

CONSTRUCTION OF SPECIFIED ROADS

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

C.R.T.S.	SECTION NO. & TITLE	REV DATE	ROAD NUMBER					
			3000 101	3000 187	3000 200-I	3000 200-II	3000 213	3000 214
	101 - Terms, Format, and Definitions	2013	X	X	X	X	X	X
	101 00 FLH FP-03 Corrections	7/25/2005	X	X	X	X	X	X
	01 Meaning of Terms	1/22/2009	X	X	X	X	X	X
	01 Meaning of Terms	1/22/2009	X	X	X	X	X	X
	03 Abbreviations and Symbols	6/16/2006	X	X	X	X	X	X
	04 Definitions	11/6/2007	X	X	X	X	X	X
	04 Symbols	3/29/2007	X	X	X	X	X	X
	102 - Bid, Award, and Execution of Contract	2013	X	X	X	X	X	X
	102 00 Delete 102 in its entirety	2/16/2005	X	X	X	X	X	X
	103 - Scope of Work	2013	X	X	X	X	X	X
	103 00 Intent of Contract	2/16/2005	X	X	X	X	X	X
	104 - Control of Work	2013	X	X	X	X	X	X
	104 00 Deletions to 104	6/16/2006	X	X	X	X	X	X
	03 Specifications and Drawings.	1/22/2009	X	X	X	X	X	X
	03 Specifications and Drawings	2/22/2005	X	X	X	X	X	X
	06 Use of Roads by Contractor	2/17/2005	X	X	X	X	X	X
	07 Other Contracts	2/17/2005	X	X	X	X	X	X
	105 - Control of Material	2013	X	X	X	X	X	X
	105 02 Material Sources	1/18/2007	X	X	X	X	X	X
	02 Contractor provided material	3/8/2007	X	X	X	X	X	X
	05 Use of Material Found in the Work	5/12/2004	X	X	X	X	X	X
	106 - Acceptance of Work	2013	X	X	X	X	X	X
	106 01 Conformity with Contract	7/31/2007	X	X	X	X	X	X
	07 Partial and Final Acceptance	5/11/2004	X	X	X	X	X	X
	107 - Legal Relations and Responsibility to the Public	2013	X	X	X	X	X	X
	107 05 Responsibility for Damage Claims	5/11/2004	X	X	X	X	X	X
	06 Contractor Responsibility for Work	6/16/2006	X	X	X	X	X	X
	08 Sanitation, Health & Safety	3/29/2005	X	X	X	X	X	X
	09 Legal Relationship of the Parties	6/16/2006	X	X	X	X	X	X
	10 Environmental Protection	6/16/2006	X	X	X	X	X	X
	108 - Prosecution and Progress	2013	X	X	X	X	X	X
	108 00 Delete Section 108 in entirety	2/16/2005	X	X	X	X	X	X
	109 - Measurement and Payment	2013	X	X	X	X	X	X
	109 00 Deletions	2/17/2005	X	X	X	X	X	X
	02 Measurement Terms and	6/16/2006	X	X	X	X	X	X
	151 - Mobilization	2013	X	X	X		X	
	155 - Schedules for Construction Contracts	2013	X	X	X	X	X	X
	155 - Schedu 00 Contractor Quality Control Plan,	5/11/2004	X	X	X	X	X	X
	201 - Clearing and Grubbing	2013	X	X			X	X
	201 01 Description	2/18/2005	X	X			X	X
	201 04 Clearing	2/22/2005	X	X			X	X
	203 - Removal of Structures and Obstructions	2013						
	203 01 Description	2/25/2005	X	X			X	X
	203 04 Removing Material	2/18/2005	X	X			X	X
	203 05 Disposing of Material	2/18/2005	X	X			X	X
	203 08 Payment	2/24/2005	X	X			X	X
	204 - Excavation and Embankment	2013		X				
	204 06 Roadway Excavation	3/2/2005	X	X	X	X	X	X
	204 06 Roadway Excavation	3/2/2005	X	X	X	X	X	X
	204 06 Roadway Excavation	3/2/2005	X	X	X	X	X	X

