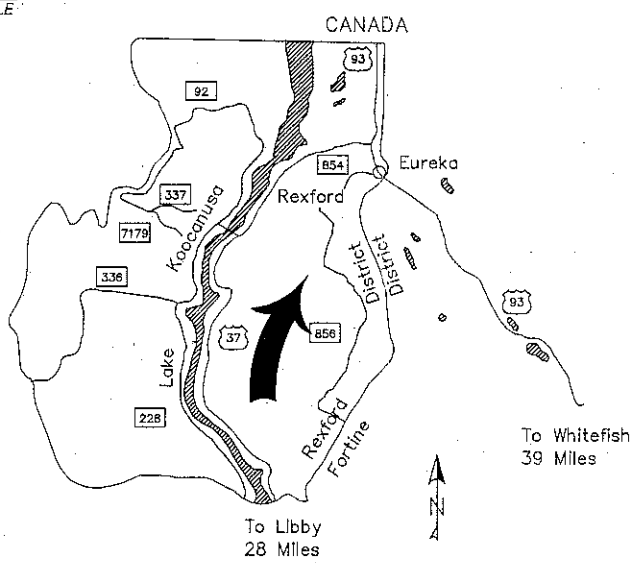
PLANS FOR

SUTTON 5000 TIMBER SALE



VICINITY MAP

NOT TO SCALE



PROJECT LOCATION MAP

NOT TO SCALE

PREPARED BY: Valerie R. Horgan — PROJECT ENGINEER — 5/9/11 DATE

REVIEWED BY: Martha Price — ENGINEER TEAM LEADER — 5/9/11 DATE

MULTIPLE RESOURCE REVIEW BY: Betty Holden — DISTRICT RANGER — 5-10-11 DATE

I certify that this project has been designed in accordance with the Forest Plan and with sound engineering practice.

PAUL FRANTUS PF — FOREST ENGINEER — 5/20/11 DATE

APPROVED BY: for Cami Winston — FOREST SUPERVIDOR — 6/21/11 DATE

SHEET INDEX

ROAD NO.	ROAD NAME	LENGTH	*C/R
6804	MCQUIRE SPRINGS	2.44	R
6805	WAREX WEST	4.01	R
6808	SUTTON BASIN	2.16	R
7301	MCQUIRE MOUNTAIN	2.80	R
7939	GUT CREEK	2.45	R
494	SUTTON RIDGE SWAMP CR	9.07	R

*C=CONSTRUCTION R=RECONSTRUCTION

REVISION

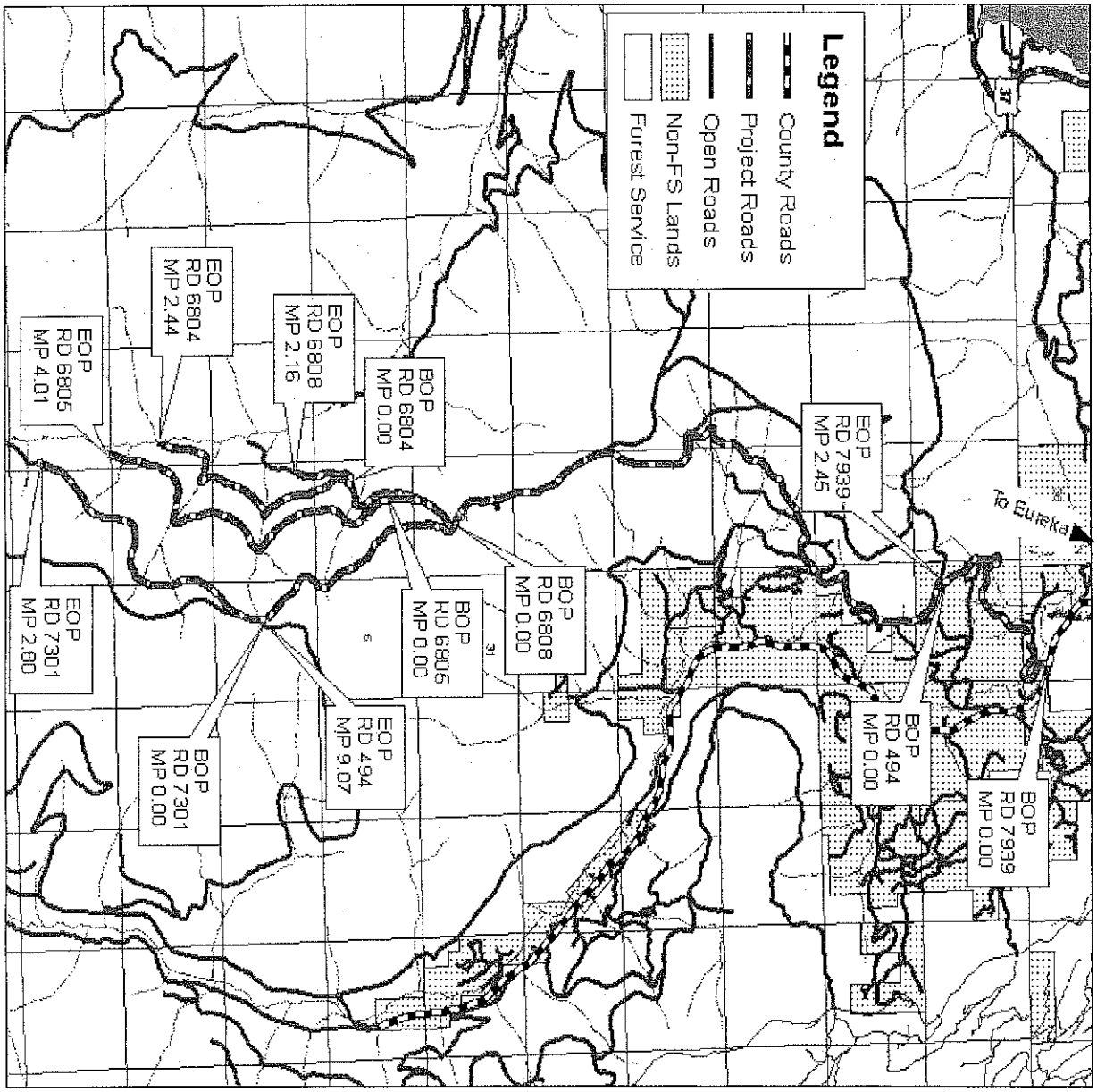
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
KOOTENAI NATIONAL FOREST
FILE No.

