

PART I - SCHEDULE OF ITEMS

SECTION B - SERVICES AND PRICES

Pig's Eye Beetle Salvage Timber Sale

Divide District

Rio Grande National Forest

Hinsdale County

B- 1 - SCHEDULE OF ITEMS

ITEM NO.	DESCRIPTION	PAY UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
15101	Mobilization	Lump Sum	1	\$__1,750__	\$__1,750__
15713	Soil Erosion & Pollution Control, staked waddles, Government Furnished	Lump Sum	1	\$__204__	\$__204__
20402	Roadway excavation, Section Three, compaction method <u>wheel compaction</u> , finishing method <u>A</u>	Mile	0.14	\$__6,321__	\$__885__
20404	Unclassified borrow, cover existing culverts, compaction method <u>wheel compaction</u> , finishing method <u>A</u>	Cubic Yard	12	\$__52__	\$__628__
20413	Furrow ditches	Foot	2,640	\$__0.37__	\$__975__
20426	Grade dips	Each	23	\$__160__	\$__3,680__
60211	<u>18</u> Inch Corrugated Steel Pipe, <u>16</u> gauge, annular, compaction method <u>A</u> .	Foot	72	\$__57.31__	\$__4,126__
60212	<u>36</u> Inch Corrugated Steel Pipe, Government Furnished, compaction method <u>A</u> .	Foot	20	\$__13.00__	\$__260__
63307	Delineators, <u>(4) Object Markers, (4) Barricade Markers</u> , Government Furnished	Each	8	\$__30__	\$__240__
65001	Furnish and install road closure device, type <u>gate post</u> , Government Furnished	Each	1	\$__107__	\$__107__
				Total:	\$__12,855__

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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.

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	<u>National Institute of Standards and Technology</u>
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 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.

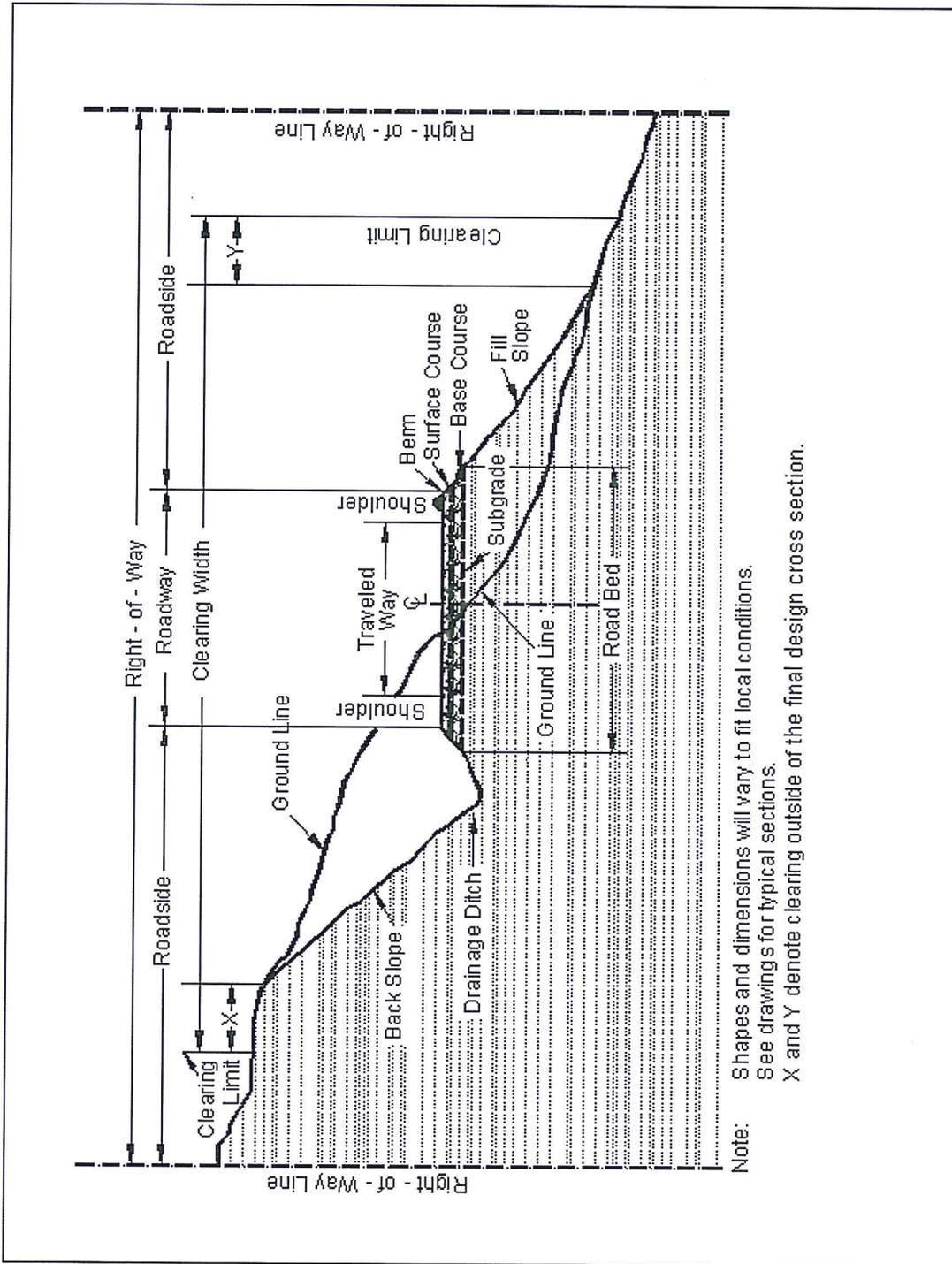
Road Order--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

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:

Figure 101-1—Illustration of road structure terms.



Note: Shapes and dimensions will vary to fit local conditions.
 See drawings for typical sections.
 X and Y denote clearing outside of the final design cross section.

101.04 Definitions.

Delete the following definitions:

Contract Modification

Day

Notice to Proceed

Solicitation

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.

103 - Scope of Work

103.00_nat_us_02_16_2005

Deletions

Delete all but subsection 103.01 Intent of Contract.

104 - Control of Work

104.00_nat_us_06_16_2006

Deletions

Delete Sections 104.01, 104.02, and 104.04.

104.03_nat_us_01_22_2009

104.03 Specifications and Drawings.

Delete 104.03.

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.

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.

105.02_nat_us_02_17_2005

105.02(a) Government Provided Sources.

(a) Government-provided sources. Add the following:

Government-provided sources for this project are identified as follows:

(1) Government-provided mandatory sources.

(2) Government-provided optional sources. Obtain material for use as borrow from agreed upon location within one-half mile of work item site.

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.

106 - Acceptance of Work

106.01_nat_us_07_31_2007

106.01 Conformity with Contract Requirements.

Delete Subsection 106.01 and substitute the following:

References to standard test methods of AASHTO, ASTM, GSA, and other recognized standard authorities refer to the methods in effect on the date of solicitation for bids.

Perform all work to the lines, grades, cross-sections, dimensions, and processes or material requirements shown on the plans or specified in the contract.

Incorporate manufactured materials into the work according to the manufacturer's recommendations or to these specifications, whichever is more strict.

Plan dimensions and contract specification values are the values to be strived for and complied with as the design values from which any deviations are allowed. Perform work and provide material that is uniform in character and reasonably close to the prescribed value or within the specified tolerance range. The purpose of a tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons.

When standard manufactured items are specified (such as fence, wire, plates, rolled shapes, pipe conduits, etc., that are identified by gauge, unit mass, section dimensions, etc.), the identification will be considered to be nominal masses or dimensions. Unless specific contract tolerances are noted, established manufacturing tolerances will be accepted.

The Government may inspect, sample, or test all work at any time before final acceptance of the project. When the Government tests work, copies of test reports are furnished to the Contractor upon request. Government tests may or may not be performed at the work site. If Contractor testing and inspection is verified by the Government, the Contractor's results may be used by the Government to evaluate work for acceptance. Do not rely on the availability of Government test results for process control.

Acceptable work conforming to the contract will be paid for at the contract unit bid price. Four methods of determining conformity and accepting work are described in Subsections 106.02 to 106.05 inclusive. The primary method of acceptance is specified in each Section of work. However, work may be rejected at any time it is found by any of the methods not to comply with the contract.

Remove and replace work that does not conform to the contract, or to prevailing industry standards where no specific contract requirements are noted, at no cost to the Government.

(a) Disputing Government test results. **If the accuracy of Government test results is disputed, promptly inform the CO. If the dispute is unresolved after reasonable steps are taken to resolve the dispute, further evaluation may be obtained by written request. Include a narrative describing the dispute and a proposed resolution protocol that addresses the following:**

- (1) Sampling method;
- (2) Number of samples;
- (3) Sample transport;
- (4) Test procedures;
- (5) Testing laboratories;
- (6) Reporting;
- (7) Estimated time and costs; and
- (8) Validation process.

If the evaluation requires additional sampling or testing be performed, mutually agree with the Government on witnessing procedures and on sampling and testing by a third party laboratory. Use a third party laboratory accredited by the AASHTO accreditation program. Provide proof of the laboratory's accreditation for the test procedures to be used. Do not use the same laboratory that produced the disputed Government test results or that produced the test results used as a basis for the dispute.

The CO will review the proposed resolution protocol and may modify it before final approval and execution.

The Government will use the approved resolution protocol test results to determine the validity of the disputed testing. If the Government test results are validated, the Contractor will be responsible for all costs associated with developing and performing the resolution protocol. If the Government test results are not validated, the Government will be responsible for all costs associated with developing and performing the resolution protocol. If the validity of the Government test results cannot be determined, the Contractor and Government will equally share all costs associated with developing and carrying out the resolution protocol.

(b) **Alternatives to removing and replacing non-conforming work.** As an alternative to removal and replacement, the Contractor may submit a written request to:

- (1) Have the work accepted at a reduced price; or
- (2) Be given permission to perform corrective measures to bring the work into conformity.

The request must contain supporting rationale and documentation. Include references or data justifying the proposal based on an evaluation of test results, effect on service life, value of material or work, quality, aesthetics, and other tangible engineering basis. The CO will determine disposition of the nonconforming work.

106.07_nat_us_05_11_2004

106.07 Delete

Delete subsection 106.07.

107 - Legal Relations and Responsibility to the Public

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”.

107.08_nat_us_03_29_2005

107.08 Sanitation, Health, and Safety

Delete the entire subsection.

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.
- 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.

108 - Prosecution and Progress

108.00_nat_us_02_16_2005

108 Delete.

Delete Section 108 in its entirety.

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.

153 - Contractor Quality Control

153.04_nat_us_10_24_2007

153.04 Records.

Delete all but the first sentence

155 - Schedules for Construction Contracts

155.00_nat_us_05_11_2004

155 Delete.

Delete Section 155 in its entirety.

157 - Soil Erosion Control

157.03_nat_us_02_24_2005

157.03 General

Delete the entire subsection and replace with the following:

Prior to the start of construction, submit a written plan that provides permanent and temporary erosion control measures to minimize erosion and sedimentation during and after construction. Do not begin work until the necessary controls for that particular phase of work have been implemented. Do not modify the type, size, or location of any control. An alternate erosion control plan with all necessary permits may be submitted 30 days before intended use.

Incorporate all permanent erosion control features into the project at the earliest practicable time, as outlined in the approved plan.

When erosion control measures are not functioning as intended, immediately take corrective action.

204 - Excavation and Embankment

204.06_nat_us_03_02_2005

204.06 Roadway Excavation

(a) General.

