

**Bitmore Stewardship**  
**Contract Roads**  
**Medicine Wheel District**  
**Big Horn County, Wyoming**



**USDA**  
**Forest Service**  
*Caring for the Land and  
Serving People*



U.S. DEPARTMENT OF AGRICULTURE

FOREST SERVICE

ROCKY MOUNTAIN REGION

BIGHORN NATIONAL FOREST

DRAWINGS FOR:

LITTLE BITMORE & ANTELOPE

TIMBER SALE ROADS

PREPARED BY:

*[Signature]* 2/22/16  
DATE

I CERTIFY THAT THESE DRAWINGS COMPLY WITH LAND AND RESOURCE MANAGEMENT PLANS.

*[Signature]* 2/11/2016  
DISTRICT RANGER DATE

REVIEWED BY:

*Bruce Kerstad* 2/22/16  
DATE

I CERTIFY THE TECHNICAL ADEQUACY OF THESE DRAWINGS.

*[Signature]* 2/22/16  
FOREST ENGINEER DATE

I CERTIFY THAT THIS PROJECT IS INCLUDED IN THE APPROVED PROGRAM OF WORK AND THAT ADEQUATE FUNDING IS AVAILABLE.

*William T. Bass* 2/23/2016  
FOREST SUPERVISOR DATE

---

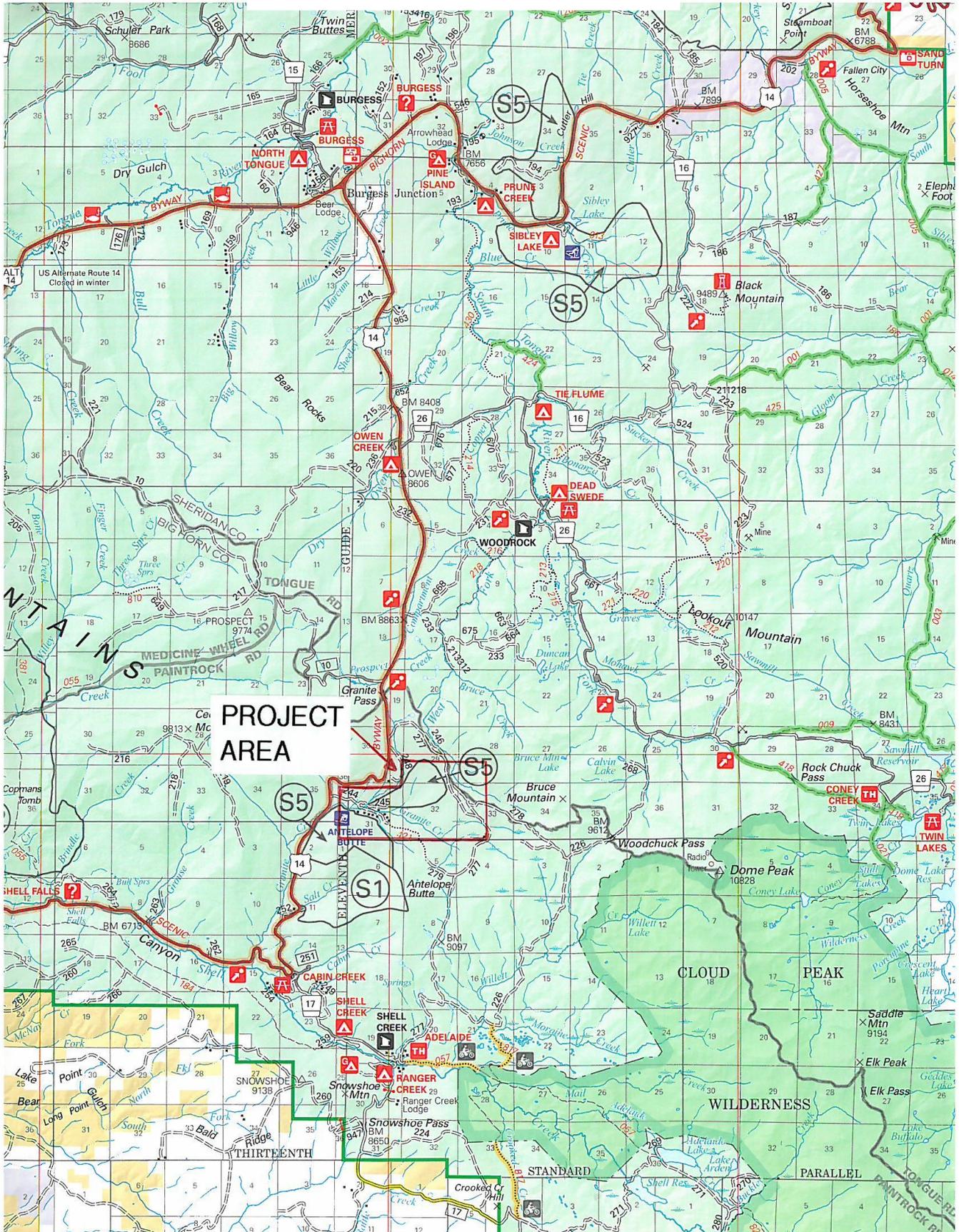
**\* INDEX \***

---

<b>TITLE</b>	<b>PAGE (S)</b>
COVER SHEET	1
SIGNATURE SHEET	2
INDEX	3
FOREST LOCATION MAP	4
PROJECT LOCATION MAP	5
SPECIFIED ROAD LIST	6
PROJECT NOTES	7
SPECIFICATION LIST	8
SPECIAL PROJECT SPECIFICATIONS	9-58
SUMMARY OF QUANTITIES	59
SCHEDULE OF ITEMS	60-61
 <b><u>DRAWINGS</u></b>	
SELECT BORROW	62
ROLLING DIP	63
ROAD RECONDITIONING	64
TRAFFIC CONTROL	65
TEMPORARY TRAFFIC CONTROL	66-67
DESCRIPTIONS OF WORK	68-69

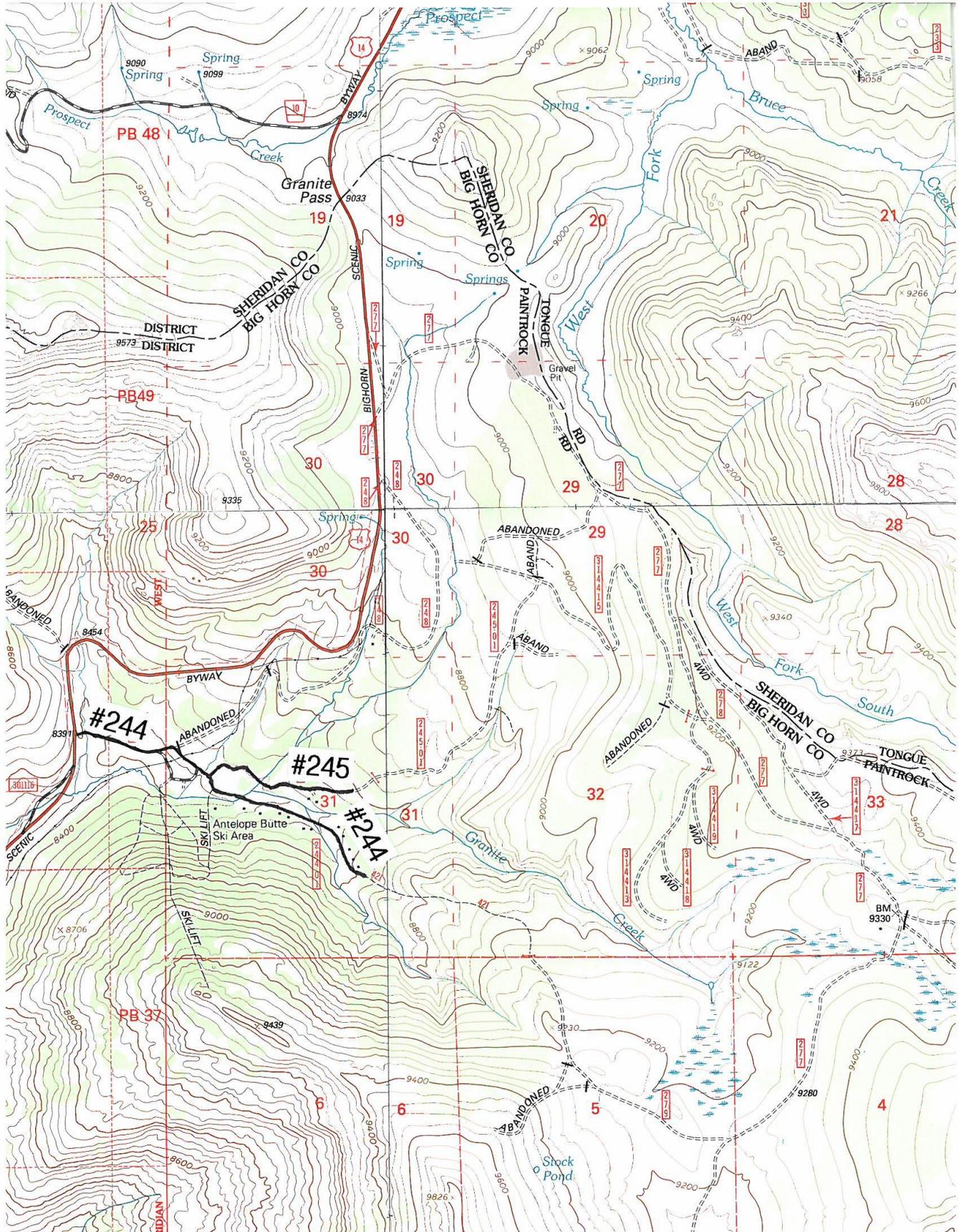
# FOREST LOCATION MAP

## Bitmore Stewardship Contract



# PROJECT LOCATION MAP

## Bitmore Stewardship Contract



---

SPECIFIED ROAD LIST

---

ROAD NAME	NUMBER	MILES	CONSTRUCT	RECONSTRUCT
Granite	244	1.1	-0-	1.1
Johnson Burn Branch #1	245	0.5	-0-	0.5

MILES CONSTRUCTION (C):                    0.0

MILES RECONSTRUCTION (R):                1.6

PROJECT TOTAL MILES:                        1.6

## PROJECT NOTES

### 1. **SPECIFICATIONS**

THE SPECIFICATIONS FOR THIS CONTRACT ARE CONTAINED WITHIN THE DOCUMENT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS", DOCUMENT FP-14 U.S. CUSTOMARY UNITS. A COPY OF THESE SPECIFICATIONS CAN BE OBTAINED ONLINE AT <http://flh.fhwa.dot.gov/resources/specs/>

### 2. **SPECIFICATION 204 (07) – BORROW SOURCES**

THE FOREST SERVICE WILL LOCATE A BORROW SOURCE WITHIN 4 MILES OF THE PLACEMENT LOCATION. AFTER REMOVAL OF THE REQUIRED BORROW THE AREA WILL BE DRESSED TO A 1 ½:1 OR FLATTER SLOPE. THE AREA WILL BE OUTSLOPED TO PROVIDE DRAINAGE SO WATER WILL NOT POND.