KOOTENAI NATIONAL FOREST
SUTTON 5000

DESIGNED BY V HORGAN 5/11
DRAWN BY M PRICE 5/11
CHECKED BY M PRICE 5/11

SHEET TITLE
TITLE SHEET

SHEET NO.
1 OF 13



SHEET NO.	SHEET TITLE	DESIGNED BY / DRAWN BY / CHECKED BY	KOOTENAI NATIONAL FOREST	U.S. DEPARTMENT OF AGRICULTURE / FOREST SERVICE / KOOTENAI NATIONAL FOREST	REVISION
2 OF 13	PROJECT AREA MAP	V HOGAN 5/11 / M PRICE 5/11 / M PRICE 5/11	SUTTON 5000	FILE No.	

SUMMARY OF QUANTITIES

ITEM NO	ITEM DESCIPTION	MEASURE	UNIT	ROAD NUMBER AND QUANTITIES						PROJECT TOTALS
				6804	6805	6808	7301	7939	494	
15101	MOBILIZATION	LS	LUMP SUM	1	1	1	1	1	1	6
20301	REMOVAL OF GATE	CQ	EACH		1					1
20301	REMOVAL OF CULVERT	CQ	EACH	1	1					2
23051	ROADSIDE BRUSHING	CQ	MILE	2.44	4.01	2.16	2.80	2.45	9.07	22.93
20419	DRAINAGE EXCAVATION TYPE: SURFACE WATER DEFLECTOR	AQ	FOOT			14				14
20419	DRAINAGE EXCAVATION TYPE: DRAINAGE DITCH	AQ	FOOT		106					106
20419	DRAINAGE EXCAVATION TYPE: OPEN TOP CULVERT	AQ	FOOT					160		160
20420	DRAINAGE EXCAVATION TYPE: DRAIN DIP	CQ	EACH			3				3
25101	RIPRAP, CLASS IV	CQ	CUBIC YARDS	8	8					12
30354	ROAD RECONDITIONING, COMPACTION METHOD A	CQ	MILE	2.44	4.01	2.16	2.80	2.45	9.07	22.93
60250	FURNISH AND INSTALL 18" CORRUGATED METAL PIPE, .079" THICKNESS, METHOD B	AQ	FOOT	152	240	60	60			508
60250	FURNISH AND INSTALL 48" CORRUGATED METAL PIPE, .079" THICKNESS, METHOD A	AQ	FOOT	40	40					80
62550	SEEDING AND FERTILIZING, DRY METHOD	CQ	ACRE	0.5	1	0.5	0.5	0.5		3.0
65003	FURNISH AND INSTALL ROAD CLOSURE DEVICE, TYPE: GATE	AQ	EACH		1					1

REVISION

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KOOTENAI NATIONAL FOREST
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SHEET TITLE
SUMMARY OF QUANTITIES

SHEET NO.
3 OF 13

RECONSTRUCTION LOG

Note:
Mileages are measured with odometer and are approximate.

ROADS 6804, 6805

STATION OR MILEPOST	PAY ITEM NUMBER	DESCRIPTION OF WORK
ROAD 6804		
0.00		JUNCTION WITH 6808
	30354	BEGIN RECONDITIONING ROADWAY
	20350	BEGIN CLEARING AND GRUBBING
	62550	BEGIN SEEDING AND FERTILIZING
0.25	60250	INSTALL 18" X 28' CMP WITH CATCHBASIN
0.95	60250	INSTALL 18"X 32' CMP WITH CATCHBASIN
0.953	60250	INSTALL 18"X 32' CMP WITH CATCHBASIN
0.97	20302	REMOVE EXIISTING 36' CMP
	60250	INSTALL 48"X 40' CMP WITH CATCHBASIN
	25101	PLACE 8 CY-CLASS IV RIPRAP
0.98	60250	INSTALL 18" X 32' CMP WITH CATCHBASIN
1.81	60250	INSTALL 18" X 28' CMP WITH CATCHBASIN
2.44		END PROJECT

STATION OR MILEPOST	PAY ITEM NUMBER	DESCRIPTION OF WORK
ROAD 6805		
0.00		JUNCTION WITH 6808
	30354	BEGIN RECONDITIONING ROADWAY
	20350	BEGIN CLEARING AND GRUBBING
	62550	BEGIN SEEDING AND FERTILIZING
0.17	20301	REMOVE EXISTING GATE
	65003	INSTALL GATE
0.80	60250	INSTALL 18" X 32' CMP WITH CATCHBASIN
1.28	20419	BEGIN DITCH CONSTRUCTION
1.30	20419	END DITCH CONSTRUCTION
1.80	60250	INSTALL 18'X 28' CMP WITH CATCHBASIN
1.86	60250	INSTALL 18'X 28' CMP WITH CATCHBASIN
1.90	60250	INSTALL 18'X 28' CMP WITH CATCHBASIN
2.16	60250	INSTALL 18'X 28' CMP WITH CATCHBASIN
2.79	60250	INSTALL 18'X 32' CMP WITH CATCHBASIN
2.80	20301	REMOVE EXISTING 36" CMP
	60250	INSTALL 48"X 40' CMP . COUNTERSINK 1'
	25101	PLACE 8 CY, CLASS IV RIPRAP
2.81	60250	INSTALL 18"X 32' CMP WITH CATCHBASIN
2.90	60250	INSTALL 18"X 32' CMP WITH CATCHBASIN
4.01		END PROJECT

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SHEET TITLE
RECONSTRUCTION LOG

SHEET NO
4 OF 13

Note:
Mileages are measured with odometer and are approximate.

