ROAD MAINTENANCE REQUIREMENTS
FS-2400-13 Contracts (9/04)
LC Liberty Hill Stewardship First Thinning

SECTION 1. GENERAL

Purchaser's maintenance responsibility begins (1) after purchaser performs Prehaul Maintenance on a road listed in the Road Maintenance Requirements Schedule; or (2) for all other roads, when Purchaser begins to use the road. Occasional travel by Purchaser's light vehicles, prior to beginning of construction clearing or logging operations in the area accessed by the road, does not constitute beginning of use. Purchaser is not required to perform routine maintenance during periods of inactivity. During periods of inactivity, Forest Service will perform maintenance only as required to meet its needs.

The Purchaser shall maintain roads, commensurate with the Purchaser's use, in accordance with the Road Maintenance Requirements Summary and Road Maintenance Specifications. Performance of road maintenance work by the Purchaser may be required prior to, during, or after each period of use. The timing of work accomplishment shall be based on the Purchaser's operating schedule under Standard Provision B6.31.

If the Purchaser elects to use different roads than those listed in the Road Maintenance Requirements Summary, the Contracting Officer or designee shall determine the Purchaser's commensurate share of road maintenance and/or revise road maintenance deposits.

Unless the Contracting Officer or designee agrees in writing otherwise, prehaul maintenance shall be completed on any portion of road prior to hauling on that portion.

The Purchaser shall attend to the following situations as they occur and concurrently with sale operations: remove slides, fallen timber and other obstructions and overhanging brush obstructing road sight distance. Excess material resulting from any maintenance activity shall not be placed at locations where it will wash into streams.

The Forest Service shall prepare a revised Road Maintenance Requirements Schedule to reflect changes in the original haul route.

SECTION 2. ROAD MAINTENANCE DEFINITIONS

Wherever the following terms are used in the Road Maintenance Specifications, the meaning shall be:

Base Course. Material placed on the Subgrade to distribute concentrated wheel loads.

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

Borrow. Select Material taken from designated borrow sites.

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

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.

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.

Drainage Structures. Manufactured structures which control the runoff of water from the Roadway including Inslope, overside drains, aprons, flumes, downdrains and downpipes.

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

Maintenance Activitiy. Items of work leading to the minor restoration and upkeep of a road and necessary to sustain the road's anticipated traffic.

Material. Any substance specified for use in the performance of the work.

Prehaul Maintenance. Road maintenance work to be accomplished prior to the roads use. Roads receiving prehaul maintenance shall be shown on the Sale Area Map.

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

Roadside. A general term denoting the area adjoining the outer edge of the Roadway.

Roadway. The portion of a road within the limits of excavation and embankment.

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 materials from above or on backslope extending onto the Traveled Way or Shoulders, whether caused by mass land movements or accumulated ravelling.

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.

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.

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.

Surface Course. The Material placed on the Base Course or Subgrade to enhance traction, distribute concentrated wheel loads and resist abrasion and the effects of climate. Surface Course may be referred to as surfacing.

Traveled Way. That portion of Roadway, excluding Shoulders, used for the movement of vehicles.

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

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.

ROAD MAINTENANCE REQUIREMENTS

FS-2400-13 Contracts (9/04)

LC Liberty Hill Stewardship First Thinning

SECTION 3. ROAD MAINTENANCE REQUIREMENTS SCHEDULE

Contract Road Maintenance Requirements Summary

Road	Termini		Miles	Applicable Prehaul Road Maintenance Specifications									
	From	To		1020	1040								

P = Purchaser Performance Item, D = Deposit to Forest Service, D3 = Deposit to Third Party

Road	Termini		Miles	Applicable During Haul Road Maintenance Specifications									
	From	To		1030	1040	1030	1040						
L270-1	0.0	0.25	0.25	D	D	P	P						
FS 605D	0.0	0.75	0.75	D	D	P	P						
L279-2	0.0	0.25	0.25	D	D	P	P						
FS 672	0.0	1.0	1.0	D	D	P	P						
L307-2	0.0	0.1	0.1	D	D	P	P						
FS634B	0.0	0.25	0.25	D	D	P	P						
FS634	0.0	2.0	2.0	D	D	P	P						
FS642B	0.0	0.1	0.1	D	D	P	P						
C605	0.0	0.9	0.9	D	D	P	P						
L309-1	0.0	0.25	0.25	D	D	P	P						
FS 602	0.0	0.4	0.4	D	D								

P = Purchaser Performance Item, D = Deposit to Forest Service, D3 = Deposit to Third Party

Road	Termini		Miles	Applicable Post Haul Road Maintenance Specifications									
	From	To											

P = Purchaser Performance Item, D = Deposit to Forest Service, D3 = Deposit to Third Party