Add the following:

Retrieve material deposited outside of the clearing limits as directed by the CO. Place unsuitable material in designated areas.

204.06_nat_us_03_02_2005

204.06 Roadway Excavation.

Add the following:

d) Pioneer Roads. Road pioneering, slash disposal, and grubbing of stumps may proceed concurrently with excavation. Conduct excavation and placement operations so material to be treated under Section 201 will not be incorporated into the roadway unless specified in the slash treatment method. Maintain drainage during pioneering operations.

Remove snow and ice in advance of the work and deposit beyond the roadway limits in a manner that will not waste material or generate sediment. Do not incorporate snow and ice into embankments. Place snow or ice in a manner to prevent resource damage.

204.09_nat_us_03_02_2005

204.09 Preparing Foundation for Embankment Construction.

Delete subsection (a) and replace it with the following:

(a) Embankment less than 4 feet high over natural ground. When designated, remove topsoil and break up the ground surface to a minimum depth of 6 inches by plowing or scarifying. Compact the ground surface according to Subsection 204.11.

204.11_nat_us_04_11_2005

204.11 Compaction.

Delete the first paragraph and replace it with the following:

For compaction according to method (a), (b), or (c), use AASHTO T 27 to determine the amount of material retained on a Number. 4 sieve. For compaction methods (d) or (e) no sieve test is required.

Add the following compaction methods:

(d) Layer Placement Method (Hauling and Spreading Equipment). Place material by end dumping to the minimum depth needed for operation of spreading equipment. Level and smooth each embankment layer before placing the next layers. Operate hauling and spreading equipment uniformly over the full width of each layer. Construct a solid embankment with adequate compaction by working smaller rock and fines in with the larger rocks to fill the voids, and by operating hauling and spreading equipment uniformly over the full width of each layer as the embankment is constructed.

(e) Layer Placement (Roller Compaction) Method. Place material by end dumping to the minimum depth needed for operation of spreading equipment. Adjust the moisture content of the material to obtain a mass that will not visibly deflect under the load of the hauling and spreading equipment. Operate compaction equipment over the full width of each layer until visible deformation of the layer ceases or, in when a sheepsfoot roller is used, the roller “walks out” of the layer. Make at least three complete passes.

204.13_nat_us_03_02_2005

204.13 Sloping, Shaping, and Finishing.

Delete section (d) and add the following:

(d) Finishing. For surfaced roads, remove all material larger than 6 inches from the top 6 inches of the roadbed. For all roads, finish the roadbed to be smooth and uniform, and shaped to conform to the typical sections. Remove unsuitable material from the roadbed and replace it with suitable material. Finish roadbeds to the tolerance class shown in table 204-2.

Ensure that the subgrade for both surfaced and unsurfaced roads is visibly moist during shaping and dressing. Scarify to 6 inches below the bottom of low sections, holes, cracks, or depressions and bring back to grade with suitable material. Maintain proper ditch drainage.

For unsurfaced roads, use one of the following methods to finish the roadbed:

(1) Method A. Remove all material larger than 6 inches from the top 6 inches of the roadbed and replace with suitable material.

(2) Method B. Use a vibratory grid roller or approved equal with a minimum weight of 10 tons. Roll at least 5 full-width passes or until visible displacement ceases.

(3) Method C. For roads designated as Construction Tolerance Class K, L, or M, finish the roadbed by spreading the excavation. Eliminate rock berms.

Add Table 204-2—Construction Tolerances:

Table 204-2 Construction tolerances.

	Tolerance Class ^(a)												
	A	B	C	D	E	F	G	H	I	J	K	L	M
Roadbed width (ft)	+0.5	+0.5	+1.0	+1.0	+1.0	+1.0	+1.5	+1.0	+2.0	+2.0	+2.0	+2.0	+2.0
Subgrade elevation (ft)	±0.1	±0.2	±0.2	±0.5	+0.5	±1.0	±1.0	±1.5	±2.0	±3.0	±2.0	±3.0	(c)
Centerline alignment (ft)	±0.2	±0.2	±0.5	±0.5	±1.0	±1.0	±1.5	±1.5	±2.0	±3.0	±3.0	±5.0	(c)
Slopes, excavation, and embankment (% slope ^(b))	±3	±5	±5	±5	±5	±5	±10	±10	±10	±10	±20	±20	±20

a. Maximum allowable deviation from construction stakes and drawings.

b. Maximum allowable deviation from staked slope measured from slope stakes or hinge points.

c. Unless otherwise shown the centerline alignment and subgrade elevation, as built, have no horizontal curves with a radius of less than 80 feet, and no vertical curves with a curve length of less than 80 feet when the algebraic difference in the grade change is less than 10 percent, or a curve length of less than 100 feet when the algebraic difference of the grade change is greater than or equal to 10 percent. The centerline grade is not to exceed 20 percent in 100 feet of length.

204.13_nat_us_03_02_2005

204.13 Sloping, Shaping, and Finishing.

(a) Sloping.

Add the following:

Slope rounding is not required on tolerance class D through M roads.

204.14_nat_us_03_02_2005

204.14 Disposal of Unsuitable or Excess Material.

Delete the text of the first paragraph and substitute the following:

Dispose of unsuitable or excess material at designated sites or legally off of the project.

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 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.

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.

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.

RIO GRANDE NATIONAL FOREST

U.S. Department of Agriculture
Forest Service
Rocky Mountain Region

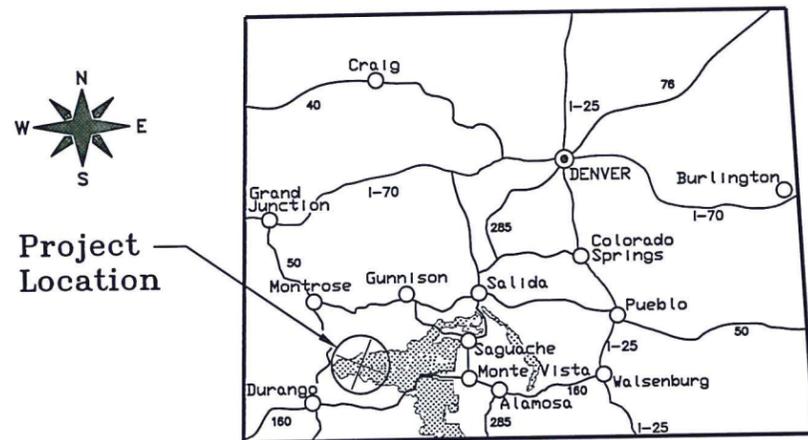
PIG'S EYE BEETLE SALVAGE TIMBER SALE ROAD RECONSTRUCTION

DIVIDE RANGER DISTRICT

Hinsdale County, Colorado

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LEGEND

RIO GRANDE NATIONAL FOREST

COLORADO STATE LOCATION MAP
NOT TO SCALE

Designed by:

Signature

Engineering Technician
Title

November 27, 2015
Date

The design and review of this project has been accomplished by qualified personnel and the design is consistent with current policy and direction.

Signature

Forest Engineer
Title

11/30/15
Date

The design objectives have been accomplished, the project will serve intended uses, all appropriate NEPA requirements have been met, and the design is consistent with approved resource planning documents and is in the program of work.

Signature

Acting
District Ranger
Title

12/02/15
Date

Approved by:

Signature

Forest Supervisor
Title

12/01/2015
Date

U.S. DEPARTMENT OF AGRICULTURE

FOREST SERVICE
ROCKY MOUNTAIN REGION

Drawn _____
Design _____
Checked _____
Reviewed _____

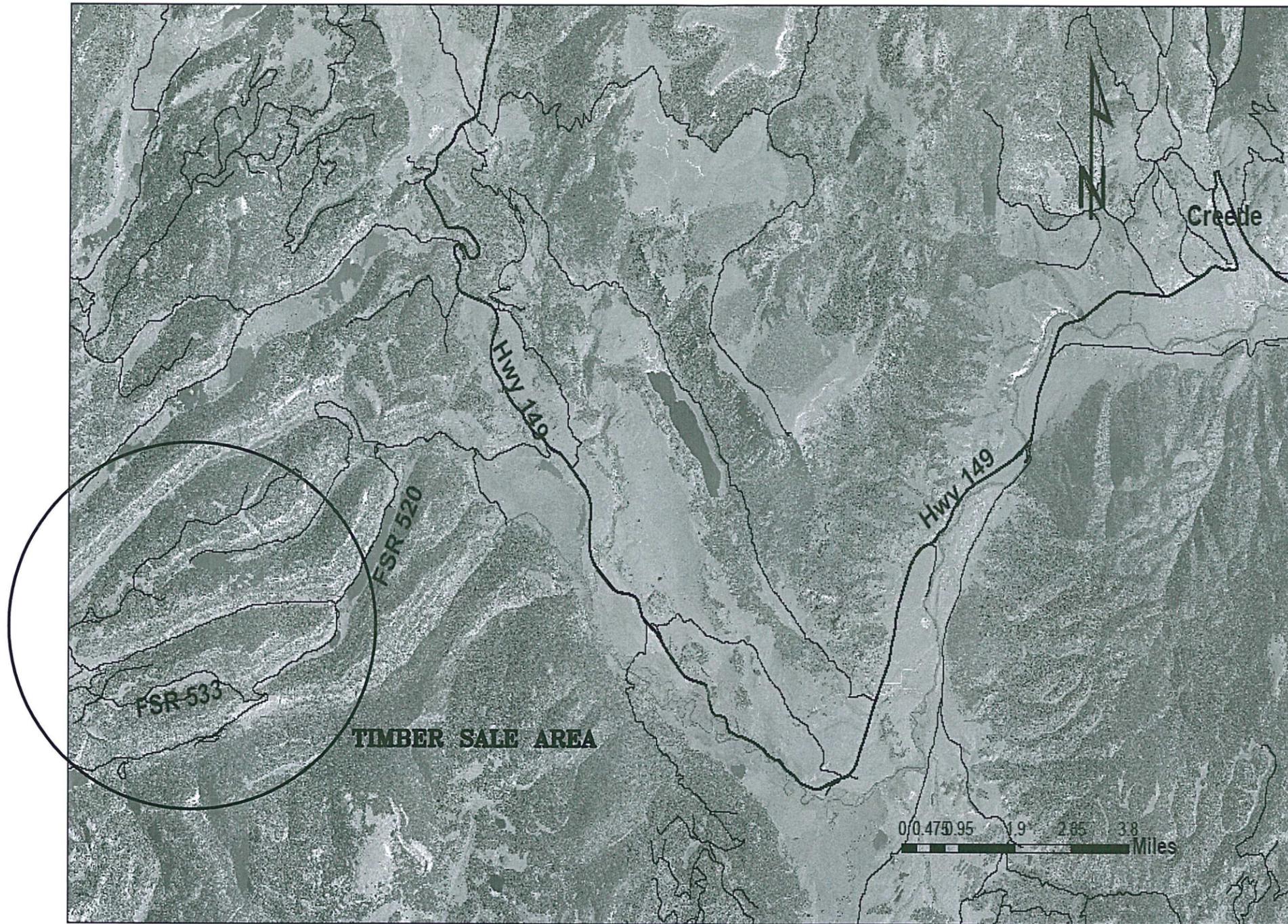
Drawn _____
Design _____
Checked _____
Reviewed _____

Drawn G.B.Frink
Design G.B.Frink
Checked _____
Reviewed _____

Forest
RIO GRANDE NATIONAL FOREST
Project Name
**Pig's Eye Beetle Salvage TS
Road Reconstruction**