### 3. **SPECIFICATION 204 (07) – COMPACTION**

USE COMPACTION, METHOD D; FINISHING METHOD, DOZER FINISH.

### 4. **SPECIFICATION 204(20) ROLLING DIP LOCATIONS**

ROLLING DIP LOCATIONS AS SHOWN ON THE CONSTRUCTION PLANS ARE APPROXIMATE AND THE EXACT LOCATIONS WILL BE STAKED IN THE FIELD BY THE FOREST SERVICE.

### 5. **SPECIFICATION 212 (02) LINEAR GRADING**

REALIGNMENT OF ROAD SECTION WILL BE STAKED ON THE GROUND BY THE FOREST SERVICE.

### 6. **SPECIFICATION 635 – CONSTRUCTION SIGNS**

CASE II CONSTRUCTION WARNING SIGNS WILL BE REQUIRED ON THIS PROJECT, SEE DRAWINGS "TEMPORARY TRAFFIC CONTROL". ALL SIGNS SHALL BE PRISMATIC RETROREFLECTIVE.

STANDARD SPECIFICATIONS FOR CONSTRUCTION OF  
ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS

FP- 14

**U.S. CUSTOMARY UNITS**

**BITMORE STEWARDSHIP CONTRACT**

**SPECIFICATION LIST**

Spec. No.	Title	Road Numbers	Special Project Specifications
151	MOBILIZATION	ALL ROADS	X
204	EXCAVATION AND EMBANKMENT	ALL ROADS	X
212	LINEAR GRADING	ALL ROADS	X
303	ROAD RECONDITIONING	ALL ROADS	X
635	TEMPORARY TRAFFIC CONTROL	ALL ROADS	X

# Special Project Specifications

## Table of Contents

- Table of Contents ..... 9
- Preface..... 11
- 101 - Terms, Format, and Definitions..... 12
  - 101.01 Meaning of Terms..... 12
  - 101.01 Meaning of Terms..... 12
  - 101.03 Abbreviations..... 12
  - 101.04 Definitions..... 12
  - 101.04 Definitions..... 13
- 102 - Bid, Award, and Execution of Contract ..... 16
  - 102 Bid, Award, and Execution of Contract..... 16
- 103 - Scope of Work..... 17
  - Deletions ..... 17
- 104 - Control of Work..... 18
  - Deletions ..... 18
  - 104.03..... 19
  - 104.03 Specifications and Drawings..... 19
  - 104.06 Use of Roads by Contractor ..... 19
  - 104.07 Other Contracts..... 19
- 105 - Control of Material ..... 20
  - 105.02 Material Sources..... 20
  - 105.02(a) Government-provided sources..... 20
  - 105.02(a) Government Provided Sources..... 20
  - 105.02(a) Government Provided Sources..... 20
  - 105.02 Material Sources..... 20
  - 105.02(a) Government-provided Sources..... 20
  - 105.02 Material Sources..... 21
  - 105.02(a) Contractor-provided sources..... 21
  - 105.02(a) Government Provided Sources..... 21
  - 105.02(a) Government Provided Sources..... 21
  - 105.05 Use of Material Found in the Work..... 21
- 106 - Acceptance of Work ..... 22
  - 106.01 Conformity with Contract Requirements..... 22
  - 106.01 Conformity with Contract Requirements..... 25
  - 106.07 Delete ..... 26
- 107 - Legal Relations and Responsibility To the Public..... 27
  - 107.02 Protection and Restoration of Property and Landscape..... 27
- 107 - Legal Relations and Responsibility to the Public ..... 28
  - 107.05 Responsibility for Damage Claims..... 28
  - 107.06 Contractor’s Responsibility for Work..... 28
- 107 - Legal Relations and Responsibility To the Public..... 29
  - 107.08 Sanitation, Health, and Safety..... 29
- 107 - Legal Relations and Responsibility to the Public ..... 30

107.08 Sanitation, Health, and Safety.....	30
107.09 Legal Relationship of the Parties.....	30
107.10 Environmental Protection.....	30
107 - Legal Relations and Responsibility To the Public.....	31
107.11 Protection of Forests, Parks, and Public Lands: .....	31
108 - Prosecution and Progress.....	32
108 Delete.....	32
109 - Measurement and Payment.....	33
109 Deletions .....	33
109.02 Measurement Terms and Definitions.....	33
109.03 Weighing Procedures and Devices.....	33
109.03 Weighing Procedures and Devices.....	33
156 - Public Traffic.....	34
156.03 Accommodating Traffic During Work.....	34
156.04 Maintaining Roadways During Work.....	36
156.08 Traffic and Safety Supervisor.....	36
171 - Weed and Disease Prevention .....	37
204 - Excavation and Embankment .....	39
204.06 Roadway Excavation.....	48
204.06 Roadway Excavation .....	48
204.09 Preparing Foundation for Embankment Construction.....	48
204.10 Embankment Construction.....	48
204.11 Compaction.....	49
204.13 Sloping, Shaping, and Finishing.....	49
204.13 Sloping, Shaping, and Finishing.....	49
Table 204-2 Construction tolerances.....	50
204.14 Disposal of Unsuitable or Excess Material.....	50
204.15 Acceptance.....	50
Table 204-1 Sampling and Testing Requirements.....	50
212 - Linear Grading.....	51
303 - Road Reconditioning .....	54
303.01 Work.....	54
303.06 Aggregate Surface Reconditioning.....	54
303.06 Asphalt and Aggregate Surface Reconditioning.....	54
303.07 Roadway Reconditioning.....	55
303.10 Measurement.....	56
635 - Temporary Traffic Control .....	57
635.03 General.....	57
704 - Soil.....	58

## 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.

101.01\_nat\_us\_01\_22\_2009

### 101.01 Meaning of Terms

Delete all references to the FAR (Federal 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 stewardship 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 Stewardship Contract area map that requires designated mitigation measures.

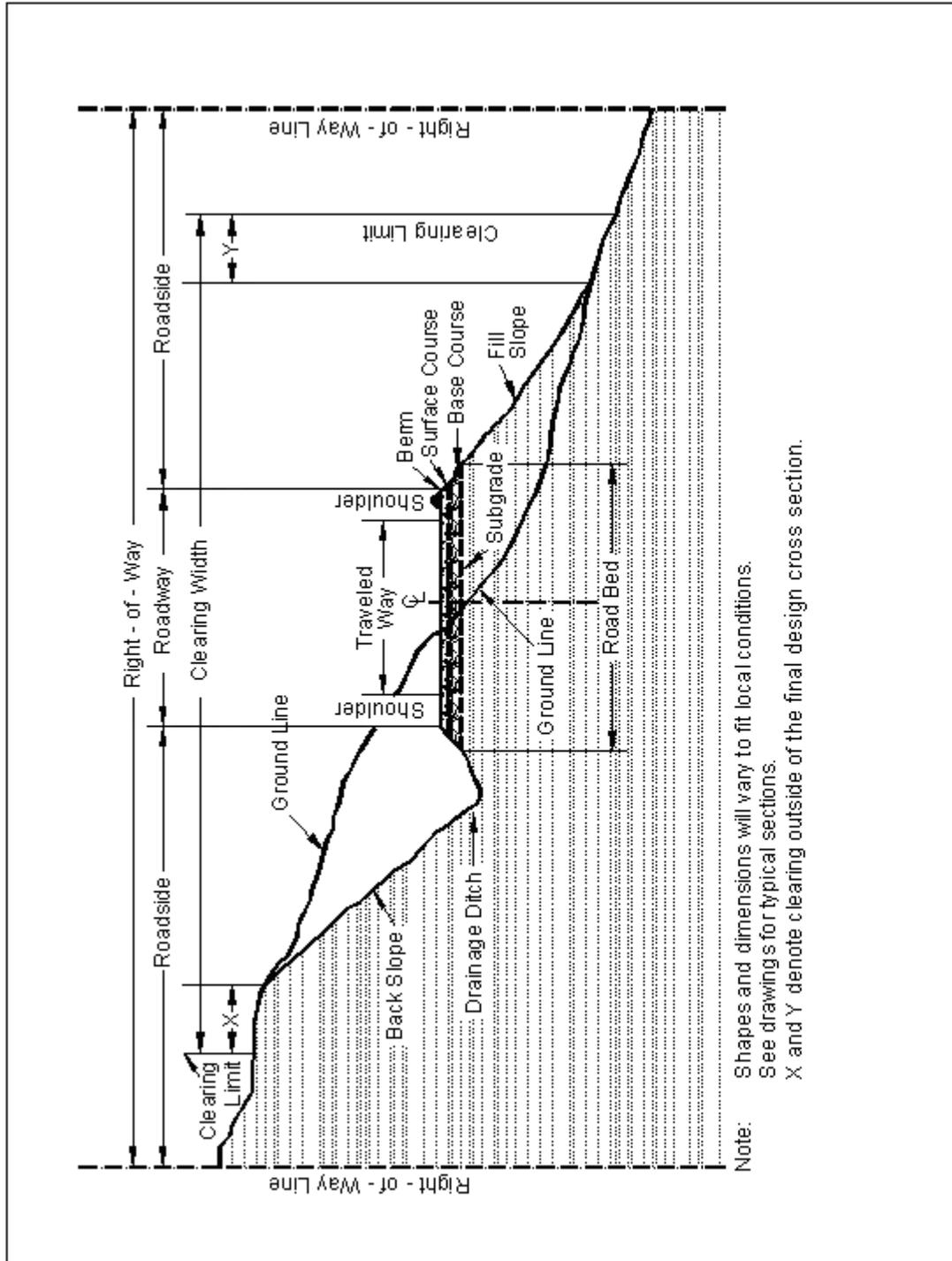
**Road Order**--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

**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.



101.04\_nat\_us\_11\_06\_2007

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.