SECTION 4. ROAD MAINTENANCE ACTIVITY SPECIFICATIONS

INCLUDED SPECIFICATIONS

Activity No.	Activity Specification Title
1010	Slide and Slump Repair
1020	Surface Blading (Dozer)
1030	Surface Blading (Grader)
1040	Spot Surface Course Placement
1050	Cyclic Surface Course Placement
3010	Drainage Structures
3020	Ditch Cleaning
3050	Waterbars
4020	Roadway Mowing and Clearing
4050	Seeding
6020	Miscellaneous Structures
7070	Road Closure

ACTIVITY 1010 - SLIDE AND SLUMP REPAIR

DESCRIPTION

1.1 Slide removal is the removal from Roadway and disposal of any material, such as soil, rock, and vegetation that cannot be routinely handled by a motor grader during Ditch Cleaning, Activity 3020 and Surface Blading (Grader), Activity 1030.
Slump repair is the filling of depressions or washouts in Roadway which cannot be routinely filled by a motor grader during Surface Blading.
Slide removal and Slump repair includes excavation, loading, hauling, placing, and compacting of waste or replacement Material and the development of disposal or borrow areas.

REQUIREMENTS

3.1 Slide Material, including soil, rock and vegetative matter which encroaches into the Roadway, shall be removed. The slope which generated the Slide Material shall be reshaped during the removal of the Slide Material. Slide Material deposited on the fillslope and below the Traveled Way will not be removed unless needed for slope stability or to protect adjacent resources.
Existing Surface and Base Course Material shall be conserved during Slide removal operations.
Removed Slide Material shall be uniformly placed on fill slopes unless agreed otherwise.
3.2 When filling Slumps, Borrow shall be obtained from agreed locations, placed in layers, and compacted by operating the hauling and spreading equipment uniformly over the full width of each layer.
Existing Surface and Base Course Material shall be salvaged when practical and re-laid after depressions have been filled.
The repaired areas of the Slump shall conform to the cross-section of the adjacent undisturbed Roadway.

ACTIVITY 1020 - SURFACE BLADING (DOZER)

DESCRIPTION

1.1 Surface blading is keeping a native or aggregate surfaced Roadbed in a condition to facilitate traffic and provide proper drainage. It includes maintaining the Crown, Inslope or Outslope of the Traveled Way, Turnouts, and Shoulder; repairing Berms; blending approach road intersections; and cleaning bridge decks, Drainage Dips, and Lead-off Ditches. This work may be accomplished using a crawler tractor with a dozer blade capable of angling.

REQUIREMENTS

3.1 Surface blading shall be performed before, during, and after Purchaser's use as often as necessary to facilitate traffic and proper drainage.

3.2 The surface blading shall preserve the existing cross-section. Ruts, chuckholes and corrugations that affect the smoothness of ride do not have to be removed unless they become excessive or interfere with proper drainage. Surface Course Material which has been displaced to the Shoulders or Turnouts shall be returned to the Traveled Way. The blading operation shall be conducted to conserve surface Material and to provide for a thorough mixing of the Material being worked.
3.3 On native surfaced roads, Material generated from backslope Sloughing, and ditch cleaning 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.
3.4 Roadway backslopes shall not be undercut.
3.5 Drainage Dips and Lead-off Ditches shall be cleaned and maintained to retain the existing line, grade, and cross-section.
3.6 Intersecting roads shall be bladed for a distance of 50 feet to assure blending of the surfaces.
3.7 Rocks or other Material remaining on the Traveled Way after the final pass that are 4 inches in diameter or larger shall be removed. The unsuitable Material shall be disposed of by sidecasting unless agreed otherwise.
3.8 Material resulting from this activity shall not remain on or in structures, such as Culverts, cattleguards, ditches and Drainage Dips.
3.9 Material resulting from this activity, plus any accumulated debris, shall be removed from bridge decks and the deck drains opened.

ACTIVITY 1030 - SURFACE BLADING (GRADER)

DESCRIPTION

1.1 Surface blading is keeping a native or aggregate surfaced Roadbed in a condition to facilitate traffic and provide proper drainage. It includes maintaining the Crown, Inslope or Outslope of the Traveled Way, Turnouts, and Shoulder; repairing Berms; blending approach road intersections; and cleaning bridge decks, Drainage Dips, and Lead-off Ditches. This work shall be completed with a motor grader.

REQUIREMENTS

3.1 Surface blading shall be performed before, during, and after Purchaser's use as often as necessary to facilitate traffic and proper drainage.
3.2 The surface blading 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. Surface Course Material which has been displaced to the Shoulders or Turnouts shall be returned to the Traveled Way. The blading operation shall be conducted to conserve surface Material and to provide for a thorough mixing of the Material being worked.
3.3 On native surfaced roads, Material generated from backslope Sloughing, and ditch cleaning 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.
3.4 Roadway backslopes shall not be undercut.
3.5 Drainage Dips and Lead-off Ditches shall be cleaned and maintained to retain the existing line, grade, and cross-section.
3.6 Intersecting roads shall be bladed for a distance of 50 feet to assure blending of the surfaces.

