

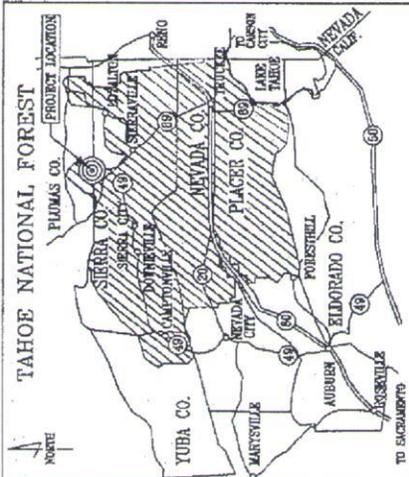
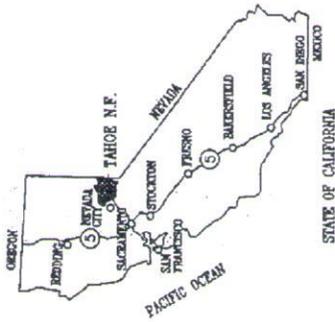
UNITED STATES DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
 REGION FIVE



SADDLE NE SBA TIMBER SALE

PLANS FOR PROPOSED
 FOREST DEVELOPMENT ROADS

TAHOE NATIONAL FOREST
 SIERRA COUNTY



ROAD(S) INDEX

ROAD NO.	ROAD NAME	RECONST. MILES	NEW CONST. MILES	DESIGN STANDARD
71-41-70	CARMEN VALLEY SPUR	0.54	N/A	S-5

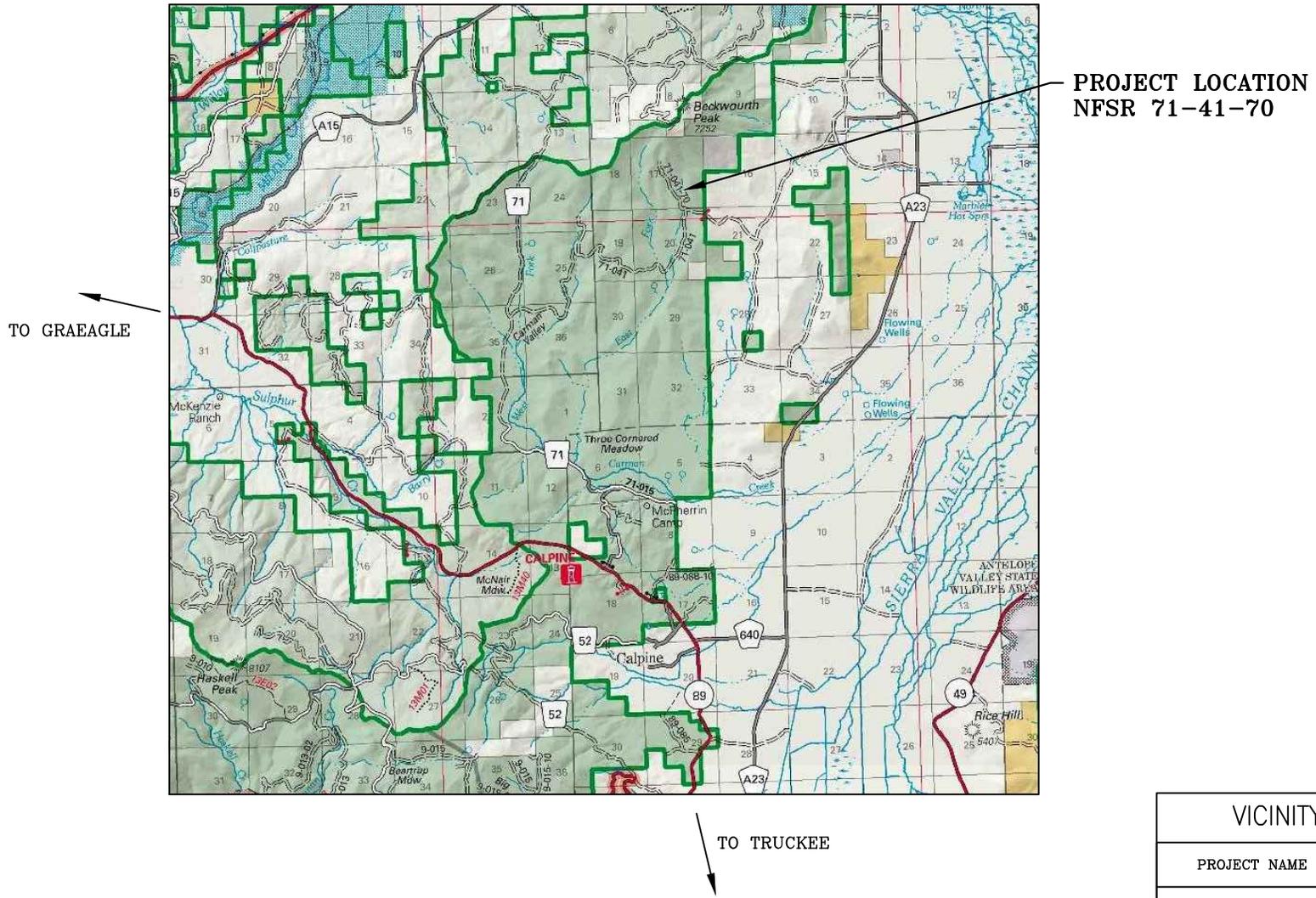
SHEET(S) INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	VICINITY MAP
3	RECONSTRUCTION REQUIREMENTS
4	71-41-70 RECONSTRUCTION PLANS
5	WATER BAR DETAILS
6	CONSTRUCTION SIGNS

REVIEWED BY:	ENGINEERING DATE	DISTRICT DATE	STATE FOREST DATE	FOREST ENGINEER	DATE	STATE FOREST DATE	PROJECT NAME	SHEET NUMBER	OF SHEETS
	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	SADDLE NE SBA I.S.	1	6

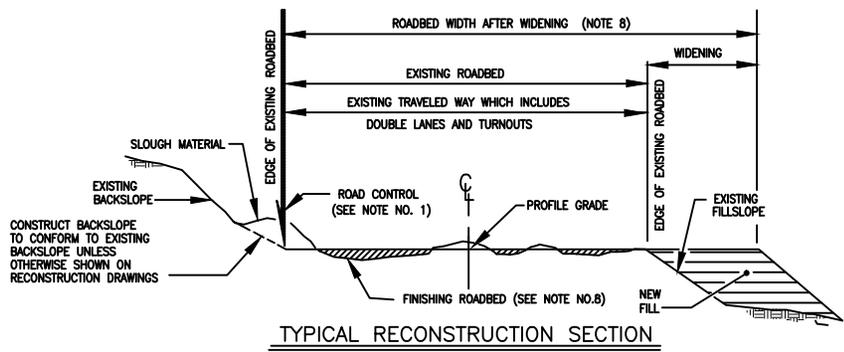
[Handwritten signature]

VICINITY MAP

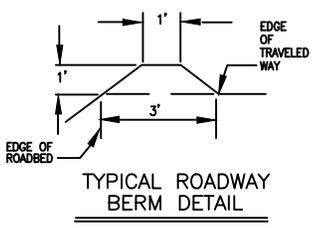


VICINITY MAP

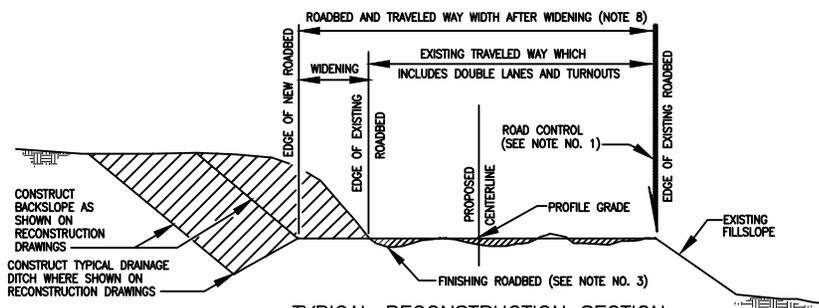
PROJECT NAME	SHEET NUMBER	OF SHEETS
SADDLE NE SBA T.S.	2	6



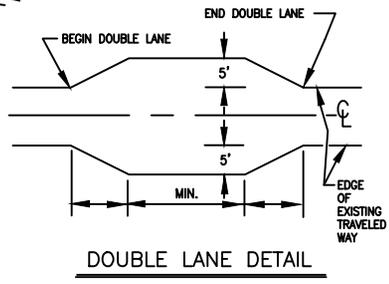
TYPICAL RECONSTRUCTION SECTION



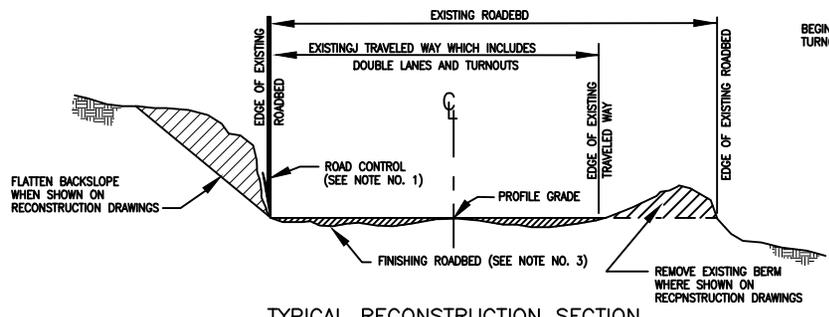
RECONSTRUCTION SCHEDULE								
ROAD NUMBER	SLASH TREATMENT METHODS			EMBANKMENT PLACEMENT METHODS	TOLERANCE CLASS	PAVEMENT STRUCTURE		
	TOPS & LIMBS	LOGS	STUMPS			STA. TO STA.	DEPTH	TYPE
71-41-70	C,H		F					



