

FOREST SERVICE SPECIFICATIONS LIST

Air Timber Sale

Road Number			2653	2653760	2653762	2653765	2653783	2649
Location			---	---	---	---	---	---
Seg. Length (miles)			1.57	1.62	1.07	0.49	0.20	4.60
Maint. Spec. Number	TITLE	Latest Revision Date	"X" denotes applicable Road Maintenance Specifications					
T-803	Snow Removal	2007	X	X	X	X		X
T-811	Blading	2007	X					X
T-812	Dust Abatement	2007						X
T-813	Surfacing	2007	X					X
T-831²	Ditch Maintenance	2007	X	X	X	X	X	X
T-832²	Remove and End Haul Materials	2007	X	X	X	X	X	X
T-834²	Drainage Structure Maintenance	2007	X	X	X	X	X	X
T-835²	Roadway Drainage Maintenance	2007					X	
T-836	Maintenance for Limited Use	2007	X					X
T-838	Maintenance for High Clearance Use	2007		X	X	X		
T-839	Maintenance for High Clearance Use	2007					X	
T-842	Cutting Roadway Vegetation	2007	X	X	X	X	X	X
T-851	Logging Out	2007						
T-854	Treatment and Disposal of Danger Trees	2007						
T-891	Water Supply and Watering	2007	X	X	X	X		X

Notes:

² -- These specifications are referenced by T-836, T-839, T-838, T-834

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
NA

- 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

- 1 Roads requiring compaction will be included in the ROAD LISTING.
2. 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

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

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, and T-839 shall be considered restricted.

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.

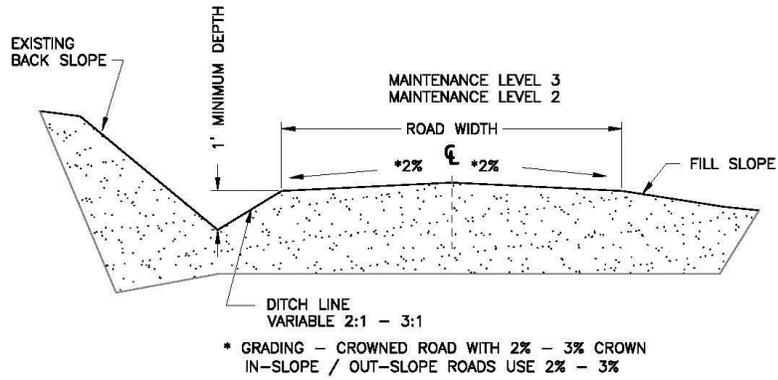
H. Berms - Maintain existing berms to the condition of adjacent segments. Do not create new berms.

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.

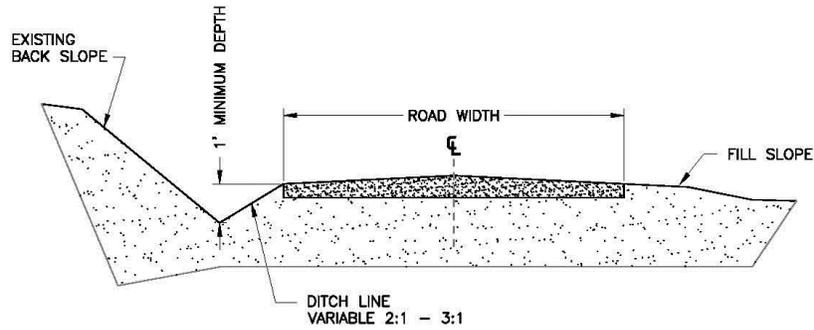
Watering will not be required for smooth blading. Accomplish smooth blading without distorting the existing cross-slope or crown of the traveled way.

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.