Sheet Title TITLE SHEET	
Scale NONE	Sheet 1 of 26

TO LAKE CITY



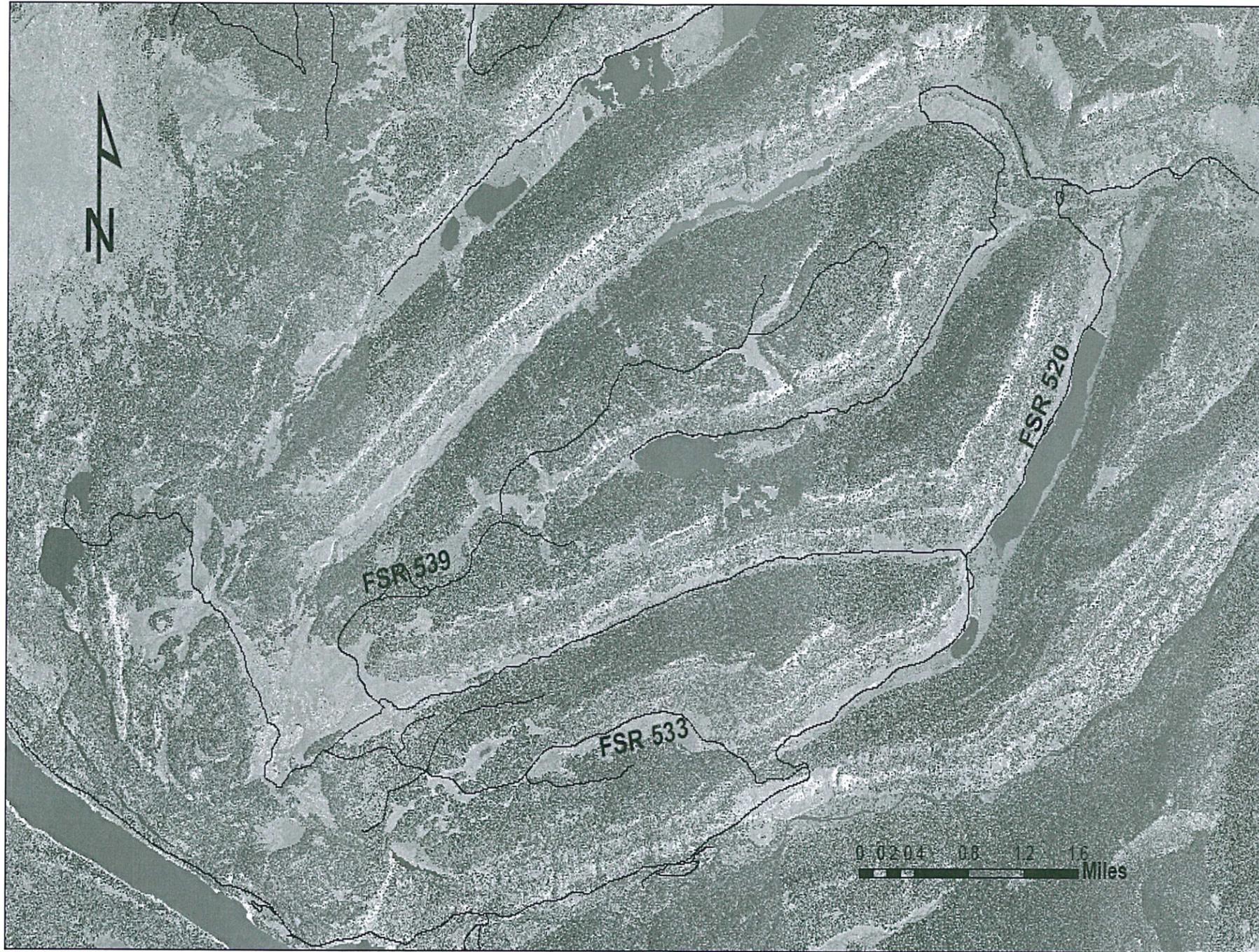
U.S. DEPARTMENT OF AGRICULTURE

FOREST SERVICE
ROCKY MOUNTAIN REGION

Drawn G.B.Frink
Design G.B.Frink
Checked _____
Reviewed _____

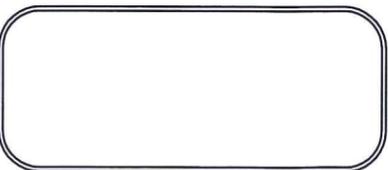
Forest
RIO GRANDE NATIONAL FOREST
Project Name
Pig's Eye Beetle Salvage TS
Road Reconstruction

Sheet Title	
LOCATION MAP	
Scale	Sheet 2 of 26
NONE	



U.S. DEPARTMENT OF AGRICULTURE

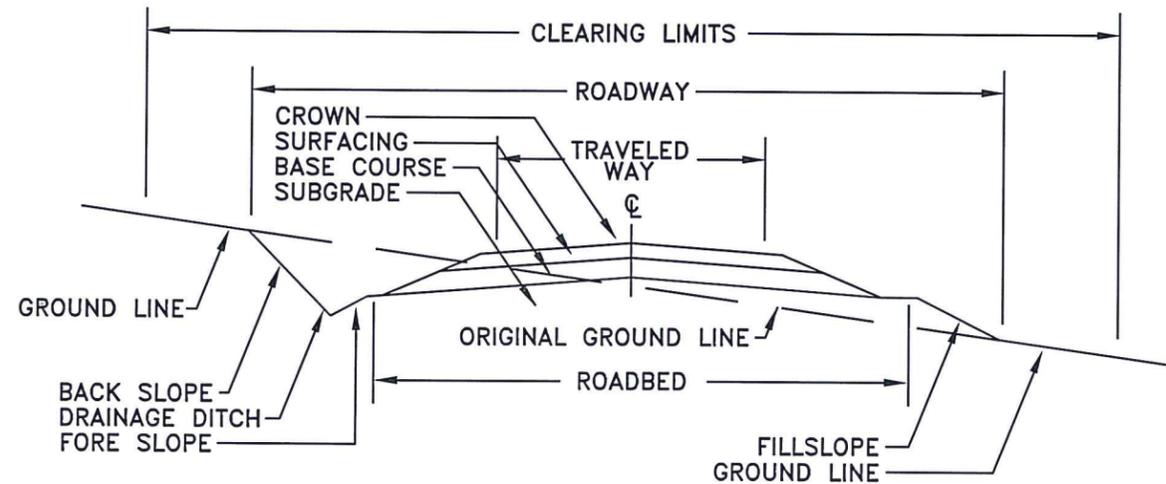
 FOREST SERVICE
 ROCKY MOUNTAIN REGION



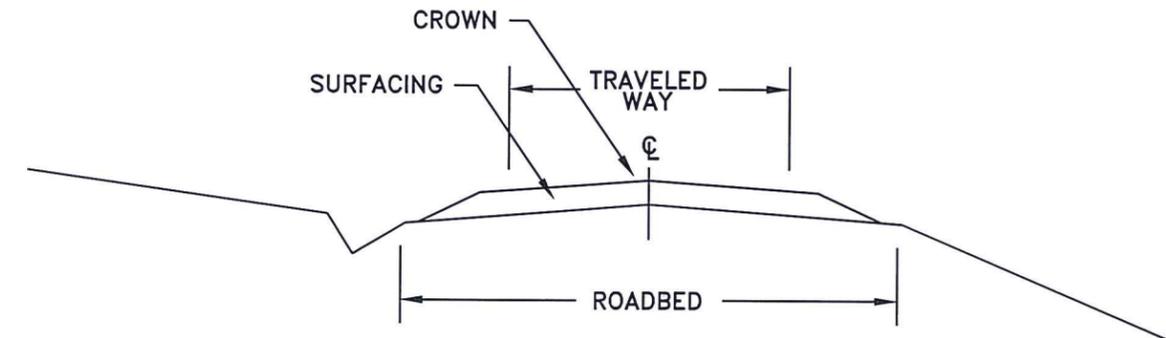
Drawn G.B.Frink
 Design G.B.Frink
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 Reviewed _____

Forest
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 Project Name
**Pig's Eye Beetle Salvage TS
 Road Reconstruction**

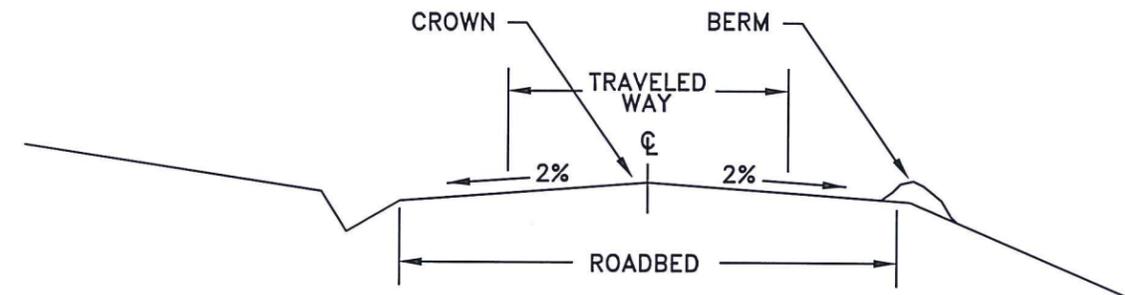
Sheet Title VICINITY MAP	
Scale NONE	Sheet 3 of 26



ROAD STRUCTURE DETAILS
NOT TO SCALE



AGGREGATE SURFACING SECTION
NOT TO SCALE



NATIVE MATERIAL SECTION
NOT TO SCALE

NOTES:

1. THIS IS A CONCEPTUAL DRAWING FOR A CROWNED ROADWAY WITH DITCH.
2. TEMPLATE SHAPE AND DIMENSIONS WILL VARY WITH LOCAL CONDITIONS.

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Sheet Title ILLUSTRATION OF TERMS	
Scale NONE	Sheet 4 of 26

NOTES:

1. STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS, HEREINAFTER REFERRED TO AS FP-03 (U.S. CUSTOMARY UNITS), AND FOREST SERVICE SUPPLEMENTAL SPECIFICATIONS (FSSS) WILL BE USED.
2. PURCHASER SHALL BE RESPONSIBLE FOR FURNISHING, ERECTING, AND MAINTAINING CONSTRUCTION SIGNS FOR TRAFFIC CONTROL WHICH SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. CLEARING REQUIRED FOR MAINTENANCE OR INSTALLATION OF OUTLET DITCHES, DRAINAGE STRUCTURES, AND CULVERT INSTALLATIONS IS INCIDENTAL TO THAT WORK REQUIREMENT.
4. SUBMIT A SOIL EROSION AND POLLUTION PLAN FOR APPROVAL. WATER, EROSION, AND SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED PRIOR TO BEGINNING EARTH DISTURBING ACTIVITIES. THIS WORK IS INCIDENTAL TO THE OTHER WORK ITEMS.
5. PURCHASER SHALL LOAD, HAUL, AND PLACE ALL CULVERT BEDDING, COVER, AND ROAD BASE MATERIALS REQUIRED. THESE COSTS ARE INCIDENTAL TO OTHER ITEMS.