RECONSTRUCTION LOG

ROADS 6808, 7301, 7939, 494

STATION OR MILEPOST	PAY ITEM NUMBER	DESCRIPTION OF WORK
ROAD 6808		
0.00		JUNCTION WITH 494
	30354	BEGIN RECONDITIONING ROADWAY
	20350	BEGIN CLEARING AND GRUBBING
	62550	BEGIN SEEDING AND FERTILIZING
0.43		JUNCTION WITH 6805
1.27		JUNCTION WITH 6804
1.51	20420	CONSTRUCT DRAINAGE DIP
1.61	20420	CONSTRUCT DRAINAGE DIP
1.80	20420	CONSTRUCT DRAINAGE DIP
1.81	60250	INSTALL 18" X 32' CMP WITH CATCHBASIN
2.02	60250	INSTALL 18" X 28' CMP WITH CATCHBASIN
2.07	20419	INSTALL 14' SURFACE WATER DEFLECTOR
2.16		END PROJECT

STATION OR MILEPOST	PAY ITEM NUMBER	DESCRIPTION OF WORK
ROAD 7301		
0.00		JUNCTION WITH 6808
	30354	BEGIN RECONDITIONING ROADWAY
	20350	BEGIN CLEARING AND GRUBBING
	62550	BEGIN SEEDING AND FERTILIZING
2.89	60250	INSTALL 18" X 30' CMP WITH CATCHBASIN
0.80	60250	INSTALL 18" X 30' CMP WITH CATCHBASIN
2.80		END PROJECT
ROAD 7939		
0.00		JUNCTION WITH 6808
	30354	BEGIN RECONDITIONING ROADWAY
	20350	BEGIN CLEARING AND GRUBBING
	62550	BEGIN SEEDING AND FERTILIZING
	20419	REPLACE AND/OR INSTALL 160 FT OF SURFACE WATER DEFLECTORS AS DIRECTED BY THE ER
2.45		END PROJECT
ROAD 494		
0.00		JUNCTION WITH 6808
	30354	BEGIN RECONDITIONING ROADWAY
	20350	BEGIN CLEARING AND GRUBBING
	62550	BEGIN SEEDING AND FERTILIZING
9.07		END PROJECT

FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE

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SUTTON 5000

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DRAWN BY M.PRICE 6/11
CHECKED BY M.PRICE 6/11

SHEET TITLE
RECONSTRUCTION LOG

SHEET NO.
5 OF 13

DRAINAGE LISTING

AS DESIGNED				AS BUILT				INSTALLATION DETAILS			RIPRAP			BMP				REMARKS
STATION OR MILEPOST	DIAMETER (INCHES)	LENGTH (FEET)	DRAIN DIP	STATION OR MILEPOST	DIAMETER (INCHES)	LENGTH (FEET)	DRAIN DIP	TYPE[1]	SKEW[2] (DEGREES)	OUTLET DITCH (LIN. FT)	CLASS	INLET (C.Y.)	OUTLET (C.Y.)	STRAW BALES (EA.)	SURFACE WATER DEFLECTOR (LIN. FT)	SEDIMENT BASIN (EA.)	BRUSH BARRIER (EA.)	CORRUGATIONS SHALL BE 2-⅔" X ½" UNLESS OTHERWISE STATED BELOW PIPE THICKNESS SHALL BE AS SHOWN ON THE SUMMARY OF QUANTITIES
ROAD 6804																		
MP 0.25	18	28						2	120									
MP 0.95	18	32						2	120									
MP 0.953	18	32						2	100									
MP 0.97	48	40						1	90		IV	4	4					
MP 0.98	18	32						2	100									
MP 1.81	18	28						2	90									
ROAD 6805																		
MP 0.80	18	32						2	120									
MP 1.80	18	28						2	100									
MP 1.86	18	28						2	100									
MP 1.90	18	28						1	100									
MP 2.16	18	28						2	120									
MP 2.79	18	32						2	120									
MP 2.80	48	40						1	90		IV	4	4					
MP 2.81	18	32						1	100									
MP 2.90	18	32						1	100									
ROAD 6808																		
MP 1.51			X															
MP 1.61			X															
MP 1.80			X															
MP 1.81	18	32						1	100									
MP 2.02	18	28						2	120									
MP 2.07															14			
ROAD 7301																		
MP 2.89	18	30						2	120									
MP 2.80	18	30						2	120									
ROAD 7939																		
***															160			*** WILL BE STAKED BY ER

[1]See culvert construction details sheet [2]As staked

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SHEET TITLE
DRAINAGE LISTING

SHEET NO.
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ROADWAY RECONDITIONING LOCATIONS

ROAD	M.P. TO M.P.
6804	0–2.44
6805	0–4.01
6808	0–2.16
7301	0–2.80
7939	0–2.45
494	0–9.07

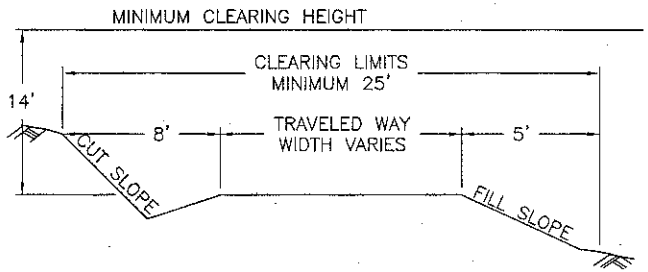
NOTES

1. WORK INCLUDES TURNOUTS AND CURVE WIDENING.

2. SCARIFICATION ONLY REQUIRED TO DEPTH NEEDED TO REMOVE RUTTING AND POTHOLES

3. UNSUITABLE MATERIALS OR OBSTRUCTIONS ENCOUNTERED DURING RECONSTRUCTION SHALL BE PLACED ALONG THE TOE OF FILL AWAY FROM STREAMS AND TRIBUTARIES.