DRAWING T-811 BLADING & T-831 DITCH MAINTENANCE



FOR AGGREGATE / CINDER / PIT RUN AND NATIVE
SURFACED ROADS



PAVED ROADS AND CHIP SEAL SURFACED ROADS

T-811 BLADING & T-831 DITCH MAINTENANCE

T-812 - DUST ABATEMENT (10/07)

812.01 Description

This work consists of applying dust palliatives on roads shown in the Road Listing.

812.02 Materials

The dust palliative materials are shown in the Road Listing, unless shown as Optional for Purchaser's election. If Optional is shown then the Purchaser may use any of the products listed below. Dust palliative materials shall meet the following requirements:

A. Water (H2O) will be obtained from sources SHOWN ON THE DRAWINGS or listed in the SUPPLEMENTAL SPECIFICATIONS to Section T-891 Water Supply, unless otherwise approved by the Contracting Officer.

B. Lignin Sulfonate (LIG S) Provide certification that the material meets the requirements of Subsection 725.20 of the "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP-03)" and the Forest Service Supplemental Specification 725.20.

C. Magnesium Chloride (MG CL2) Provide certification that that the material meets the requirements of Subsection 725.02 of the "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP03) " and the Forest Service Supplemental Specification 725.02.

D. Calcium Chloride Brine (CA CL2B). Provide certification that the material meets the requirements of Subsection 725.02 of the " Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP03) " and the Forest Service Supplemental Specification 725.02.

E. Calcium Chloride Flake (CA CL2F). Provide certification that that the material meets the requirements of Subsection 725.02 of the "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP03) " and the Forest Service Supplemental Specification 725.02.

F. Bituminous dust palliatives. Manufacture materials specifically for dust abatement purposes which conform to the requirements of Section T-892 for each listed road in the Road Listing.

812.03 Methods

As shown in the SUPPLEMENTAL SPECIFICATIONS, Purchaser may utilize a variety of methods to decrease or eliminate the need for dust abatement.

812.04 Equipment

A. Design, equip, and operate application equipment for spreading dust palliatives so that the material is uniformly applied at the rate and traveled way widths shown in the Road Listing.

B. For bituminous palliatives provide equipment that heats and applies the bituminous material. Provide a bituminous distributor that is self-powered and mounted on pneumatic tires and equipped with a pump and circulating spray bar, a tachometer, pressure gauges, accurate volume measuring devices such as visual volume dial or gauge calibrated to the tank, and a thermometer. Provide equipment which is a standard commercial type of proven performance.

C. Accomplish dilution of dust palliatives within the application vehicle with the water source protected from contamination. Circulate the resulting mixture at least five (5) minutes to ensure uniform mixing prior to application.

812.05 Maintenance Requirements

- A. Limit water applications to abatement for hauling vehicles and provide at a frequency and rate which controls dust such that vehicle tail lights and turn signals remain visible. Vary rates of application as needed but remain low enough to avoid forming rivulets. Accomplish the abatement by sufficient frequency of application without saturating and softening the traveled way. Compacted or glazed road surface or wheel tracks may be loosened as needed for water penetration.
- B. Apply all other dust palliatives at the rates and times agreeable to the Contracting Officer. The Road Listing shows the expected average application rate and may be varied to meet field conditions. Lignin Sulfonate, Magnesium Chloride, and Calcium Chloride Brine are listed as gallons per square foot of the undiluted product at fifty (50), thirty-three (33), and thirty-eight (38) percent respectively. Calcium Chloride Flake is listed in pounds per square foot at seventy-seven (77) percent concentration.
- C. Apply bituminous dust palliatives only when the surface to be treated contains sufficient moisture to obtain uniform distribution of the dust palliative unless noted differently in the SUPPLEMENTAL SPECIFICATIONS.
- D. Prior to initial application, when needed, the road will be bladed and shaped under Section T-811, Blading.
- E. Required subsequent applications may be applied to the existing road surface without blading.
- F. Dust palliatives will not be applied in a manner that spatters or mars adjacent structures or trees, or placed on or across cattleguards or bridges. Discharge dust abatement material only on roads approved by the Contracting Officer.