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Sheet Title GENERAL NOTES	
Scale NONE	Sheet 5 of 26

PROJECT ROAD LOG

ROAD NUMBER: FSR 539	PROJECT LENGTH: 2.32 miles
ROAD NAME: Crooked Canyon	DATE: August 07, 2015

TERMINI: Begin at intersection with FSR 533.1W to end of project/cutting unit.
--

MAINTENANCE RESPONSIBILITY: Purchaser	MAINTENANCE LEVEL: 1
DISTRICT: Divide Ranger District	

RD.WIDTH: 12 FT.	SURFACE TYPE: Native Surface
------------------	------------------------------

Logged By: Gary Frink

Milepost	Feature	Work Needed / Remarks
0.06	18" Culvert	Cover With One Foot of Wheel-Compacted 3-inch Minus Material with Twelve-Foot of Taper Each Side.
0.27	36" Culvert	Reset And Compact Fill Material
0.46	Grade Sag	Outslope Roadway and Drain to Daylight
0.52 – 0.58	Ditch Right	Install; Drain Through Culvert
0.52 – 0.58	Shift Alignment 6' Left	Typical Section Three
0.52	18" Culvert	Install
0.69 – 0.72	Ditch Right	Install; Drain Through Grade Dip
0.72	Grade Dip	Install
0.74	Stock Gate	
0.79	Grade Dip	Install
1.18	Intersection Left	FSR 339.1A
1.20 – 1.24	Ditch Right	Install; Drain Through Culvert
1.26	Grade Sag	Outslope Roadway and Drain to Daylight
1.29 – 1.40	Ditch Right	Install; Drain Through Grade Dip
1.40	Grade Dip	Install
1.49	Grade Dip	Install
1.51	18" Culvert	Install
1.53	Grade Dip	Install
1.62	18" Culvert	Install
1.62 – 1.86	Ditch Right	Install
1.68	Grade Dip	Install
1.75	Grade Dip	Install
1.830	Grade Dip	Install
1.88	Grade Dip	Install
1.95 – 1.98	Shift Alignment 6' Right	Typical Section Three
2.16 – 2.21	Shift Alignment 6' Right	Typical Section Three
2.19	Grade Dip	Install

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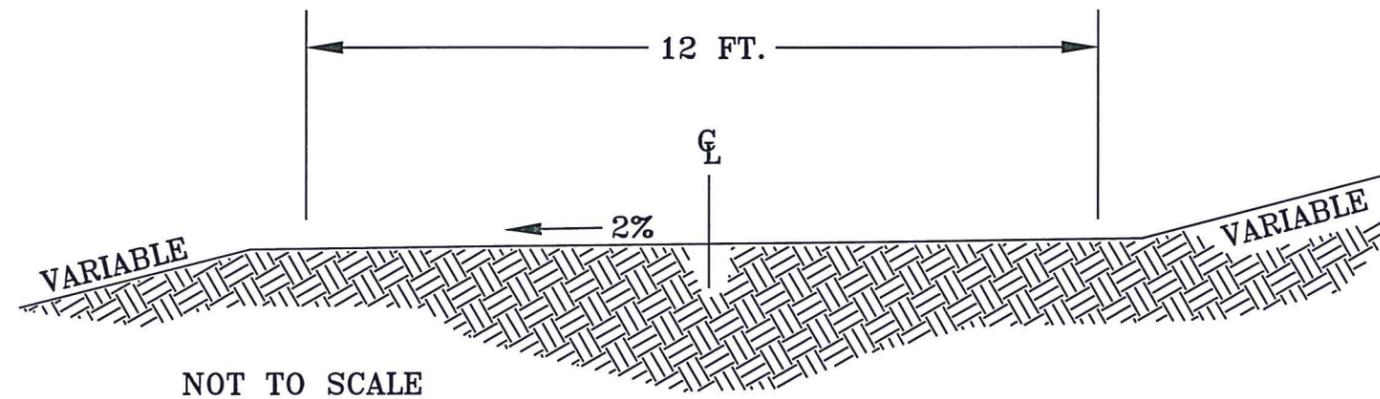
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Project Name
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Sheet Title	
ROAD LOG	
Scale	Sheet 10 of 26
NONE	

TYPICAL SECTION ONE



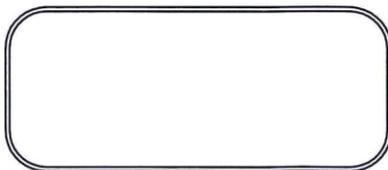
NOTES:

1. OUTSLOPE ROAD SURFACE 2%.
2. INCREASE WIDTH FOR CURVE WIDENING TO ACCOMMODATE LOG TRUCKS.

MINIMUM LANE WIDTH W/ CURVE WIDENING	
CURVE RADIUS (FT.)	MINIMUM LANE WIDTH (FT)
50	19
60	18
70	17
80	17
100	16
125	15
150	14

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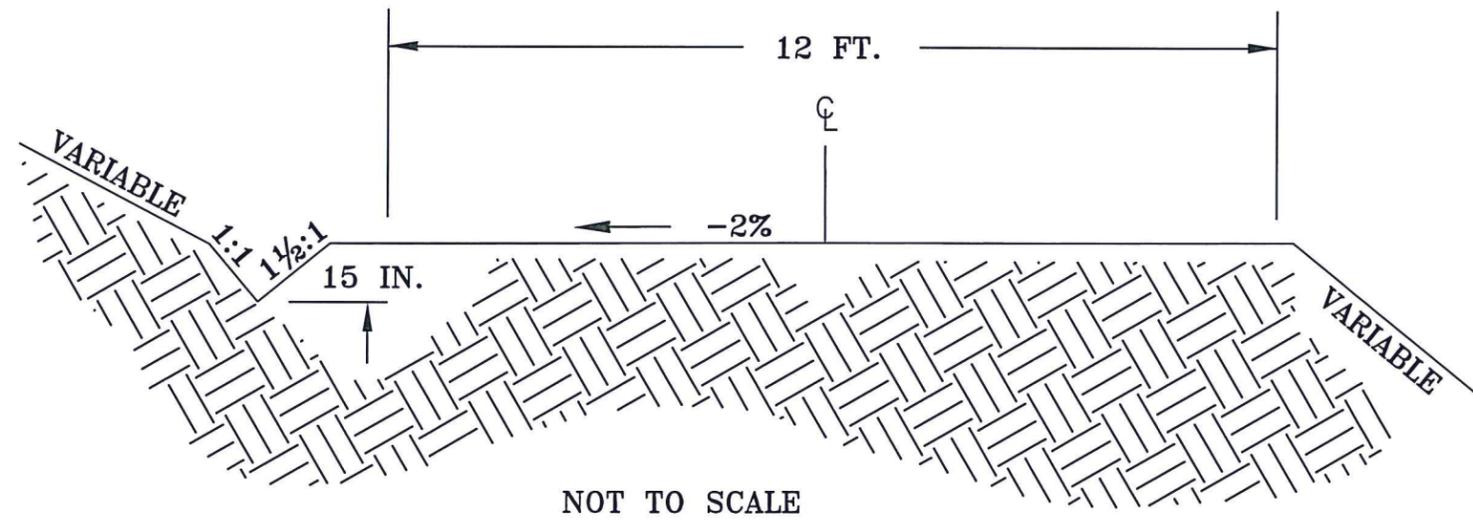


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Sheet Title TYPICAL SECTION	
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TYPICAL SECTION TWO



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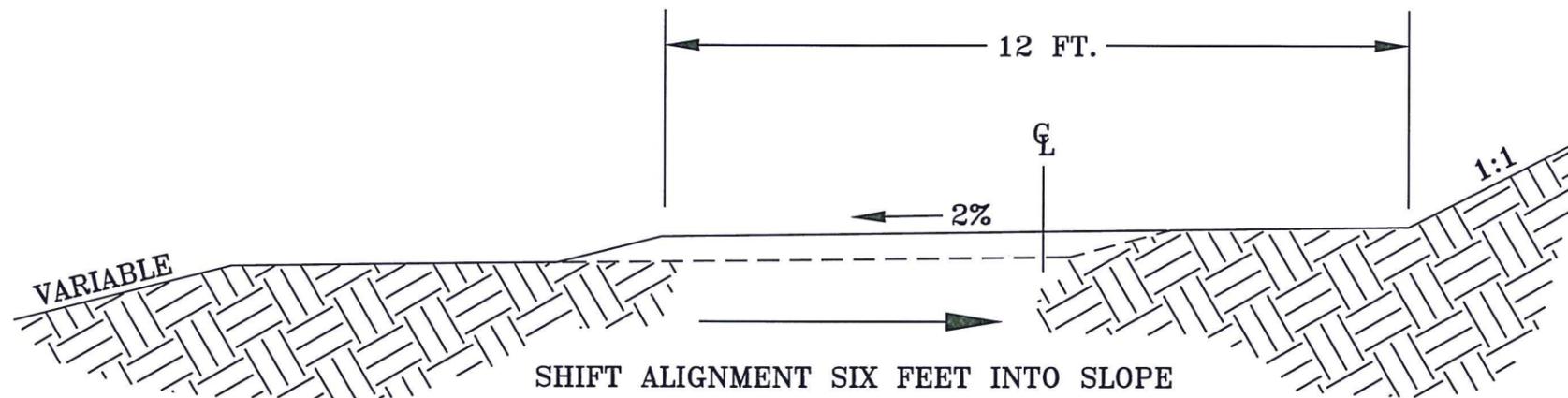
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Sheet Title TYPICAL SECTION	
Scale NONE	Sheet 15 of 26

TYPICAL SECTION THREE



NOT TO SCALE

NOTES:

1. INCREASE WIDTH FOR CURVE WIDENING TO ACCOMODATE LOG TRUCKS.

<u>MINIMUM LANE WIDTH W/ CURVE WIDENING</u>	
<u>CURVE RADIUS (FT.)</u>	<u>MINIMUM LANE WIDTH (FT)</u>
50	19
60	18
70	17
80	17
100	16
125	15
150	14