4. BLADING WILL BE TO RESTORE EXISTING ROAD TEMPLATE.



BRUSHING DETAIL
NOT TO SCALE

BRUSHING LOCATIONS

ROAD	M.P. TO M.P.
6804	0–2.44
6805	0–4.01
6808	0–2.16
7301	0–2.80
7939	0–2.45
494	0–9.07

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SHEET TITLE
TYPICAL SECTIONS

SHEET NO.
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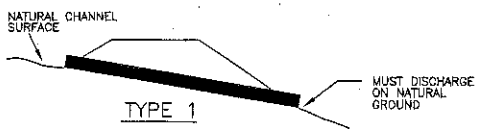
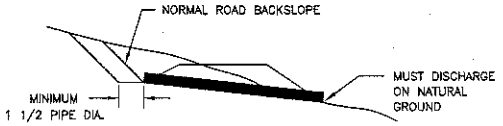
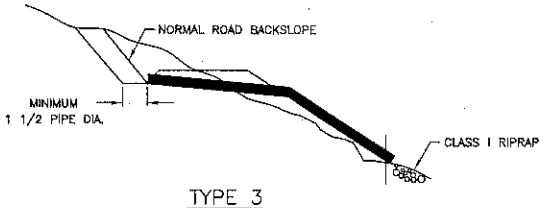


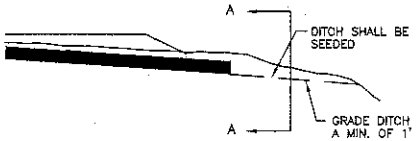
TYPE 1



TYPE 2



TYPE 3



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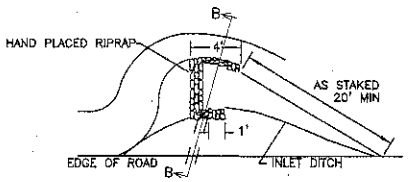
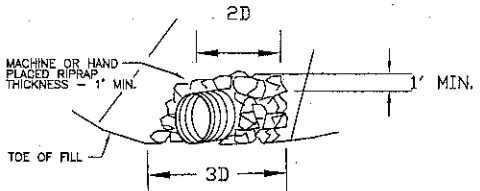


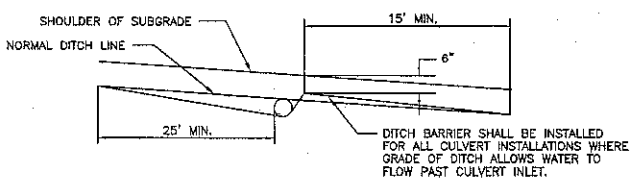
INLET RIPRAP FOR TYPE 2 & 3 INSTALLATION

WHEN REQUIRED

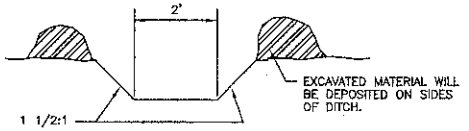


INLET RIPRAP FOR TYPE 1 CULVERTS

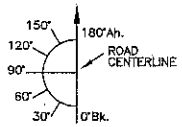
WHEN REQUIRED



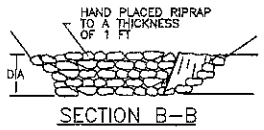
DITCH BLOCK DETAIL



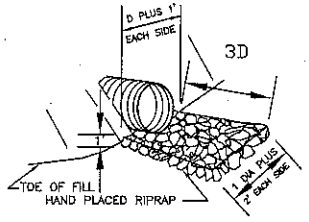
SECTION A–A



CULVERT SKEW

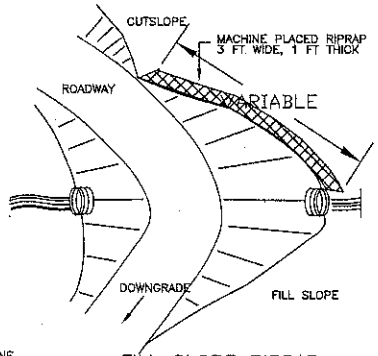


SECTION B–B



OUTLET RIPRAP

WHEN REQUIRED



FILL SLOPE RIPRAP

WHEN REQUIRED

NOT TO SCALE

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
KOOTENAI NATIONAL FOREST
FILE No.

REVISION

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SUTTON 5000

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SHEET TITLE
CULVERT CONSTRUCTION DETAILS

SHEET NO.
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OPEN TOP DRAIN

NOTES:

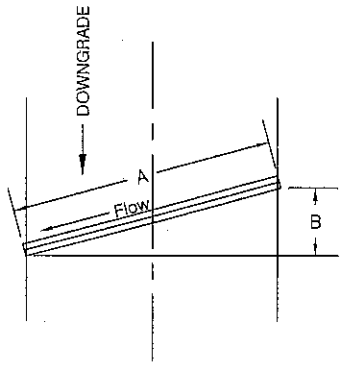
All lumber shall be incised and pressure treated in accordance with AWPA C-2 for ground contact. One gallon of Copper Napthenate (2% copper) shall be
furnished for field treatment.