104.03\_nat\_us\_02\_22\_2005

### 104.03 Specifications and Drawings.

Add the following:

(c) As-Built-Plans. Furnish one set of as built plans. The Government will provide one set of contract plans to be used exclusively for recording the as-built details of the project. Use red pencil or red ink to record the information on the as-built plans.

Note all additions or revisions to the location, character, and dimensions of the prescribed work shown on the contract plans. Line out all details shown that are not applicable to the completed work. Check off details shown that were incorporated into the completed work without change.

Retain the plans at the project site and, as work progresses, continually update them to reflect the as-built details. Upon request, make the plans available to the CO to review for compliance with these specifications.

Show the following types of changes on the as-built plans:

(1) Typical section(s)

(a) Revisions in dimensions

(b) Revisions in materials

(2) Plan and profile

- Revisions to the alignment
- Changes in the construction limits
- Revisions in location, type, and grade of road approaches
- Location and type of utilities
- Location, size, and type of underdrains
- Skew of culverts
- Channel changes
- Location of monuments and permanent references
- Elevations for all aerial and underground crossings of utilities
- Location, length, and type of fencing

- Revisions to grades, elevations, and stationing of intersection PIs
- Equations
- Culvert diameter, length, type, and stationing. On culvert extensions, indicate the length of the existing pipe and the length of the extension.
- Location, length, stationing, and type of retaining walls
- Location, length, stationing, and end treatment of guardrail

(3) Bridge

- (a) Stationing of bridge ends
- (b) Revisions to footing and seal elevations
- (c) Pile length, size, type, and tip elevation
- (d) Any changes in plan or dimensions including any major changes in reinforcing

(4) Miscellaneous

- (a) Revisions to parking areas or turnouts
- (b) Final location, type and length of curbs, sidewalks, etc.

Furnish the as-built working plans to the CO before the final inspection. Correct all details found during the final inspection that are not shown on the as-built plans and return to the CO within 5 days.

104.03\_nat\_us\_02\_22\_2005

**104.03 Drawings and Specifications**

Delete subsection 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.

104.07\_nat\_us\_02\_17\_2005

Add Subsection.

104.07 Other Contracts.

**Example:** The Federal Highway Administration is administering and is intending to award a contract for the reconstruction of 3 1/2 miles of Salmon la Sac Road approximately 5 miles north of this project. Schedule activities to assure no delays or interference to the operations of the Federal Highway Administration contract.

## 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.

If the Contractor elects to obtain material from **(Material Source Number or name)** the following applies:

- (a)
- (b)
- (c)

105.02\_nat\_us\_02\_17\_2005

#### 105.02(a) Government Provided Sources.

Pay **(person or company)** a royalty of **(\$\$\$)** per cubic yard, or if the material is weighed, **(\$\$\$)** per ton for material furnished from this source and incorporated into the work.

Make monthly royalty payments directly to: **(owner of the source and address)**

105.02\_nat\_us\_03\_29\_2005

### 105.02 Material Sources.

#### 105.02(a) Government-provided Sources.

##### Add the following:

Complete any pit or quarry development specified for a designated source, even when material is not obtained from the source.

105.02\_nat\_us\_03\_08\_2007

### 105.02 Material Sources.

---

#### 105.02(a) Contractor-provided sources.

##### Add the following:

All material (e.g., soil, gravel, sand, borrow, aggregate, etc.) transported onto National Forest System land or incorporated into the work will be weed-free. The Contracting Officer may request written documentation of methods used to determine the weed-free status of any and all materials furnished by the contractor. Contractor-provided expertise

and methods to establish weed-free status must be appropriate for the weeds of concern in the local area. The following applies to this contract:

*Weeds specific to this project:* N/A

*Weeds & methods specific to this project:*

Weed species or applicable weed list	Method
See K-G.6.0.1# for links to list	Use approved material sources only.

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.

Obtain material for use as **(borrow/riprap/boulders/etc.)** and in the production of aggregates under Sections (301/401/411/etc.) from **(Material Source Number or name)**.

(2) Government-provided optional sources.

Material for use as **(borrow/riprap/boulders/etc.)** and in the production of aggregates under Sections (301/401/411/etc.) may be obtained from **(Material Source Number or name)**.

105.02\_nat\_us\_02\_17\_2005

105.02(a) Government Provided Sources.

There is no charge for material taken from **(Material Source Number or name)**.

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.

## 106.01 Conformity with Contract Requirements.

Delete Subsection 106.01 and substitute the following:

Follow the requirements of FAR Clause 52.246-12 Inspection of Construction.

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;
- (9) Number of samples;
- (10) Sample transport;
- (11) Test procedures;
- (12) Testing laboratories;
- (13) Reporting;
- (14) Estimated time and costs; and
- (15) 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

107.02\_nat\_us\_02\_17\_2005

### 107.02 Protection and Restoration of Property and Landscape.

Add the following:

**Examples:** (Include language to clarify or interpret permit or other requirements).

*Do not work within the wetted perimeter of streams before July 1 or after September 15.*

*Do not work within 1000 feet of an occupied dwelling on any legal holiday or between 12 noon Saturday and 6 a.m. the following Monday.*

*Do not work (except hauling material) within 1500 feet of osprey nests between March 1 and May 31. No known active nests were located within the 1500 feet limit as of June 15, 1991. If a new nest is found, suspend work (except hauling material) within 1500 feet of the nest location. See Subsection 108.06.*

## 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 - Legal Relations and Responsibility To the Public

107.08\_nat\_us\_05\_11\_2004

### 107.08 Sanitation, Health, and Safety.

#### Add the following:

Perform all operations in a prudent, conscientious, safe and professional manner. Ensure that all personnel involved in handling and packaging the hazardous waste are trained for the level of expertise required for the proper performance of the task and, in particular, in the areas of chemical incompatibility, general first aid procedures, and spills. Provide handling and personal protective equipment appropriate to ensure safe handling of the hazardous waste according to 29 CFR 1910.120). Notify the Forest Service of all hazardous material that may be brought onto the National Forest.

## 107 - Legal Relations and Responsibility to the Public

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.

107 - Legal Relations and Responsibility To the Public

107.11\_nat\_us\_02\_17\_2005

107.11 Protection of Forests, Parks, and Public Lands:

Add the following:

*Add appropriate fire plan and equipment language.*

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.

109.03\_nat\_us\_02\_17\_2005

## 156 - Public Traffic

156.00\_nat\_us\_04\_17\_2007

Delete Section 156 in its entirety and replace with the following:

### Description

**156.01** This work consists of controlling and protecting public traffic adjacent to and within the project.

### Material

**156.02** Conform to the MUTCD and the following Sections and Subsections:

Construction sign panels	633
Retro-reflective sheeting	718.01
Temporary concrete barrier	618
Temporary plastic fence	710.11
Temporary traffic control devices	718.22

**156.03 General.** Unless otherwise provided for in Table 156-1, keep existing roads open to all traffic during road improvement work, and maintain them in a condition that will adequately accommodate traffic. Delays may not exceed \_\_\_ minutes at any one time followed by an open period of no less than \_\_\_ minutes.

Perform no work that interferes or conflicts with traffic or existing access to the roadway surface until a traffic control plan has been approved. Post construction signs and traffic control devices in conformance with MUTCD. All required signs will be in place and approved prior to beginning work on project.

If the Contractor agrees in writing to allow public traffic to use a new road being constructed prior to completion, it will be considered an existing road for traffic control purposes.

**156.04 Temporary Traffic Control.** Install and maintain temporary traffic control devices adjacent to and within the project as required by the approved traffic control plan and the MUTCD. Install and maintain traffic control devices as follows:

- (a) Furnish and install traffic control devices before the start of construction operations.
- (b) All detours outside of clearing limits will be approved in writing by the Contracting Officer as part of the traffic control plan.
- (c) Install only those traffic control devices needed for each stage or phase.
- (d) Relocate temporary traffic control devices as necessary.
- (e) Remove devices that no longer apply to the existing conditions.
- (f) Immediately replace any device that is lost, stolen, destroyed, or inoperative.
- (g) Keep temporary traffic control devices clean.

- (h) Remove all temporary traffic control devices upon contract completion or when approved.
- (i) When required, use flaggers certified by the American Traffic Safety Services Association, the National Safety Council, the International Municipal Signal Association, a state agency, or other acceptable organization. Perform the work described under MUTCD Part 6. Use type III, VII, VIII, or IX retroreflective sheeting on flagger paddles. Do not use flags. Flaggers must wear high visibility safety apparel as required by MUTCD 6E.02.