3.7 Rocks or other Material remaining on the Traveled Way after the final pass that are 4 inches in diameter or larger shall be removed. The unsuitable Material shall be disposed of by sidecasting unless agreed otherwise.
3.8 Material resulting from this activity shall not remain on or in structures, such as Culverts, cattle guards, ditches and Drainage Dips.
3.9 Material resulting from this activity, plus any accumulated debris, shall be removed from bridge decks and the deck drains opened.

ACTIVITY 1040 - SPOT SURFACE COURSE PLACEMENT

DESCRIPTION

1.1 Spot surface course placement includes subgrade preparation, furnishing, spreading and shaping Materials in accordance with the Requirements.

MATERIALS

2.1 Surface course Material will be in accordance with the Requirements, 3.2.

REQUIREMENTS

3.1 Subgrade Preparation. Prepare subgrade to receive surface course Material at locations as designated on-the-ground by the Forest Service on roads listed below. Prepare the subgrade by shaping the Roadbed to approximately the original cross-section and consistent with adjacent sections.
3.2 Furnish and spread Material at spot locations designated on the ground by the Forest Service as follows.

Road Number	During Haul	Post Haul	Type Material	Total Quantity (C.Y./Tons)
L270-1	80 tons		CR 14	80 tons
FS 605D	100 tons		CR 14	1000 tons
L279-2	60 tons		CR 14	60 tons
FS 672	80 tons		CR14	80 tons
L307-2	60 tons		CR14	60 tons
FS634B	60 tons		CR14	60 tons
FS 634	120 tons		CR 14	1200 tons
FS642B	60 tons		CR 14	60 tons
C605	60 tons		CR 14	60 tons
L309-1	40 tons		CR 14	40 tons
FS 602	60 tons		CR 14	60 tons

3.3 Variations. The purchaser will be required to furnish weight or volume tickets to the Forest Service for the amount of surface course material placed. When it is mutually agreed that all or part of the surface course Material is not needed, the estimated cost of surfacing not placed shall be charged to the Timber Sale Account in accordance with B8.31.

ROAD MAINTENANCE REQUIREMENTS
FS-2400-13 Contracts (9/04)
LC Liberty Hill Stewardship First Thinning

ACTIVITY 1050 - CYCLIC SURFACE COURSE PLACEMENT

DESCRIPTION

1.1 Cyclic surface course placement includes subgrade preparation, furnishing, spreading and shaping Materials in accordance with the Requirements. This activity is the replacement of surface course material which is gradually worn away during sale operations due to Purchaser's use and climatic conditions.

MATERIALS

2.1 Surface course Material will be in accordance with the Requirements, 3.2.

REQUIREMENTS

3.1 Subgrade Preparation. Prepare subgrade to receive surface course Material at locations as designated on-the-ground by the Forest Service on roads as listed below. Prepare the subgrade by shaping the Roadbed to approximately the original cross-section and consistent with adjacent sections.

3.2 Furnish and spread Material on road segments designated on the ground by the Forest Service as follows.

Road Number	Road Name	Type Material	Quantity (C.Y./Tons)

3.3 Variations. The purchaser will be required to furnish weight or volume tickets to the Forest Service for the amount of surface course material placed. When it is mutually agreed that all or part of the surface course Material is not needed, the estimated cost of surface course not placed shall be charged to the Timber Sale Account in accordance with B8.31.

ACTIVITY 3010 - DRAINAGE STRUCTURES

DESCRIPTION

1.1 This work consists of maintaining and/or installation/removal of Drainage Structures and related items such as inlet and outlet channels, existing riprap, trash racks, and drop-inlets.

MATERIALS

2.1 All Materials used in the maintenance and/or installation/removal of Drainage Structures shall conform by type and specification to the Material in the structure being maintained or as indicated in the Requirements, 3.3.

REQUIREMENTS

3.1 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 water flow. Material removed that cannot be incorporated into maintenance work shall be uniformly placed on fill slopes unless agreed otherwise.

3.2 Perform maintenance to insure the proper functioning of the head walls, aprons, inlet assemblies, riprap, trash racks, and other facilities related to the Drainage Structure.
3.3 Install/remove ditches, drainage dips, rock crossings and/or culverts as follows and as marked on the ground. Installation of structures shall not begin without the presence of a Forest Service representative.