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

C.R.T.S.	SECTION NO. & TITLE	REV DATE	ROAD NUMBER					
			3000 101	3000 187	3000 200-I	3000 200-II	3000 213	3000 214
	204 09 Preparing Foundation for Embankment Construction	3/2/2005	X	X	X	X	X	X
	204 10 Embankment Construction	3/2/2005	X	X	X	X	X	X
	204 11 Compaction	4/11/2005	X	X	X	X	X	X
	204 13 Sloping, Shaping, and Finishing	3/2/2005	X	X	X	X	X	X
	204 13 Sloping, Shaping, and Finishing	3/2/2005	X	X	X	X	X	X
	204 14 Disposal of Unsuitable or Excess Material	3/2/2005	X	X	X	X	X	X
	204 15 Acceptance	2/7/2007	X	X	X	X	X	X
	209 - Structure Excavation and Backfill	2013						
	209 10 Backfill	10/23/2007			X	X		
	209 11 Compacting	2/24/2005			X	X		
	212 - Linear Grading	2013						
	212 00 Complete specification	5/19/2005						
	251 - Riprap	2013			X	X		
	303 - Road Reconditioning	2013	X	X	X	X	X	X
	303 01 Description	3/2/2005	X	X	X	X	X	X
	303 07 Roadway Reconditioning	3/2/2005	X	X	X	X	X	X
	303 11 Measurement	3/29/2005	X	X	X	X	X	X
	602 - Culverts and Drains	2013			X	X		
	602 03 General	9/6/2005			X	X		
	607 - Cleaning, Reconditioning, and Repairing Existing Drainage Structures	2013				X		
	607 04 Cleaning Culverts in Place	5/1/2013				X		
	705 - Rock	2013						
	705 02 Riprap Rock	8/5/2009			X	X		
	718 - Traffic Signing and Marking Material	2013	X	X	X	X	X	X
	718 05 Aluminum Panels	8/5/2009	X	X	X	X	X	X
	718 08 FLH FP-03 Correction metric	3/27/2007	X	X	X	X	X	X
	718 14 FLH FP-03 Correction metric uscu	3/2/2005	X	X	X	X	X	X
	718 15 FLH FP-03 Correction metric	3/27/2007	X	X	X	X	X	X
	718 15 FLH FP-03 Corrections metric	3/27/2007	X	X	X	X	X	X

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

C.R.T.S.	SECTION NO. & TITLE	REV DATE	ROAD NUMBER			
			3000	3015	3015	3015
			218	175	180	181
	101 - Terms, Format, and Definitions	2013	X	X	X	X
	101 00 FLH FP-03 Corrections	7/25/2005	X	X	X	X
	01 Meaning of Terms	1/22/2009	X	X	X	X
	01 Meaning of Terms	1/22/2009	X	X	X	X
	03 Abbreviations and Symbols	6/16/2006	X	X	X	X
	04 Definitions	11/6/2007	X	X	X	X
	04 Symbols	3/29/2007	X	X	X	X
	102 - Bid, Award, and Execution of Contract	2013	X	X	X	X
	102 00 Delete 102 in its entirety	2/16/2005	X	X	X	X
	103 - Scope of Work	2013	X	X	X	X
	103 00 Intent of Contract	2/16/2005	X	X	X	X
	104 - Control of Work	2013	X	X	X	X
	104 00 Deletions to 104	6/16/2006	X	X	X	X
	03 Specifications and Drawings.	1/22/2009	X	X	X	X
	03 Specifications and Drawings	2/22/2005	X	X	X	X
	06 Use of Roads by Contractor	2/17/2005	X	X	X	X
	07 Other Contracts	2/17/2005	X	X	X	X
	105 - Control of Material	2013	X	X	X	X
	105 02 Material Sources	1/18/2007	X	X	X	X
	02 Contractor provided material	3/8/2007	X	X	X	X
	05 Use of Material Found in the Work	5/12/2004	X	X	X	X
	106 - Acceptance of Work	2013	X	X	X	X
	106 01 Conformity with Contract	7/31/2007	X	X	X	X
	07 Partial and Final Acceptance	5/11/2004	X	X	X	X
	107 - Legal Relations and Responsibility to the Public	2013	X	X	X	X
	107 05 Responsibility for Damage Claims	5/11/2004	X	X	X	X
	06 Contractor Responsibility for Work	6/16/2006	X	X	X	X
	08 Sanitation, Health & Safety	3/29/2005	X	X	X	X
	09 Legal Relationship of the Parties	6/16/2006	X	X	X	X
	10 Environmental Protection	6/16/2006	X	X	X	X
	108 - Prosecution and Progress	2013	X	X	X	X
	108 00 Delete Section 108 in entirety	2/16/2005	X	X	X	X
	109 - Measurement and Payment	2013	X	X	X	X
	109 00 Deletions	2/17/2005	X	X	X	X
	02 Measurement Terms and	6/16/2006	X	X	X	X
	151 - Mobilization	2013		X		
	155 - Schedules for Construction Contracts	2013	X	X	X	X
	155 - Schedt 00 Contractor Quality Control Plan,	5/11/2004	X	X	X	X
	201 - Clearing and Grubbing	2013	X	X	X	X
	201 01 Description	2/18/2005	X	X	X	X
	201 04 Clearing	2/22/2005	X	X	X	X
	203 - Removal of Structures and Obstructions	2013				
	203 01 Description	2/25/2005	X	X	X	X
	203 04 Removing Material	2/18/2005	X	X	X	X
	203 05 Disposing of Material	2/18/2005	X	X	X	X
	203 08 Payment	2/24/2005	X	X	X	X
	204 - Excavation and Embankment	2013	X	X	X	X
	204 06 Roadway Excavation	3/2/2005	X	X	X	X
	204 06 Roadway Excavation	3/2/2005	X	X	X	X
	204 06 Roadway Excavation	3/2/2005	X	X	X	X