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

Materials will be Government-furnished when stated in the supplemental specifications.

Materials furnished by the Purchaser shall conform to the gradation and quality requirements of Section 703 of the "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects FP-03 U.S. Customary Units" and FS supplements to the FP-03.

All materials transported onto National Forest System land shall be free of invasive 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 Purchaser 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 Purchaser. After satisfactory review and inspection or after such 5 day period, the Purchaser 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
NA	NA

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.

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.

T - 831 DITCH MAINTENANCE (10/07)

831.01 Description

This Section provides for routine maintenance of various types of ditches to provide a waterway which is unobstructed, as shown on the ROAD LISTING or DESIGNATED ON THE GROUND.

831.02 Maintenance Requirements

- A. Maintain ditches by removing rock, soil, wood, and other materials. Maintained ditches shall function to meet the intent of the original design.
- B. Undercutting back slopes during removal 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 aggregate or bituminous surfaced roads, unless approved in writing by the Contracting Officer.
- E. Haul material in excess of 831.02 D or subject to 831.02 E to a designated waste area under Section T-832. Remove excess materials temporarily stored on the ditch slope or edge of the shoulder daily.
- 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.

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

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
NA

T - 832 REMOVE AND END HAUL MATERIALS (10/07)

832.01 Description

Work consists of loading, hauling, and placing of slide, slough, or excess materials such as rock, soil, vegetation, and other materials to designated disposal sites.

832.02 Maintenance Requirements

- A. Remove, end haul, and dispose of excess materials generated by work under other Sections of this contract.
- B. Remove the slide and slough materials in the area extending approximately 6 feet vertically above the road surface and not more than 3 feet down slope from the roadbed. Dispose of material at designated sites as SHOWN ON THE DRAWINGS, identified in SUPPLEMENTAL SPECIFICATIONS, or as ordered by the Contracting Officer.

Reshape the slope which generated the slide material as nearly as practical to its original condition by equipment operating from road surface. Reshaping of roadside ditches in slide area shall be in accordance with Section T-831.
- C. When approved by the Contracting Officer, fill slumps by compacting selected materials into roadway depressions. Compaction is by Method 2.
- D. Place all materials in disposal sites as specified in the SUPPLEMENTAL SPECIFICATIONS, as SHOWN ON THE DRAWINGS, or as ordered by the Contracting Officer.
 - 1. Method 1 - Side Casting and End Dumping. Material may be placed by side casting and end dumping. Where materials include large rocks, provide a solid fill by working smaller pieces and fines into voids. Shape the finished surfaces to drain.
 - 2. Method 2 Layer Placement - Step or roughen surfaces on which materials are to be placed prior to placing any material. Place materials in approximately horizontal layers no more than 12 inches thick. Compact each layer by operating hauling and spreading equipment over the full width of each layer.
- E. Repair any damage to existing aggregate or pavement surfaces.

T - 834 DRAINAGE STRUCTURE MAINTENANCE (10/07)

834.01 Description

This work consists of cleaning and reconditioning culverts and other drainage structures.