**156.05 Temporary Closures.** Road segments may be closed as shown in Table 156-1. The maximum consecutive days of closure shall be followed by a minimum number of consecutive days open to traffic as shown. Maintain traffic control devices during closure period(s). Appropriate barricades and signs will be erected and maintained as shown in the traffic control plan or as otherwise designated.

Prior to closing roads during construction, give written notice to the Contracting Officer at least 10 days in advance.

**Table 156-1  
Temporary Road Closures**

Road Number	From Terminus	To Terminus	Maximum Consecutive Days of Closure	Minimum Consecutive Days Open

**156.06 Acceptance.** Public traffic work will be evaluated under Subsection 106.02.

**Measurement and Payment**

**156.07** Do not measure Public Traffic for payment. Compensation is made as an indirect payment.

156.03\_nat\_us\_02\_24\_2005

156.03 Accommodating Traffic During Work.

Delete the following from the last paragraph:

according to Subsection 106.07(b)

156.04\_nat\_us\_02\_24\_2005

156.04 Maintaining Roadways During Work.

(a) Add the following:

Do not construct detours outside of the clearing limits or use alternate route detours without the approval of the CO.

156.08\_nat\_us\_02\_24\_2005

156.08 Traffic and Safety Supervisor.

Delete this subsection in its entirety.

## 171 - Weed and Disease Prevention

171.00\_nat\_us\_03\_30\_2005

### Description

**171.01** This work consists of washing and treating construction equipment to remove seeds, plants, and plant fragments from the equipment before the equipment is used on National Forest System lands.

### Material

**171.02** Conform to the following Subsection:

Water	725.01
-------	--------

### Construction Requirements

**171.03 General .** Notify the CO in writing at least 15 days before moving any construction equipment onto National Forest System lands. Construction equipment does not include cars, pickup trucks, and other vehicles that regularly travel between the construction site and areas outside of National Forest System lands.

Perform all work at a location designated on the plans or other locations approved in writing. Provide the CO with an opportunity to monitor the washing and inspection.

**171.04 Equipment.** Use a high pressure washing system.

For work on National Forest System lands, use a washing system that traps all wash water and either stores it for removal from National Forest System lands or recycles the water for continued use. If the equipment recycles the water, provide adequate filters for seed removal. Dispose of the filter material and removed seeds in an approved manner. Do not mix soaps, detergents, or other chemicals with the wash water.

For work at a commercial washing facility, use an approved facility.

**171.05 Washing.** Wash the sides, tops, and undercarriages of all construction equipment. Remove all seeds, plants, plant fragments, dirt, and debris from the construction equipment.

**171.06 Inspection.** Inspect the washed construction equipment, including the undercarriage, to ensure that the washing removed the dirt, debris, and seeds from the construction equipment. Rewash the construction equipment as necessary or as directed.

**171.07 Acceptance.** Weed prevention will be evaluated under Subsection 106.02.

### **Measurement**

**171.08** Do not measure weed prevention for payment.

### **Payment**

**171.09** Include all costs associated with the Section 171-Weed Prevention in the unit price for Section 151-Mobilization.

## 204 - Excavation and Embankment

204.00\_nat\_us\_03\_26\_2009

**Replace Section 204 in its entirety with the following:**

### Description

**204.01** This work consists of excavating material and constructing embankments. This includes furnishing, hauling, stockpiling, placing, disposing, sloping, shaping, compacting, and finishing earthen and rocky material.

### 204.02 Definitions.

(a) **Excavation.** Excavation consists of the following:

(1) **Roadway excavation.** All material excavated from within the right-of-way or easement areas, except subexcavation covered in (2) below and structure excavation covered in Sections 208 and 209. Roadway excavation includes all material encountered regardless of its nature or characteristics.

(2) **Subexcavation.** Material excavated from below subgrade elevation in cut sections or from below the original groundline in embankment sections. Subexcavation does not include the work required by Subsections 204.05, 204.06(b), and 204.06(c).

(3) **Borrow excavation.** Material used for embankment construction that is obtained from outside the roadway prism. Borrow excavation includes unclassified borrow, select borrow, and select topping.

(b) **Embankment construction.** Embankment construction consists of placing and compacting roadway or borrow excavation. This work includes:

- (1) Preparing foundation for embankment;
- (2) Constructing roadway embankments;
- (3) Benching for side-hill embankments;
- (4) Constructing dikes, ramps, mounds, and berms; and
- (5) Backfilling subexcavated areas, holes, pits, and other depressions.

(c) **Conserved topsoil.** Excavated material conserved from the roadway excavation and embankment foundation areas that is suitable for growth of grass, cover crops, or native vegetation.

(d) **Waste.** Excess and unsuitable roadway excavation and subexcavation that cannot be used.

## Material

### 204.03 Conform to the following Subsections:

Backfill material	704.03
Select borrow	704.07
Select topping	704.08
Topping	704.05
Unclassified borrow	704.06
Water	725.01

## Construction Requirements

**204.04 Preparation for Roadway Excavation and Embankment Construction.** Clear the area of vegetation and obstructions according to Sections 201 and 203.

**204.05 Reserved.**

**204.06 Roadway Excavation.** Excavate as follows:

**(a) General.** Do not disturb material and vegetation outside the construction limits. Incorporate only suitable material into embankments. Replace any shortage of suitable material caused by premature disposal of roadway excavation. Dispose of unsuitable or excess excavation material according to Subsection 204.14.

At the end of each day's operations, shape to drain and compact the work area to a uniform cross-section. Eliminate all ruts and low spots that could hold water.

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

**(b) Rock cuts.** Blast rock according to Section 205. Excavate rock cuts to 6 inches below subgrade within the roadbed limits. Backfill to subgrade with topping or with other suitable material. Compact the material according to Subsection 204.11

**(c) Earth cuts.** Scarify earth cuts to 6 inches below subgrade within the roadbed limits. Compact the scarified material according to Subsection 204.11.

**(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.

**204.07 Subexcavation.** Excavate material to the limits designated by the CO. Take cross-sections according to Section 152. Prevent unsuitable material from becoming mixed with the backfill. Dispose of unsuitable material according to Subsection 204.14. Backfill the subexcavation with topping, or other suitable material. Compact the material according to Subsection 204.11.

**204.08 Borrow Excavation.** Use all suitable roadway excavation in embankment construction. Do not use borrow excavation when it results in excess roadway excavation. Deduct excess borrow excavation from the appropriate borrow excavation quantity.

Obtain borrow source acceptance according to Subsection 105.02. Develop and restore borrow sources according to Subsection 105.03. Do not excavate beyond the established limits. When applicable, shape the borrow source to permit accurate measurements when excavation is complete.

**204.09 Preparing Foundation for Embankment Construction.** Prepare foundation for embankment construction as follows:

(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.

(b) **Embankments over an existing asphalt, concrete, or gravel road surface.** Scarify gravel roads to a minimum depth of 6 inches. Scarify or pulverize asphalt and concrete roads to 6 inches below the pavement. Reduce all particles to a maximum size of 6 inches and produce a uniform material. Compact the surface according to Subsection 204.11.

(c) **Embankment across ground not capable of supporting equipment.** Dump successive loads of embankment material in a uniformly distributed layer to construct the lower portion of the embankment. Limit the layer thickness to the minimum depth necessary to support the equipment.

(d) **Embankment on an existing slope steeper than 1V:3H.** Cut horizontal benches in the existing slope to a sufficient width to accommodate placement and compaction operations and equipment. Bench the slope as the embankment is placed and compacted in layers. Begin each bench at the intersection of the original ground and the vertical cut of the previous bench.

**204.10 Embankment Construction.** Incorporate only suitable roadway excavation material into the embankment. When the supply of suitable roadway excavation is exhausted, furnish unclassified borrow to complete the embankment. Obtain written approval before beginning construction of embankments over 6 feet high at subgrade centerline. Construct embankments as follows:

**(a) General.** At the end of each day's operations, shape to drain and compact the embankment surface to a uniform cross-section. Eliminate all ruts and low spots that could hold water.

During all stages of construction, route and distribute hauling and leveling equipment over the width and length of each layer of material.

Compact embankment side slopes flatter than 1V:1.75H with a tamping type roller or by walking with a dozer. For slopes 1V:1.75H or steeper, compact the slopes as construction of the embankment progresses.

Where placing embankment on one side of abutments, wing walls, piers, or culvert headwalls, compact the material using methods that prevent excessive pressure against the structure.

Where placing embankment material on both sides of a concrete wall or box structure, conduct operations so compacted embankment material is at the same elevation on both sides of the structure.

Where structural pilings are placed in embankment locations, limit the maximum particle size to 4 inches.

**(b) Embankment within the roadway prism.** Place embankment material in horizontal layers not exceeding 12 inches in compacted thickness. Incorporate oversize boulders or rock fragments into the 12-inch layers by reducing them in size or placing them individually as required by (c) below. Compact each layer according to Subsection 204.11 before placing the next layer.

Material composed predominately of boulders or rock fragments too large for 12-inch layers may be placed in layers up to 24 inches thick. Incorporate oversize boulders or rock fragments into the 24-inch layer by reducing them in size or placing them individually according to (c) below. Place sufficient earth and smaller rocks to fill the voids. Compact each layer according to Subsection 204.11 before placing the next layer.

**(c) Individual rock fragments and boulders.** Place individual rock fragments and boulders greater than 24 inches in diameter as follows:

- (1) Reduce rock to less than 48 inches in the largest dimension.
- (2) Distribute rock within the embankment to prevent nesting.
- (3) Place layers of embankment material around each rock to a depth not greater than that permitted by (b) above. Fill all the voids between rocks.
- (4) Compact each layer according to Subsection 204.11 before placing the next layer.

**(d) Embankment outside of roadway prism.** Where placing embankment outside the staked roadway prism, place material in horizontal layers not exceeding 24 inches in compacted thickness. Compact each layer according to Subsection 204.11.