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

C.R.T.S.	SECTION NO. & TITLE	REV DATE	ROAD NUMBER					
			3000 218	3015 175	3015 180	3015 181		
	204 09 Preparing Foundation for Embankment Construction	3/2/2005	X	X	X	X		
	204 10 Embankment Construction	3/2/2005	X	X	X	X		
	204 11 Compaction	4/11/2005	X	X	X	X		
	204 13 Sloping, Shaping, and Finishing	3/2/2005	X	X	X	X		
	204 13 Sloping, Shaping, and Finishing	3/2/2005	X	X	X	X		
	204 14 Disposal of Unsuitable or Excess Material	3/2/2005	X	X	X	X		
	204 15 Acceptance	2/7/2007	X	X	X	X		
	209 - Structure Excavation and Backfill	2013						
	209 10 Backfill	10/23/2007						
	209 11 Compacting	2/24/2005						
	212 - Linear Grading	2013			X			
	212 00 Complete specification	5/19/2005			X			
	251 - Riprap	2013	X					
	303 - Road Reconditioning	2013	X	X		X		
	303 01 Description	3/2/2005	X	X		X		
	303 07 Roadway Reconditioning	3/2/2005	X	X		X		
	303 11 Measurement	3/29/2005	X	X		X		
	602 - Culverts and Drains	2013						
	602 03 General	9/6/2005						
	607 - Cleaning, Reconditioning, and Repairing Existing Drainage Structures	2013						
	607 04 Cleaning Culverts in Place	5/1/2013						
	705 - Rock	2013						
	705 02 Riprap Rock	8/5/2009	X					
	718 - Traffic Signing and Marking Material	2013	X	X	X	X		
	718 05 Aluminum Panels	8/5/2009	X	X	X	X		
	718 08 FLH FP-03 Correction metric	3/27/2007	X	X	X	X		
	718 14 FLH FP-03 Correction metric uscu	3/2/2005	X	X	X	X		
	718 15 FLH FP-03 Correction metric	3/27/2007	X	X	X	X		
	718 15 FLH FP-03 Corrections metric	3/27/2007	X	X	X	X		

SCHEDULE OF ITEMS
(Timber Sale)

Timber Sale CR Timber Sale

Road No. 3000101

Road Name N/A

Length (Miles) 0.49

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
15101	Mobilization	AQ	Lump Sum	1.00	\$ 666.70	\$ 666.70
20104	Clearing and grubbing, disposal of tops and limbs f, logs f, stumps f	CQ	Acre	0.24	\$ 1,670.89	\$ 401.01
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.49	\$ 1,349.48	\$ 661.25

SUB-TOTAL: \$ 1,728.96

TOTAL ALL ROADS: \$ 47,467.07

SCHEDULE OF ITEMS
(Timber Sale)