Road Number	Road Name	Remove/Install	Type of Structure	Size	Quantity

3.4 Installation shall be in accordance with construction industry standards and practices.
3.5 Culvert designated for removal shall become the property of the Purchaser.

ACTIVITY 3020 - DITCH CLEANING

DESCRIPTION

1.1 Ditch cleaning is the removal and disposal of all accumulated organic and Slough Material from Roadway ditches to provide a free-draining waterway.

REQUIREMENTS

3.1 Ditch cleaning shall be repeated during sale operations as often as necessary to facilitate proper drainage.
3.2 All Slough Material or other debris which might obstruct water flow in the Roadway ditch shall be removed. Material removed from the ditch, if suitable, may be blended into existing native road surface or Shoulder or placed in designated Berms in conjunction with Surface Blading, Activity 4020, operations.
Material removed from ditches that is not suitable for blending into the existing surface course shall be placed on adjacent fill slopes or disposed of as agreed otherwise.
3.3 Roadway backslopes shall not be undercut.

ACTIVITY 3050 - WATERBARS

DESCRIPTION

1.1 This work consists of installing or removing Waterbars in the Roadbed.

REQUIREMENTS

3.1 Waterbars shall be installed at locations designated or staked on the ground.
All Material excavated shall be used in the installation of the Waterbar. The bar Material shall be compacted by operating heavy equipment over the length and width of the bar.
3.2 Waterbars designated on the ground shall be removed by blading the bar Material into the adjacent depression to form a smooth transition along the Traveled Way. The length and width of the fill Material shall be compacted by the equipment performing the work.

3.3 Waterbars may be required to be installed between seasons of use and then removed when haul is resumed. Waterbar installation may also be required when use of a road has been completed.

ACTIVITY 4020 - ROADWAY MOWING AND CLEARING

DESCRIPTION

1.1 This work includes removal of brush, trees and other vegetative growth from within the Roadway limits.

REQUIREMENTS

3.1 Vegetative matter within the Roadway which impedes vehicular travel or interferes with road maintenance operations, such as surface blading and ditch and culvert cleaning shall be removed. Downed timber meeting utilization standards shall be cut in appropriate lengths and decked along the Roadside in locations where the Traveled Way or sight distances will not be impaired.

3.2 Vegetative matter removed from the Roadway shall be uniformly placed on fill slopes unless agreed otherwise.

ACTIVITY 4050 - SEEDING

DESCRIPTION

1.1 This work includes ground preparation, furnishing and placing seed, fertilizer, limestone and mulch.

MATERIALS

2.1 Materials will be those required in the table below.

REQUIREMENTS

3.1 Place seed, fertilizer and mulch of the types, application rates and time of year as follows and as marked on the ground.

		Type and Application Rate				
Road Number	**Road Name**	**Seed**	**Limestone**	**Fertilizer**	**Mulch**	**Time of Year**

ACTIVITY 6020 - MISCELLANEOUS STRUCTURES

DESCRIPTION

1.1 Maintenance of miscellaneous structures includes cattle guards, gates, and other similar structures that have been previously installed to insure safe and efficient operation of the road.

MATERIALS

2.1 Any Materials needed in the maintenance of miscellaneous structures shall be similar in type and quality to the Material in the structure being maintained.

REQUIREMENTS

3.1 Cattle guards. Loose rails shall be welded or bolted back in place.
Excess Material carried into the cattle guard shall be removed when drainage is blocked or when it reaches 6 inches from the bottom of the cattle guard frame. Drainage into and from the cattle guard shall be kept open.
3.2 Gates. Gates shall be kept in good repair and made to swing easily. Hinges or latches shall be repaired if not operating properly. Brush and debris shall be removed from within the swinging radius.

ACTIVITY 7070 - ROAD CLOSURE

DESCRIPTION

1.1 Close the roads listed below after completion of their use. Closure shall be effective and includes the installation of earth, log, timber or rock barricades at the point of closure. As required below, closure may include removal of temporary bridges and seeding. During the life of the contract, the Purchaser is authorized to temporarily close any of the roads listed below.

MATERIALS

2.1 Final and temporary barricades. Materials must be approved by the Forest Service prior to delivery and installation. Materials may be obtained from Forest Service land upon prior approval. Except as otherwise agreed, barricades, signs and other devices must be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways."
2.2 Seeding, limestone, fertilizer and mulch requirements are included in ACTIVITY 4050 - SEEDING.

REQUIREMENTS

3.1 Final closure. Closure devices must be constructed to prevent motorized vehicular access through, over or around the device.
3.2 Temporary closure. Closure devices must be readily operable by the Forest Service and Purchaser. Devices must be removed prior to final closure unless otherwise agreed.
3.3 Perform road closure as follows.

			Applicable Requirements		
Road Number	Road Name	Length	Road Closure	Temporary Bridge Removal	Seeding