**204.11 Compaction.** Compact the embankment using one of the following methods as specified:

**(a) Compaction A.** Use AASHTO T 27 to determine the amount of material retained on a Number 4 sieve. If there is more than 80 percent retained on the No. 4 sieve use procedure (1). If there is 50 to 80 percent retained on the No. 4 sieve use procedure (2). If there is less than 50 percent retained on the No. 4 sieve use procedure (3).

**(1)** Adjust the moisture content to a level suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Use compression-type rollers at speeds less than 6 feet per second and vibratory rollers at speeds less than 3 feet per second. Compact each layer of material full width with one of the following and until there is no visible evidence of further consolidation.

*(a)* Four roller passes of a vibratory roller having a minimum dynamic force of 40,000 pounds impact per vibration and a minimum frequency of 1000 vibrations per minute.

*(b)* Eight roller passes of a 20-ton compression-type roller.

*(c)* Eight roller passes of a vibratory roller having a minimum dynamic force of 30,000 pounds impact per vibration and a minimum frequency of 1000 vibrations per minute.

Increase the compactive effort for layers deeper than 12 inches as follows:

- For each additional 6 inches or fraction thereof, increase the number of roller passes in (a) above by four passes.
- For each additional 6 inches or fraction thereof, increase the number of roller passes in (b) and (c) above, by eight passes.

**(2)** Use AASHTO T 99 to determine the optimum moisture content of the portion of the material passing a No. 4 sieve. Multiply this number by the percentage of material passing a No. 4 sieve, and add 2 percent to determine the optimum moisture content of the material. Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content.

Use compression-type rollers at speeds less than 6 feet per second and vibratory rollers at speeds less than 3 feet per second. Compact each layer of material full width according to (1) above.

**(3)** Classify the material according to AASHTO M 145. For material classified A-1 or A-2-4, determine the maximum density according to AASHTO T 180, method D. For other material classifications, determine the optimum moisture content and maximum density according to AASHTO T 99, method C.

Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content.

Use compression-type or vibratory rollers. Compact each layer of material full width 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. When required, use AASHTO T 224 to correct for coarse particles.

**(b) Compaction B.** 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 there is no visible evidence of further consolidation or, if when a sheepsfoot roller is used, the roller “walks out” of the layer. Make at least three complete passes.

**(c) Compaction C.** 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.

**204.12 Ditches.** Slope, grade, and shape ditches. Remove all projecting roots, stumps, rock, or similar matter. Maintain all ditches in an open condition and free from leaves, sticks, and other debris.

Form furrow ditches by plowing or using other acceptable methods to produce a continuous furrow. Place all excavated material on the downhill side so the bottom of the ditch is approximately 18 inches below the crest of the loose material. Clean the ditch using a hand shovel, ditcher, or other suitable method. Shape to provide drainage without overflow.

**204.13 Sloping, Shaping, and Finishing.** Complete slopes, ditches, culverts, riprap, and other underground minor structures before placing aggregate courses. Slope, shape, and finish as follows:

**(a) Sloping.** Leave all earth slopes with uniform roughened surfaces, except as described in (b) below, with no noticeable break as viewed from the road. Except in solid rock, round tops and bottoms of all slopes including the slopes of drainage ditches. Round material overlaying solid rock to the extent practical. Scale all rock slopes. Slope rounding is not required on tolerance class D though M roads.

If a slide or slipout occurs on a cut or embankment slope, remove or replace the material, and repair or restore all damage to the work. Bench or key the slope to stabilize the slide. Reshape the cut or embankment slope to an acceptable condition.

**(b) Stepped slopes.** Where required by the contract, construct steps on slopes of 1½V:1H to 1V:2H. Construct the steps approximately 18 inches high. Blend the steps into natural ground at the end of the cut. If the slope contains nonrippable rock outcrops, blend steps into the rock. Remove loose material found in transitional area. Except for removing large rocks that may fall, scaling stepped slopes is not required.

**(c) Shaping.** Shape the subgrade to a smooth surface and to the cross-section required. Shape slopes to gradually transition into slope adjustments without noticeable breaks. At the ends of cuts and at intersections of cuts and embankments, adjust slopes in the horizontal and vertical planes to blend into each other or into the natural ground.

**(d) Finishing.** 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 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 surfaced roads, remove all material larger than 6 inches from the top 6 inches of the roadbed.

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 there is no visible evidence of further consolidation.

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

**204.14 Disposal of Unsuitable or Excess Material.** Dispose of unsuitable or excess material at designated sites or legally off of the project.

When there is a pay item for waste, shape and compact the waste material in its final location. Do not mix clearing or other material not subject to payment with the waste material.

**204.15 Acceptance.** See Table 204-1 for sampling and testing requirements.

Material for embankment and conserved topsoil will be evaluated under Subsections 106.02 and 106.04.

Excavation and embankment construction will be evaluated under Subsections 106.02 and 106.04.

Clearing and removal of obstructions will be evaluated under Sections 201 and 203.

### **Measurement**

**204.16** Measure the Section 204 items listed in the bid schedule according to Subsection 109.02 and the following as applicable.

**(a) Roadway excavation.** Measure roadway excavation in its original position as follows:

**(1)** Include the following volumes in roadway excavation:

- (a)* Roadway prism excavation;
- (b)* Rock material excavated and removed from below subgrade in cut sections;
- (c)* Unsuitable material below subgrade and unsuitable material beneath embankment areas when a pay item for subexcavation is not shown in the bid schedule;
- (d)* Ditches, except furrow ditches measured under a separate bid item;
- (e)* Topsoil;
- (f)* Borrow material used in the work when a pay item for borrow is not shown in the bid schedule;
- (g)* Loose scattered rocks removed and placed as required within the roadway;
- (h)* Conserved material taken from stockpiles and used in Section 204 work; and
- (i)* Slide and slipout material not attributable to the Contractor's method of operation.

**(2)** Do not include the following in roadway excavation:

- (a)* Overburden and other spoil material from borrow sources;
- (b)* Overbreakage from the backslope in rock excavation;
- (c)* Water or other liquid material;
- (d)* Material used for purposes other than required;
- (e)* Roadbed material scarified in place and not removed;
- (f)* Material excavated when stepping cut slopes;
- (g)* Material excavated when rounding cut slopes;
- (h)* Preparing foundations for embankment construction;
- (i)* Material excavated when benching for embankments;
- (j)* Slide or slipout material attributable to the Contractor's method of operation;
- (k)* Conserved material taken from stockpiles constructed at the option of the Contractor; and
- (l)* Material excavated outside the established slope limits.

**(3)** When both roadway excavation and embankment construction pay items are shown in the bid schedule, measure the following as roadway excavation only:

- (a)* Unsuitable material below subgrade in cuts and unsuitable material beneath embankment areas when a pay item for subexcavation is not shown in the bid schedule;

- (b) Slide and slipout material not attributable to the Contractor's method of operations; and
- (c) Drainage ditches, channel changes, and diversion ditches.

**(b) Unclassified borrow, select borrow, and select topping.** When measuring by the cubic yard measure in its original position. If borrow excavation is measured by the cubic yard in place, take initial cross-sections of the ground surface after stripping overburden. Upon completion of excavation and after the borrow source waste material is returned to the source, retake cross-sections before replacing the overburden. Do not measure borrow excavation used in place of excess roadway excavation.

**(c) Embankment construction.** Measure embankment construction in its final position. Do not make deductions from the embankment construction quantity for the volume of minor structures.

**(1)** Include the following volumes in embankment construction:

- (a) Roadway embankments;
- (b) Material used to backfill subexcavated areas, holes, pits, and other depressions;
- (c) Material used to restore obliterated roadbeds to original contours; and
- (d) Material used for dikes, ramps, mounds, and berms.

**(2)** Do not include the following in embankment construction:

- (a) Preparing foundations for embankment construction;
- (b) Adjustments for subsidence or settlement of the embankment or of the foundation on which the embankment is placed; and
- (c) Material used to round fill slopes.

**(d) Rounding cut slopes.** Measure rounding cut slopes horizontally along the centerline of the roadway if a pay item for slope rounding is included in the bid schedule. If a pay item for slope rounding is not included in the bid schedule slope rounding will be considered subsidiary to excavation.

**(e) Waste.** Measure waste by the cubic yard in its final position. Take initial cross-sections of the ground surface after stripping overburden. Upon completion of the waste placement, retake cross-sections before replacing overburden.

**(f) Slope scaling.** Measure slope scaling by the cubic yard in the hauling vehicle.

### **Payment**

**204.17** The accepted quantities will be paid at the contract price per unit of measurement for the Section 204 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

204.05\_nat\_us\_02\_18\_2005

#### **204.05 Conserved Topsoil**

Delete the entire paragraph.

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.

204.06\_nat\_us\_03\_02\_2005

#### 204.06 Roadway Excavation

##### (b) Rock Cuts.

Add the following:

When blasting rock, use blasting methods according to Subsection 205.08

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.

204.10\_nat\_us\_03\_02\_2005

#### 204.10 Embankment Construction.

Add the following:

Obtain written approval before beginning construction of embankments over 6 feet high at subgrade centerline.

##### (a) General.

Delete the third paragraph and add the following:

Compact embankment side slopes flatter than 1V:1.75H with a tamping type roller or by walking with a dozer. For slopes 1V:1.75H or steeper, compact the slopes as construction of the embankment progresses.

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.

(a) Sloping.

Add the following:

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

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 <sup>(a)</sup>												
	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 <sup>(b)</sup> )	±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.

204.14\_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.

204.15\_nat\_us\_02\_07\_2007

**204.15 Acceptance**

**Table 204-1 Sampling and Testing Requirements.**

Add the following note to the table:

- (2) When compaction methods (d) or (e) are used AASHTO M 145, T 99, T 180, and T 310 are not required for earth embankment test methods.