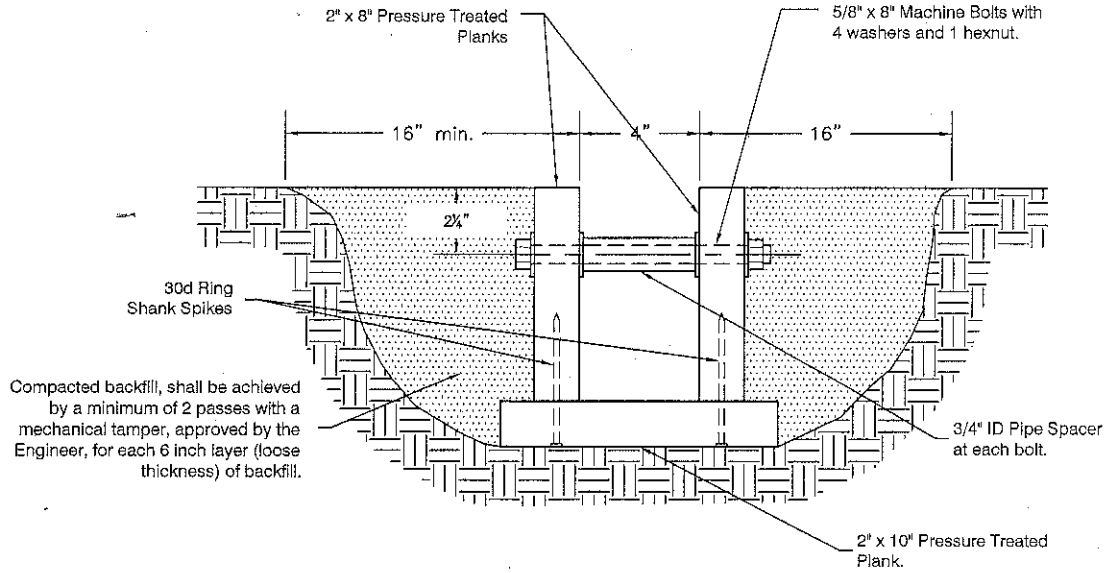
FIELD TREATMENT: All abrasions and cuts made in the field shall be carefully trimmed and given three brush coats of the treatment solution. Holes drilled
in the field shall be poured full of preservative and plugged with tight fitting treated plugs.

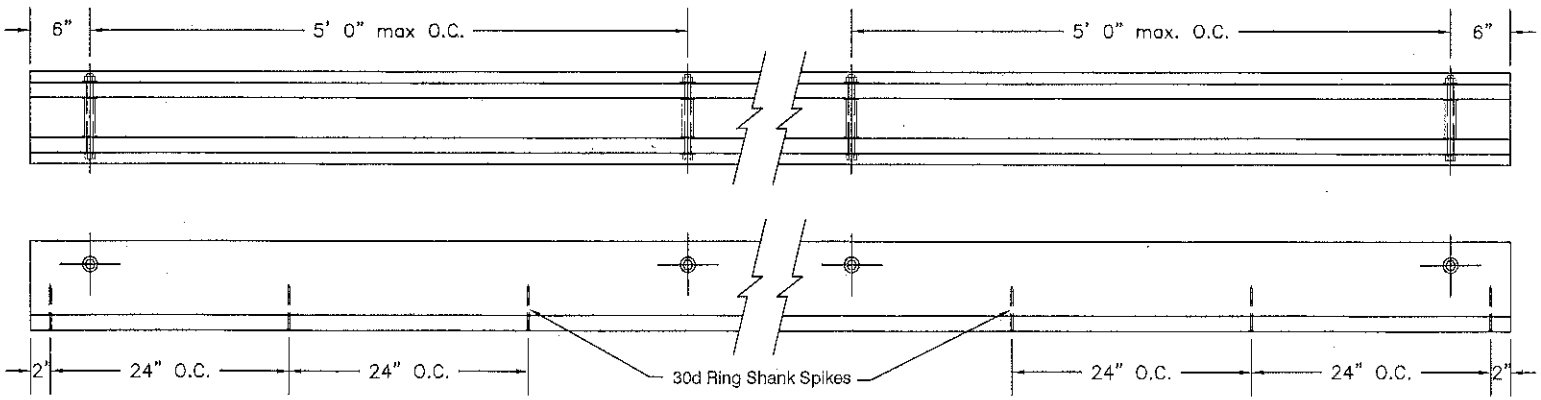
All hardware shall conform to standard Spec. 716.02 and shall be galvanized. Lumber shall conform to Spec. 716.01.

VALUES FOR SKEWED INSTALLATION (IN FEET)

ROAD WIDTH	A	B
12	14	7
14	16	8
16	19	10
18	21	11
20	23	12
22	26	13
24	28	14







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SHEET TITLE
OPEN TOP DETAIL

SHEET NO.
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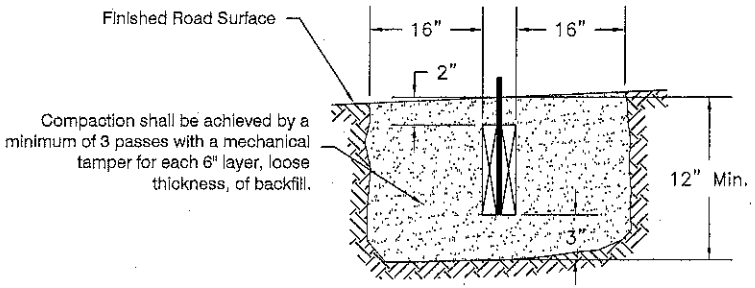
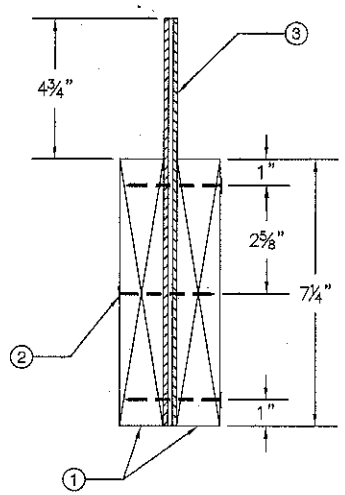
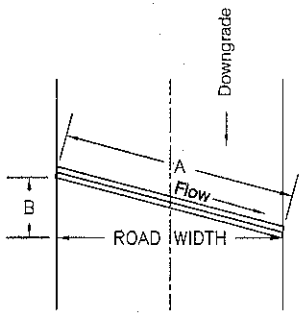
SURFACE WATER DEFLECTOR