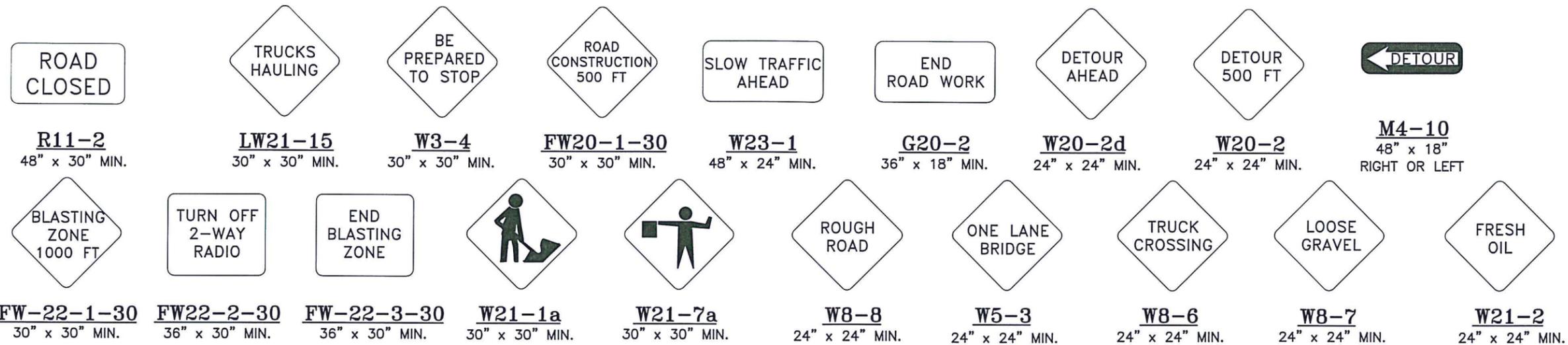
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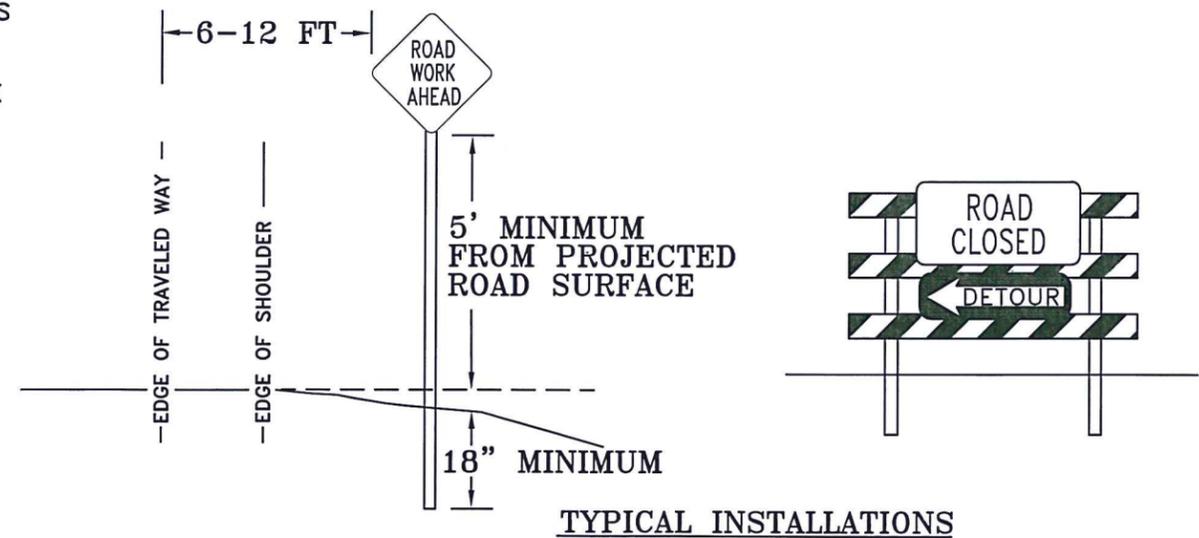
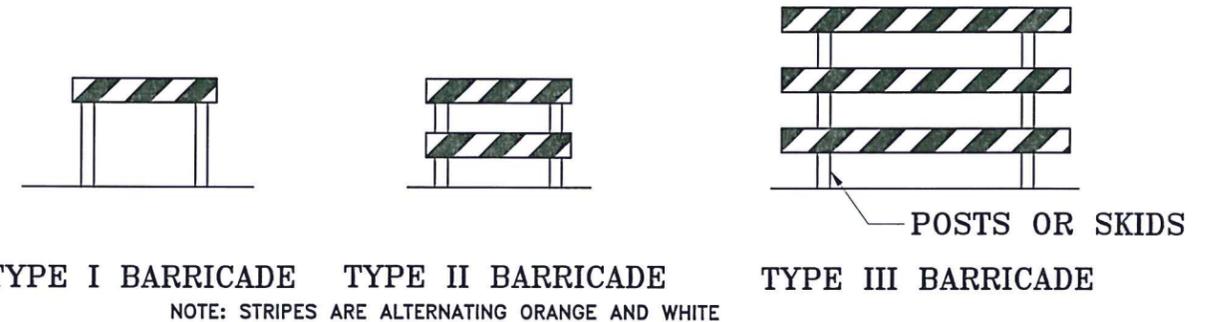
Forest
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Sheet Title TYPICAL SECTION	
Scale NONE	Sheet 16 of 26



NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL BE CONSTRUCTED, LOCATED, INSTALLED, AND MAINTAINED ACCORDING TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), LATEST EDITION, PARTS 1, 5, AND 6.
2. SIGNS SHALL BE MADE FROM SUITABLE MATERIALS WHICH ARE IN ACCORDANCE WITH ALL STATE AND FEDERAL SPECIFICATIONS.
3. SIGNS SHALL BE LOCATED WHERE THEY WILL BE CONSPICUOUSLY VISIBLE ON THE RIGHT SIDE OF THE ROADWAY FACING APPROACHING TRAFFIC.
4. WHEN A SIGN IS REQUIRED FOR AN EXTENDED PERIOD, IT SHALL BE FASTENED TO 4 X 4 INCH WOODEN, U-CHANNEL, OR POS-LOCK POST(S). PORTABLE SUPPORTS ARE PERMITTED FOR SHORT PERIODS PROVIDED THAT THEY CANNOT READILY BE OVER-TURNED AND THAT THE BASE OF THE SIGN IS A MINIMUM OF ONE FOOT ABOVE THE ROAD SURFACE.
5. CONSTRUCTION WARNING SIGNS SHALL BE PLACED ON ALL MAJOR INTERSECTIONS ACCESSING THE WORK AREA AS DIRECTED BY THE CONTRACTING OFFICER.
6. SELECTION AND PLACEMENT OF ALL SIGNS SHALL BE SUBJECT TO APPROVAL OF THE CONTRACTING OFFICER. SIGNS OTHER THAN THOSE PICTURED MAY BE USED PROVIDED THEY ARE IN CONFORMANCE WITH MUTCD STANDARDS AND APPROVED IN WRITING BY THE CONTRACTING OFFICER.
7. IF REQUIRED BY THE CONTRACTING OFFICER, LIGHTING DEVICES SUCH AS FLASHERS, TORCHES, LANTERNS, AND ELECTRIC LIGHTS SHALL BE PLACED AND MAINTAINED FROM SUNSET TO SUNRISE AT POINTS OF HAZARD.
8. ALL SIGNS ARE TEMPORARY UNLESS SHOWN ON THE SCHEDULE OF ITEMS. THE INSTALLATION OF CONSTRUCTION SIGNS IS INCIDENTAL TO OTHER WORK ITEMS.
9. TYPE III BARRICADES SHALL BE PLACED AT UNCOMPLETED CONSTRUCTION SITES WHEN NO CONSTRUCTION ACTIVITIES ARE IN PROGRESS AS DIRECTED BY THE CONTRACTING OFFICER.



THIS WORK CONSISTS OF FURNISHING AND PLACING THE REQUIRED SEED MIX ON DISTURBED AREAS AS DIRECTED BY THE CO. THE WORK SHALL CONSIST OF BROADCASTING THE PRESCRIBED SEED MIX WITHIN 14 DAYS OF THE COMPLETION DATE OF WORK ON THAT SECTION.

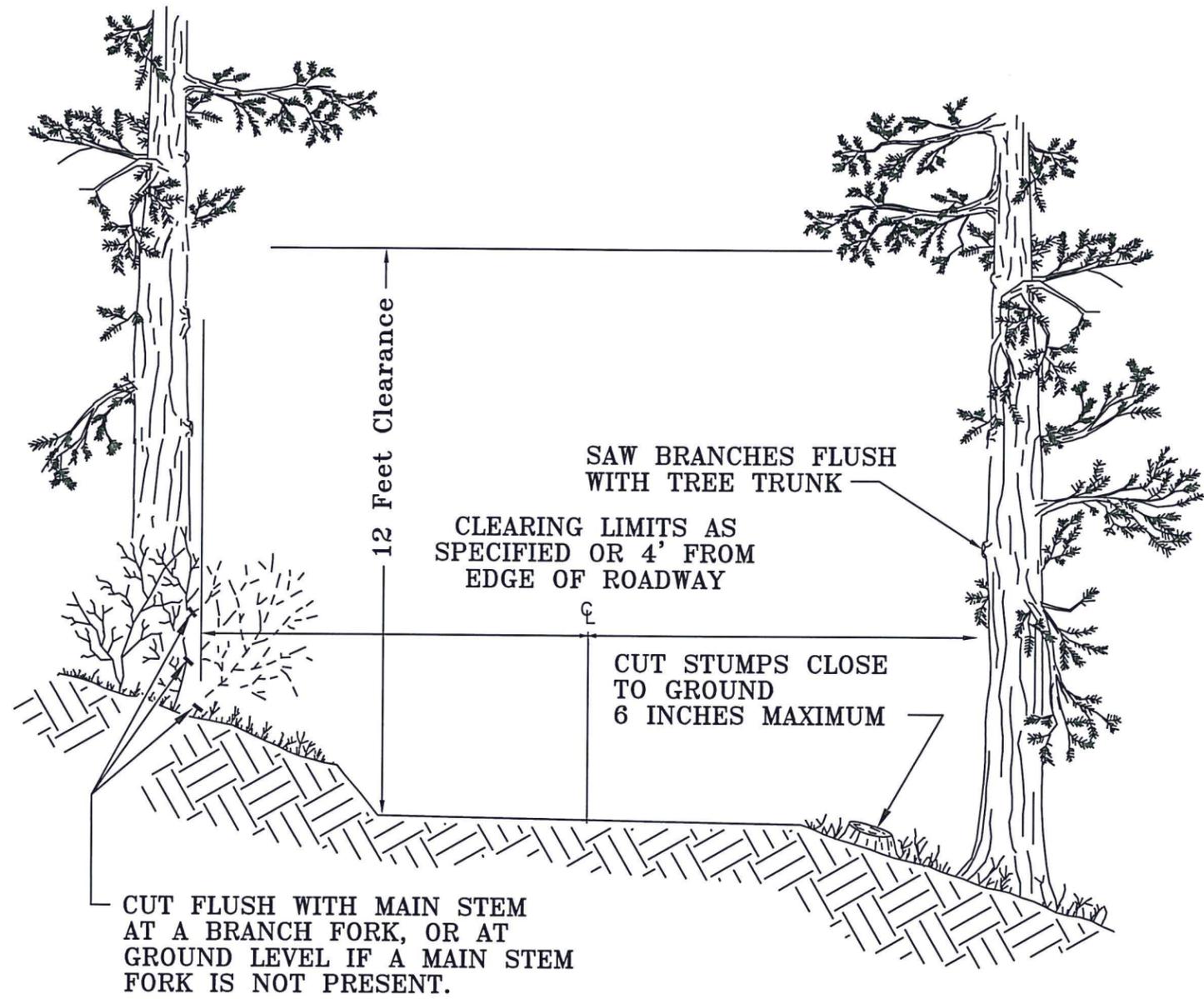
USE HAND-OPERATED SEEDING DEVICES, OR OTHER DEVICES APPROVED BY THE GOVERNMENT, TO APPLY SEED.

FURNISH WEED-FREE SEED SEPARATELY OR IN MIXTURE IN STANDARD CONTAINERS WITH (1) SEED NAME (2) LOT NUMBER (3) NET WEIGHT (4) PERCENTAGES OF PURITY AND OF GERMINATION (5) PERCENTAGE OF MAXIMUM WEED SEED CONTENT CLEARLY MARKED FOR EACH KIND OF SEED, AND (6) CERTIFICATION THAT THE SEED LOT MEETS APPLICABLE STATE AND FEDERAL LAWS WITH REGARD TO PROHIBITED AND RESTRICTED NOXIOUS WEEDS CLEARLY MARKED FOR EACH KIND OF SEED. FURNISH THE GOVERNMENT DUPLICATE SIGNED COPIES OF THE CERTIFICATE SIGNED BY A REGISTERED SEED TECHNOLOGIST OR SEED ANALYST CERTIFYING THAT EACH LOT OF SEED HAS BEEN TESTED IN ACCORDANCE WITH THE ASSOCIATION OF OFFICIAL SEED ANALYSTS STANDARDS WITHIN 12 MONTHS PRIOR TO THE DATE OF APPLICATION.