Timber Sale CR Timber Sale

Road No. 3000187

Road Name N/A

Length (Miles) 0.55

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
15101	Mobilization	AQ	Lump Sum	1.00	\$ 178.15	\$ 178.15
20104	Clearing and grubbing, disposal of tops and limbs f, logs f, stumps f	CQ	Acre	0.53	\$ 1,951.08	\$ 1,034.07
20420	Drainage excavation, type Drain Dip	AQ	Each	4.00	\$ 154.44	\$ 617.76
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.55	\$ 1,152.53	\$ 633.89

SUB-TOTAL: \$ 2,463.87

TOTAL ALL ROADS: \$ 47,467.07

SCHEDULE OF ITEMS
(Timber Sale)

Timber Sale CR Timber Sale
Road Name N/A

Road No. 3000200-I
Length (Miles) 0.04

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
15101	Mobilization	AQ	Lump Sum	1.00	\$ 918.79	\$ 918.79
25101	Placed riprap, class 5	CQ	Cubic Yard	25.00	\$ 100.21	\$ 2,505.25
30304	Road reconditioning, ditch	CQ	Foot	191.00	\$ 0.81	\$ 154.71
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.04	\$ 2,334.30	\$ 93.37
60201	24-inch pipe culvert	CQ	Foot	26.00	\$ 60.25	\$ 1,566.50

SUB-TOTAL: \$ 5,238.62

TOTAL ALL ROADS: \$ 47,467.07

SCHEDULE OF ITEMS
(Timber Sale)

Timber Sale CR Timber Sale

Road No. 3000200-II

Road Name N/A

Length (Miles) 0.06

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
25101	Placed riprap, class 5	CQ	Cubic Yard	73.00	\$ 101.35	\$ 7,398.55
30304	Road reconditioning, ditch	CQ	Foot	334.00	\$ 0.81	\$ 270.54
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.06	\$ 3,143.33	\$ 188.60
60201	24-inch pipe culvert	CQ	Foot	28.00	\$ 60.11	\$ 1,683.08
60708	Cleaning culverts in place	AQ	Each	1.00	\$ 160.71	\$ 160.71
60710	Reconditioning drainage structures, Culvert Catch Basins	AQ	Each	2.00	\$ 440.46	\$ 880.92

SUB-TOTAL: \$ 10,582.40

TOTAL ALL ROADS: \$ 47,467.07

SCHEDULE OF ITEMS

(Timber Sale)

Timber Sale CR Timber Sale

Road No. 3000213

Road Name N/A

Length (Miles) 0.27

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
15101	Mobilization	AQ	Lump Sum	1.00	\$ 487.84	\$ 487.84
20104	Clearing and grubbing, disposal of tops and limbs f, logs f, stumps f	CQ	Acre	0.33	\$ 1,951.08	\$ 643.86
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.27	\$ 2,334.30	\$ 630.26

SUB-TOTAL: \$ 1,761.96

TOTAL ALL ROADS: \$ 47,467.07

SCHEDULE OF ITEMS
(Timber Sale)

Timber Sale CR Timber Sale

Road No. 3000214

Road Name N/A

Length (Miles) 0.29

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
20104	Clearing and grubbing, disposal of tops and limbs f, logs f, stumps f	CQ	Acre	0.50	\$ 1,951.08	\$ 975.54
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.29	\$ 1,546.45	\$ 448.47

SUB-TOTAL: \$ 1,424.01

TOTAL ALL ROADS: \$ 47,467.07

SCHEDULE OF ITEMS
(Timber Sale)

Timber Sale CR Timber Sale

Road No. 3000218

Road Name N/A

Length (Miles) 0.18

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
20104	Clearing and grubbing, disposal of tops and limbs f, logs f, stumps f	CQ	Acre	0.09	\$ 1,951.08	\$ 175.60
20401	Roadway excavation, compaction method (d), finishing method A	CQ	Cubic Yard	19.00	\$ 100.27	\$ 1,905.13
25101	Placed riprap, class 5	CQ	Cubic Yard	19.00	\$ 95.75	\$ 1,819.25
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.18	\$ 1,614.32	\$ 290.58

SUB-TOTAL: \$ 4,190.56

TOTAL ALL ROADS: \$ 47,467.07

SCHEDULE OF ITEMS
(Timber Sale)