INSTALLATION DETAILS
NOT TO SCALE



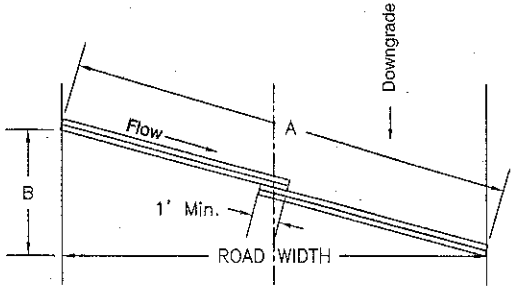
1. 2"x8" Hemlock or fir plank, treated, # 2 grade or better. All splices shall be staggered a minimum of 2 feet.
2. 16d galvanized nails on 12" spacing with middle row staggered.
3. 12" Goodyear Plylon Plus 375 with a minimum thickness of 7/16". Other commercial brands may be used, but the belt thickness shall be equal to or greater than 7/16" and shall have a minimum breaking strength of 4200 psi. The plies shall be made of nylon for belt stiffness. Material shall be one continuous length.



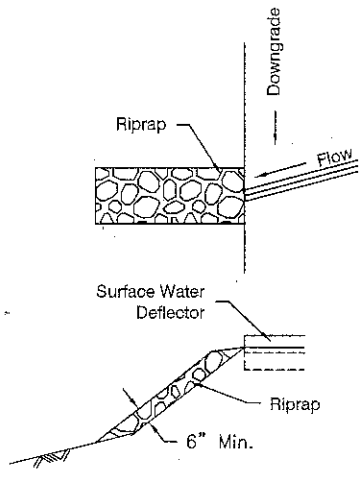
Single Lane Section

VALUES FOR SKEWED INSTALLATION (IN FEET)

ROAD WIDTH	A	B
12	14	7.2
13	16	9.3
14	16	7.7
15	18	9.9
16	18	8.2
17	20	10.5
18	20	8.7



Double Lane Section



RIPRAP DETAIL
- WHEN REQUIRED -

NOTES:

A. All treated lumber shall be incised and pressure treated in accordance with AWPA C-2 for ground contact.

B. FIELD TREATMENT: All abrasions and cuts made in the field shall be carefully trimmed and given three brush coats of the treatment solution. Holes drilled in the field shall be poured full of preservative and plugged with tight fitting treated plugs.

C. All hardware shall conform to standard Spec. 716.02 and shall be galvanized. Lumber shall conform to Spec. 716.03.

D. Outlet of deflector shall be minimum 0.6 foot lower than inlet.

E. Certifications: One copy of the following compliance certificates shall be furnished upon delivery of the materials:

   I. Supplier certification that all wood materials meet the requirements as to species and grade.

   II. Certification of treatment of lumber to include type of preservative, retention in pounds per cubic foot (assay method) and penetration in inches, by a qualified inspection and testing agency.

   III. Supplier certification that all rubber belting materials meet the requirements as noted in 3 above.

NOT TO SCALE

REVISION

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
KOOTENAI NATIONAL FOREST
FILE No.

