# ATTACHMENT 3 - Appendix C – Road Maintenance T-Specifications

C5.31# Road Maintenance Requirements *(7/2001)*

**Contract Road Maintenance Requirements Summary Tables**

| | Termini | | Applicable Pre-haul Road Maintenance Specifications | | | | | |
|---|---|---|---|---|---|---|---|---|
| Road | From m.p. | To m.p. | Miles | T-800A&C | T-805 | T-810 | T-811 | |
| 26 | 8.1 | 31.7 | 23.6 | | C | | C | |
| 299 | 0.0 | 0.8 | 0.8 | | C | | C | |
| 334313 | 0.0 | 5.7 | 5.7 | | | | | |
| 334314 | 0.1 | 0.54 | 0.44 | | | | | |

C = Contractor Performance Item, D = Deposit to Forest Service, D3 = Deposit to Third Party

| | Termini | | Applicable During Haul Road Maintenance Specifications | | | | | |
|---|---|---|---|---|---|---|---|---|
| Road | From m.p. | To m.p. | Miles | T-800A&C | T-804 | T-805 | T-810 | T-811 |
| 26 | 8.1 | 31.7 | 23.6 | | C | C | C | C |
| 299 | 0.0 | 0.8 | 0.8 | | | C | | C |
| 334313 | 0.0 | 5.7 | 5.7 | | | C | | C |
| 334314 | 0.1 | 0.54 | 0.44 | | | C | | C |

C = Contractor Performance Item, D = Deposit to Forest Service, D3 = Deposit to Third Party

| | Termini | | Applicable Post-haul Road Maintenance Specifications | | | | | |
|---|---|---|---|---|---|---|---|---|
| Road | From m.p. | To m.p. | Miles | T-800A&C | T-804 | T-805 | T-810 | T-811 |
| 26 | 8.1 | 31.7 | 23.6 | | C | C | C | C |
| 299 | 0.0 | 0.8 | 0.8 | | | C | | C |
| 334313 | 0.0 | 5.7 | 5.7 | | | C | | C |
| 334314 | 0.1 | 0.54 | 0.44 | | | C | | C |

C = Contractor Performance Item, D = Deposit to Forest Service, D3 = Deposit to Third Party

Road Maintenance T-Specifications
for
Timber Sale Contracts

To be used with Timber Sale Contract Form 2400-6, C5.31#

| No. | Specification Title |
|---|---|
| T-800A | Preface |
| T-800C | Definitions |
| T-802 | Vegetation Removal - Roadside |
| T-804 | Bridge Maintenance |
| T-805 | Road Grading |
| T-806 | Slide Removal and Slump Repair |
| T-808 | Surface Repair (Aggregate/Native) |
| T-810 | Ditch Maintenance |
| T-811 | Drainage Structures |

## T-800A PREFACE

The U.S. Department of Agriculture (USDA), Forest Service has developed these maintenance specifications (T-specs) for use with Provisions C5.31#.

## T-800C DEFINITIONS

Wherever the following terms are used in the road maintenance specifications, the intent and meaning shall be interpreted as follows:

Base Course. Material used to reinforce subgrade or, as shown on drawings, placed on subgrade to distribute wheel loads.

Berm. Curb or dike constructed to prevent uncontrolled roadway runoff water from discharging onto fillslope.

Borrow. Material taken from designated borrow sites.

Crown, Inslope, and Outslope. The cross slope of the roadway which aids in drainage and traffic maneuverability.

Culvert. A conduit or passageway under a road, or trail.

Drainage Dip. A dip in the roadway which intercepts and diverts surface water runoff. A drainage dip does not block the movement of traffic.

Drainage Structure. A manufactured structure which controls the runoff of water from the Roadway including, but not limited to, overside drains, aprons, flumes, down drains, downpipes, and culverts.

Lead-off Ditch. A ditch used to transmit water from a drainage structure or drainage dip outlet to the natural drainage area.

Roadbed. The portion of a road between the intersection of subgrade and side slopes, excluding that portion of the ditch below subgrade.