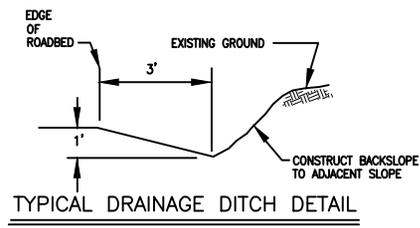
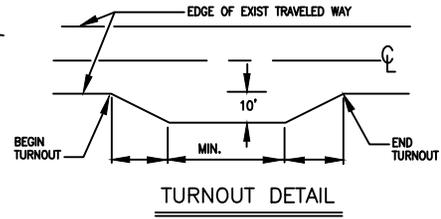
TYPICAL RECONSTRUCTION SECTION SHOWING WIDENING AND DRAINAGE DITCH



- NOTES:
- ROAD CONTROL**
WHEN SHOWN ON THE RECONSTRUCTION DRAWINGS, ROAD CONTROL SHALL BE THE POINT FROM WHICH ALL WIDTH MEASUREMENTS ARE MADE.
 - CLEARING**
CLEARING WIDTH SHALL BE 4' BEYOND EDGE OF ROAD OR BOTTOM OF DITCH, WHICHEVER IS GREATER.
 - FINISHING ROADBED**
ALL AREAS SHOWN ON THE RECONSTRUCTION DRAWINGS WHERE WORK IS REQUIRED SHALL BE SHAPED AND DRESSED.
 - TRAVELED WAY WIDTH**
TRAVELED WAY WIDTH SHALL REMAIN AS EXISTING UNLESS SPECIFIED OTHERWISE ON THE RECONSTRUCTION DRAWINGS.
 - CROSS SLOPE**
CROSS SLOPE SHALL REMAIN AS EXISTING UNLESS SPECIFIED OTHERWISE ON THE RECONSTRUCTION DRAWINGS.
 - EXCESS EXCAVATION**
UNLESS SPECIFIED OTHERWISE ON THE RECONSTRUCTION DRAWINGS, EXCESS EXCAVATION FROM WIDENING ROADBED, FLATTENING BACKSLOPES, TURNOUTS, DOUBLE LANES, DITCHES, DIPS, SLOUGH MATERIAL AND BERM REMOVAL SHALL BE PLACED AND SPREAD ON ROADBED.
 - BERM REMOVAL**
WHEN SPECIFIED ON THE RECONSTRUCTION DRAWINGS, BERMS SHALL BE REMOVED TO THE EXISTING SUBGRADE ELEVATION AND SHALL CONFORM TO EXISTING CROSS SLOPE.
 - WIDENING**
WIDENING DISTANCE AND WIDTH AFTER WIDENING IS SHOWN ON THE RECONSTRUCTION PLANS.



TYPICAL RECONSTRUCTION SECTION SHOWING FLATTER BACKSLOPE AND BERM REMOVAL



RECONSTRUCTION REQUIREMENTS		
PROJECT NAME	SHEET NUMBER	OF SHEETS
SADDLE NE SBA T.S.	3	6

Reconstruction Plans

Road Number: 71-41-70

Outslope 2%

Road Name: Carmen Valley Spur.

Shoulders N/A

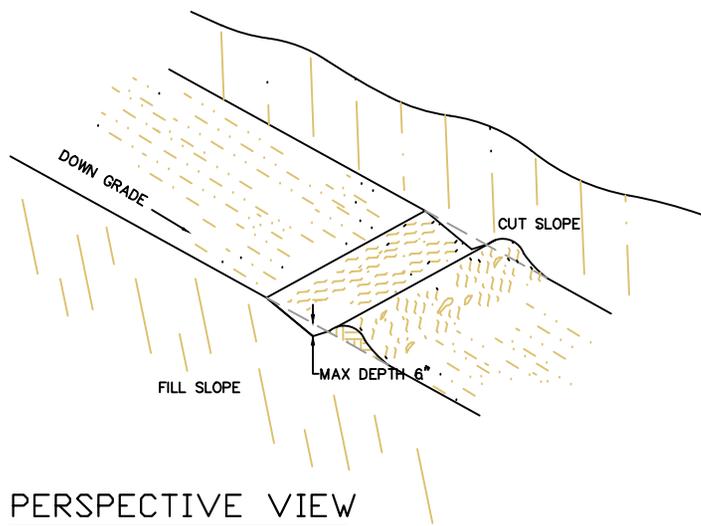
Notes:

- 1) 14' Minimum road width.
- 2) Clearing limits – 4' beyond edge of road or bottom of ditch, whichever is greater.

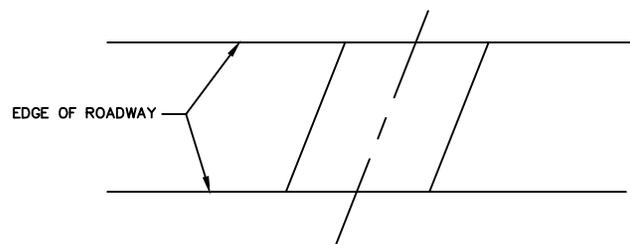
<u>Station</u>	<u>Description of work</u>
0+00	Beginning of Project. Intersection of 71-41 Road.
0+87	Begin ¾" aggregate. 4" depth 14' wide. (Compaction Method A)
2+21	Install 30' of 36" CMP (Compaction Method B)
3+14	End ¾" aggregate
3+82	Construct waterbar
5+12	Construct waterbar
6+60	Construct waterbar
8.39+	Construct waterbar
10+25	Construct waterbar
12+52	Construct waterbar
14+60	Construct waterbar
16+85	Construct waterbar
18+75	Construct waterbar
20+25	Construct waterbar
20+35	Remove rock, 2 stumps, and 2 small pines.
23+00	Construct waterbar
25+00	Construct waterbar
27+50	Construct waterbar
28+65	End of Project

WATER BAR DETAIL

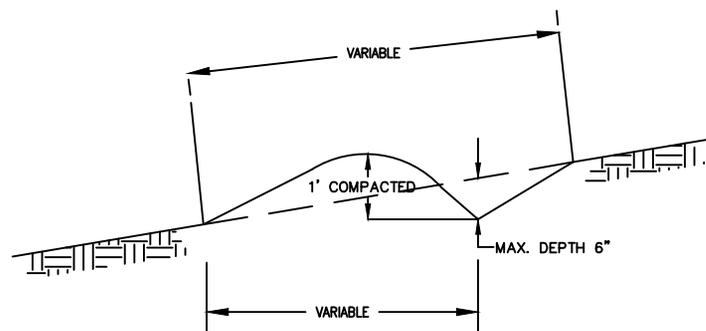
For Use on Open Roads
NO SCALE



PERSPECTIVE VIEW



PLAN VIEW



PROFILE VIEW

- NOTES
1. ALL WATER BARS SHALL BEGIN AT THE INTERSECTION OF THE ROADBED AND CUT SLOPE AND RUN ACROSS THE ENTIRE WIDTH OF THE ROADBED.
 2. ALL WATER BARS SHALL HAVE FREE FLOWING OUTLETS.
 3. WHEN STAKES ARE USED, THEY SHALL DESIGNATE THE OUTLET LOCATION.