Timber Sale CR Timber Sale
Road Name N/A

Road No. 3015175
Length (Miles) 2.83

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
15101	Mobilization	AQ	Lump Sum	1.00	\$ 2,762.97	\$ 2,762.97
20104	Clearing and grubbing, disposal of tops and limbs f, logs f, stumps f	CQ	Acre	0.69	\$ 1,951.08	\$ 1,346.25
20420	Drainage excavation, type Drain Dip	AQ	Each	3.00	\$ 1,245.09	\$ 3,735.27
25101	Placed riprap, class 5	CQ	Cubic Yard	87.00	\$ 79.60	\$ 6,925.20
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	2.83	\$ 393.93	\$ 1,114.82

SUB-TOTAL: \$ 15,884.51

TOTAL ALL ROADS: \$ 47,467.07

SCHEDULE OF ITEMS
(Timber Sale)

Timber Sale CR Timber Sale

Road No. 3015180

Road Name N/A

Length (Miles) 0.08

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
20104	Clearing and grubbing, disposal of tops and limbs f, logs f, stumps f	CQ	Acre	0.14	\$ 1.00	\$ 0.14
20401	Roadway excavation, compaction method (d), finishing method A	CQ	Cubic Yard	320.00	\$ 2.27	\$ 726.40

SUB-TOTAL: \$ 726.54

TOTAL ALL ROADS: \$ 47,467.07

SCHEDULE OF ITEMS
(Timber Sale)

Timber Sale CR Timber Sale

Road No. 3015181

Road Name N/A

Length (Miles) 0.33

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
20104	Clearing and grubbing, disposal of tops and limbs f, logs f, stumps f	CQ	Acre	0.57	\$ 1,951.08	\$ 1,112.12
20419	Drainage excavation, type Ditch & Lead Out Ditch	CQ	Foot	288.00	\$ 0.81	\$ 233.28
20420	Drainage excavation, type Drain Dip	AQ	Each	2.00	\$ 674.96	\$ 1,349.92
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.33	\$ 2,334.30	\$ 770.32

SUB-TOTAL: \$ 3,465.64

TOTAL ALL ROADS: \$ 47,467.07

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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

101.01_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 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.

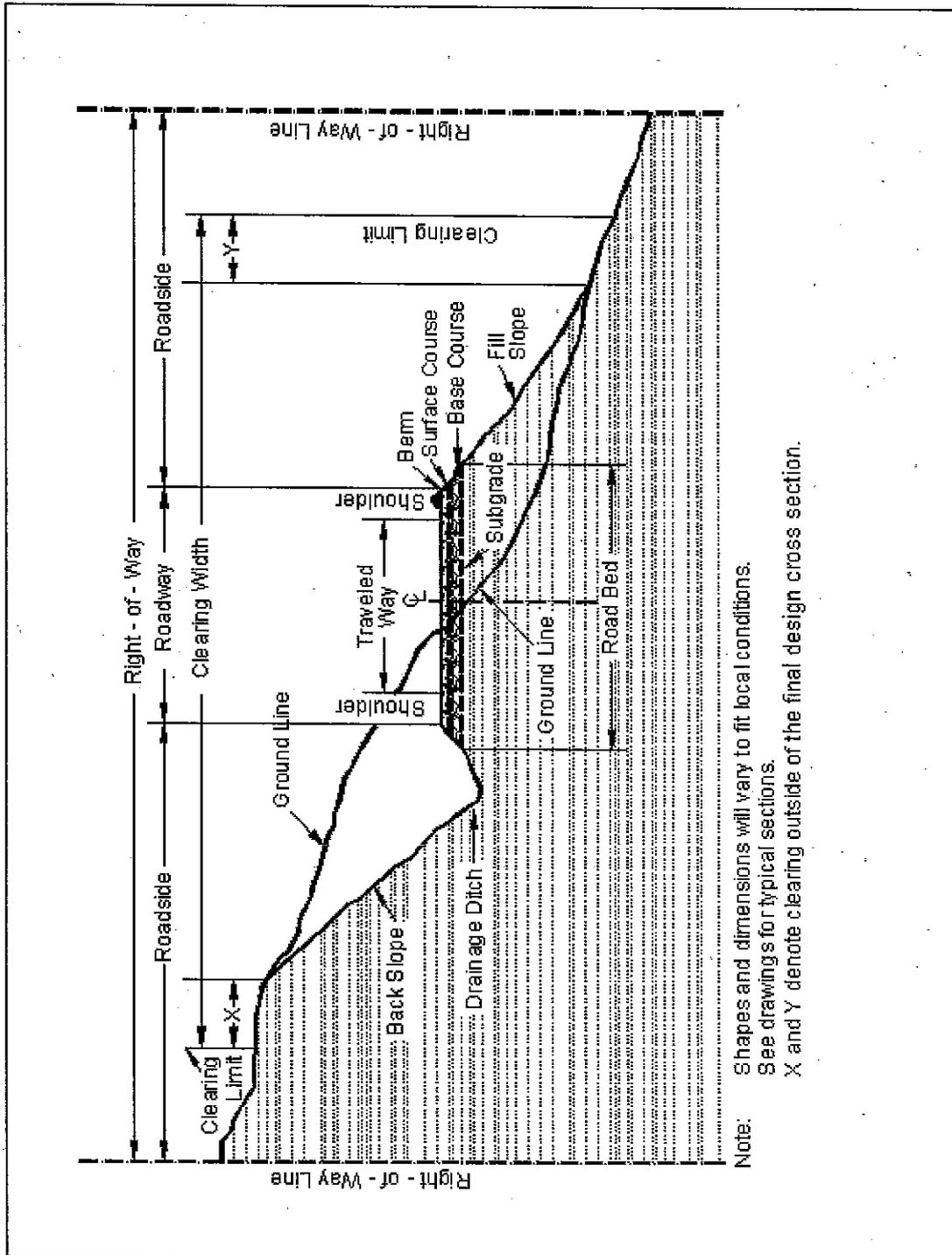
Road Order--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