834.02 Maintenance Requirements

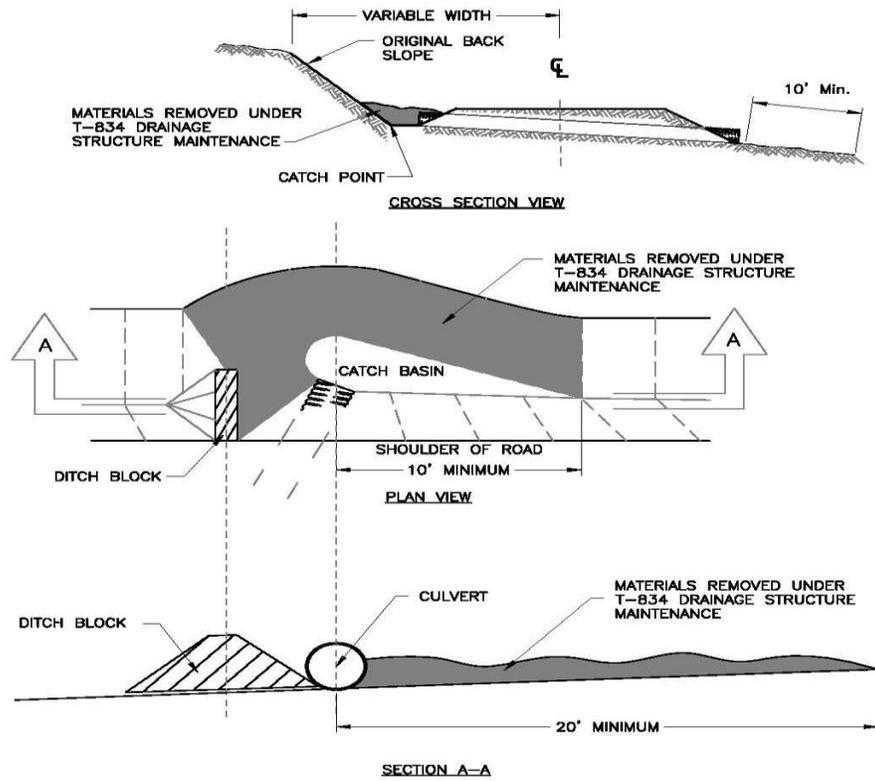
- A. Clean drainage structures, inlet structures, culverts, catch basins, and outlet channels specified in the SUPPLEMENTAL SPECIFICATIONS. Clean catch basins by removing the material within the area SHOWN ON THE DRAWINGS.
- B. Clean the transition from the ditch line to the catch basin a distance of 10 feet from the catch basin. Clean outlet channels and lead-off ditches a distance of 6 feet. Remove and place debris and vegetation so as to not enter the channel or ditch, or obstruct traffic. Haul debris and vegetation to a designated disposal area in accordance with Section T-832.
- C. Hydraulic flushing of drainage structures is not allowed unless provided for in the SUPPLEMENTAL SPECIFICATIONS.

Cleaning and reconditioning are limited to the first 3 feet of inlet and outlet, determined along the top of the structure. Recondition culvert inlet and outlet by field methods such as jacking out or cutting away damaged metal which obstructs flow. Treat cut edges with a zinc rich coating, in accordance with AASHTO M 36M and ASTM A 849.

- E. 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
NA

DRAWING T-834 - CLEANING OF DITCH RELIEF, CATCH BASIN & TRANSITION



T-834 CLEANING OF DITCH RELIEF - CATCH BASIN AND TRANSITION

T - 838 MAINTENANCE FOR HIGH CLEARANCE VEHICLE USE (05/07)

838.01 Description

This work consists of making limited use roads passable for project use by Contractor and providing drainage from the traveled way and roadbed.

838.02 Maintenance Requirements

A. Traveled Way

Contractor may smooth or fill existing cross ditches and water bars and as approved by the Contracting Officer modify existing road junctions to enable vehicle access. The Contractor may perform the following work prior to beginning haul and resumption of haul after an extended stoppage:

1. Remove brush, fallen trees, rocks, and other debris from traveled way, including turnouts, turnarounds, and other locations that interfere with needed maintenance as follows:
 - a. No object extending over 4 inches above the road surface shall remain within the 12 feet usable traveled way. Center the usable width on the roadbed or position away from the fill slope.
 - b. Cut and remove standing or down trees, logs, brush, and limbs from within the area described in 1(a). Remove all encroaching limbs to a height of 14 feet above the traveled way surface. Scatter material not meeting utilization standards outside and below the roadbed on the fill side. Limb and remove timber that meets utilization standards or deck at locations approved by the Contracting Officer.
 - c. Place all removed materials away from drainages.
 - d. During use, maintain drainage structures including dips, ditches and culverts in a usable condition.
2. Clean and recondition drainage facilities in accordance with Section T-831 and T-834.