WATER BAR DETAIL		
PROJECT NAME	SHEET NUMBER	OF SHEETS
SADDLE NE SBA T.S.	5	6

ROAD SUBJECT
TO ___ HR. DELAY

FG 20-5-36
FG 20-5-48
24" x 12"

DETOUR

M4-10L
30" x 9"
RIGHT OR LEFT

END
ROAD WORK

G20-2
36" x 18"

ROAD
MACHINERY
AHEAD

W21-3
30" x 30" MIN.
36" x 36" TYPICAL

DETOUR
AHEAD

W20-2
30" x 30" MIN.
36" x 36" TYPICAL

DETOUR
500 FT

W20-2
30" x 30" MIN.
36" x 36" TYPICAL

FRESH
OIL

W21-2
30" x 30" MIN.
36" x 36" TYPICAL



W21-1
30" x 30" MIN.
36" x 36" TYPICAL



W20-7
30" x 30" MIN.
36" x 36" TYPICAL

ROAD
WORK
AHEAD

W20-1
30" x 30" MIN.
36" x 36" TYPICAL

ROUGH
ROAD

W8-8
30" x 30" MIN.
36" x 36" TYPICAL

ONE LANE
BRIDGE

W5-3
30" x 30" MIN.
36" x 36" TYPICAL

TRUCK
CROSSING

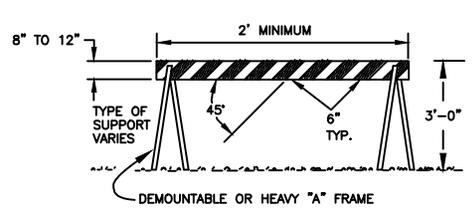
W8-6
30" x 30" MIN.
36" x 36" TYPICAL

LOOSE
GRAVEL

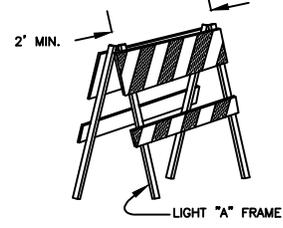
W8-7
30" x 30" MIN.
36" x 36" TYPICAL

GENERAL NOTES:

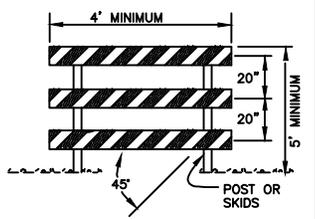
- DESIGNS FOR SIGNS AND CHANNELIZING DEVICES SHALL BE IN ACCORDANCE WITH MINIMUM STANDARDS IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" LATEST EDITION.
- SIGNS SHALL BE MADE FROM SUITABLE MATERIALS WHICH ARE IN ACCORDANCE WITH ALL STATE AND FEDERAL SPECIFICATIONS.
- ALL CONSTRUCTION SIGNS SHALL BE BLACK ON ORANGE.
- SIGNS THAT ARE INTENDED TO BE USED DURING AN HOUR OF DARKNESS OR LONGER THAN THREE DAYS IN THE SAME LOCATION SHALL BE EITHER RETROREFLECTIVE OR ILLUMINATED.
- SIGN SUBSTRATE MAY BE WOOD, METAL, POLYPLATE, FABRIC OR OTHER APPROVED MATERIAL.
- SIGNS SHALL BE LOCATED WHERE THEY WILL BE CONSPICUOUSLY VISIBLE DAY AND NIGHT ON THE RIGHT HAND SIDE OF APPROACHING TRAFFIC. THEY SHALL BE FACING TRAFFIC AND LOCATED WHERE THEY CAN BE SEEN AT ALL TIMES BY APPROACHING DRIVERS.
- WHEN A SIGN IS REQUIRED FOR AN EXTENDED PERIOD, IT SHALL BE FASTENED TO 4 X 4 POSTS WITH 2-3/8" CARRIAGE BOLTS. PORTABLE CRASHWORTHY SUPPORTS ARE PERMITTED FOR SHORT PERIODS PROVIDED THE CONSTRUCTION IS SUCH THAT WIND OR OTHER AGENTS CANNOT READILY UPSET THE SIGN.
- ADVANCE WARNING SIGNS OF CONSTRUCTION ACTIVITIES SHOULD BE LOCATED BETWEEN 500 AND 1500 FEET IN ADVANCE OF CONSTRUCTION, DEPENDING UPON THE PREVAILING SPEED ON THE ROAD.
- OTHER SIGNS, NOT SHOWN, THAT BETTER DESCRIBE THE CONSTRUCTION ACTIVITY MAY BE USED PROVIDED THEY ARE IN CONFORMANCE WITH MUTCD STANDARDS AND COMMONLY USED BY OTHER AGENCIES.
- SELECTION AND PLACEMENT OF ALL SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
- LIGHTING DEVICES SUCH AS FLASHERS, TORCHES, LANTERNS AND ELECTRIC LIGHTS SHALL BE PLACED AND MAINTAINED FROM SUNSET TO SUNRISE AT ALL POINTS OF HAZARD AND AT ALL SIGNS INDICATING CAUTION.
- DIAMOND WARNING SIGNS SHALL BE 30" X 30" OR LARGER FOR LOW VOLUME ROADS. A LOW VOLUME ROAD IS DEFINED AS HAVING AN AVERAGE OF LESS THAN 400 VEHICLES PER DAY AND AN 85TH PERCENTILE SPEED OF LESS THAN 35 MILES PER HOUR.
- DIAMOND WARNING SIGNS FOR CONVENTIONAL ROADS SHALL BE 36" X 36" OR LARGER.
- BARRICADES SHALL BE CRASHWORTHY.
- THE SIDES OF BARRICADES FACING TRAFFIC SHALL HAVE RETROREFLECTIVE RAIL FACES.
- STRIPES ON BARRICADE RAILS SHALL BE ALTERNATING ORANGE AND WHITE.



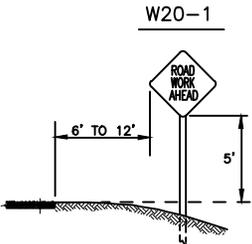
TYPE I BARRICADE



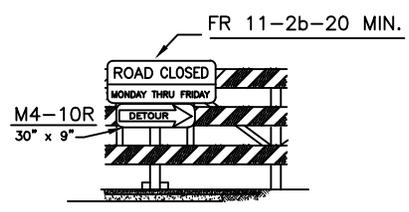
TYPE II BARRICADE



TYPE III BARRICADE



W20-1



M4-10R
30" x 9"

FR 11-2b-20 MIN.

CONSTRUCTION SIGNS		
PROJECT NAME	SHEET NUMBER	OF SHEETS
SADDLE NE SBA T.S.	6	6

Schedule of Items Applicable to A7 and B5.2

Sale Name: Saddle NE SBA TS	Road Name: Carmen Valley Sp	Road Number: 71-41-70	Segment No.:
New construction: No	Reconstruction: Yes	Design Class: S-5	Survey Class:
Station: 0+00 to 28+65		Equations: No	Length: 0.54 Miles
Estimated By: Robert Reugebrink	Checked By:	DE Review:	SO Review:
Cost Guide Date: Nov-93	Estimation Date: 07/15/16	Tahoe National Forest	Page: 1 of 1

1	2	3	4	5	6	7	8	9	10	11	12
Item No.	Description	Method of Measure	Unit of Measure	Base Unit Cost	Projection Factor	Estimated Unit Cost	Red. Factor	Reduced Unit Cost	Estimated Quantity	Road Const. Cost	P.W. Road Const. Cost
<u>PRISM</u>											
299(01)	Composite Road Reconstruction	DQ	Mile	15,000.00	1.72	25,800.00	0.72	18,576.00	0.54	10,031.04	13,932.00
204(20)	Drainage excavation - waterbar	DQ	Each	50.00	1.03	51.50	0.72	37.08	13	482.04	669.50
SUBTOTAL										10,513.08	14,601.50
<u>CULVERT</u>											
602(01)	36" Corrugated Metal Pipe		Material	31.95	1	31.95	1.00	31.95			
	0.064 Inch Thickness for Steel or		Install	26.83	1.72	46.15	0.54	24.92			
	0.060 Inch Thickness for Aluminum	AQ	Lin. Ft.			78.10		56.87	30	1,706.09	2,342.93
SUBTOTAL										1,706.09	2,342.93
<u>SURFACE</u>											
301(09)	Aggregate surface course, Grading G, Compaction Meth C	AQ	Ton	45.00	1	45.00	1.00	45.00	70	3,150.00	3,150.00
SUBTOTAL										3,150.00	3,150.00
TOTAL										15,369.17	20,094.43

DQ = Design Quantity

VQ = Vehicle Quantity

LSQ = Lump Sum Quantity

AQ = Actual Quantity

SQ = Staked Quantity

C5.213 Deposits for Reconstruction Engineering Services

Saddle NE SBA Timber Sale

7/14/2016

Name	Cost/hour	Recon		Survey		Design/Prep		Design changes	
		Hour	Cost	Hour	Cost	Hour	Cost	Hour	Cost
Draper	\$41.56		\$0.00		\$0.00	1	\$41.56	1	\$41.56
Rios	\$61.32		\$0.00		\$0.00	1	\$61.32	1	\$61.32
Reugebrink	\$34.34	8	\$274.72	8	\$274.72	16	\$549.44	2	\$68.68
			\$0.00		\$0.00		\$0.00		\$0.00
			\$0.00		\$0.00		\$0.00		\$0.00
			\$0.00		\$0.00		\$0.00		\$0.00
			\$0.00		\$0.00		\$0.00		\$0.00
			\$0.00		\$0.00		\$0.00		\$0.00
Vehicle #	Cost/mile	Miles		Miles		Miles		Miles	
836	0.49	50	\$24.50	50	\$24.50		\$0.00	50	\$24.50
			\$0.00		\$0.00		\$0.00		\$0.00
			\$0.00		\$0.00		\$0.00		\$0.00
Supplies									
Total			\$299.22		\$299.22		\$652.32		\$196.06

Total from above		\$1,446.82
Future Design Changes	0%	\$0.00
Engineering	10%	\$144.68
S.O. Overhead	14%	\$202.55
Multi-Line	11%	\$159.15
Grand Total		\$1,953.21

Prism	69%	\$1,347.71
Culvert	11%	\$214.85
Surface	20%	\$390.64

Note: Employee cost to government as of pay period 14 of 2016

Saddle NE SBA Timber Sale
Forest Service Supplemental Specifications

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Preface

Preface_wo_03_15_2004_m

Delete all but the first paragraph and add the following:

The Forest Service, US Department of Agriculture has adopted FP-03 for construction of National Forest System Roads.