THE FOLLOWING SEED MIX SHALL BE BROADCAST OVER WASTE AREAS AND DISTURBED SITES AS DIRECTED BY THE CO:

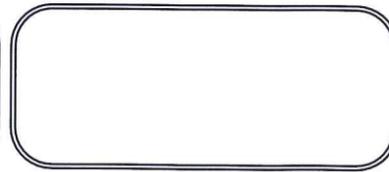
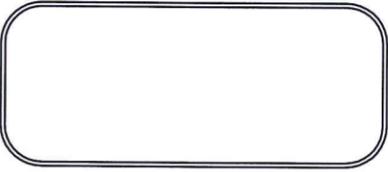
RECOMMENDED VARIETY	PERCENT MIX	PURE LIVE SEED LBS/ACRE
SAN LUIS SLENDER WHEATGRASS	40	5.2
SODAR STREAMBANK WHEATGRASS	30	3.4
MOUNTAIN BROME, BROMAR	30	8.2
	TOTAL	16.8

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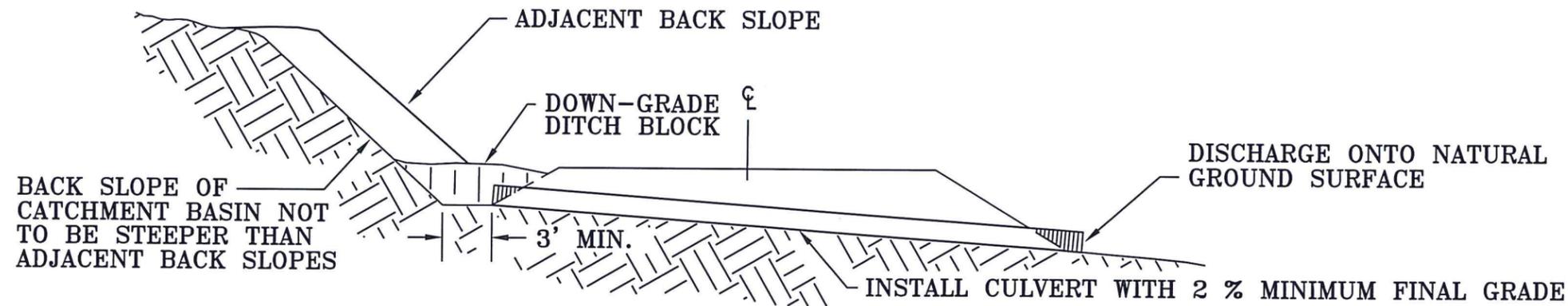
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 ROCKY MOUNTAIN REGION



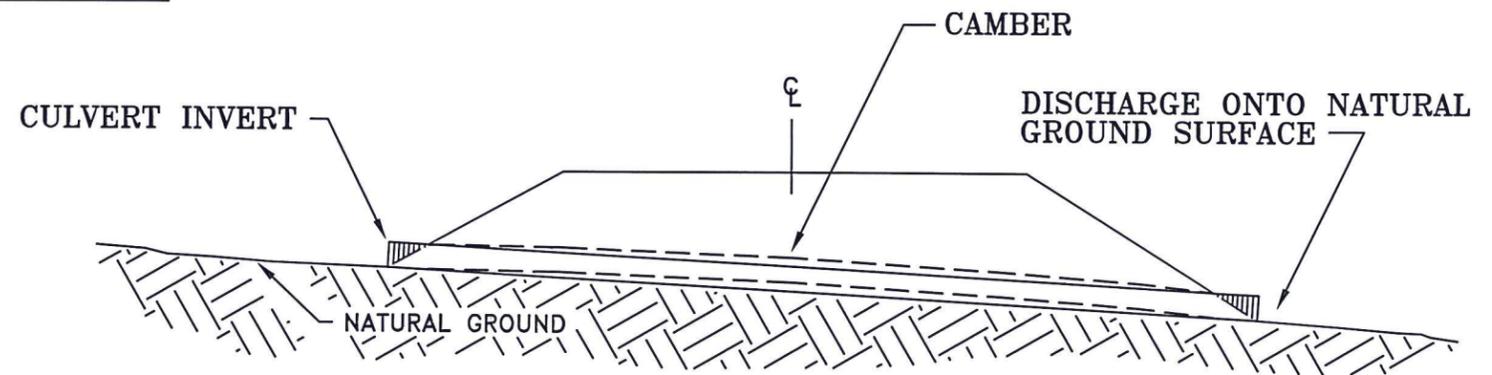
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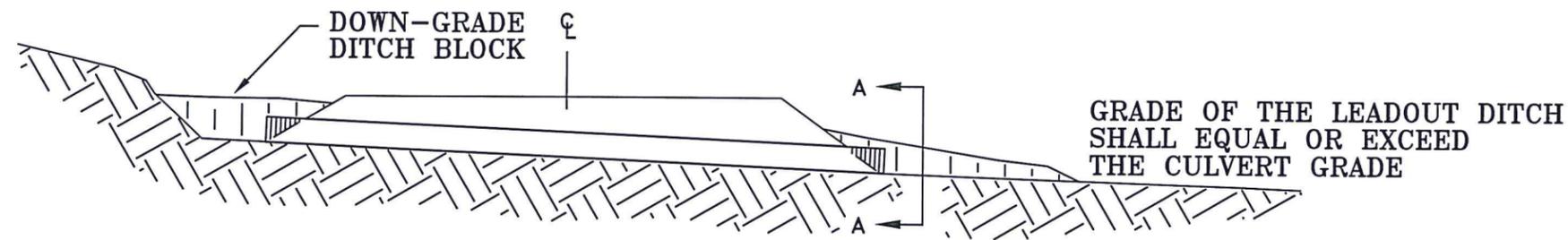
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Scale NONE	Sheet 19 of 26



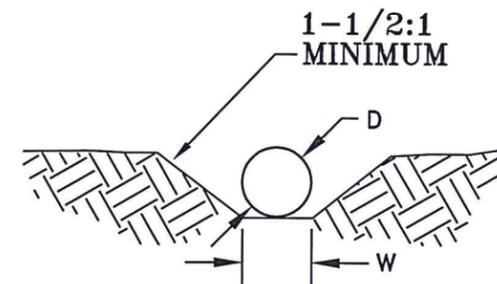
TYPICAL INSTALLATION IN SIDEHILL SECTION



TYPICAL INSTALLATION IN FILL SECTION SHOWING CAMBER



TYPICAL INSTALLATION WITH OUTLET DITCH



SECTION A-A

DITCH WIDTH (W) SHALL EQUAL CULVERT DIAMETER (D).
EXCAVATED MATERIAL SHALL BE
SCATTERED ALONG SIDES OF DITCH.

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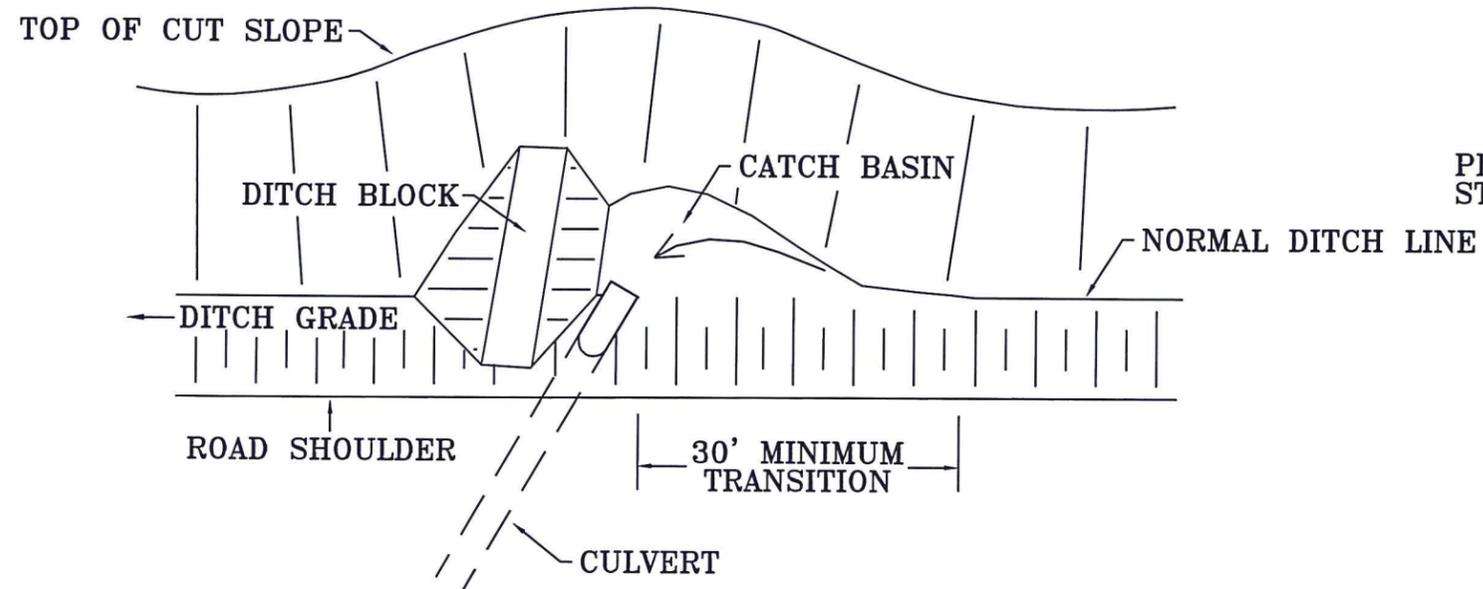
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CULVERT 1

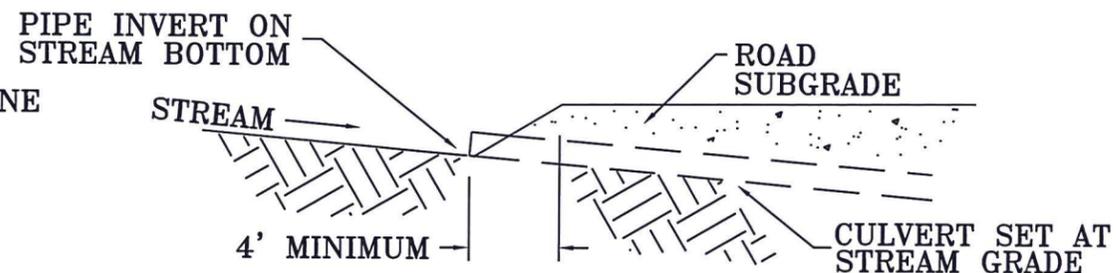
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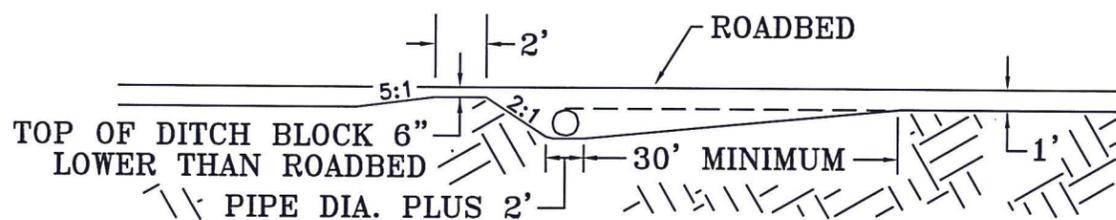
Sheet 20
of 26