## 212 - Linear Grading

212.00\_nat\_us\_05\_19\_2005

Delete the entire specification and replace it with the following:

### Description

**212.01** This work consists of clearing and grubbing, excavation and embankment, and erosion control to construct roadways and associated features.

### Construction Requirements

**212.02 Clearing & Disposal.** Protect construction stakes and construction control markers. Remove or treat all trees, snags, downed timber, brush, and stumps within the clearing limits.

Immediately remove slash deposited in stream courses.

Fell all dead trees that are outside the clearing limits and that lean toward the road and are tall enough to reach the roadbed.

Leave stump heights less than 12 inches or one-third of the stump diameter; whichever is greater, measured on the side adjacent to the highest ground. Leave felled trees outside the clearing limits in place, and treat them no further unless otherwise designated.

Utilization standards for merchantable timber are listed below. Fall and buck merchantable material into lengths not to exceed \_\_\_\_\_ feet. Pieces (logs) will be considered as meeting utilization standards when such pieces would have met Utilization Standards if bucking lengths were varied to include such material.

#### Minimum Utilization Standards

Diameter (Inside Bark)

Length at Small End

8 feet \_\_\_\_\_ inches 33-1/3 Net Scale in % of Gross 2 Cubic Feet

Do not cut vegetation less than 3 feet in height and less than 3 inches in diameter that is within the clearing limits but beyond the roadway and not in a decking area and that does not interfere with sight distance along the road.

#### Merchantable Timber

Insert appropriate treatment method from 201.

#### Unmerchantable Timber and Large Construction Slash

Insert appropriate treatment method from 203.

**212.03 Pioneering.** Do not undercut the final back slope during pioneering operations. Deposit material inside the roadbed limits. Do not restrict drainage.

**212.04 Grubbing.** Within the clearing limits remove stumps with less than 6 inches of cover.

**212.05 Excavation & Embankment.** Construct the roadway to the required template. Protect backslopes from being undercut. Embankment may be placed by side casting and end dumping.

Locate and use borrow material, and remove and treat unsuitable or excess material.

Place rocks that are too large to be incorporated in the embankment outside the traveled way on the downhill side so that they will not roll, obstruct drainage, or hinder roadbed use and maintenance.

Leave slopes that are to be seeded in a roughened condition.

Use a crawler tractor with a dozer blade to shape and finish the roadbed. Provide for drainage of surface water, unless otherwise designated. Do not permit individual rocks in the roadbed to protrude more than 4 inches above the subgrade. A motor grader finish is not required.

Do not encroach on stream channels, wetlands, or extend beyond right-of-way or easement limits. Do not make alignment or profile grade adjustments that adversely affect drainage. Construct the roadbed within the following grading tolerances:

(a) Alignment (centerline). Alignment may be shifted a maximum of 10 feet left or right of the planned centerline. Curve radii may be reduced by up to 50 percent. Do not construct curves with radii less than 100 feet. Compound curves are permitted. Traveled way tolerance is (+) 2 feet unless otherwise designated.

(b) Profile grade. Profile grade may be shifted a maximum of 5 feet up or down from the plan elevation provided the new grade tangent does not vary more than 2 percent from the plan grade tangent. Connect revised forward and back grade tangents with a uniform vertical curve consistent with the design.

**212.06 Drainage.** Install culverts and other drainage structures according to Section 602 and Section 209.

**212.07 Erosion Control.** Install erosion control measures and seeding according to the drawings and Section 625.

**212.08 Acceptance.** Linear grading will be evaluated under Subsections 106.02 and 106.04.

Clearing and slash and timber treatment will be evaluated under Sections 201 and 203.

## **Measurement**

**212.09** Measure the Section 212 items listed in the bid schedule according to Subsection 109.02 and the following.

Do not measure changes in the clearing and grubbing quantity caused by alignment adjustments under Subsection 212.04.

## **Payment**

**212.10** The accepted quantities, measured as provided in Subsection 109.02 and above, will be paid at the contract price per unit of measurement for the Section 212 pay item listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

## 303 - Road Reconditioning

303.01\_nat\_us\_03\_02\_2005

### 303.01 Work.

Delete and add the following:

This work consists of reconditioning ditches, shoulders, roadbeds, cattleguards, asphalt surfaces, and aggregate surfaces.

303.06\_nat\_us\_08\_05\_2008

### 303.06 Aggregate Surface Reconditioning.

Delete and replace with the following:

### 303.06 Asphalt and Aggregate Surface Reconditioning.

Repair soft and unstable areas to the full depth of the aggregate surface and according to Subsection 204.07. Scarify to the depth of the aggregate surface or to a depth of 6 inches, whichever is less, and remove surface irregularities. Reshape, finish, and compact the entire aggregate surface according to Subsection 301.05, Subsection 321.05, or Subsection 322.05 as applicable.

For asphalt surfaces, clean the existing surface of all loose material, dirt, or other deleterious substances by approved methods. Remove and dispose of unsuitable material that shows evidence of distress, excess asphalt material, or settlement in the roadbed. Patch the areas with approved material that conforms to and is compatible with the adjacent pavement structure. Perform the patch work according to Section 301, 404, 430, or other sections as applicable for the layer or courses being repaired. Clean and seal cracks in the existing asphalt surface according to Subsection 414.05. Correct surface irregularities exceeding 6 inches in depth with a specified aggregate. Place and compact the aggregate according to Subsections 301.04 and 301.05. Prelevel other dips, depressions, sags, excessive or nonexistent crown, or other surface irregularities with asphalt concrete according to Section 404. Spread and compact the asphalt concrete in layers parallel to the grade line not to exceed 2 inches in compacted depth.

**Delete Table 303-1 and replace with the following:**

**Table 303-1  
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	
Existing Roadway	Measured and tested for conformance (106.04)	Moisture-density Method D	—	AASHTO T 99 (1)	1 per each mixture or change in material	Processed material before incorporating in work	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	1 per 3000 yd <sup>2</sup>	In-place	—	Before placing next layer	

(1) Minimum of 5 points per proctor.

### 303.07 Roadway Reconditioning.

#### Add the following:

Remove cattleguard decks. Clean the deck and the area beneath the cattleguard of soil and other material to the bottom of the original foundation over the entire width of the installation. Reinstall the cattleguard deck.

303.11\_nat\_us\_03\_29\_2005

### 303.10 Measurement

#### Modify the second paragraph as follows:

Measure ditch reconditioning and shoulder reconditioning by the mile, station, or foot horizontally along the centerline of the roadway for each side of the roadway.

## 635 - Temporary Traffic Control

635.03\_nat\_us\_05\_13\_2004

### 635.03 General.

#### Add the following:

Install temporary traffic control signs to temporary posts or approved temporary sign mounts.

## 704 - Soil

704.02\_nat\_us\_03\_02\_2005

### 704.02 Bedding Material.

Delete Subsection 704.02 and substitute the following:

Furnish a well graded, free draining material free of excess moisture, muck, frozen lumps, roots, sod, or other deleterious material conforming to the following:

- |  |  |
|--|--|
| (a) Maximum particle size                                | 3 inch or half the corrugation depth, whichever is smaller |
| (b) Material passing No. 200 sieve, AASHTO T 27 and T 11 | 10% max.   |

704.02\_nat\_us\_03\_02\_2005

### 704.02 Bedding Material.

Delete Subsection 704.02 and substitute the following:

Furnish a well graded, free draining material free of excess moisture, muck, frozen lumps, roots, sod, or other deleterious material conforming to the following:

- |  |   |
|--|---|
| (a) Maximum particle size<br>corrugation                 | 1/2 inch or half the<br>depth, whichever is smaller |
| (b) Material passing No. 200 sieve, AASHTO T 27 and T 11 | 10% max.  |

**SUMMARY OF QUANTITIES  
(BITMORE STEWARDSHIP CONTRACT)**

ITEM NO.	DESCRIPTION	PAY UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
151(01)	Mobilization	Lump Sum	1		
204(07)	Select borrow, compaction method <u>D</u> , finishing method <u>dozer finish</u>	Cubic Yard	24		
204(20)	Drainage excavation, type <u>Rolling Dip</u>	Each	4		
212(02)	Linear Grading	Lump Sum	1		
303(01)	Road reconditioning, <u>N/A</u> inch depth, surfacing <u>native material</u> , compaction method <u>A</u>	Mile	1.6		
				<b>TOTAL</b>	

**NOTE:** Payment will be made on actual work performed as described in FP-14 109.01 unless otherwise noted.

**SCHEDULE OF ITEMS**  
**(BITMORE STEWARDSHIP CONTRACT)**  
 GRANITE – ROAD 244  
 MP 0.0 TO 1.1

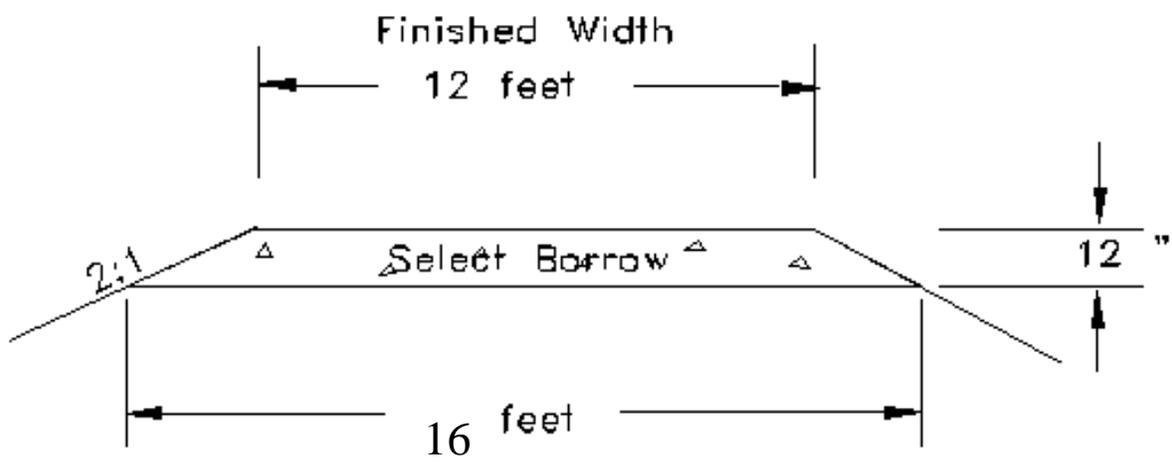
ITEM NO.	DESCRIPTION	PAY UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
151(01)	Mobilization	Lump Sum	1		
204(20)	Drainage excavation, type <u>Rolling Dip</u>	Each	2		
303(01)	Road reconditioning, <u>N/A</u> inch depth, surfacing <u>native material</u> , compaction method <u>A</u>	Mile	1.1		
				<b>TOTAL</b>	