Saddle NE SBA Timber Sale
Forest Service Supplemental Specifications
101 - Terms, Format, and Definitions

101.00_nat_us_07_25_2005

101.01_nat_us_01_22_2009

101.01 Meaning of Terms

Delete all references to the TAR (Transportation Acquisition Regulations) in the specifications.

101.03_nat_us_06_16_2006

101.03 Abbreviations.

Add the following to (a) Acronyms:

AFPA	American Forest and Paper Association
MSHA	Mine Safety and Health Administration
NIST	National Institute of Standards and Technology
NESC	National Electrical Safety Code
WCLIB	West Coast Lumber Inspection Bureau

.

Add the following to (b) SI symbols:

mp	Milepost
ppm	Part Per Million

101.04_nat_us_03_29_2007

101.04 Definitions.

Delete the following definitions and substitute the following:

Bid Schedule--The Schedule of Items.

Bridge--No definition.

Contractor--The individual or legal entity contracting with the Government for performance of prescribed work. In a timber sale contract, the contractor is the “purchaser”.

Culvert--No definition.

Right-of-Way--A general term denoting (1) the privilege to pass over land in some particular line (including easement, lease, permit, or license to occupy, use, or traverse public or private

Saddle NE SBA Timber Sale

Forest Service Supplemental Specifications

lands), or (2) Real property necessary for the project, including roadway, buffer areas, access, and drainage areas.

Add the following:

Adjustment in Contract Price--“Equitable adjustment,” as used in the Federal Acquisition Regulations, or “construction cost adjustment,” as used in the Timber Sale Contract, as applicable.

Change--“Change” means “change order” as used in the Federal Acquisition Regulations, or “design change” as used in the Timber Sale Contract.

Design Quantity--“Design quantity” is a Forest Service method of measurement from the FS-96 *Forest Service Specifications for the Construction of Roads and Bridges*. Under these FP specifications this term is replaced by the term “Contract Quantities”.

Forest Service--The United States of America, acting through the Forest Service, U.S. Department of Agriculture.

Neat Line--A line defining the proposed or specified limits of an excavation or structure.

Pioneer Road--Temporary construction access built along the route of the project.

Purchaser--The individual, partnership, joint venture, or corporation contracting with the Government under the terms of a Timber Sale Contract and acting independently or through agents, employees, or subcontractors.

Protected Streamcourse--A drainage shown on the plans or timber sale area map that requires designated mitigation measures.

Road Order--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

Schedule of Items--A schedule in the contract that contains a listing and description of construction items, quantities, units of measure, unit price, and amount.

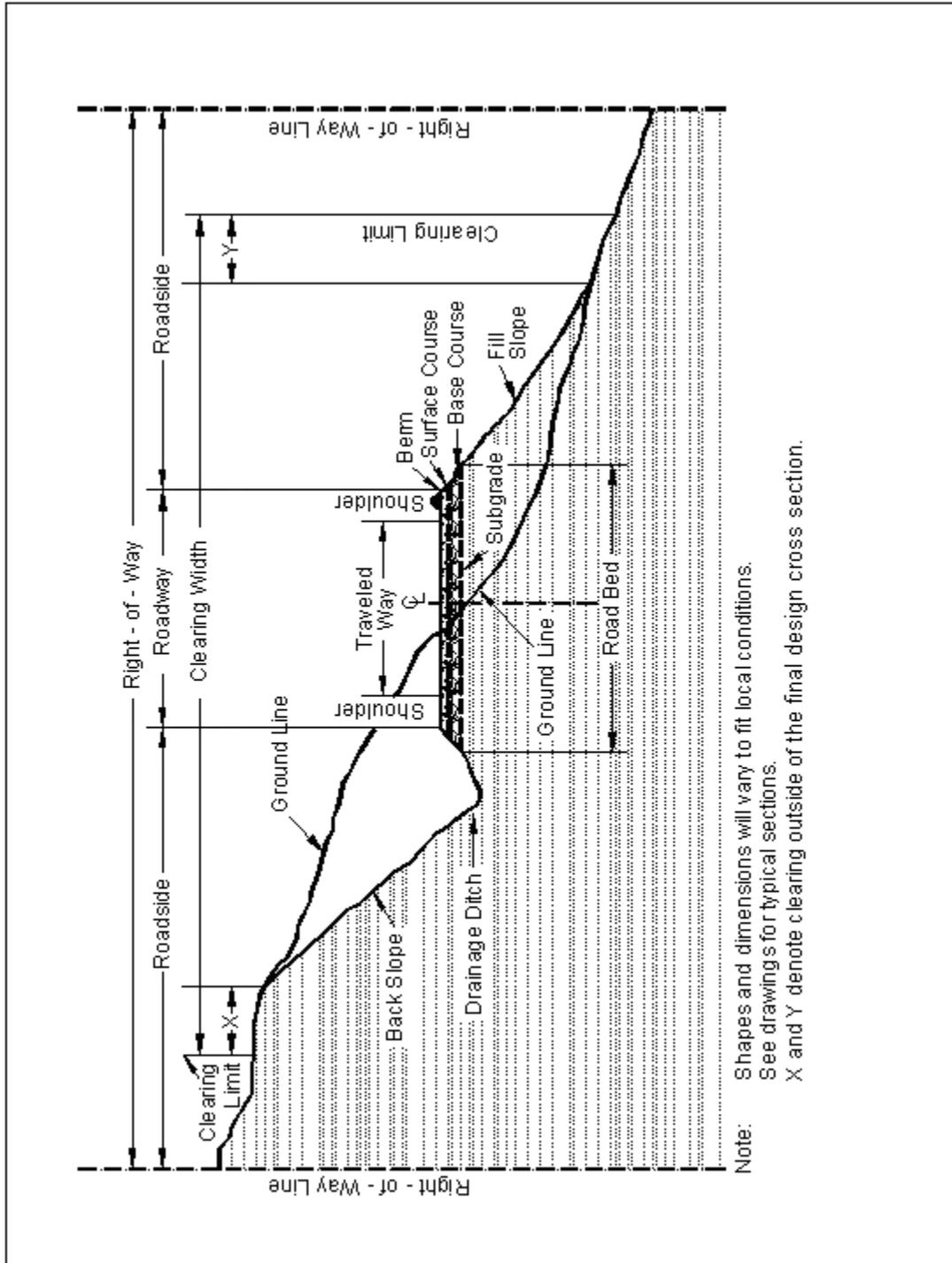
Utilization Standards--The minimum size and percent soundness of trees described in the specifications to determine merchantable timber.

Add Figure 101-1—Illustration of road structure terms:

Saddle NE SBA Timber Sale

Forest Service Supplemental Specifications

Figure 101-1—Illustration of road structure terms.



Saddle NE SBA Timber Sale
Forest Service Supplemental Specifications
102 - Bid, Award, and Execution of Contract

102.00_nat_us_02_16_2005

102 Bid, Award, and Execution of Contract

Delete Section 102 in its entirety.

Saddle NE SBA Timber Sale
Forest Service Supplemental Specifications
103 - Scope of Work

103.00_nat_us_02_16_2005

Deletions

Delete all but subsection 103.01 Intent of Contract.

Saddle NE SBA Timber Sale
Forest Service Supplemental Specifications
104 - Control of Work

104.00_nat_us_06_16_2006

Deletions

Delete Sections 104.01, 104.02, and 104.04.

104.06_nat_us_02_17_2005

Add the following subsection:

104.06 Use of Roads by Contractor

The Contractor is authorized to use roads under the jurisdiction of the Forest Service for all activities necessary to complete this contract, subject to the limitations and authorizations designated in the Road Order(s) or described in the contract, when such use will not damage the roads or national forest resources, and when traffic can be accommodated safely.

Saddle NE SBA Timber Sale
Forest Service Supplemental Specifications
105 - Control of Material

105.02_nat_us_01_18_2007

105.02 Material Sources.

105.02(a) Government-provided sources.

Add the following:

Comply with the requirements of 30 CFR 56, subparts B and H. Use all suitable material for aggregate regardless of size unless otherwise designated. When required, re-establish vegetation in disturbed areas according to section 625.

105.05_nat_us_05_12_2004

105.05 Use of Material Found in the Work.

Delete 105.05 (a) and (b) and the last sentence of the second paragraph and substitute the following:

Materials produced or processed from Government lands in excess of the quantities required for performance of this contract are the property of the Government. The Government is not obligated to make reimbursement for the cost of producing these materials.

Saddle NE SBA Timber Sale
Forest Service Supplemental Specifications
106 - Acceptance of Work

106.07_nat_us_05_11_2004

106.07 Delete

Delete subsection 106.07.