Roadside. A term denoting the area adjoining the outer edge of the roadway.

Roadway. A term denoting the area consisting of the traveled way and shoulders.

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.

Slide. A concentrated deposit of soil, rock and other debris from the cut slope often extending onto

the roadway, whether caused by mass land movement or accumulated raveling.

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.

Maintenance Specifications. Specifications which detail conditions and requirements peculiar to the individual project in addition to requirements identified in the national specifications.

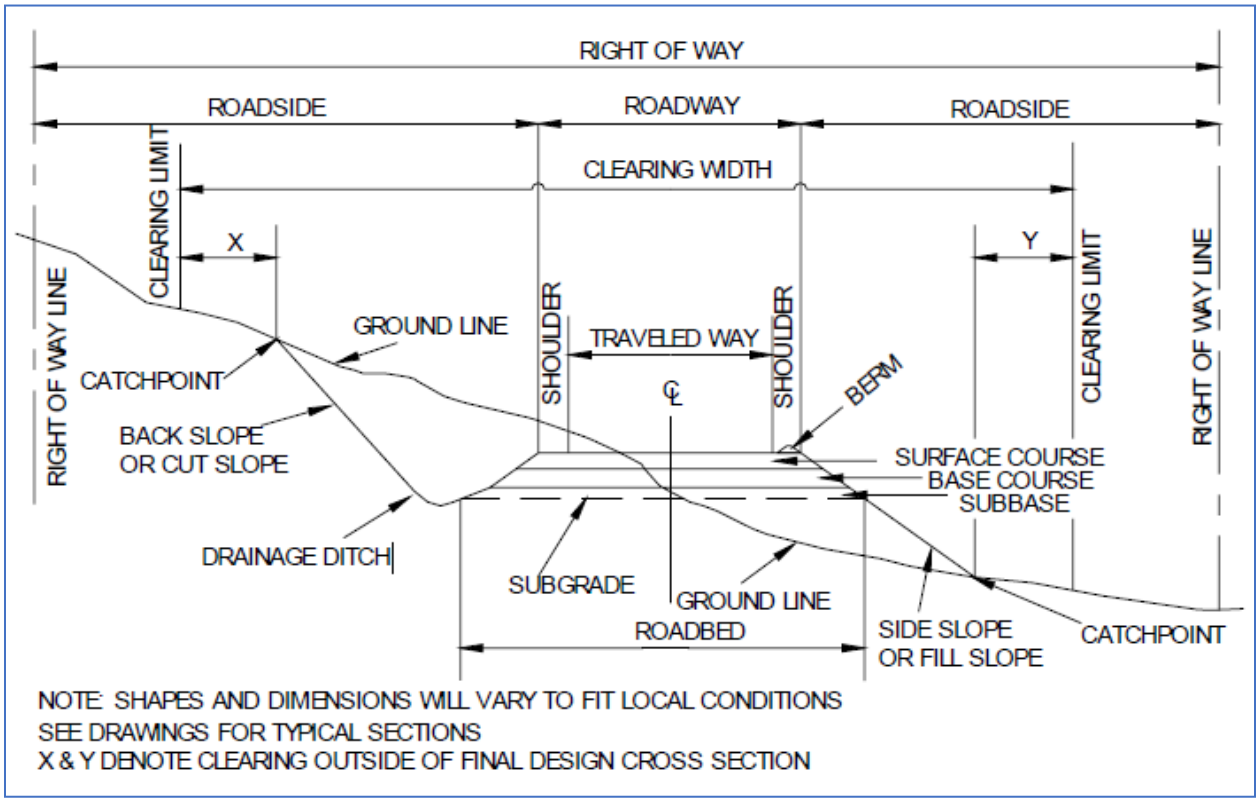
Subgrade. Top surface of roadbed upon which subbase, base course, or surface course is constructed. For roads without subbase, base course or surface course, that portion of roadbed prepared as the finished roadway.

Traveled Way. That portion of roadway, excluding shoulders, used for the movement of traffic.

