APPENDIX C

C(T)5.31# – ROAD MAINTENANCE REQUIREMENTS. (9/04) Contractor shall maintain roads in accordance with the following Contract Road Maintenance Requirements Summary:

HELENE/APPALACHIAN DURING HAUL											
ROAD	TERMINI		MILES	ROAD MAINTENACE T-SPECIFICATIONS							
	FROM	TO		T-800	T-811	T-813	T-8##	T-8##	T-8##	T-8##	T-8##
NFSR 130A	JCT SR 1348	EOR	2.85	C	C	C					
NFSR 220	JCT SR 2426	EOR	0.5	C	C	C					
NFSR 235	JCT SR 1349	EOR @ Forest Boundary	2.27	C	C	C					
NFSR 278	JCT SR 1415	JCT US HWY 19-W	7.63	C	C	C					
NFSR 5501	JCT NFSR 235	EOR @ Forest Boundary	3.03	C	C	C					
NFSR 5503	JCT NFSR 5504	EOR	0.5	C	C	C					
NFSR 5504	JCT NFSR 235	EOR @ Forest Boundary	4.09	C	C	C					
NFSR 5524	JCT SR 1325	EOR @ Forest Boundary	0.4	C	C	C					
NFSR 5562	JCT SR 1349	EOR @ Forest Boundary	0.4	C	C	C					
NFSR 5565	JCT SR 1323	EOR @ Wildlife Opening	0.7	C	C	C					
NFSR 5567	JCT SR 1323	EOR @ Wildlife Opening	1.67	C	C	C					
NFSR 5570	JCT SR 1415	EOR	1.92	C	C	C					
NFSR 5572	JCT NFSR 278	EOR	1.12	C	C	C					

NFSR 5581	JCT NC HWY 226	EOR @ Forest Boundary	1.16	C	C	C					
NFSR 5582	JCT NC HWY 226	EOR	1.00	C	C	C					
Brandy Gap	JCT SR 1349	EOR @ Forest Boundary	0.4	C	C	C					

BUCK /CHEOAH TUSQUITEE DURING HAUL											
ROAD	**TERMINI**		**MILES**	**ROAD MAINTENACE T-SPECIFICATIONS**							
	FROM	**TO**		**T-800**	**T-811**	**T-813**	**T-8##**	**T-8##**	**T-8##**	**T-8##**	**T-8##**
NFSR 6226	0.0	2.5	2.5	C	C	C					

Notes:
C = Contractor Performance Item
NFSR = National Forest Service Road
SR = State Road
HWY = Highway
JCT = Junction
MP = Milepost
EOR = End of Road

ROAD MAINTENANCE REQUIREMENTS SPECIFICATION TABLE PURSUANT TO C(T)5.31# - ROAD MAINTENANCE REQUIREMENTS (9/04)

1	2	3			4	5	6			7	8	9	
Road No.	Special Poject Specifi-cation	BLADING T-811 pre	X during	post			SURFACING T-813 ABC Road Bond pre	X during	post				
NFSR 130A			***2.85 miles***					***475 tons***					
NFSR 220			***0.5 miles***					***85 tons***					
NFSR 235			***2.27 miles***					***380 tons***					
NFSR 278			***7.63 miles***					***1,280 tons***					
NFSR 5501			***3.03 miles***					***510 tons***					
NFSR 5503			***0.5 miles***					***85 tons***					
NFSR 5504			***4.09 miles***					***670 tons***					
NFSR 5524			***0.4 miles***					***65 tons***					
NFSR 5562			***0.4 miles***					***65 tons***					
NFSR 5565			***0.7 miles***					***115 tons***					
NFSR 5567			***1.67 miles***					***280 tons***					
NFSR 5570			***1.92 miles***					***320 tons***					
NFSR 5572			***1.12 miles***					***190 tons***					