Saddle NE SBA Timber Sale
Forest Service Supplemental Specifications

107 - Legal Relations and Responsibility to the Public

107.10_05_us_05_04_2007

107.02 Protection and Restoration of Property and Landscape

Add the following:

Meet the requirements chapters 10, 11, and 12.2 in their entirety of “Water Quality Management for National Forest System Lands in California Best Management Practices” dated September 2000

107.05_nat_us_05_11_2004

107.05 Responsibility for Damage Claims.

Delete the entire subsection.

107.06_nat_us_06_16_2006

107.06 Contractor’s Responsibility for Work.

Delete the following from the first paragraph.

“except as provided in Subsection 106.07”.

107.09_nat_us_06_16_2006

107.09 Legal Relationship of the Parties.

Delete the entire subsection.

107.10_nat_us_06_16_2006

107.10 Environmental Protection.

Add the following:

Design and locate equipment repair shops, stationary refueling sites, or other facilities to minimize the potential and impacts of hazardous material spills on Government land.

Before beginning any work, submit a Hazardous Spill Plan. List actions to be taken in the event of a spill. Incorporate preventive measures to be taken, such as the location of mobile refueling facilities, storage and handling of hazardous materials, and similar information. Immediately notify the CO of all hazardous material spills. Provide a written narrative report form no later than 24 hours after the initial report and include the following:

- Description of the item spilled (including identity, quantity, manifest number, and other identifying information).
- Whether amount spilled is EPA or state reportable, and if so whether it was reported, and to whom.
- Exact time and location of spill including a description of the area involved.

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- Containment procedures.
- Summary of any communications the Contractor had with news media, Federal, state and local regulatory agencies and officials, or Forest Service officials.
- Description of clean-up procedures employed or to be employed at the site including final disposition and disposal location of spill residue.

When available provide copies of all spill related clean up and closure documentation and correspondence from regulatory agencies.

The Contractor is solely responsible for all spills or leaks that occur during the performance of this contract. Clean up spills or leaks to the satisfaction of the CO and in a manner that complies with Federal, state, and local laws and regulations.

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108 - Prosecution and Progress

108.00_nat_us_02_16_2005

108 Delete.

Delete Section 108 in its entirety.

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109 - Measurement and Payment

109.00_nat_us_02_17_2005

109 Deletions

Delete the following entire subsections:

109.06 Pricing of Adjustments.

109.07 Eliminated Work.

109.08 Progress Payments.

109.09 Final Payment.

109.02_nat_us_06_16_2006

109.02 Measurement Terms and Definitions.

(b) Contract quantity.

Add the following:

Contract quantities will be adjusted only when there are errors in the original design of 15% or more.

Change the following:

“(b) Cubic yard” to “(c) Cubic yard”.

Add the following definition:

(p) Thousand Board Feet (Mbf). 1,000 board feet based on nominal widths, thickness, and extreme usable length of each piece of lumber or timber actually incorporated in the job. For glued laminated timber, 1,000 board feet based on actual width, thickness, and length of each piece actually incorporated in the job.

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155 - Schedules for Construction Contracts

155.00_nat_us_05_11_2004

155 Delete.

Delete Section 155 in its entirety.

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201 - Clearing and Grubbing

201.06_nat_us_02_18_2005

201.06 Disposal.

Delete the first sentence of this subsection and substitute the following:

Dispose of merchantable timber designated for removal according to the provisions of the timber sale contract.

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203 - Removal of Structures and Obstructions

203.05_nat_us_02_18_2005

203.05 Disposing of Material.

Add the following:

(e) Windrowing Construction Slash. Place construction slash outside the roadway in neat, compacted windrows approximately parallel to and along the toeline of embankment slopes. Do not permit the top of the windrows to extend above subgrade. Use construction equipment to matt down all material in a windrow to form a compact and uniform pile. Construct breaks of at least 15 feet at least every 200 feet in a windrow. Do not place windrows against trees. Obtain approval for pioneer roads. A pioneer road may be constructed to provide an area for placement of windrows, provided the excavated material is kept within the clearing limits and does not adversely affect the road construction.

(f) Scattering. Scatter construction slash outside the clearing limits without damaging trees. Limb all logs. Place logs and stumps away from trees, positioned so they will not roll, and are not on top of one another. Limb and scatter other construction slash to reduce slash concentrations.

(g) Chipping or Grinding. Use an approved chipping machine to grind slash and stumps greater than 3 inches in diameter and longer than 3 feet. Deposit chips or ground woody material on embankment slopes or outside the roadway to a loose depth less than 6 inches. Minor amounts of chips or ground woody material may be permitted within the roadway if they are thoroughly mixed with soil and do not form a layer.

(h) Debris Mat. Use tree limbs, tops, cull logs, split stumps, wood chunks, and other debris to form a mat upon which construction equipment is operated. Place stumps upside down and blend stumps into the mat.

(i) Decking Firewood Material. Remove brush from decks. Limb and deck logs that do not meet Utilization Standards according to Subsection 201.04 as directed by the CO. Cut logs to lengths less than 30 feet. Ensure that logs stacks are stable and free of brush and soil.

(j) Removal to designated locations. Remove construction slash to designated locations.

(k) Piling. Pile construction slash in designated areas. Place and construct piles so that if the piles are burned, the burning will not damage remaining trees. Keep piles free of dirt from stumps. Cut unmerchantable logs into lengths of less than 20 feet.

(l) Placing Slash on Embankment Slopes. Place construction slash on completed embankment slopes to reduce soil erosion. Place construction slash as flat as practicable on the completed slope. Do not place slash closer than 2 feet below subgrade. Priority for use of available slash is for: (1) through fills; (2) insides of curves; and (3) ditch relief outlets.

(m) Hydrological Sensitive Placement. Where required use this method in combination with other designated methods to dispose of material to reduce erosion and to aid in re-vegetation:

1. Place windrow segments on contours, wrap in type I geotextile.
2. Place logs as log erosion barriers on contours. Place logs so that 80% of their length is on the ground surface.

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3. Scatter slash on bare or disturbed areas within or outside the clearing limits as directed.
4. Scatter chips or ground woody material on bare or disturbed areas within or outside the clearing limits as directed.

Place stumps in swales or on sites to form planting pockets. Place windrow segments on contours, wrap in type I geotextile.

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209 - Structure Excavation and Backfill

209.10_nat_us_10_23_2007

209.10 Backfill.

(a) General.

Add the following:

Replace any pipe that is distorted by more than 5 percent of nominal dimensions, or that is ruptured or broken.

Do not place or backfill pipe that meets any of the following conditions until the excavation and foundation have been approved in writing by the CO:

- Embankment height greater than 6 feet at subgrade centerline.
- Installation in a protected streamcourse.
- Round pipe with a diameter of 48 inches or greater.
- Pipe arches with a span of 50 inches or greater.
- Any box culvert of structure other than pipe culverts.

(b) Pipe culverts.

(1) Pipe culverts with compacted backfill.

Add the following:

Excavate an area on each side of the pipe as needed to effectively achieve compaction requirements. Backfill without damaging or displacing the pipe. Complete backfilling of the trench with suitable material.

209.11_nat_us_02_24_2005

209.11 Compacting.

Delete the subsection and add the following:

Compact backfill using designated compaction method A, B, or C:

Method A. Ensure that backfill density exceeds the density of the surrounding embankment.

Method B. Adjust the moisture content of the backfill material to a moisture content suitable for compaction. Compact each layer using appropriate compaction equipment until visual displacement ceases. For compaction under sections 252, 254, 255, 257, 258 and 262 compact with a vibratory steel wheeled roller with a mass of at least 8 tons.

Method C. Determine optimum moisture content and maximum density according to AASHTO T 99 method C. Adjust the moisture content of the backfill material to a moisture

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content suitable for compaction. Compact material placed in all layers to at least 95 percent of the maximum density. Determine the in place density and moisture content according to AASHTO T 310 or other approved test procedures.

Table 209-1 Sampling and Testing Requirements

Add the following:

(2) Compaction methods (A) and (B) do not require AASHTO T-99 or T-310 test methods for foundation fill.

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299 – Composite Road Reconstruction

R5-17 08/16

Description

299.01 WORK. This work shall consist of clearing and grubbing, excavation and embankment. Clearing and grubbing shall include treatment of merchantable timber, and disposal of construction slash, including all designated trees. Excavation and embankment shall include drainage excavation, shaping the roadway, including approaches, turnarounds, ditches, and drainage dips, and disposal of all excavated material. Construction of the roadway shall be in conformance with the dimensions SHOWN ON THE DRAWINGS and DESIGNATED on the ground.