**NOTE:** Payment will be made on actual work performed as described in FP-14 109.01 unless otherwise noted.

**SCHEDULE OF ITEMS**  
**(BITMORE STEWARDSHIP CONTRACT)**  
**JOHNSON BURN BRANCH #1 – ROAD 245**  
**MP 0.0 TO 0.5**

ITEM NO.	DESCRIPTION	PAY UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
151(01)	Mobilization	Lump Sum	1		
204(07)	Select borrow, compaction method <u>D</u> , finishing method <u>dozer finish</u>	Cubic Yard	24		
204(20)	Drainage excavation, type <u>Rolling Dip</u>	Each	2		
212(02)	Linear Grading	Lump Sum	1		
303(01)	Road reconditioning, <u>N/A</u> inch depth, surfacing <u>native material</u> , compaction method <u>A</u>	Mile	0.5		
				<b>TOTAL</b>	

**NOTE:** Payment will be made on actual work performed as described in FP-14 109.01 unless otherwise noted.

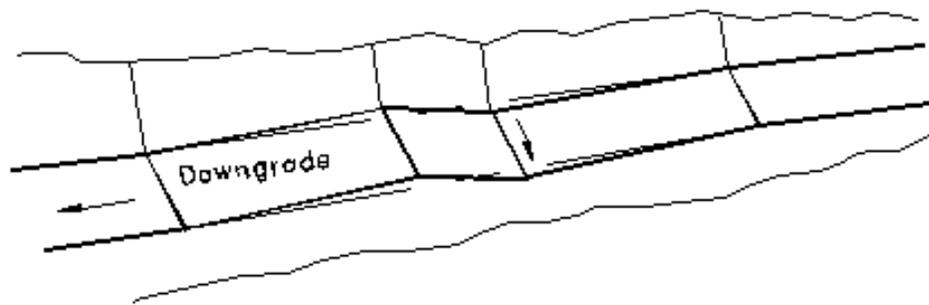


NOTE: Traveled way width shown is without necessary widening for fill, sluff, curves, intersections and turnouts. Required widening has been included in the design and quantity calculations.

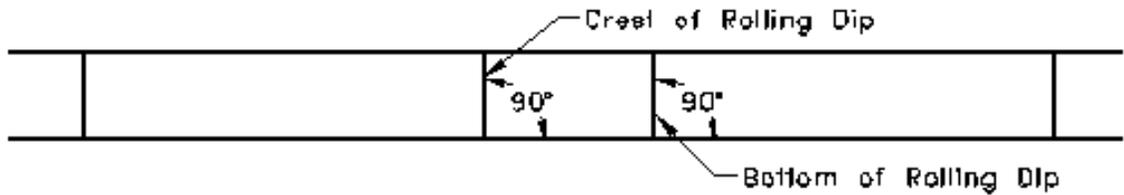
SELECT BORROW

STANDARD  
DRAWING

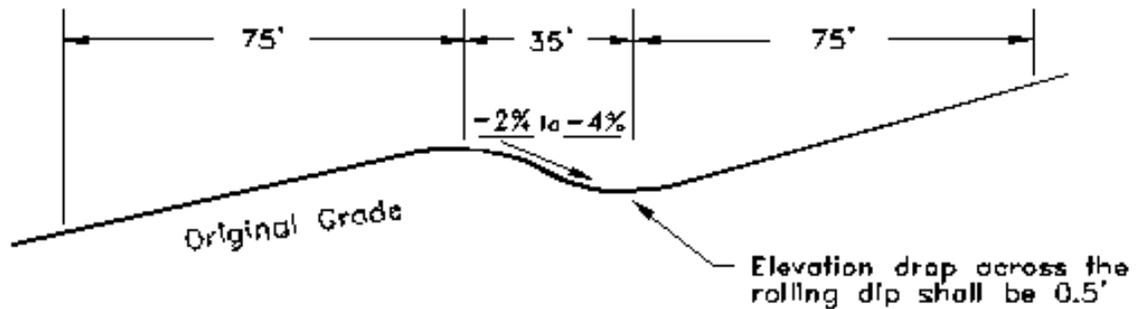
204-1



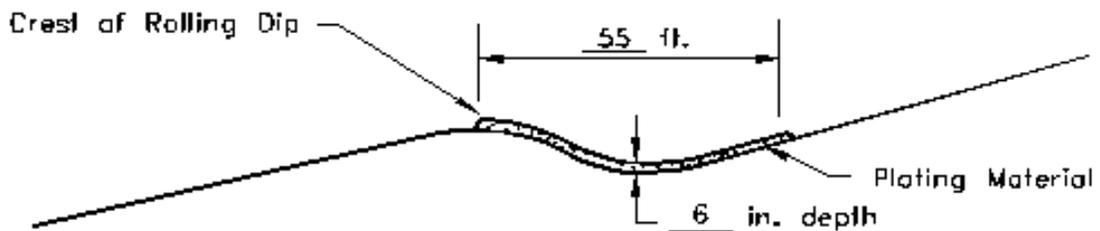
PERSPECTIVE VIEW



PLAN VIEW



PROFILE ROLLING DIP



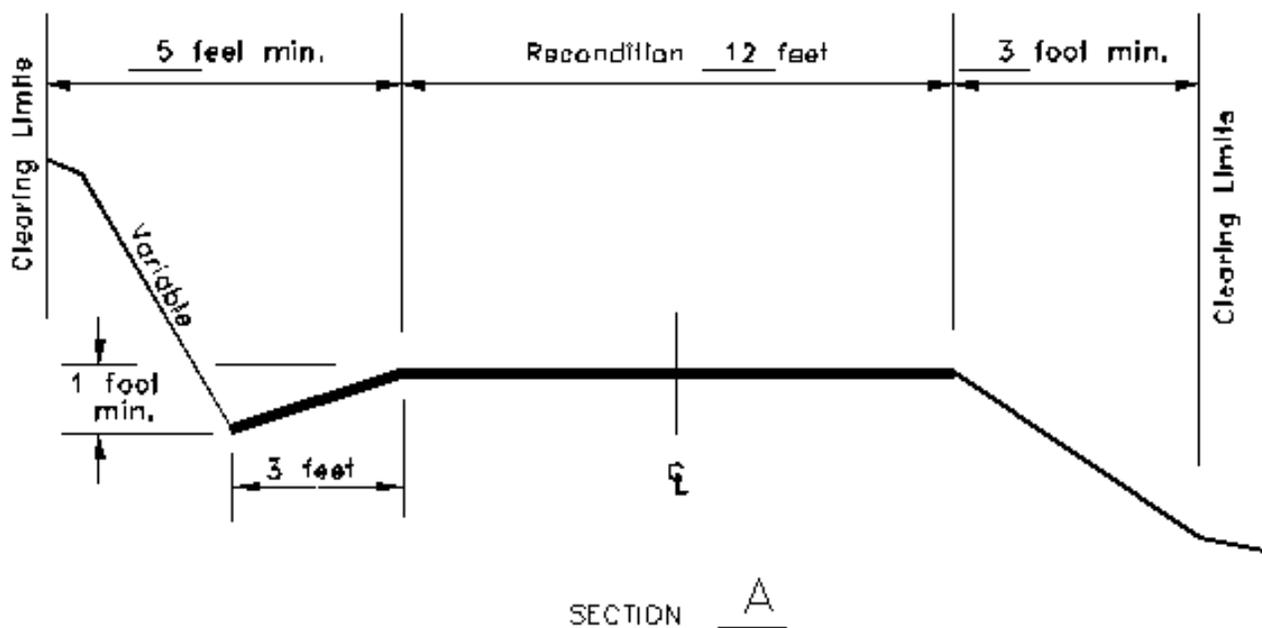
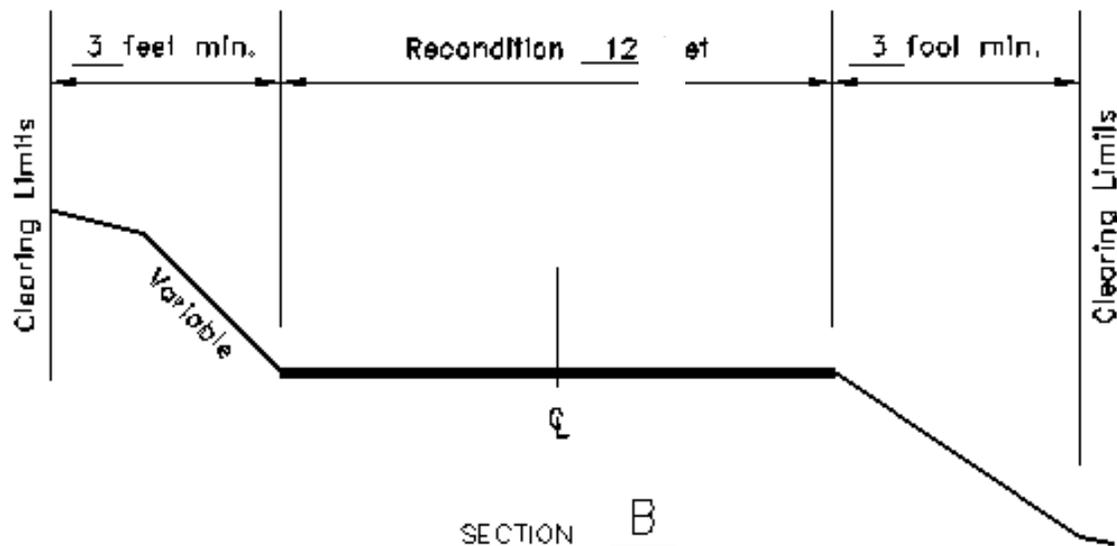
PROFILE ROLLING DIP WITH PLATING

1. When rolling dips are constructed in ditch sections the ditch shall drain across the rolling dip. Resume ditch construction 25' downgrade from the crest of the rolling dip.
2. Outlet drain ditches shall have out slopes equal to or flatter than 1.5:1. Excavation from outlet ditching shall be wasted along the sides of the ditch. All necessary clearing will be treated in accordance with applicable specifications.