NFSR 5581			***1.16 miles***					***245 tons***					
NFSR 5582			***1.00 miles***					***170 tons***					
Brandy Gap			***0.4 miles***					***65 tons***					
NFSR 71			***2.0 miles***					***906 tons***					
NFSR 71A			***0.5 miles***					***227 tons***					
NFSR 71B			***2.5 miles***					***1,133 tons***					
NFSR 6226			***2.5 miles***					***1,133 tons***					
NFSR 6226			***2.5 Miles***					***1,133 tons***					

ROAD MAINTENANCE T-SPECIFICATIONS FOR STEWARDSHIP CONTRACTS

Contractor shall maintain roads in accordance with the following Contract Road Maintenance Requirements Summary:

Contractor will be responsible for doing all during haul maintenance.

SPEC#	SUBJECT DESCRIPTION	DATE
T-811	Blading	10/07/2007
T-813	Surfacing	10/07/2007

SPECIFICATION T-800 DEFINITIONS

Wherever the following terms or pronouns are used, the intent and meaning shall be interpreted as follows:

800-1.1—Agreement—Maintenance projects require a mutually acceptable method to resolve the problems which arise when incompatible situations arise between drawings and specifications and actual conditions on the ground to allow orderly and satisfactory progress of the maintenance.

These specifications have been developed in anticipation of those problem areas and have provided that such changes will be by Agreement.

It is intended that drawings and specifications will govern unless "on-the-ground" conditions warrant otherwise, when specifications call for "Agreement", "agreed", or "approval" such Agreement or approval shall be promptly confirmed in writing.

800-1.2—Annual Road Maintenance Plan—A plan prepared by various users of one or several roads. The plan is an Agreement on maintenance responsibilities to be performed for the coming year.

800-1.3—Base Course—Material used to reinforce Subgrade or, as shown on drawings, placed on Subgrade to distribute wheel loads.

800-1.4—Berm—Curb or dike constructed to prevent Roadway runoff water from discharging onto embankment slope.

800-1.5—Borrow—Select Material taken from designated borrow sites.

800-1.6—Clearing Limits—The limits of clearing as designated on the ground or on the drawings.

800-1.7—Crown, Inslope, and Outslope—The cross slope of the Traveled Way to aid in drainage and traffic maneuverability.

800-1.8—Culverts—A conduit or passageway under a road, trail, or other obstruction. A culvert differs from a bridge in that it is usually entirely below the elevation of the Traveled Way.

800-1.9—Drainage Dip—A dip in the Traveled Way which intercepts surface runoff and diverts the water off the Traveled Way. A Drainage Dip does not block the movement of traffic.

800-1.10—Drainage Structures—Manufactured structures which control the runoff of water from the Roadway including Inslope, overside drains, aprons, flumes, downdrains, downpipes**,** culverts and the like.

800-1.11—Dust Abatement Plan—A table which lists the road, dust palliative, application rates, and estimated number of subsequent applications.

800-1.12—Lead-off Ditches—A ditch used to transmit water from a Drainage Structure or Drainage Dip outlet to the natural drainage area.

800-1.13 —Material—Any substances specified for use in the performance of the work.

800-1.14—Prehaul Maintenance—Road maintenance work which must be accomplished to maintain the roads to a satisfactory condition commensurate with the Contractor's use, provided Contractor's operations do not damage improvements in Section H.21 of the contract/solicitation or National Forest resources and hauling can be done safely. This work will be shown in the above Road Maintenance Requirements.

Prehaul Maintenance work the Contractor elects to perform will be in compliance with the Road Maintenance T-Specifications.

800-1.15—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) Land, appurtenances thereto, or interest therein, usually in a strip, acquired for public or private passageway.

800-1.16—Roadbed—The portion of a road between the intersection of Subgrade and sideslopes, excluding that portion of the ditch below Subgrade.

800-1.17—Road Maintenance Requirements—A table which shows applicable road maintenance specifications to be performed by Contractor on specific roads.

800-1.18—Roadside—A general term denoting the area adjoining the outer edge of the Roadway.