B. Slough and Slides

1. Slough and slides may be left in place, provided surface drainage is provided and at least 12 feet of width is available for vehicle passage.
2. Contractor may reposition or ramp over slides and slough when the traveled way width is less than 12 feet providing the material is capable of supporting vehicles. Limit out slope to no more than six percent.
3. Reposition slough or slide materials, which are not capable of supporting a vehicle, on the roadbed to provide the 12 feet width. When directed by the Contracting Officer, slough or slide material will be removed under Section T-832.

C. Slumps and Washouts

1. Drain the roadbed immediately upgrade of slumps and longitudinal cracks to prevent water from entering slump area.
2. Slumps and longitudinal cracks at the edge of the roadbed shall not be considered a part of the usable width. Usable width may be reduced to 10 feet in the area of the slump.
3. Unless the Contracting Officer approves material being placed on slumps, ramp the slumps on both ends into undisturbed roadbed to provide at least 10 feet usable width. Use removed materials to guide vehicles to the ramp location or to aid in draining the area.
4. Washouts may be filled with suitable material.

D. Post haul

At the end of hauling or prior to entering into seasonal shutdowns or a period of extended inactivity:

1. Shape the traveled way and disturbed roadbed to provide functional drainage.
2. Reinstall removed cross ditches and water bars and provide any additional drainage structures necessary to offset changes caused through use and maintenance.
3. Leave roads useable for high clearance vehicles. Remove or reshape Contractor modifications at road junctions to leave the entrance as it was before use, or as agreed at the time of improvement.

T - 842 CUTTING ROADWAY VEGETATION (10/07)

842.01 Description

This work consists of cutting all vegetative growth, including trees and other vegetation less than 4 inches in diameter measured 6 inches above the ground, on roadway surfaces and roadsides.

842.02 Maintenance Requirements

A. General

1. Cut brush, trees, and other vegetation within each area treated to a maximum height of 6 inches above the ground surface or obstruction such as rocks or existing stumps. When work is performed under this Section, remove all limbs which extend into the treated area, or over the roadbed, to a height of 14 feet above the traveled way surface elevation.
2. Items to remain will be DESIGNATED ON THE GROUND.
3. Work may be performed either by hand or mechanically unless specifically shown in the Road Listing. Self-propelled equipment is not allowed on cut and fill slopes or in ditches.
4. Correct damage to trunks of standing trees caused by Purchaser's operation either by treatment with a commercial nursery sealer or by removing the tree as directed by the Contracting Officer.
5. Limb trees within the cutting limits which are over 4 inches -measured at 6 inches above the ground in lieu of cutting.
6. When trees are limbed, cut limbs within 4 inches of the trunk.

B. Cutting Side Vegetation

1. Show the width of vegetation to be removed in the Road Listing.
2. Unless otherwise included in the SUPPLEMENTAL SPECIFICATIONS or DESIGNATED ON THE GROUND:
 - a. Commence work at the edge of the traveled way and proceed away from the road centerline.
 - b. Roads without a defined traveled way: The starting point for cutting will be marked on the ground or defined in the SUPPLEMENTAL SPECIFICATIONS.
3. The points for establishing cutting limits are as follows:
 - a. Fill and day lighted (wide roadbed) section cutting commences at the edge of the traveled way and proceeds away from the road center line.
 - b. Drainage ditched section cutting commences at the bottom of the existing ditch and proceeds away from the road center line. Cutting on ditch fore slopes is not required.
 - c. Non-ditched cut section cutting commences at the intersection of the cut bank and the roadbed and proceeds away from center line.
4. Provide transitions between differing increments of cutting width. Accomplish transitions in a taper length of not less than 50 feet or more than 70 feet.