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.

104.03_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_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:

A Forest Service weed specialist will inspect proposed sources to determine weed-free status. Provide the Contracting Officer written notification of proposed material sources 20 days prior to use. Written approval of the specific source will be provided to the contractor. If weed species are present in the proposed source, appropriate mitigation measures may allow conditional use of the source as required by the Contracting Officer.

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.

155 - Schedules for Construction Contracts

155.00_nat_us_05_11_2004

155 Delete.

Delete Section 155 in its entirety.

201 - Clearing and Grubbing

201.01_nat_us_02_18_2005

201.01 Description

Replace with the following

This work consists of clearing and grubbing within clearing limits and other designated areas.

201.04_nat_us_02_22_2005

201.04 Clearing. (c)

Delete paragraph (c) and replace with the following:

(c) In areas outside the excavation, embankment, and slope rounding limits, cut stumps to within 12 inches or one-third of the stump diameter of the ground, whichever is higher, measured on the side adjacent to the highest ground. For timber sales, stump heights will meet the requirements of the Timber Sale contract.

201.04 Clearing.

Delete subsection (d) and replace with the following:

(d) Do not cut vegetation less than 3 feet tall 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.

Add the following:

(e) Trim branches of remaining trees or shrubs to give a clear height of 14 feet above the roadbed unless otherwise indicated. Trim tree limbs as near flush with the trunk as practicable.

(f) Remove brush from log decks. Deck logs so that logs are piled parallel to one another; can be removed by standard log loading equipment; will not damage standing trees; will not interfere with drainage, and will not roll. Keep logs in log decks free of brush and soil.

203 - Removal of Structures and Obstructions

203.01_nat_us_02_25_2005

203.01 Description.

Delete and replace with the following:

This work consists of disposing of construction slash and debris, salvaging, removing, and disposing of buildings, fences, structures, pavements, culverts, utilities, curbs, sidewalks, and other obstructions.

203.04_nat_us_02_18_2005

203.04 Removing Material.

Replace the fourth and fifth paragraphs with the following:

Where part of an existing culvert is removed, remove the entire culvert upstream from the removal. The remaining downstream culvert may be left in place if no portion of the culvert is within 12 inches of the subgrade, embankment slope, or new culvert or structure; and the culvert ends are sealed with concrete.

Remove structures and obstructions in the roadbed to 12 inches below subgrade elevation.

Remove structures and obstructions outside the roadbed to 12 inches below finished ground or to the natural stream bottom.

203.05_nat_us_02_18_2005

203.05 Disposing of Material.

Add the following:

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

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

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

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

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

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

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

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

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

1. Place windrow segments on contours, wrap in type I geotextile.
2. Place logs as log erosion barriers on contours. Place logs so that 80% of their length is on the ground surface.
3. Scatter slash on bare or disturbed areas within or outside the clearing limits as directed.
4. Scatter chips or ground woody material on bare or disturbed areas within or outside the clearing limits as directed.