Construction Requirements

299.02 CLEARING AND DISPOSAL. All trees, snags, downed timber, brush and stumps within the clearing limits shall be removed and disposed of by:

- a) Decking or removing timber meeting utilization standards (merchantable timber).
- b) Decking unmerchantable timber. Logs not meeting utilization standards that are more than 6 inches in diameter and 10 feet or more in length which are suitable for use as firewood, shall be limbed and bucked into lengths not to exceed 32 feet, and placed in stable decks free of brush and soil. Decks shall be located in areas SHOWN ON THE DRAWINGS or DESIGNATED on the ground. Material not suitable for firewood shall be treated under slash treatment methods.
- c) Purchaser shall treat the construction slash by one or more of the following methods as SHOWN ON THE DRAWINGS:
 - a. **Method A** - Incorporation. Construction slash may be incorporated as part of the embankment provided it is distributed to avoid concentrations or matting, and is covered with a minimum of 18 inches of excavated material. Slash that cannot be incorporated shall be treated by other methods SHOWN ON THE DRAWINGS.
 - b. **Method B** - Windrowing construction slash. When slash is windrowed, it shall be placed approximately parallel to the roadway. The toe of the fill slope may catch or cover the finished windrow, must be covered with a minimum of 18" of excavated material. The windrow shall not hinder equipment during maintenance of the roadway.
 - c. **Method C** - Scattering. Construction slash shall be scattered outside the clearing limits in areas SHOWN ON THE DRAWINGS. Slash shall not be piled higher than 18" above the ground. Limbs having a diameter of between 3" and 6" shall

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be bucked into lengths not exceeding 6 feet. Material over 6" shall not be scattered, but shall be treated under other slash treatment methods.

- d. **Method D** - Piling for future disposal. Construction slash shall be piled in locations SHOWN ON THE DRAWINGS. Piles shall be free of soil and constructed with smaller slash well mixed with larger slash.
- e. **Method E** - Piling and Burning. Construction slash shall be deposited in areas SHOWN ON THE DRAWINGS and DESIGNATED on the ground. Piles shall be constructed so that burning does not damage standing trees. If burning is incomplete, the slash remaining shall be repiled and burned until reduced to 20% or less of their original volume and no individual piece remaining shall be greater than four cubic feet in volume. These pieces shall then be scattered, buried, removed or left in place as SHOWN ON THE DRAWINGS.
- f. **Method F** - Stump placement. Stumps shall be placed at locations SHOWN ON THE DRAWINGS or DESIGNATED IN THE FIELD, and placed on ground that is level or has been leveled in a manner that the stumps will not roll downhill. Stumps shall then be covered with excavated material a minimum of one quarter of the stump volume to prevent their dislodgement. When steep side slopes prevent the successful placement of stumps, the designated disposal sites shall be used.
- g. **Method G** - Bury. Construction slash may be buried within the roadway at locations SHOWN ON THE DRAWINGS, or DESIGNATED IN THE FIELD. Buried material shall be covered with a minimum of 24 inches of excavated material and shall not be buried within 25 feet of culverts. Slash that cannot be buried shall be treated by other methods SHOWN ON THE DRAWINGS.
- h. **Method H** - Chipping. Construction slash up to at least 4 inches in diameter and longer than 3 feet shall be processed through a chipping machine. Chips shall be deposited on embankment slopes or outside the roadway to a loose depth not exceeding 6 inches. Minor amounts of chips may be permitted within the roadway if they are thoroughly mixed with soil and do not form a layer. Chipping may also be accomplished by use of a roadside brushing machine designed for this specific type of work and capable of chipping trees to 10" diameter. The engineer shall approve in writing the type of brushing machine to be used in lieu of a chipping machine. A2500 gallon minimum water truck shall work with the brushing machine when it is in operation for fire protection.

All piles created under Methods D and E shall have a 15 foot fire break cleared between the piles and the adjacent vegetation.

Slash shall not be deposited within 25 feet of stream courses.

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Branches on remaining trees or shrubs shall be trimmed to give a clear height of 14 feet above the roadbed unless otherwise SHOWN ON THE DRAWINGS. Tree limbs shall be trimmed as near flush with the trunk as practicable.

Fell all dead trees that are outside the clearing limits and that lean toward the road and are tall enough to reach the roadbed. Disposed in accordance with (a), (b), or (c).

299.03 EXCAVATION AND EMBANKMENT. The roadway shall be constructed to conform to the typical sections SHOWN ON THE DRAWINGS. Embankment shall be placed by side-casting, end-dumping, or layer placement, as SHOWN ON THE DRAWINGS.

Backslopes shall not be undercut.

Embankment material designated to be layer placed may be end dumped to the minimum depth needed for operation of spreading equipment. Each embankment layer shall be leveled and smoothed before placement of subsequent layers. Hauling and spreading equipment shall be operated uniformly over the full width of each layer, a minimum of three complete passes.

Suitable material shall be placed in layers no more than 12 inches thick, except when the material contains rock more than 9 inches in diameter, in which case layers may be of sufficient thickness to accommodate the material involved. No layer shall exceed 24 inches before compaction.

Rocks too large to be incorporated in the embankment shall be placed on the downhill side, outside the traveled way. Rocks shall be placed so that they will not roll or obstruct drainage. Rocks may not be placed against trees, nor hinder the use and the maintenance of the roadbed.

The location and use of borrow material, and any requirements for the removal and disposal of unsuitable or excess material, will be SHOWN ON THE DRAWINGS.

Unless otherwise SHOWN ON THE DRAWINGS, the roadbed shall be shaped to provide drainage of surface water, and finished to the standard ordinarily accomplished by a motor grader. Individual rocks within the roadbed shall not protrude over two inches above the subgrade. The road bed shall be visibly moist during shaping.

Unless otherwise SHOWN ON THE DRAWINGS, the traveled way width shall not exceed the specified dimension by more than two feet.

MEASUREMENT

299.04 METHOD. The method of measurement will be "Designed Quantities" (DQ) in accordance with Section 109.

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PAYMENT

299.05 BASIS. The accepted quantities will be paid for at the Contract unit price for each pay item shown in the SCHEDULE OF ITEMS.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
299(01)	Composite Road Construction	STA
299(02)	Composite Road Construction	MI
299(03)	Composite Road Construction	LS

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Forest Service Supplemental Specifications
324 - Minor Aggregate, Commercial Source

324.00_nat_us_08_28_2008

Section 324. – MINOR AGGREGATE COURSES – COMMERCIAL SOURCE

Description

324.01 This work consists of constructing one or more courses of aggregate on a prepared surface. Work includes producing aggregate by crushing methods.

Material

324.02 Conform to the following Subsections:

Aggregate	703.06
Water	725.01

Construction Requirements

324.03 General. Prepare the surface on which the aggregate course is placed according to Section 299.

Request approval of the roadbed in writing before placing aggregate.

Develop, haul, and apply water in accordance to Section 170.

Submit aggregate gradations for approval by the CO.

After processing on the road, remove all oversize material from the road and dispose of it as directed by the CO.

If the aggregate is produced and stockpiled before placement, handle and stockpiled according to Section 320. Establish stockpile sites at approved locations.

324.04 Mixing and Spreading. Mix the aggregate and adjust the moisture content to obtain a uniform mixture with moisture content suitable for the specified compaction method. Spread and shape the mixture on the prepared surface in a uniform layer with no segregation of size, and to a loose depth that will provide the required compacted thickness. Place the mixture in a maximum compacted layer thickness of 6 inches.

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When more than one layer is necessary, compact each layer according to Subsection 324.05 before placing the next layer. Route hauling and leveling equipment uniformly over the full width.

When placing aggregate over geotextile, place aggregate in a single lift to the full depth specified.

324.05 Compacting. Compact each layer full width. Roll from the sides to the center, parallel to the centerline of the road. Along curbs, headers, walls, and all places not accessible to the roller, compact the material with approved tampers or compactors.

Compact the aggregate using one of the following methods as specified:

Compaction A. Operating spreading and hauling equipment over the full width of the travelway.

Compaction B. Operate rollers and compact as specified in Subsection 204.11(a)(1).

Compaction C. Moisten or dry the aggregate to a uniform moisture content between 5 and 7 percent based on total dry weight of the mixture. Operate rollers and compact as specified in Subsection 204.11(a)(1).

Compaction D. Compact to a density of at least 95 percent of the maximum density, as determined by AASHTO T 99, method C or D.

Compaction E. Compact to a density of at least 96 percent of the maximum density, as determined by the Modified Marshall Hammer Compaction Method (available upon request from USDA Forest Service, Regional Materials Engineering Center, P.O. Box 7669, Missoula, MT 59807).

Compaction F. Compact to a density of at least 95 percent of the maximum density, as determined by AASHTO T 180, method C or D.

Compaction G. Compact to a density of at least 100 percent of the maximum density as determined by the Modified Marshall Hammer Compaction Method (available upon request from USDA Forest Service, Regional Materials Engineering Center, P.O. Box 7669, Missoula, MT 59807).

For all compaction methods, blade the surface of each layer during the compaction operations to remove irregularities and produce a smooth, even surface. When a density requirement is specified, determine the in place density and moisture content according to AASHTO T 310 or other approved test procedures.

324.06 Construction Tolerance. If grade finishing stakes are required, finish the surface to within ± 0.10 feet from staked line and grade elevation.

If grade finishing stakes are not required, shape the surface to the required template and check the surface with a 10-foot straightedge. Defective areas are surface deviations in excess of 1/2 inch in 10 feet between any two contacts of the straightedge with the surface.

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Correct all defective areas by loosening the material, adding or removing material, reshaping, and compacting.

Ensure that the compacted thickness is not consistently above or below the specified thickness. The maximum variation from the compacted specified thickness is ½ inch.

Ensure that the compacted width is not consistently above the specified width. The maximum variation from the specified width will not exceed +12 inches at any point.