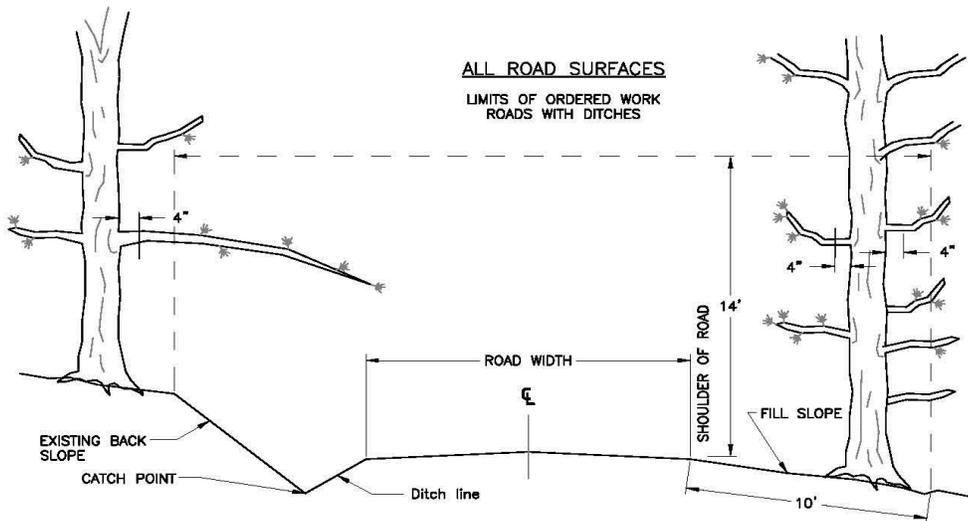
C. Debris

1. Materials resulting from the cutting operation in excess of 12 inches in length or 3 inches in diameter are not allowed to remain on roadway slopes within the treated area, in ditches, or within water courses.
2. Remove limbs and chunks in excess of 3 inches in any dimension from the traveled way and shoulders.
3. Materials may be scattered down slope from the roadbed, outside of the work area and drainages unless otherwise listed in D. Invasive Species of Concern.