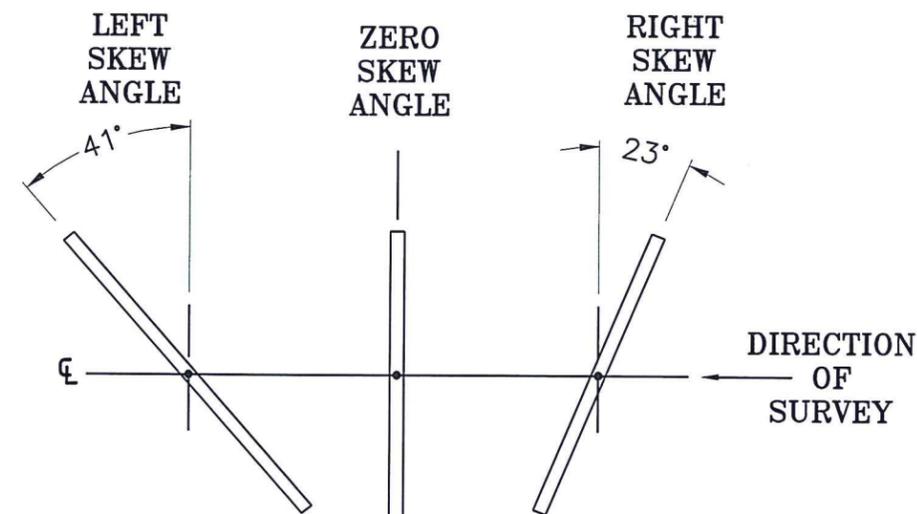
PLAN
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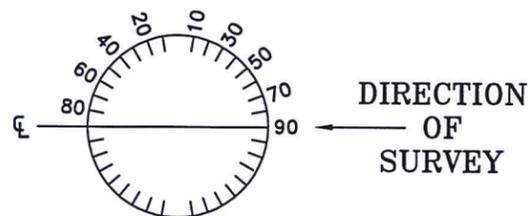
CROSS SECTION W/ STREAM
NOT TO SCALE



PROFILE ALONG DITCH
NOT TO SCALE



CULVERT SKEW DIAGRAM



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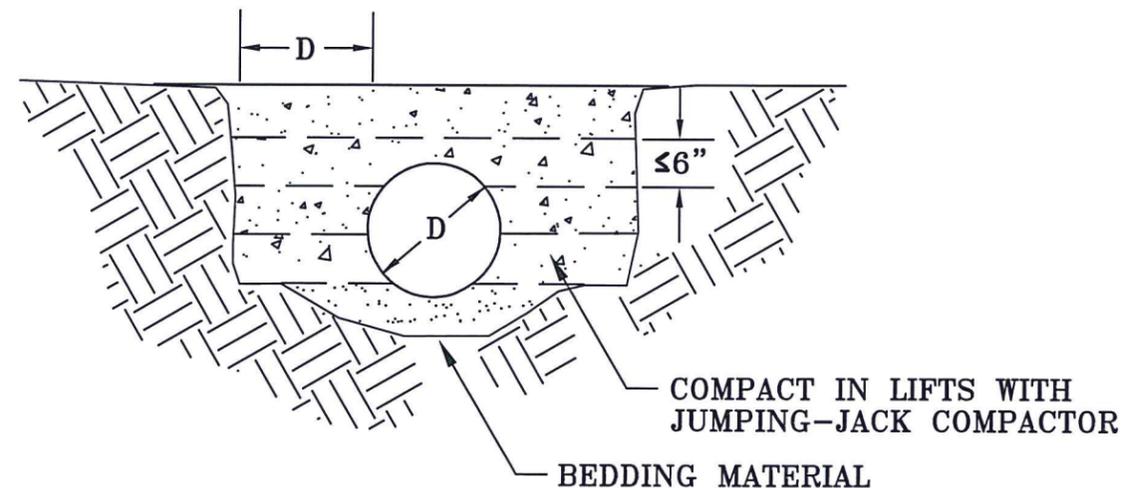
Forest
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Sheet Title
CULVERT 2

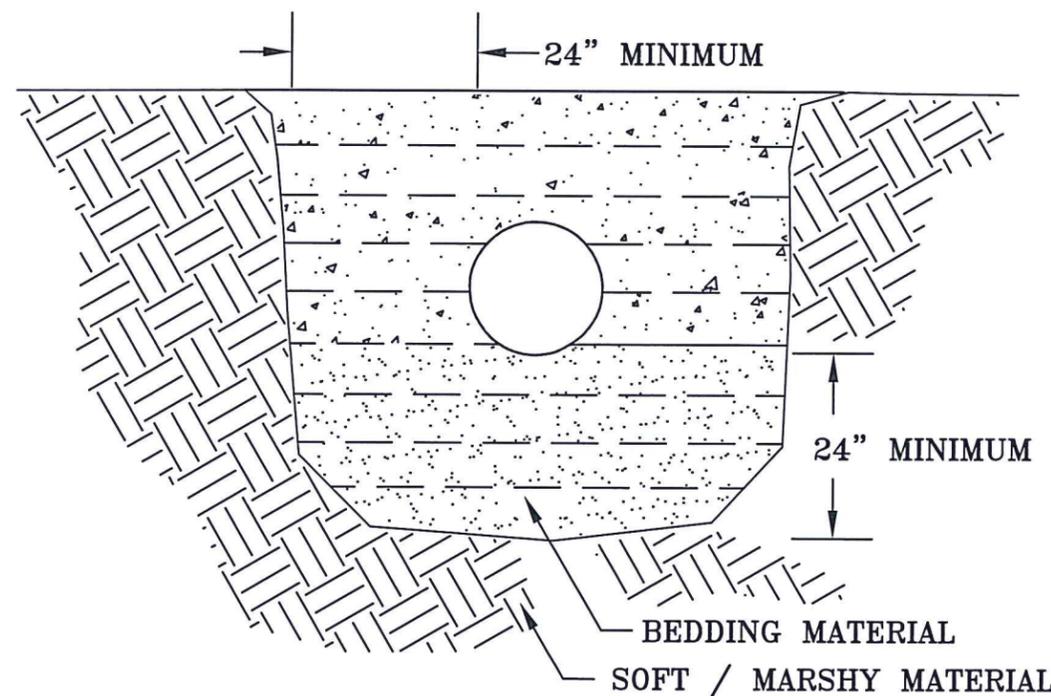
Scale NONE
Sheet 21
of 26

NOTES:

1. THE LENGTHS AND LOCATIONS OF INDIVIDUAL CULVERTS ARE APPROXIMATE.
2. CULVERTS SHALL HAVE A MINIMUM OF ONE FOOT OF COMPACTED ROAD SUBBASE MATERIAL BETWEEN THE TOP OF THE CULVERT AND SUBGRADE SURFACE.
3. PURCHASER IS RESPONSIBLE FOR LOADING, HAULING, AND APPLYING SUPPLIED BEDDING, COVER, AND SPOT GRAVEL MATERIALS. THE COST IS INCIDENTAL TO CULVERT INSTALLATION AND REPLACEMENT PAY ITEMS.
4. THE CULVERT BEDDING PROFILE SHALL BE CAMBERED LONGITUDINALLY ONE-HALF OF ONE PERCENT OF THE LENGTH OF THE CULVERT UNDER THE CENTER OF THE FILL TO PROVIDE FOR SETTLEMENT. CAMBER SHALL BE ON A CURVE WITH NO POINT ALONG THE CULVERT BEING HIGHER THAN THE INVERT OF THE INLET.
5. LEADOUT DITCHES SHALL DRAIN TO DAYLIGHT.
6. CULVERT INVERT SHALL SET ON STREAM BOTTOM AND SHALL SLOPE AT STREAM GRADE.
7. FIELD CUTTING OF CULVERT IS NOT PERMITTED UNLESS APPROVED BY THE CONTRACTING OFFICER. WHERE SPELTER COATING HAS BEEN BRUISED OR BROKEN EITHER IN THE SHOP, SHIPPING, OR BY FIELD CUTTING, REPAIRS SHALL BE IN ACCORDANCE WITH AASHTO M36.
8. PLACE AND COMPACT FILL AROUND CULVERTS IN LAYERS NOT TO EXCEED 6 INCHES LOOSE DEPTH. DO NOT OPERATE ANY HEAVY EQUIPMENT OVER ANY CULVERT UNTIL IT HAS BEEN PROPERLY BACKFILLED WITH A MINIMUM OF 1 FOOT OF COMPACTED COVER.



TYPICAL BACKFILL DETAIL



SOFT / MARSHY FOUNDATION

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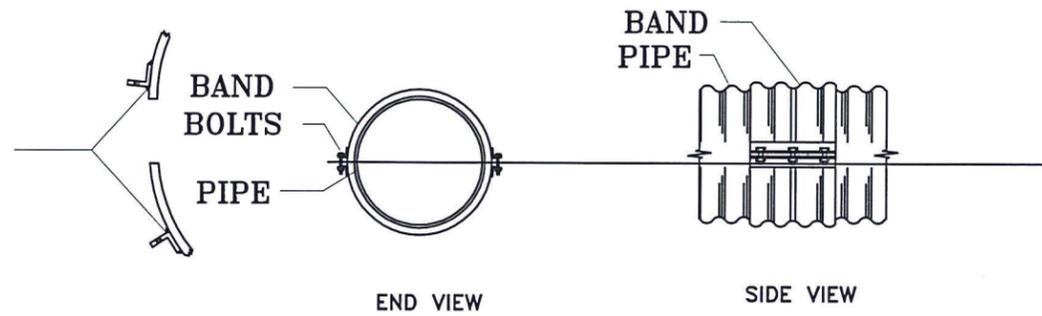
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Sheet Title
CULVERT 3

Scale **NONE** Sheet **22**
of **26**

RIVET, SPOTWELD,
OR FILLET WELD
AT CREST OF
CORRUGATION AT
HEEL AND TOE OF
ANGLE.



NOTE:
SECOND ANGLE CONNECTION OPTIONAL TO 42" DIA., REQUIRED ABOVE 42" DIA.

ANNULAR BAND
NOT TO SCALE

NOTES:

1. FABRICATE COUPLING BANDS FROM THE SAME METAL OF THE SAME THICKNESS AS THE CONNECTING PIPE. FASTEN COUPLING BANDS WITH THE FOLLOWING SIZE BOLTS:

3/8 INCH DIAMETER BOLTS FOR 18" (21" X 15" PIPE ARCH) OR LESS
1/2 INCH DIAMETER BOLTS FOR 21" (24" X 18" PIPE ARCH) OR GREATER