800-1.19—Roadway—The portion of a road within the limits of excavation and embankment.

800-1.20—Shoulder—That portion of Roadway contiguous with Traveled Way for accommodation of stopped vehicles, for emergency use, and lateral support of base and Surface Course, if any.

800-1.21—Slide—A concentrated deposit of Materials from above or on backslope extending onto the Traveled Way or Shoulders, whether caused by mass land movements or accumulated raveling.

800-1.22—Slough—Material eroded from the backslope which partially or completely blocks the ditch, but does not encroach on the Traveled Way so as to block passage of traffic.

800-1.23—Slump—A localized portion of the Roadbed which has slipped or otherwise become lower than that of the adjacent Roadbed and constitutes a hazard to traffic.

800-1.24—Special Project Specifications—Specifications which detail conditions and requirements peculiar to the individual project.

800-1.25—Subgrade—Top surface of Roadbed upon which Base Course or Surface Course is constructed. For roads without Base Course or Surface Course, that portion of Roadbed prepared as the finished wearing surface.

800-1.26—Surface Course—The Material placed on Base Course or Subgrade primarily to resist abrasion and the effects of climate. Surface Course may be referred to as surfacing.

800-1.27—Surface Treatment Plan—A table which lists the roads and surface treatments to be applied.

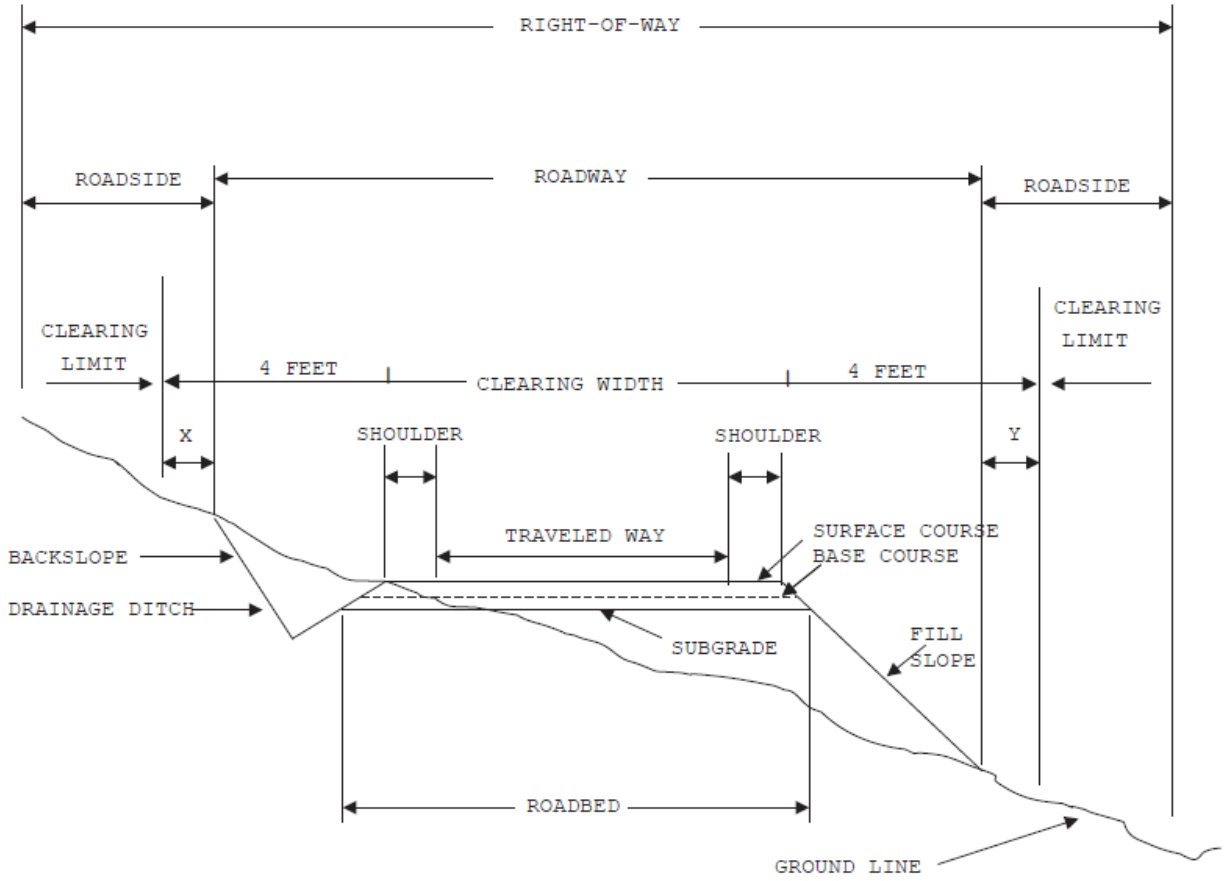
800-1.28—Traveled Way—That portion of Roadway, excluding Shoulders, used for the movement of vehicles.