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

203.08_nat_us_02_24_2005

203.08 Payment

Add the following:

Disposal of construction slash will be compensated under the designated pay item in Section 201.

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.

204.06_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 though 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 ^(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.

204.14 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.

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.

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.

Minimum Utilization Standards

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.

303.07_nat_us_03_02_2005

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.

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.

607 - Cleaning, Reconditioning, and Repairing Existing Drainage Structures

607.04_nat_us_05_01_2013

607.04 Cleaning Culverts in Place.

Add the following:

If approved by the CO, all or part of the pipe designated to be cleaned in-place may be removed, cleaned, and re-laid in accordance with Section 602. In these cases, furnish all material required to replace damaged pipe and joints and relay the pipe.

705 - Rock

705.02_nat_us_08_05_2009

705.02 Riprap Rock.

Delete Table 705-1 and replace it with the following:

Gradation Requirements for Riprap

Class	Percent of Rock by Mass	Mass (pounds)	Approximate Cubic Dimension^{b,c} (inches)
1	20	22 to 33	6 to 8
	30	11 to 22	5 to 6
	40	1 to 11	2 to 5
	10 ^a	0 to 1	0 to 2
2	20	55 to 110	8 to 10
	30	22 to 55	6 to 8
	40	2 to 22	3 to 6
	10 ^a	0 to 2	0 to 3
3	20	220 to 330	14 to 16
	30	110 to 220	10 to 14
	40	11 to 110	5 to 10
	10 ^a	0 to 11	0 to 5
4	20	550 to 770	18 to 20
	30	220 to 570	14 to 18
	40	22 to 220	6 to 14
	10 ^a	0 to 22	0 to 6
4a	20	770 to 1353	20 to 24
	30	330 to 770	16 to 20
	40	33 to 330	7 to 16
	10 ^a	0 to 33	0 to 7
5	20	1540 to 2200	26 to 28
	30	1100 to 1540	20 to 26
	40	55 to 1100	8 to 20
	10 ^a	0 to 55	0 to 8
6	20	1870 to 3520	28 to 34
	30	1100 to 1870	22 to 28
	40	110 to 1100	10 to 22
	10 ^a	0 to 110	0 to 10
7	20	4400 to 5940	35 to 39
	30	2200 to 4400	28 to 35
	40	220 to 2200	14 to 28
	10 ^a	0 to 220	0 to 14
	20	7000 to 10000	42 to 47

8	30	4000 to 7000	35 to 42
	40	400 to 4000	16 to 35
	10 ^a	0 to 400	0 to 16

- (a) Furnish spall and rock fragments graded to provide a stable dense mass.
- (b) The volume of a rock with these cubic dimensions has a mass approximately equal to the specified rock mass.
- (c) Furnish rock with breadth and thickness at least one-third its length.

718 - Traffic Signing and Marking Material

718.05_nat_us_08_05_2009

718.05 Aluminum Panels

Delete the third paragraph and replace with the following:

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

718.08_nat_us_03_27_2007

718.08 (b)(2)(c) Signpost - Square tubular steel posts

Delete the existing subsection and substitute the following:

- (c) Galvanizing after punching ASTM A 653M,
(inside and outside of post) coating Z275 designation

718.14_nat_us_03_02_2005

718.14 (g) Waterborne Traffic Paint - Daylight reflectance

Delete the existing subsection and substitute the following:

- (g) **Daylight reflectance.** (Without glass beads)

- (1) White, ASTM E 1347 84% relative to magnesium
oxide standard

(2) Yellow, ASTM E 1347

55% relative to magnesium
oxide standard

718.15_nat_us_03_27_2007

718.15 (g)Epoxy Marking - Drying Time

Delete the existing subsection and substitute the following:

(g) **Drying time.** 15 mil film thickness with beads.

(1) Laboratory at 72° F, ASTM D 711

30 minutes maximum to
no-pick-up condition

(2) Field at 77 °F, viewed from 50 feet

10 minutes maximum to
no-pick-up condition

718.15_nat_us_03_27_2007

718.15 (a)Epoxy Markings Pigments

Delete the existing subsection and substitute the following:

(2) **Yellow.**

(a) Chrome yellow (PbCrO₄),
ASTM D 126, type III.

23% min.

(b) Epoxy resin

70 to 77%