2. USE ANNULAR CORRUGATED BANDS WITH PIPES HAVING ANNULAR CORRUGATIONS.

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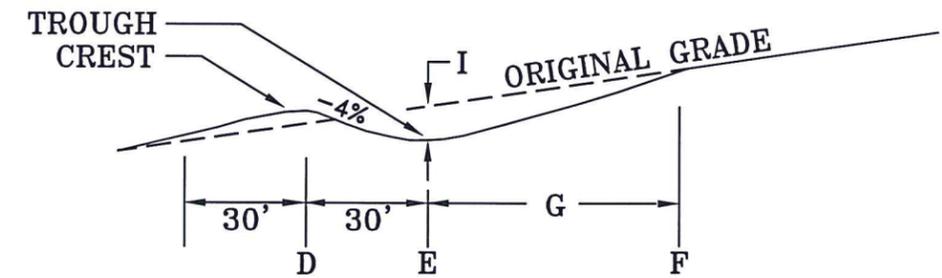
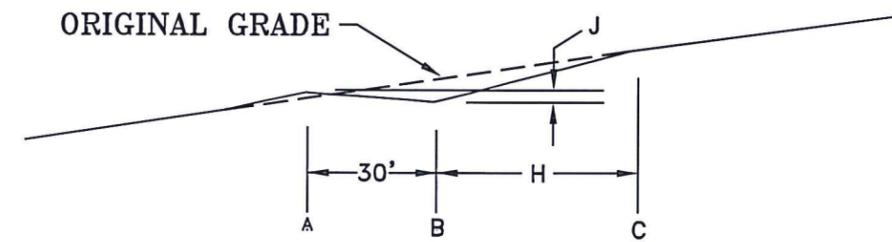
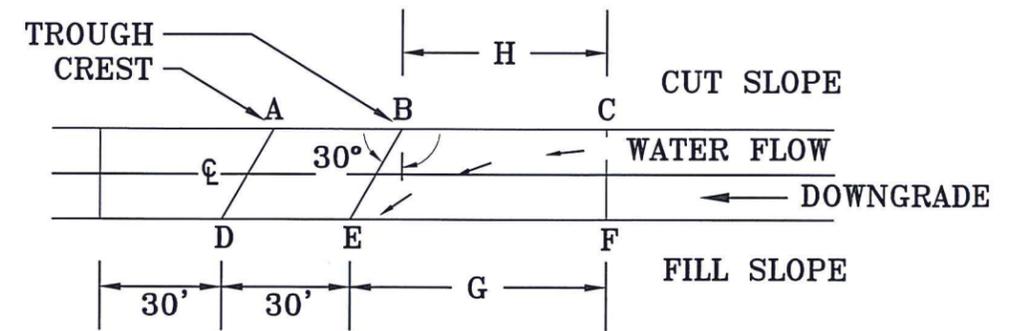
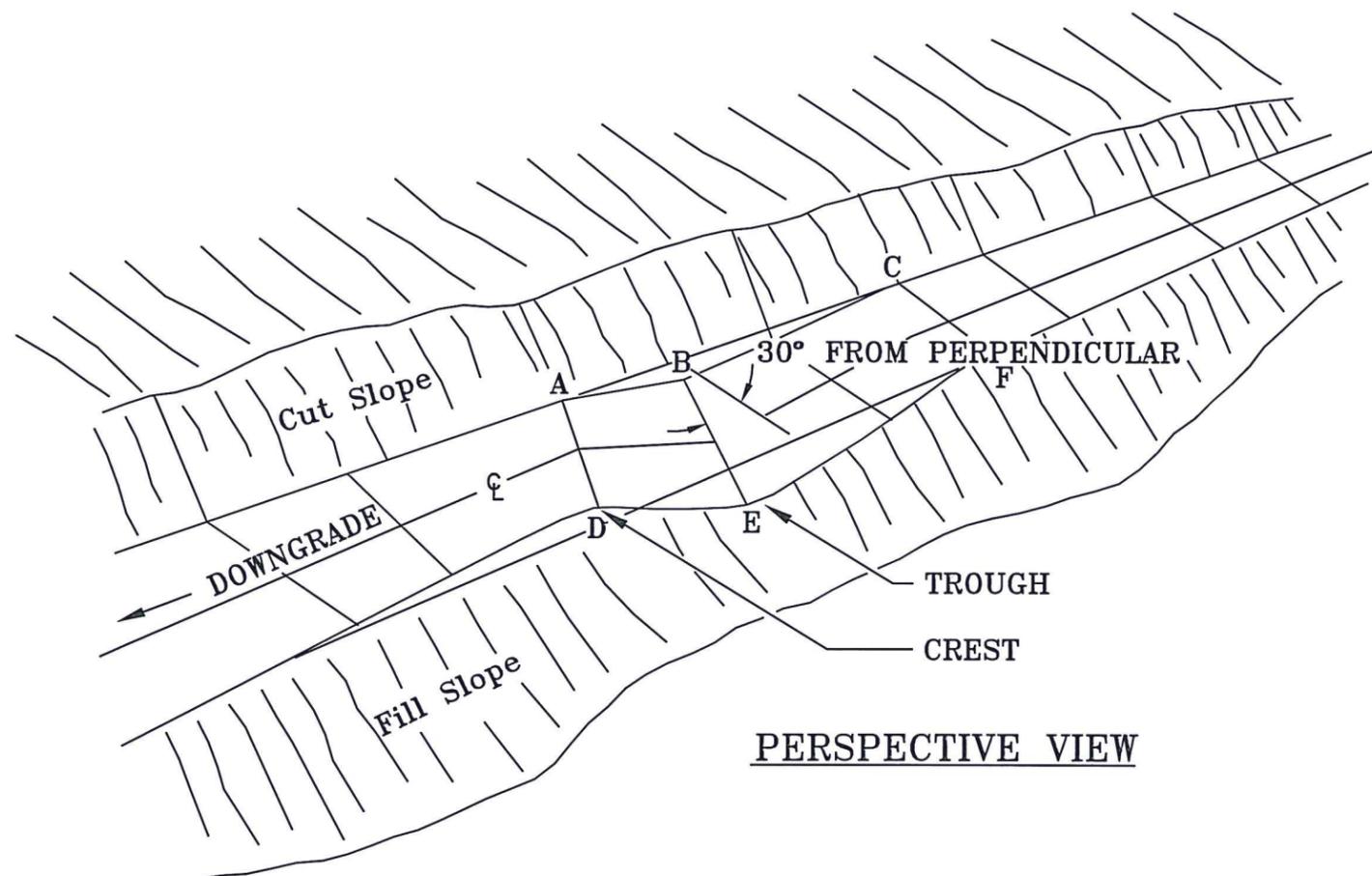
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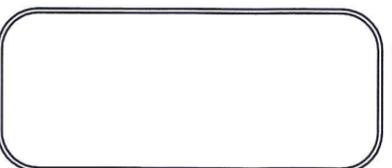
Sheet Title CULVERT 4	
Scale NONE	Sheet 23 of 26



DRAWINGS NOT TO SCALE

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Sheet Title GRADE DIP 1	
Scale NONE	Sheet 24 of 26

ROAD GRADE %	12 FEET ROAD WIDTH				14 FEET ROAD WIDTH				16 FEET ROAD WIDTH			
	LENGTH/FT		DEPTH/FT		LENGTH/FT		DEPTH/FT		LENGTH/FT		DEPTH/FT	
	G	H	I	J	G	H	I	J	G	H	I	J
<6	57	50	.8	.3	58	50	.9	.3	59	50	.95	.3
6	62	55	.8	.3	63	55	.9	.3	64	55	1	.3
7	67	60	.85	.3	68	60	.95	.3	69	60	1.05	.3
8	72	65	.85	.3	73	65	1	.3	74	65	1.1	.3
9	77	70	.85	.3	78	70	1	.3	79	70	1.1	.3
10	82	75	.9	.3	83	75	1.05	.3	84	75	1.15	.3

NOTES:

1. PLANS ARE FOR AN OUTSLOPED, INSLOPED, OR CROWNED TEMPLATE, WITH OR WITHOUT A DITCH.
2. GRADE DIPS FUNCTION BY THE PROGRESSIVE INCREASE OF ROAD SURFACE OUTSLOPE FROM LINE "C-F" INTO THE TROUGH, LINE "B-E". THE SURFACE ROLLS THROUGH THE TROUGH AND CREST TRANSITIONS IN A UNIFORM MANNER.
3. EXCESS EXCAVATION MATERIAL SHALL BE SCATTERED EVENLY OVER THE ROAD EMBANKMENT SO THAT IT WILL NOT CAUSE EROSION AND SEDIMENTATION PROBLEMS IN THE GRADE DIP, OUTLET DITCHING, OR STREAMS.
4. WHEN GRADE DIPS ARE CONSTRUCTED IN DITCH SECTIONS, THE DITCH SHALL DRAIN ACROSS THE GRADE DIP. RESUME DITCH CONSTRUCTION 25 FEET DOWN GRADE FROM THE CREST OF THE GRADE DIP.
5. GRADE DIP OUTLETS SHALL BE CONSTRUCTED TO DRAIN TO DAYLIGHT.
6. OUTLET DRAIN DITCHES SHALL HAVE CUT SLOPES EQUAL TO OR FLATTER THAN 1.5:1. EXCAVATION FROM OUTLET DITCHING SHALL BE SCATTERED ALONG THE SIDES OF THE DITCH. ALL NECESSARY CLEARING AND OUTLET DITCHING SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF THE GRADE DIP AND NO SEPARATE PAYMENT WILL BE MADE.
7. FINAL LOCATIONS FOR GRADE DIPS WILL BE STAKED BY THE FOREST SERVICE PRIOR TO CONSTRUCTION.

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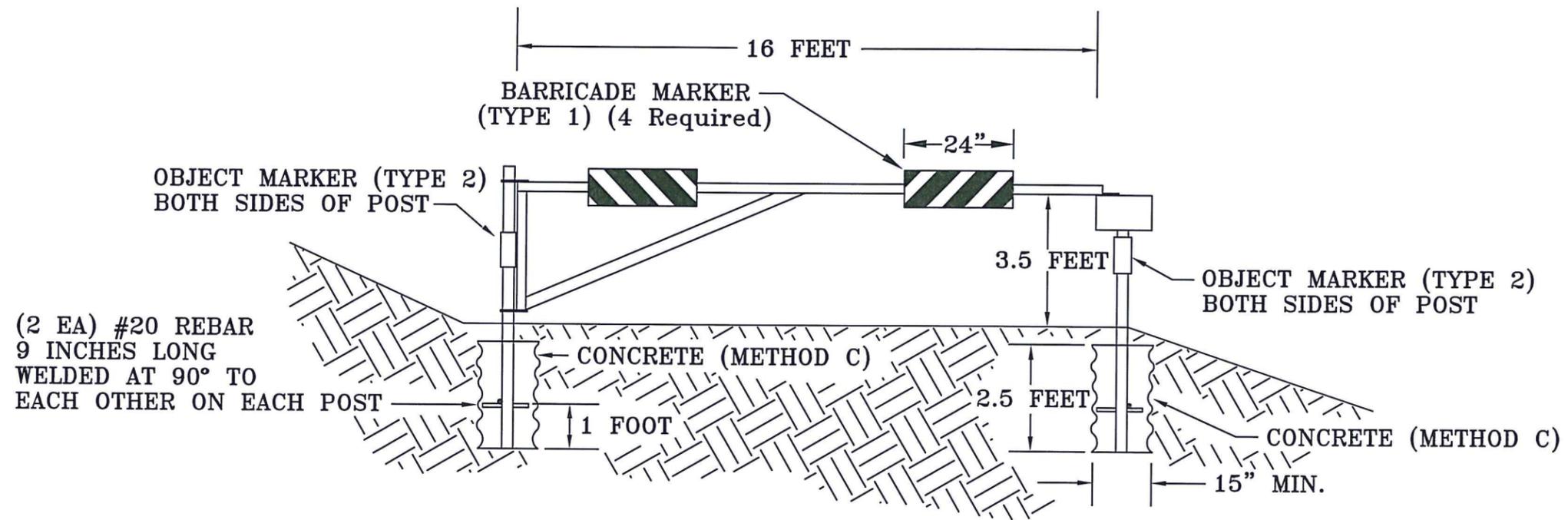


FOREST SERVICE
ROCKY MOUNTAIN REGION

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Design G.B.Frink
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Reviewed _____

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Road Reconstruction

Sheet Title
GRADE DIP 2
Scale
NONE
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FRONT VIEW
NOT TO SCALE

NOTES:

1. BARRICADE MARKERS AND THEIR INSTALLATION SHALL MEET MUTCD REQUIREMENTS FOR TYPE 1 - REQUIRED ON FRONT AND BACK.
2. OBJECT MARKERS AND THEIR INSTALLATION SHALL MEET MUTCD REQUIREMENTS FOR TYPE 2 (6 REQUIRED).

U.S. DEPARTMENT OF AGRICULTURE



FOREST SERVICE
ROCKY MOUNTAIN REGION

Drawn G.B.Frink
Design G.B.Frink
Checked
Reviewed

Forest
RIO GRANDE NATIONAL FOREST
Project Name
Pig's Eye Beetle Salvage TS
Road Reconstruction

Sheet Title

GATE

Scale
NONE

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