800-1.29—Turnouts—That portion of the Traveled Way constructed as additional width on single lane roads to allow for safe passing of vehicles.

800-1.30—Water Source—A place designated on the Road Maintenance Map for acquiring water for road maintenance purposes.

800-1.31—Waterbar—A dip in the Roadbed which intercepts surface runoff and diverts the water off the Roadway. A Waterbar is not designed to be traversable by logging trucks.

ILLUSTRATION OF ROAD STRUCTURE TERMS



T-811 BLADING (10/07)

811.01 Description

This work consists of surface blading the traveled way to a condition that facilitates traffic and provides proper drainage. Blading includes shaping the crown or slope of travel way, berms, and drainage dips in accordance with this specification. Compaction is required when shown on the ROAD LISTING.

811.02 Maintenance Requirements

A. Timing - Perform surface blading during the contract period as often as needed to provide conditions stated for the maintenance level of the road.

B. General

1. Blade and shape the existing traveled way and shoulders, including turnouts , to produce a surface which is uniform, consistent to grade, and crowned or cross-sloped as indicated by the character of the existing surface, unless otherwise shown in the ROAD LISTING, to at least ½ inch per 1 foot of width, but not more than ¾ inch per 1 foot of width. Thoroughly loosen surfacing material to no less than 2 inches depth or the depth of potholes or corrugations. Scarification to facilitate cutting to the full depth of potholes or corrugations may be elected, but will be considered incidental to blading. Do not scarify to a depth that will cause contamination of the surfacing.

2. Apply water during blading when sufficient moisture is not present to prevent segregation. Supply, haul, and apply water in accordance with Section T-891.

3. Shape existing native rock or aggregate surfaced drainage dips to divert surface runoff to existing outlet devices, ditches, or discharge locations.

4. Establish a blading pattern which provides a uniform driving surface, retains the surfacing on the roadbed, and provides a thorough mixing of the materials within the completed surface width. Upon final blading, no disturbed rock shall protrude more than 2 inches above the adjacent surface unless otherwise provided in the contract. Remove and place outside the roadbed, material not meeting this dimension so as not to obstruct drainage ways or structures. This material may be scattered off the roadbed if there is free drainage.

5. Where DESIGNATED ON THE GROUND, included in the ROAD LISTING, SHOWN ON THE DRAWINGS or as ordered by the Contracting Officer invasive species of concern prevention practices shall be followed as listed below.

Invasive Species of Concern Prevention Practices
N/A

C. Routine Blading

1. Conform to the dimensions SHOWN ON THE DRAWINGS or designated in the SUPPLEMENTAL SPECIFICATIONS upon completion of blading.

2. Shape roadbed width in excess of the dimensions shown only as needed to provide drainage away from the traveled way. Do not remove established grasses and other vegetation from the excess width except as incidental to providing drainage or unless otherwise provided in the contract.