ROLLING DIP

STANDARD  
DRAWING

204-2



**NOTES:**

- (1) Rocks removed during scarification process may be deposited below fill slopes and scattered so the appearance of a windrow does not result.
- (2) Scarification will not be required where suitable roadbed ( as determined by the Engineer) can be obtained by blading only.
- (3) Rock protrusion of 2" will be allowed.
- (4) Road widths, ditch widths and ditch depths will vary accordingly with the existing roadbed and ditch.

SURFACE BLADING

STANDARD  
DRAWING

T-803



W3-1



W3-2



W3-1a



W3-2a



W7-3a-24  
(SUPPLEMENTAL SIGN)  
24" X 18" when used with  
30" warning signs:  
SPECIFY DISTANCE



FW11-9a



W5-1



W5-2



W5-3



W14-1



W13-1  
(ADVISORY SPEED PLATE)  
18" X 18" when used with  
30" Warning signs: It is  
never used separately



FW14-6



W1-1 (R or L)



W1-2 (R or L)



W1-3 (R or L)



W1-4 (R or L)



W1-5 (R or L)



FW1-U (R or L)



W2-1



W2-2 (R or L)



W2-3 (R or L)



W2-4



W2-5



FW4-2a (R or L)



R1-1



R1-2



R12-1

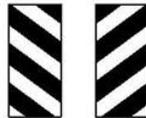


R12-5



FW4-2b  
SUPPLEMENTARY TURNOUT  
(Used with W4-2a)

BLACK ON YELLOW



OM-3L OM-3R  
OBJECT MARKER  
TYPE 3  
12" X 36"

RED & WHITE



BM-L-R4 BM-R-R4  
GATE BARRICADE MARKER  
TYPE 2  
12" X 36"

YELLOW



OM-2-B  
OBJECT MARKER  
TYPE 2  
6" X 12"



FW8-1a-45

NOTE: All signs shall conform to MUTCD requirements

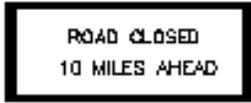
TRAFFIC CONTROL SIGNS

STANDARD  
DRAWING

633



W20-3



R11-3

CASE I - Thru traffic prohibited



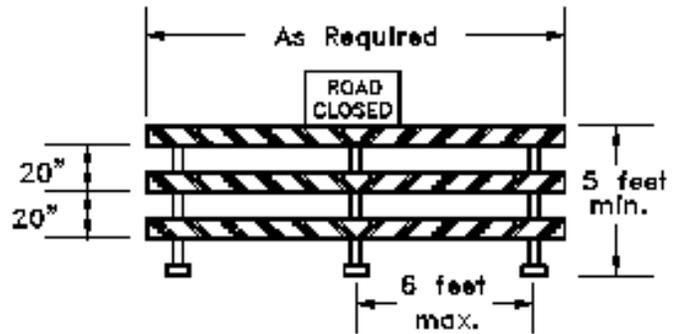
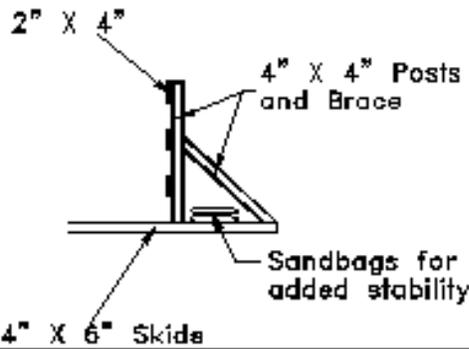
W20-1



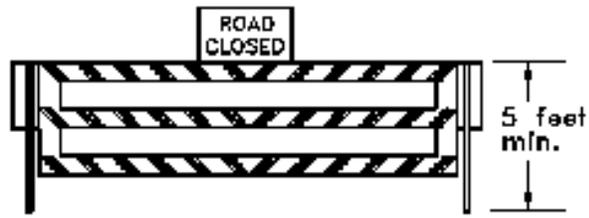
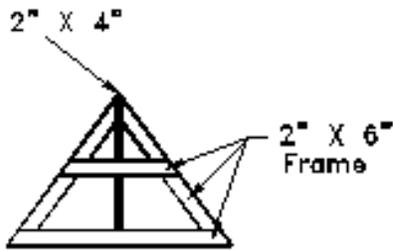
G20-1

CASE II - Traffic routed thru construction

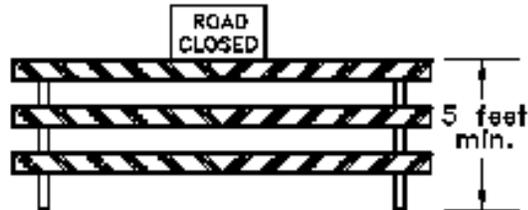
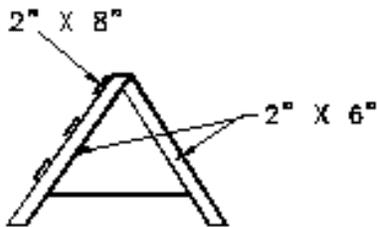
### TYPE III MOVABLE BARRICADES



RIGID



DEMOUNTABLE



HINGED

CONSTRUCTION SIGNS

STANDARD DRAWING

104-02

CONSTRUCTION SIGNS FOR FOREST DEVELOPMENT ROADS

All work shall be done in accordance with the Standard Specifications applicable to the Project and the "Manual on Uniform Traffic Control Devices for all Classes of Streets and Highways" published by the U.S. Department of Transportation, Federal Highway Administration.

Work on the Project shall not be started until all required signs are in place and approved by the Engineer.

Where traffic is maintained through or over any part of the Project, the Contractor will be required to mark all hazards within the limits of the Project (including connecting roads) with well-maintained signs. Signs shall be moved, added to, changed or removed as required during the progress of construction and removed entirely when the Project is completed.

All signs shall be placed for best visibility and legibility, maintained in good condition and kept clean and free of dirt at all times. Contractor's and Engineer's vehicles and equipment must be parked so that signs and barricades are visible to approaching traffic at all times.

Locations for control devices are to be approved by the Engineer. In all cases Warning signs are to be placed well in advance of the hazard, the distance depending on topography and existing approach speeds. Additional markings and any special signs required for the guidance and protection of traffic will be placed as required on the Project at the Contractor's expense.

All signs shall be reflectorized unless otherwise specified on the plans. Signs shall have a screen processed black legend and border on orange flexible reflective sheeting, non-exposed lens background.

Sign panels furnished by the contractor for use only during construction may be fabricated from plywood, aluminum, steel or other suitable material, but shall be stable and durable enough to meet other requirements of this Standard.

All material shall be sound and durable. Barricades, signs, symbols and lettering shall be of good workmanship. Uneven lettering will not be acceptable. Reflective sheeting shall be of the smooth surface type.

Alternate methods of processing signs or the substitution of materials, symbols or other reflecting elements for painted symbols will be permitted only after approval of such methods or materials by the Engineer in writing.

Signs used as "Temporary Traffic Control" are considered incidental to other pay items and no separate payment will be made.

Signs shall be mounted on posts or portable stands approved by the COR.

TEMPORARY TRAFFIC CONTROL	STANDARD DRAWING	635-1		
---------------------------	------------------	-------	--	--

MILEPOST	TYP. SECTION	DRAIN.	EXTRA WIDTH (ft)	DESCRIPTION
0.0	RECON. (B)			BEGIN RECONDITIONING
0.4				INTERSECTION FSR 245
0.7				CABINS
0.9				CONSTRUCT ROLLING DIP
1.0				CONSTRUCT ROLLING DIP
1.1				INTERSECTION TRAIL 421
1.1				END RECONDITIONING
DESCRIPTION OF WORK			DEPARTMENT OF AGRICULTURE FOREST SERVICE BIGHORN NATIONAL FOREST	
ROAD NUMBER _____ 244 _____			STANDARD DRAWING	of

MILEPOST	TYP. SECTION	DRAIN.	EXTRA WIDTH (ft)	DESCRIPTION
0.0	RECON. (B)			BEGIN RECONDITIONING
0.1				CONSTRUCT ROLLING DIP
0.1				INTERSECTION WITH FSR 273
0.2				REALIGN ROAD APPROACH TO BRIDGE (150 FT.)
0.2				BRIDGE
0.3				PLATE (12CY) OR REMOVE BOULDERS
0.3				CONSTRUCT ROLLING DIP
0.4				PLATE (12 CY) OR REMOVE BOULDERS
0.5				END RECONDITIONING
DESCRIPTION OF WORK			DEPARTMENT OF AGRICULTURE FOREST SERVICE BIGHORN NATIONAL FOREST	
ROAD NUMBER <u>245</u>			STANDARD DRAWING	of