Turnouts. Short sections of traveled way constructed with additional width to allow for safe passing of traffic.

Water Source. A place designated in individual projects for acquiring water for road maintenance purposes.

Waterbar. A constructed feature in the roadbed which intercepts surface runoff and diverts the water off the roadway. A waterbar is not designed to be traversable by traffic.



# T-802 VEGETATION REMOVAL – ROADSIDE

## 802.01 DESCRIPTION

Work consists of cutting and disposing of vegetation that reduces the operational capability of the road including compromised visibility of signing, gates, or approach railing on bridges. Work also includes vegetation removal for the purpose of restoring site distance to an acceptable level.

## 802.02 MAINTENANCE REQUIREMENTS

A. Vegetative matter shall be removed to a maximum height of 6 inches and a minimum of 5 feet outside of the roadway which reduces sight distance, impedes vehicular travel, or interferes with road maintenance operations such as surface blading, ditch and culvert cleaning, and bridge maintenance.

B. Low shrubs and brush which do not restrict sight distance, do not impede road maintenance, and reduce erosion need not be removed if the road surface can be adequately maintained without doing so. This is not applicable to bridge sites.

C. For bridge sites, remove roadway vegetation within a minimum of 20 feet from abutments as measured along the center line of the road. Cut vegetation to provide a vertical clearance of 14 feet from the road and bridge surface elevation by trimming any encumbering tree limbs.

D. .Do not leave woody debris and slash or concentrations which may plug ditches or culverts, drainage channels, or on roadway.

# T-804 BRIDGE MAINTENANCE

## 804.01 DESCRIPTION

Work consists of cleaning bridge decks and curbs.

## 804.02 MAINTENANCE REQUIREMENTS

A. Maintain bridges and associated components as identified on the Sale Area Map or identified in Table T-804.1 Bridge Identification.

Table T-804.1 Bridge Identification

| Bridge Name | Road Number | Milepost |
|---|---|---|
| **South Tongue** | *26* | *26.90* |
| | | |
| | | |
| | | |

B. Bridge Deck and Curbs

1) Remove debris and sediment from bridge deck, running planks, and the top and roadside face of the curbs. Ensure that all scuppers and drainage openings on the bridge are clear and operating as intended.

2) Do not allow debris and sediment to enter the stream or stream channel.

3) Haul sediment and other debris to disposal area designated by the Forest Service in accordance with Section T-806.

C. Vegetation Removal

1) Remove and dispose vegetation at bridge in accordance with T-802.

# T-805 ROAD GRADING

## 805.01 DESCRIPTION

Work consists of keeping a native or aggregate roadbed in a condition to facilitate traffic and provide proper drainage. It includes maintaining the crown, inslope, outslope or drainage dips of the traveled way; maintaining turnouts and shoulders; repairing berms; and blending approach road intersections.

## 805.02 MAINTENANCE REQUIREMENTS

A. Road grading shall be performed before, during, and after Purchaser's use as often as necessary to facilitate safe use and proper drainage.

B. Road Grading shall preserve the existing cross-section. Surface irregularities shall be eliminated and the surface left in a free-draining state and to a smoothness needed to facilitate traffic. On aggregate surfaced roads, thoroughly loosen surfacing material to no less than 2 inches depth or the depth of defects. 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. Surface material which has been displaced to the shoulders or turnouts shall be returned to the traveled way. A grading pattern shall be established to retain surface material on the roadbed and to provide for a thorough mixing of the materials within the completed surface width.

C. Unless otherwise shown in Table T-805.1, compaction of traveled ways will be accomplished using Compaction Method A and will commence immediately following blading.

   1) Compaction Method A: Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate hauling and spreading equipment uniformly over the full width of each layer until there is no visible evidence of further consolidation.
   2) Compaction Method B: 7 to 10 ton pneumatic, steel, or equivalent vibratory roller, operated to cover the full width three times. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical.

D. Smooth blading may be used as an interim measure on aggregate-surfaced roads to remove loose surfacing material from the wheel paths. Store removed materials in a recoverable windrow until blade processing as described above is feasible. Watering is not required for smooth blading. Accomplish smooth blading without distorting the existing cross-slope or crown of the traveled way.