324.07 Maintenance. Maintain the aggregate course to the correct line, grade, and cross-section by blading, watering, rolling, or any combination thereof until placement of the next course. Correct all defects according to Subsection 324.06.

324.08 Acceptance. See Table 324-1 for sampling and testing requirements.

Aggregate gradation and surface course plasticity index will be evaluated under Subsection 106.03 and 106.04. Other aggregate quality properties will be evaluated under Subsections 106.02 and 106.03. Placement of aggregate courses will be evaluated under Subsections 106.02 and 106.04.

Preparation of the surface on which the aggregate course is placed will be evaluated under Section 299.

Measurement

324.09 Measure the Section 324 items listed in the bid schedule according to Subsection 109.02 and the following as applicable.

Measure square yard width horizontally to include the top of aggregate width including designed widening. Measure the square yard length horizontally along the centerline of the roadway.

If the measurement for aggregate is by cubic yard using contract quantities then measure aggregate by the cubic yard in-place once compacted, otherwise measurement for aggregate by the cubic yard is measured by the cubic yard in the hauling vehicle.

Measure thickness perpendicular to the grade of the travelway.

Measure width perpendicular to the centerline.

Payment

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324.10 The accepted quantities will be paid at the contract price per unit of measurement for the Section 324 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

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Table 324-1
Sampling and Testing Requirements

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Aggregate source quality 703.06	Measured and tested for conformance (106.03 & 105)	LA abrasion (coarse)	—	AASHTO T 96	1 per type & source of material	Source of material	Yes, when requested	Before using in work
		Sodium sulfate soundness loss (coarse & fine)	—	AASHTO T 104	“	“	“	“
		Durability index (coarse & fine)	—	AASHTO T 210	“	“	“	“
		Fractured faces	—	ASTM D 5821	“	“	“	“
Subbase, Base, and Surface courses	Measured and tested for conformance (106.04)	Sample	—	AASHTO T 2	2 per day	From windrow or roadbed after processing or from approved crusher sampling device	Yes	48 hours

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Table 324-1 (continued)
Sampling and Testing Requirements

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time	
Subbase, Base, and Surface	Measured and tested for conformance (106.04)	Moisture-density Method D	—	AASHTO T 99 (1)	1 per type and source of material	Source of material	Yes, when requested	Before using in work	
		Moisture-density Method E	—	R-1 Marshall	"	"	"	"	
		Moisture-density Method F	—	AASHTO T 180(1)	"	"	"	"	"
		Moisture-density Method G	—	R-1 Marshall	"	"	"	"	"
		In-place density & moisture content	—	AASHTO T 310 or other approved procedures	3 per day	In-place	—	Before placing next layer	

(1) Minimum of 5 points per proctor.

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602 - Culverts and Drains

602.03_nat_us_09_06_2005

602.03 General.

Add the following:

Ensure that the final installed alignment of all pipe allows no reverse grades, and does not permit horizontal and vertical alignments to vary from a straight line drawn from center of inlet to center of outlet by more than 2 percent of pipe center length or 1.0 feet, whichever is less.

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703 - Aggregate

703.05_nat_us_08_14_2009

Delete 703.05 and replace with the following:

703.05 Subbase, Base, Surface Course, and Screened Aggregate.

(a) Subbase or base aggregate. Furnish hard, durable particles or fragments of crushed stone, crushed slag, or crushed gravel conforming the following:

(1) Gradation	Table 703-2
(2) Liquid limit, AASHTO T 89	25 max.
(3) Plastic limit, AASHTO T 90	Nonplastic
(4) Los Angeles abrasion, AASHTO T 96	40% max.
(5) Sodium sulfate soundness loss (5 cycles), AASHTO T 104	12% max.
(6) Durability index (coarse), AASHTO T 210	35 min.
(7) Durability index (fine), AASHTO T 210	35 min.
(8) Fractured faces, ASTM D 5821	50% min.
(9) Free from organic matter and lumps or balls of clay	

Do not use material that breaks up when alternately frozen and thawed or wetted and dried.

Obtain the aggregate gradation by crushing, screening, and blending processes as necessary. Fine aggregate, material passing the No. 4 sieve, shall consist of natural or crushed sand and fine mineral particles.

(b) Surface course aggregate. Furnish hard, durable particles or fragments of crushed stone, crushed slag, or crushed gravel conforming the following:

(1) Gradation	Table 703-3
(2) Liquid limit, AASHTO T 89	35 max.
(3) Plastic Index, AASHTO T 90	
a) If the percent passing the No. 200 sieve is less than 12%	2 to 9
b) If the percent passing the No. 200 sieve is greater than 12%	Less than 2
(4) Los Angeles abrasion, AASHTO T 96	40% max.
(5) Sodium sulfate soundness loss (5 cycles), AASHTO T 104	12% max.
(6) Durability index (coarse), AASHTO T 210	35 min.
(7) Durability index (fine), AASHTO T 210	35 min.
(8) Fractured faces, ASTM D 5821	75% min.
(9) Free from organic matter and lumps or balls of clay	

Do not use material that breaks up when alternately frozen and thawed or wetted and dried.

Do not furnish material that contains asbestos fibers.

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Obtain the aggregate gradation by crushing, screening, and blending processes as necessary. Fine aggregate, material passing the No. 4 sieve, shall consist of natural or crushed sand and fine mineral particles.

(c) Screened aggregate – Furnish hard, durable particles or fragments of stone, slag, or gravel conforming the following:

- | | |
|---|--------------|
| (1) Gradation | Table 703-16 |
| (2) Plastic Index, AASHTO T 90 | Less than 9 |
| (3) Los Angeles abrasion, AASHTO T 96 | 55% max. |
| (4) Free from organic matter and lumps or balls of clay. | |

Do not use material that breaks up when alternately frozen and thawed or wetted and dried.

Obtain the aggregate gradation by crushing, screening, and blending processes as necessary.

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Delete Table 703-2 and replace with the following:

Table 703-2
Percent by Mass Passing Designated Sieve (AASHTO T 27 and T 11)

Sieve Size	Grading Designation				
	A (Subbase)	B (Subbase)	C (Base)	D (Base)	E (Base)
2½ inch	100				
2 inch	97 – 100	100	100		
1½ inch		97 – 100			
1 inch	65 – 79 (6)		80 – 100 (6)	100	
¾ inch			64 – 94 (6)	86 – 100 (6)	100
½ inch	45 – 59 (7)				
3/8 inch			40 – 69 (6)	51 – 82 (6)	62 – 90 (6)
No. 4	28 – 42 (6)	40 – 60 (8)	31 – 54 (6)	36 – 64 (6)	36 – 74 (6)
No. 40	9 – 17 (4)			12 – 26 (4)	12 – 26 (4)
No. 200	4.0 – 8.0 (3)	4.0 – 12.0 (4)	4.0 – 7.0 (3)	4.0 – 7.0 (3)	4.0 – 7.0 (3)

() The value in the parentheses is the allowable deviation (±) from the target values..

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Delete Table 703-3 and replace with the following:

Table 703-3

Sieve Size	Percent by Mass Passing Designated Sieve (AASHTO T 27 and T 11)							
	Grading Designation							
	F	G	H	S	T	U		
1 1/2 inch	100			100				
1 inch	97-100	100		72 - 92 (6)	100			
3/4 inch	76-89 (6)	97 - 100	97 - 100					100
1/2 inch					71 - 91 (6)			
3/8 inch	56-68 (6)	70 - 80 (6)	80 - 92 (6)	51 - 71 (6)				71 - 90 (6)
No. 4	43-53 (7)	51 - 63 (7)	58 - 70 (7)	36 - 53 (7)	43 - 60 (7)			50 - 68 (7)
No. 8				26 - 40 (6)	30 - 46 (6)			34 - 51 (6)
No. 16	23-32 (6)	28 - 39 (6)	28 - 40 (6)					
No. 40	15-23 (5)	19 - 27 (5)	16 - 26 (5)	14 - 25 (5)	16 - 28 (5)			19 - 30 (5)
No. 200	10.0-16.0 (4)	10.0 - 16.0 (4)	9.0 - 14.0 (4)	8.0 - 15.0 (4)	8.0 - 15.0 (4)			8.0 - 15.0 (4)

() The value in the parentheses is the allowable deviation (\pm) from the target values.
 If the plasticity index (PI) is greater than 0, the TV range for the No. 200 sieve size is 8-12 (4).

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Add Table 703-16:

Table 703-16

Gradation Requirements for Screened Aggregate

Sieve Size	Percent by Mass Passing Designated Sieve (AASHTO T 27 and T 11)						
	Grading Designation						
	L	M	N	O	P	Q	R
6 inch	100	100					
4 inch			100	100			
3 inch					100	100	
2 inch							100
No. 4		15-45		15-45		15-45	

703.07_nat_us_03_02_2005

Table 703-2 Correction

Include the following substitution

In Table 703-2, delete the “436 – 74 (6)” percent by mass passing for grading E (base) No. 4 sieve size and substitute “36 – 74 (6).”