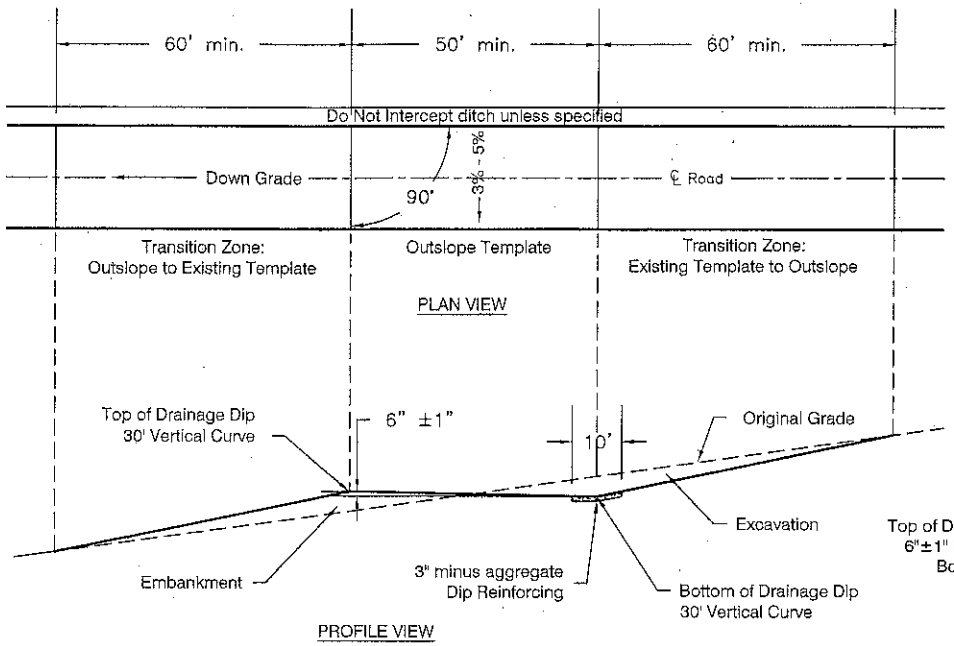
KOOTENAI NATIONAL FOREST
SUTTON 5000

DESIGNED BY V HOGAN 5/11
DRAWN BY M PRICE 5/11
CHECKED BY M PRICE 5/11

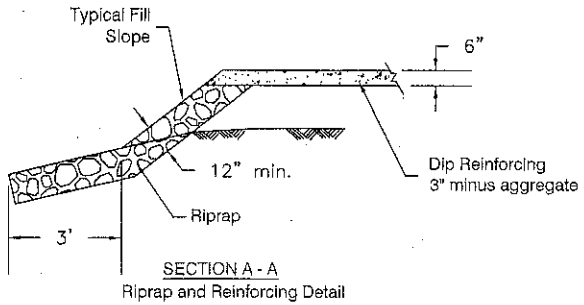
SHEET TITLE
SURFACE WATER DEFLECTOR

SHEET NO.
10 OF 13

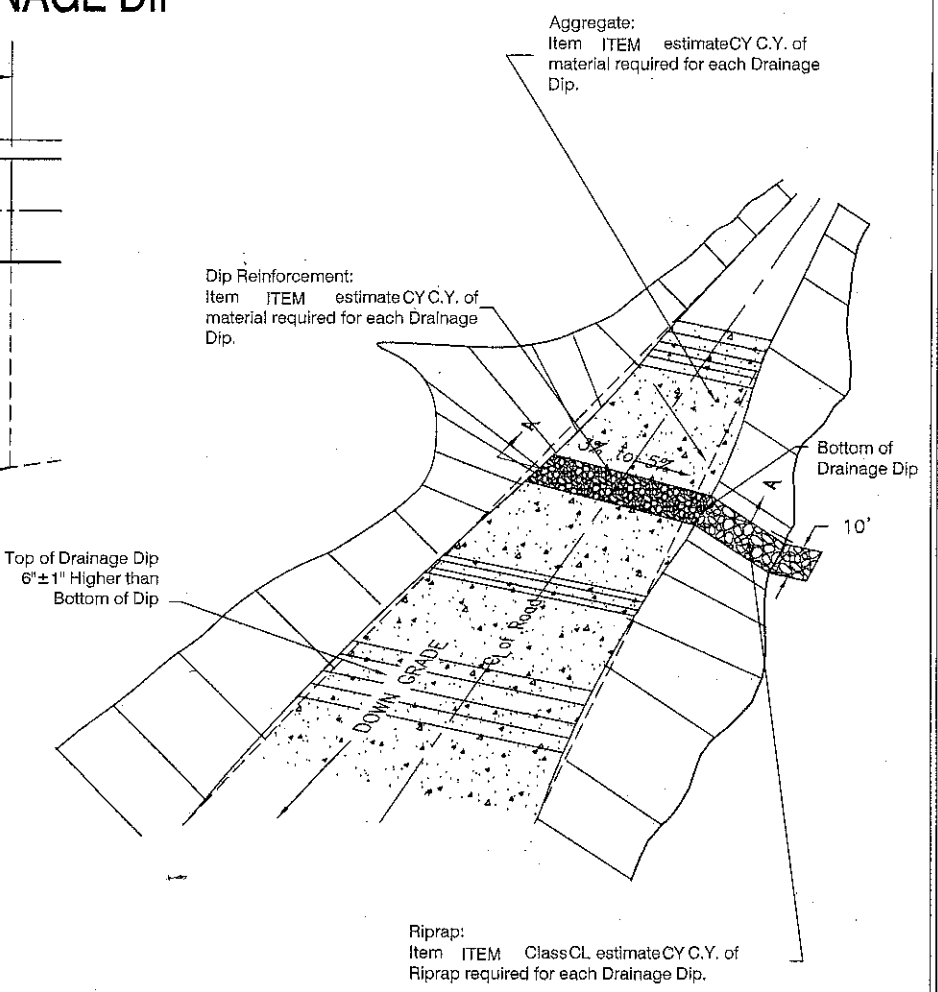
DRAINAGE DIP



Drawings Not To Scale



Riprap and Reinforcing Detail



Notes:

Excavation below the existing grade line will be used as embankment on the down grade side of the dip.

All disturbances shall be kept within the limits of the Drainage Dip.

Aggregate, Dip Reinforcement, or Riprap will only be required when specified in the Drainage Listing or Reconstruction Log.