D. Compaction

Roads requiring compaction will be included in the ROAD LISTING. Unless Compaction Method B is designated in the ROAD LISTING, all traveled ways requiring compaction may be compacted by Method A. Compaction shall commence immediately following blading.

Compaction methods are:

Compaction Method A: Breaking track while operating equipment on the traveled way.

Compaction Method B: 7-10 ton pneumatic, steel, or equivalent vibratory roller, operated to cover the full width two (2) times.

E. Undercutting - Undercutting roadway back slope is not permitted.

F. Intersections

1. At intersections, blade the roadbeds of side roads which are not closed or restricted from vehicular use to ensure smooth transitions.

2. Signing, cross ditching in the road surface (traveled way), earth berms, or other devices placed to discourage or eliminate use by passenger cars, are field evidence of road closure or restriction. Roads listed for work under Sections T-835, T-836, T-838, or T-839 are considered restricted.

3. Side roads listed for work under this Section are not restricted.

G. Cleaning of Structures - Do not allow materials resulting from work under this Section to remain on or in structures, such as bridges, culverts, cattle guards, or drainage dips.

H. Berms - Maintain existing berms to the condition of adjacent segments. Do not create new berms.

I. Smooth Blading - Smooth blading may be used as an interim measure to remove loose surfacing material from the wheel paths, and store removed materials in a recoverable windrow, until blade processing as described in this section is feasible. Watering will not be required for smooth blading. Accomplish smooth blading without distorting the existing cross-slope or crown of the traveled way.

Move and store loose surfacing materials on the high side of super-elevated curves and sections with uniform inslope or outslope. In crowned sections, store the material on either or both sides as elected. Windrow and place stored materials to provide not less than 12 feet of smooth traveled way on one-lane segments, or 20 feet of smooth traveled way on two-lane segments, or segments with turnouts. Cut holes through windrows, which may collect water on the road, for drainage at least every 500 feet.

T-813 SURFACING (10/07)

813.01 Description

This work consists of placing surface aggregate as DESIGNATED ON THE GROUND, or as ordered by the Contracting Officer. It includes preparing the area, furnishing, hauling, and placing all necessary materials and other work necessary to blend with the adjacent road cross section.

813.02 Materials

A. Materials furnished by the Contractor shall be approved NC DOT certified stone.

B. All materials transported onto National Forest System land shall be free of invasive that species of concern. Written documentation of methods used to determine the invasive species of concern free status of any and all materials furnished by the Contractor shall be submitted to the Contracting Officer before transport of any materials onto National Forest System land.

The Contracting Officer shall have 5 days, excluding weekends and Federal holidays, to review the methods and inspect the materials after the required written documentation is provided by the Contractor. After satisfactory review and inspection or after such 5 day period, the Contractor may transport the material onto National Forest System land.

Material or methods appropriate for establishing invasive species of concern free status for the particular invasive species of concern are listed below.

Invasive Species of Concern and Acceptable Methods specific to this project:

Invasive Species of Concern	Acceptable Methods
To be filled in by the local FS invasive plant specialist	*To be filled in by the local FS invasive plant specialist*

813.03 Maintenance Requirements

A. Thoroughly loosen the area to be surfaced to a minimum depth of 1 inch prior to placement of aggregate.

B. Mixing and Placing

When scheduled coincidentally with work under Section T-811, and included in the SUPPLEMENTAL SPECIFICATIONS, mix surfacing and existing aggregate with water until a uniform mixture is obtained prior to final shaping and compaction.

Otherwise, spread the material on the prepared area in layers no more than 4 inches in depth. When more than one (1) layer is required, shape and compact each layer before the succeeding layer is placed. Upon completion, the surfacing shall reasonably conform to the adjacent cross section and provide smooth transitions in the road profile.

C. Compaction Methods

Compaction Method A: Breaking track while operating equipment on the traveled way.

Compaction Method B: 7-10 ton pneumatic, steel, or equivalent vibratory roller, operated to cover the full width two (2) times.

Either Method A or B may be used unless Method B is designated in the ROAD LISTING.