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Table 703-2 Correction

Include the following substitution

In Table 703-2, delete the “436 – 74 (6)” percent by mass passing for grading E (base) No. 4 sieve size and substitute “36 – 74 (6).”

703.10_nat_us_04_11_2011

703.10(e) Flakiness Index.

Delete and replace with the following:

Flakiness Index, FLH T 508 30% max.

703.10(i) Adherent Coating.

Add the following:

Adherent coating on the aggregate, FLH T 512 0.5% max.

Saddle NE SBA Timber Sale
Forest Service Supplemental Specifications
718 - Traffic Signing and Marking Material

718.05_nat_us_08_05_2009

718.05 Aluminum Panels

Delete the third paragraph and replace with the following:

Clean, degrease and properly prepare the panels according to methods recommended by the sheeting manufacturer. Conversion coatings will conform to ASTM B-921 or ASTM B-449.

Road Maintenance Specifications

For
Timber Sale Contracts

June 2006

Saddle NE SBA Timber Sale

Specification		Specification
Number		Title
<input checked="" type="checkbox"/>	T-800	Definitions
<input type="checkbox"/>	T-801	Slide and Slump Repair
<input type="checkbox"/>	T-802	Ditch Cleaning
<input checked="" type="checkbox"/>	T-803	Surface Blading
<input checked="" type="checkbox"/>	T-804	Surface Repair
<input checked="" type="checkbox"/>	T-805	Drainage Structures
<input checked="" type="checkbox"/>	T-806	Dust Abatement
<input checked="" type="checkbox"/>	T-807	Roadside Vegetation
<input type="checkbox"/>	T-808	Miscellaneous Structures
<input checked="" type="checkbox"/>	T-809	Waterbars
<input checked="" type="checkbox"/>	T-810	Barriers
<input type="checkbox"/>	T-811	Surface Treatment

17-2400-15
(5/83)

Deposit Rate Calculations

Surface Replacement/Recurrent/Deferred Maintenance

Saddle NE SBA Timber Sale

Road Number	Miles	Volume (MBF)	Surface Replacement Rate	Surface Replacement Deposit	Surface Deposit Total	Recurrent Deposit Rate	Recurrent Deposit	Recurrent Deposit Total	Deferred Deposit Rate	Deferred Deposit	Deferred Deposit Total
71-41-70	0.16	74	\$1.14	\$13.50	\$13.50	\$0.62	\$7.34	\$7.34	\$0.06	\$0.71	\$0.71
74-41-70	0.15	103	\$1.14	\$17.61	\$31.11	\$0.62	\$9.58	\$16.92	\$0.06	\$0.93	\$1.64
71-41-65-10	0.25	16	\$1.14	\$4.56	\$35.67	\$0.62	\$2.48	\$19.40	\$0.06	\$0.24	\$1.88
71-41-65-10	0.17	32	\$1.14	\$6.20	\$41.87	\$0.62	\$3.37	\$22.77	\$0.06	\$0.33	\$2.20
71-41-65-10	0.08	92	\$1.14	\$8.39	\$50.26	\$0.62	\$4.56	\$27.34	\$0.06	\$0.44	\$2.65
71-41-65	0.12	24	\$1.14	\$3.28	\$53.55	\$0.62	\$1.79	\$29.12	\$0.06	\$0.17	\$2.82
71-41-65	0.32	126	\$1.14	\$45.96	\$99.51	\$0.62	\$25.00	\$54.12	\$0.06	\$2.42	\$5.24
71-41-65	0.22	228	\$1.14	\$57.18	\$156.69	\$0.62	\$31.10	\$85.22	\$0.06	\$3.01	\$8.25
71-41-65	0.27	252	\$1.14	\$77.57	\$234.26	\$0.62	\$42.18	\$127.40	\$0.06	\$4.08	\$12.33
71-41-65	0.18	280	\$1.14	\$57.46	\$291.71	\$0.62	\$31.25	\$158.65	\$0.06	\$3.02	\$15.35
71-41-65	0.23	307	\$1.14	\$80.50	\$372.21	\$0.62	\$43.78	\$202.43	\$0.06	\$4.24	\$19.59
71-41-65	0.18	334	\$1.14	\$68.54	\$440.75	\$0.62	\$37.27	\$239.70	\$0.06	\$3.61	\$23.20
71-41-65	0.23	361	\$1.14	\$94.65	\$535.40	\$0.62	\$51.48	\$291.18	\$0.06	\$4.98	\$28.18
71-41-65	0.53	389	\$1.14	\$235.03	\$770.43	\$0.62	\$127.83	\$419.01	\$0.06	\$12.37	\$40.55
71-41-65	0.03	410	\$1.14	\$14.02	\$784.46	\$0.62	\$7.63	\$426.63	\$0.06	\$0.74	\$41.29
71-41-65	0.09	460	\$1.14	\$47.20	\$831.65	\$0.62	\$25.67	\$452.30	\$0.06	\$2.48	\$43.77
71-41-65	0.18	552	\$1.14	\$113.27	\$944.92	\$0.62	\$0.00	\$452.30	\$0.06	\$5.96	\$49.73
71-41-65	0.18	612	\$1.14	\$125.58	\$1,070.51	\$0.62	\$68.30	\$520.60	\$0.06	\$6.61	\$56.34
71-41-65	0.18	654	\$1.14	\$134.20	\$1,204.71	\$0.62	\$72.99	\$593.59	\$0.06	\$7.06	\$63.41
71-41-65	0.15	696	\$1.14	\$119.02	\$1,323.72	\$0.62	\$64.73	\$658.32	\$0.06	\$6.26	\$69.67
71-41-65	0.33	738	\$1.14	\$277.64	\$1,601.36	\$0.62	\$150.99	\$809.31	\$0.06	\$14.61	\$84.28
71-41-65	0.34	866	\$1.14	\$335.66	\$1,937.02	\$0.62	\$182.55	\$991.86	\$0.06	\$17.67	\$101.95
71-41-65	0.04	994	\$1.14	\$45.33	\$1,982.35	\$0.62	\$24.65	\$1,016.51	\$0.06	\$2.39	\$104.33
71-41	0.17	33	\$1.14	\$6.40	\$1,988.74	\$0.62	\$3.48	\$1,019.99	\$0.06	\$0.34	\$104.67
71-41	0.08	136	\$1.14	\$12.40	\$2,001.14	\$0.62	\$6.75	\$1,026.74	\$0.06	\$0.65	\$105.32
71-41	0.40	193	\$1.14	\$88.01	\$2,089.15	\$0.62	\$47.86	\$1,074.60	\$0.06	\$4.63	\$109.96
71-41	0.45	354	\$1.14	\$181.60	\$2,270.75	\$0.62	\$98.77	\$1,173.37	\$0.06	\$9.56	\$119.51
71-41	0.09	528	\$1.14	\$54.17	\$2,324.93	\$0.62	\$29.46	\$1,202.83	\$0.06	\$2.85	\$122.36
71-41	0.05	1522	\$1.14	\$86.75	\$2,411.68	\$0.62	\$47.18	\$1,250.01	\$0.06	\$4.57	\$126.93
71-41	0.20	1636	\$1.14	\$373.01	\$2,784.69	\$0.62	\$202.86	\$1,452.88	\$0.06	\$19.63	\$146.56
71-41	0.22	1678	\$1.14	\$420.84	\$3,205.53	\$0.62	\$228.88	\$1,681.76	\$0.06	\$22.15	\$168.71
71-41	3.14	1725	\$1.14	\$6,174.81	\$9,380.34	\$0.62	\$3,358.23	\$5,039.99	\$0.06	\$324.99	\$493.70
71	5.50	1725	\$1.14	\$10,815.75	\$20,196.09	\$0.62	\$5,882.25	\$10,922.24	\$0.06	\$569.25	\$1,062.95
			\$1.14	\$0.00	\$20,196.09	\$0.62	\$0.00	\$10,922.24	\$0.06	\$0.00	\$1,062.95

<u>Units</u>	<u>Total</u>	<u>Surface Replacement</u>	<u>Recurrent Maintenance</u>	<u>Deferred Maintenance</u>
MBF	1,726	\$11.70 Per MBF	\$6.33 Per MBF	\$0.62 Per MBF
CCF	6,496	\$3.11 Per CCF	\$1.68 Per CCF	\$0.16 Per CCF
GT	23,476	\$0.86 Per GT	\$0.47 Per GT	\$0.05 Per GT

Dust Abatement Plan (T-806) (C5-31#)(B5.3)

Timber Sale: Sattel NE SBA Timber Sale

Sheet 1 of 1

Road Segment	Material Type or Grade	Applicaation Initial	Rate Subsequent	Frequency of Subsequent Applications	Preparation Method	Wt. To Volume Conversion Factor
71	Water	N/A	N/A	3 Times Daily or as Needed to Abate Dust	T-803 as Needed	N/A
71-41						
71-41-65						
71-41-65-10						
71-41-65-50						
71-41-70						
71	Magnesium Chloride	0.30 Gallon Per Square Yard	0.30 Gallon Per Square Yard	Each 2000 MBF Hauled (or as needed to abate dust)	Method 1	191 Gallons Per Ton @ 60 Degrees F.