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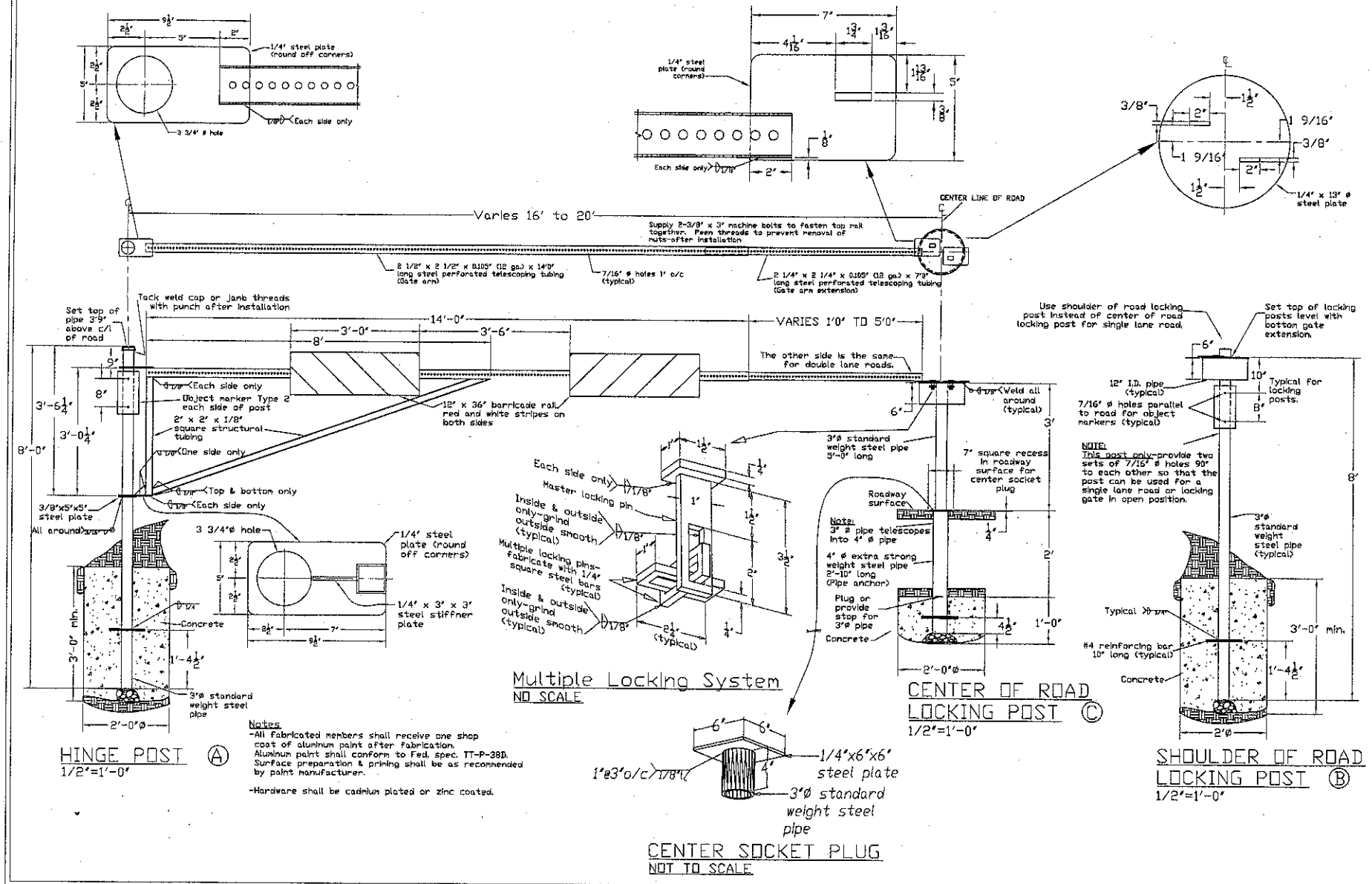
SHEET TITLE
DRAINAGE DIP DETAIL

SHEET NO.
11 OF 13



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REVISION

KOOTENAI NATIONAL FOREST

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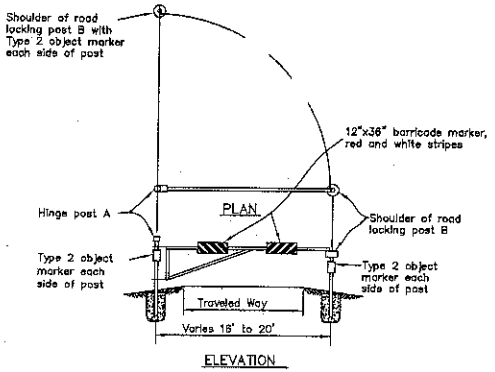
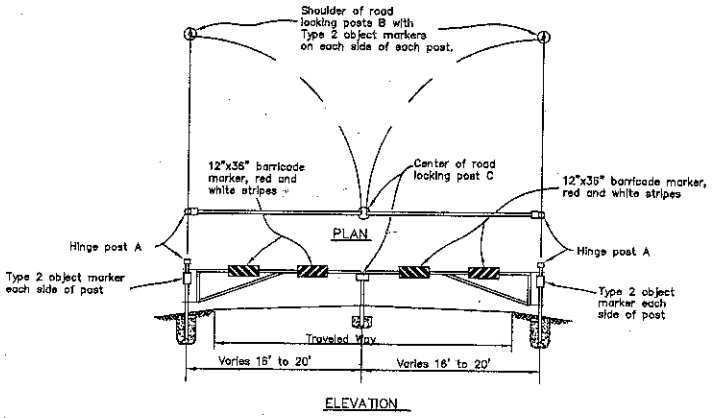
SHEET TITLE
GATE INSTALLATION DETAILS

SHEET NO.
12 OF 13



SINGLE LANE ROAD
No Scale



DOUBLE LANE ROAD
No Scale

1. MATERIAL LIST FOR SINGLE LANE ROAD GATE

(Fits roadway closures from 16 to 20 feet wide)

Quantity	Description
1	Gate arm and arm extension
1	Hinge post A with pipe cap
2	Locking posts B
1	Master locking pin
2	Locking system bars
2	12"x36" barricade marker, red and white stripes
6	6"x12" Type 2 object marker
2	3/8"x3" machine bolts for gate extension
4	3/8"x4" carriage bolt with 1 cut and 1 lock washer for markers on gate arm
6	3/8"x6" carriage bolt with 1 cut and 1 lock washer for object markers on posts

1 cu. yd. Concrete to embed 3 posts

2. MATERIAL LIST FOR DOUBLE LANE ROAD GATE

(Fits roadway closures from 32 to 40 feet wide)

Quantity	Description
2	Gate arm and arm extension
2	Hinge posts A with pipe caps
2	Locking posts B
1	Locking post C
1	Pipe anchor
1	Center socket plug
2	Master locking pins
4	Locking system bars
4	12"x36" barricade marker, red and white stripes
8	6"x12" Type 2 object marker
4	3/8"x3" machine bolts for gate extension
8	3/8"x4" carriage bolt with 1 cut and 1 lock washer for markers on gates
8	3/8"x6" carriage bolt with 1 cut and 1 lock washer for object markers on posts

1.5 cu. yd. Concrete to embed 5 posts

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KOOTENAI NATIONAL FOREST

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SHEET TITLE
GATE INSTALLATION DETAILS

SHEET NO.
13 OF 13