E. 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. Place holes through windrows for drainage every 500 feet or less to provide drainage.

F. Water, taken from water sources designated on sale area map, shall be applied during blading if sufficient moisture is not present to cut, mix, or compact the surface material.

G. On native surfaced roads, material generated under other maintenance specifications may be blended with the surface material being worked. On aggregate surfaced roads this material shall not be blended with surface or base course material unless agreed otherwise.

H. Roadway cut slopes or berms shall not be undercut, nor shall new berms be established unless agreed otherwise.

I. Berms shall be repaired by placing material, as needed to restore the berm, to reasonably blend with existing line, grade, and cross-section.

J. Drainage dips shall be cleaned and maintained to reasonably blend with existing line, grade, and cross-section. Lead-off ditches shall be maintained as in accordance with T-810.

K. Intersecting road junctions which are not closed or restricted from vehicular use shall be bladed to assure proper blending of the two riding surfaces.

L. Rocks or other material remaining on the traveled way after the final pass that are larger than 4 inches in diameter or are larger than the maximum size of imported surfacing shall be removed. Unless otherwise designated by Forest Service, the oversized material shall be removed and placed outside the roadway; do not obstruct drainage ways or structures. Placement into streams, lakes, or water courses will not be permitted.

M. Material resulting from work under this specification shall not remain on or in structures, such as culverts, overside drains, cattleguards, ditches, and drainage dips.

N. Material resulting from work under this specification, plus any accumulated debris, shall be removed from bridge decks and the deck drains opened.

Table T-805.1 Compaction Requirement

| Road Number | Beginning Milepost | Ending Milepost |
|---|---|---|
| *n/a* | *0.0* | *0.0* |
| | | |
| *Note: Roads listed in this table requires Compaction Method A as specified in 806.02-C* | | |

# T-806 SLIDE REMOVAL AND SLUMP REPAIR

## 806.01 DESCRIPTION

A. Work includes excavation, loading, hauling, placing, and compacting of waste or replacement material and the development of disposal or borrow areas. Work under T-806 is that which cannot be handled by a motor grader during T-810 Ditch Maintenance or T-805 Road Grading.

## 806.02 MAINTENANCE REQUIREMENTS

A. Slide material, including soil, rock and vegetative matter which encroaches into the roadway shall be removed. The slope which contributed the slide material shall be reshaped as practicable to reduce future sliding unless otherwise agreed. Material deposited on the fill slope and below the roadway will not be removed unless needed for slope stability or to protect adjacent resources.

1) Surface and base courses shall not be excavated during T-806 Slide removal operations.

2) Slide material which cannot be used for other beneficial purposes shall be disposed of at disposal sites shown on sale area map or designated by the Forest Service. Compact material placed in disposal sites only if required by the Forest Service.

B. Material for slump repair is from agreed borrow sites, placed in layers no more than 12 inches thick, and compacted in accordance with T-805 Method A or other methods as approved by the Forest Service..

1) Existing aggregate surfacing shall be salvaged utilized when practical and replaced after depressions have been filled.

2) Damaged aggregate base, aggregate surfacing, and bituminous pavement shall be repaired under T-807 Surface Repair (Bituminous) and T-808 Surfacing Repairs.

3) Following slide removal, roadway shall be shaped as to reasonably conform to its original cross section.

# T-808 SURFACE REPAIR (AGGREGATE/NATIVE)

## 808.01 DESCRIPTION

Work consists of repairing potholes, minor washouts, and soft areas on aggregate or native surfaced roads. Includes preparing the area, furnishing, hauling, and placing all materials and other work necessary to make the repair and blend into the adjacent surface section to provide a uniform cross section.