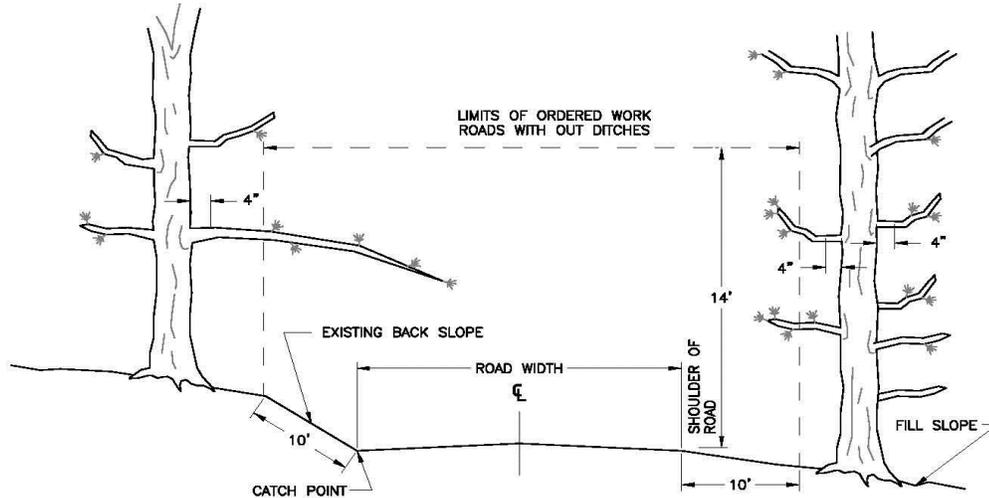
Invasive Species of Concern

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
NA

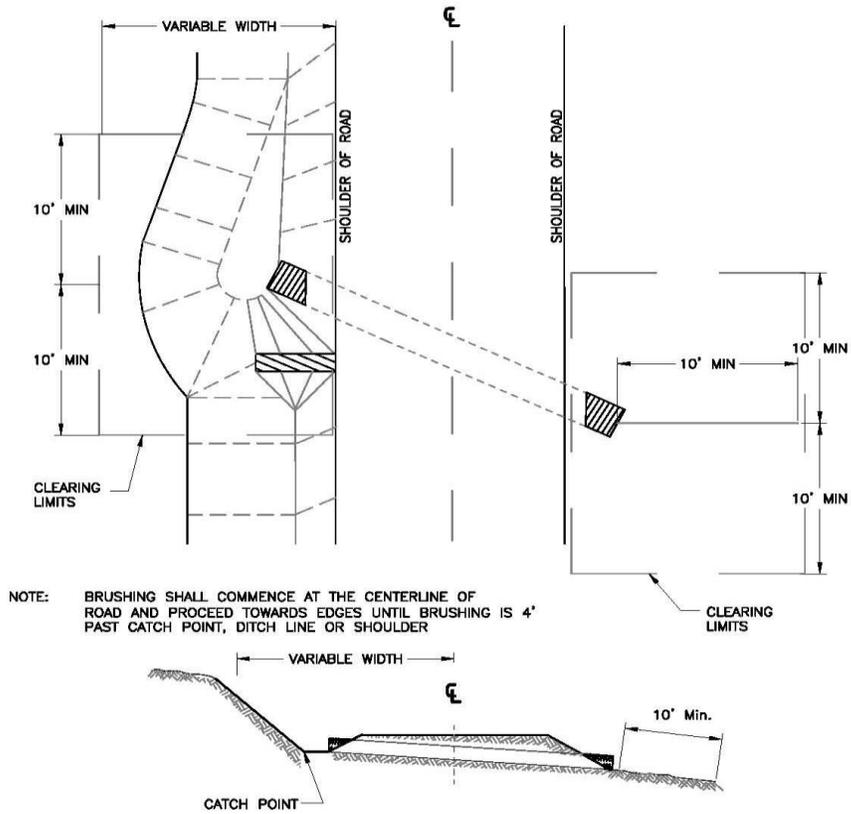


NOTE: BRUSHING SHALL COMMENCE AT THE CENTERLINE OF ROAD AND PROCEED TOWARDS EDGES UNTIL BRUSHING IS 4' PAST CATCH POINT, DITCH LINE OR SHOULDER



T-842 CUTTING ROADWAY VEGETATION

DRAWING T-842 CUTTING CULVERT VEGETATION



T-842 CUTTING ROADWAY VEGETATION

T - 891 WATER SUPPLY AND WATERING (10/07)

891.01 Description

This work consists of providing facilities to furnish an adequate water supply, hauling and applying water.

891.02 Materials

If the Purchaser elects to provide water from other than designated sources, the Purchaser is responsible to obtain the right to use the water, including any cost for royalties involved.

Suitable and adequate water sources available for Purchaser's use under this contract are designated as follows:

<u>Map Key No.</u>	<u>Location Road</u>	<u>Location Milepost</u>	<u>Use Restrictions</u>
	2600320 Air Field	MP 0.10	Requires FS key water source may be restricted during fire emergency

891.03 Equipment

- A. Positive control of water application is required. Equipment shall provide uniform application of water without ponding or washing.
- B. An air gap or positive anti-siphon device shall be provided between the water source and the vehicle being loaded if the vehicle has been used for other than water haul, if the source is a domestic potable water supply, or the water is used for tank mixing with any other materials.
- C. The designated water sources may require some work prior to their use. Such work may include cleaning ponded areas, installing temporary weirs or sandbags, pipe repair, pump installation or other items appropriate to the Purchaser's operations. Flowing streams may be temporarily sandbagged or a weir placed to pond water, provided a minimum flow of 10 cu. ft. /sec is maintained. Obtain approval from the Contracting Officer on improvements for sandbags or weirs prior to placement.