## 808.02 MAINTENANCE REQUIREMENTS

A. Material sources are identified in Table T-808.1

B. Prepare the area as approved by the Forest Service. Soft spots on native or aggregate surfaced roads shall be repaired by placing the imported material on top of the soft spot in layers until a firm surface is produced as evident by no surface deflection under normal operating loads. Lifts shall be distributed uniformly with feathered edges in layers and are not to exceed 6 inches in compacted depth. Assure adequate moisture. Material placement shall not cause surface irregularities and shall preserve the existing cross section.

C. Unsuitable material shall be disposed of only at locations designated by the Forest Service as shown on the sale area map.

D. Material provided shall be certified weed-free.

Table T-808.1 Specified Material Sources

| Road Number | Material Type [1/] | Source [2/] | Gradation |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| ***[1/] identify material type; aggregate, pit run, etc.*** | | | |
| ***[2/] identify source of material; government furnished or commercial source*** | | | |

# T-810 DITCH MAINTENANCE

## 810.01 DESCRIPTION

Work consists of routine maintenance of various types of ditches to provide unobstructed drainage.

## 810.02 MAINTENANCE REQUIREMENTS

A. Maintain existing ditches by removing rock, soil, wood, and other materials to provide unobstructed flow.

B. Undercutting backslopes during ditch maintenance operations is not permitted.

C. Suitable material up to 4 inches in greatest dimension removed from the ditches may be blended into existing native road surface and shoulder or placed in designated berm.

D. Do not blend material from ditch cleaning operations into aggregate surfaced roads. Do not blade material across bituminous surfaced roads, unless approved in writing by the Forest Service.

E. Excess material which cannot be used for other beneficial purposes shall be disposed of at disposal sites shown on sale area map or designated by the Forest Service. Material placed in disposal sites will not require compaction unless required by the Forest Service.

F. Remove limbs and wood chunks in excess of 12 inches in length or 3 inches in diameter from ditches and place outside the roadway.

G. Clean paved surfaces of all materials resulting from ditch maintenance work.

H. Shape lead-off ditches to drain away from the traveled way.

# T-811 DRAINAGE STRUCTURES

## 811.01 DESCRIPTION

Work consists of maintaining drainage structures such as culverts, armored crossings, surface water deflectors, inlet and outlet channels, related ditches, existing riprap, trash racks, and drop inlets. This includes overside drains.

## 811.02 MAINTENANCE REQUIREMENTS

A. .

B. Drainage Structures and related items shall be cleared of all foreign material which has been deposited above the bottom of the structure and all vegetative growth which interferes with the flow pattern.

C. Culverts shall have their inlet and outlets cleaned a minimum of 3 feet, as measured along the invert, unless otherwise directed by the Forest Service.

   1) Recondition culvert inlet and outlet by field methods such as jacking out or cutting away damaged metal which obstructs flow. Treat cut metal edges with a zinc rich coating, according to AASHTO M 36 and ASTM A849.

   2) Clean catch basins by removing the material within the basin floor to conform to the original grade from the invert and shape the basin to reasonably match the original catch basin cutslope.

   3) Inlet channel transition from the drainage ditch to the catch basin and outlet ditches shall be cleaned a minimum of 10 feet, or to allow free drainage of water.

D. Ditches shall be cleaned to conform to previous line, grade, and cross section for positive drainage.

E. Drainage dip maintenance consists of cleaning existing dips on native surface and aggregate surfaced roads. Drainage dips shall be shaped to a depth and width to provide positive drainage and in reasonable conformity to the original lines, grades, and cross sections unless otherwise agreed. Lead-off ditches shall be cleaned a minimum of 10 feet from the drainage dip.

F. Riprap shall be maintained in good condition including the replacement of riprap, if necessary, to previous line, grade, and cross-section.

G. Head walls, aprons, inlet assemblies, overside drains, riprap, geotextiles, trash racks, and other facilities related to the drainage structure shall be maintained to ensure proper functioning.

H. Material removed, if suitable, may be blended into existing native road surfaces or shoulders. On aggregate surface roads, care must be taken to assure the material is not mixed into the existing aggregate. Haul unsuitable material to disposal area designated by the Forest Service in accordance

with Section T-806 or as otherwise agreed. Side casting into streams, lakes or watercourses shall not be permitted.