

**NATURAL RESOURCES CONSERVATION SERVICE**  
**CONSERVATION PRACTICE STANDARD**  
**FOREST TRAILS AND LANDINGS**  
(Ft. and/or Acs.)

**CODE 655**

**DEFINITION**

Forest Trails and Landings provide access to forest stands for management, removal and collection of forest products, recreation, and/or wildlife. These areas, whether planned or existing, include developed trails, skid roads, and log landing sites. These trails and landings are generally temporary or infrequently used. Properly constructed or maintained Forest Trails and Landings minimize onsite and offsite damage to resources (including water quality) during periods of access.

**PURPOSE**

Provide routes for temporary or infrequent travel by people or equipment for management activities.

Provide access to forest stands.

Provide periodic access for removal and collection of forest products.

Minimize on-site and off-site damage to resources.

Enhance wildlife habitat and travel.

**CONDITIONS WHERE PRACTICE APPLIES**

Trails and landings including skid trails are applicable on forest land. They typically connect to an Access Road-560.

**CRITERIA**

**General Criteria Applicable To All Purposes**

Trails and landings will be of a size, gradient, number and location to accomplish the intended purpose. Avoid locating trails and landings on poorly suited soils of low-bearing strength and sites such as wetlands, riparian areas, critical wildlife habitat, or other environmentally sensitive areas. Locate trails on the contour to the greatest extent possible and incorporate breaks in grade (rolling dips or rolled grades) for trails on slopes. Skid logs uphill (with front ends off the ground) as practicable to minimize mechanical displacement of soil. Trails and landings will be set back from water bodies and water courses. Stream Crossings, if necessary, will be minimized in size and number.

Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard, contact your Natural Resources Conservation Service [State Office](#) or visit the [Field Office Technical Guide](#).

Assure safe ingress and egress from trails and landings to junctions with access roads. Refer to the practice standard Access Road-560, for travel-ways including logging spur roads needing construction design and possibly surfacing to accommodate frequent, intensive, or repeated vehicular traffic.

Trails and landings shall be located and minimized in number and size to reduce adverse onsite and off-site impacts such as accelerated erosion, slope failure, water quality and riparian area degradation, stream channel and streambank damage, hydrologic modification, aesthetics, unacceptable damage to advance regeneration or residual growing stock, or fragmentation of wildlife habitat.

Those trails and landings intended or anticipated for management activities in subsequent years shall be designated for reuse to minimize the need for new trails and landings and associated site impacts.

Timing and use of equipment shall be appropriate for site and soil conditions to maintain site productivity and minimize soil rutting, erosion, displacement and compaction.

Drainage and erosion control measures shall be integrated with trails and landings and located to minimize detrimental effects of concentrated flow, erosion and sedimentation rates both during and after trail/landing use. After usage, stream crossings will be restored and stabilized. Refer to *Texas Forestry Best Management Practices*.

## **CONSIDERATIONS**

Consider impacts to wildlife from increased fragmentation of the forest stand. Creation of openings can benefit many wildlife species.

Trails and landings, particularly after usage, may be utilized and managed for wildlife food and cover plantings. Refer to appropriate wildlife habitat practice standards, e.g., Upland Wildlife Habitat Management, 645, and Early Successional Habitat Development/ Management, 647.

Properly located trails and landings of sufficient width and location may be utilized and managed as firebreaks.

Favor native species for re-vegetating trails and landings. Measures should be used to protect against invasive species.

## **PLANS AND SPECIFICATIONS**

- When placing trails, keep grades as low as possible. Avoid long, steep grades that exceed 15%.
- Minimize the use of stream crossings and remove any temporary bridges and culverts when logging activities are completed.
- On trails with existing erosion problems, install water bars, rolling dips, and other drainage measures to route runoff away from the road. Stabilize diversion outlets with stone riprap or brush debris. Crowning the trails can help with drainage.
- Adjust spacing of water bars to decrease the intervals between them on steep ground. Longer intervals are acceptable on relatively flat portions. Position water bars on about a 30 degree angle down slope.
- The installation of appropriate drainage structures, along with the addition of the autumn leaf fall, will often sufficiently protect roads from erosion if vehicular traffic is controlled. Where these measures are not sufficient, seed areas that are still susceptible to erosion.
- Completely close, rehabilitate, and re-vegetate problem areas.

- Locate landings areas on well drained ridge tops, areas close to an all-weather road, or sites close to the stand being harvested.
- Landings should have a slight slope to facilitate drainage. The Texas BMP book states, "Locate landings at least 50 feet from the outside edge of the Stream Side Management Zone. The SMZ is the buffer left along streams, rivers, ponds, lakes, etc."
- Clear log yard debris from landing areas and seed those areas with grass seed or a green browse food plot mixture.

Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets, job sheets, technical notes and narrative statements in the conservation plan, or other acceptable documentation.

## **OPERATION AND MAINTENANCE**

After rehabilitation, close trails susceptible to damage from vehicular traffic. Construct gates or otherwise block the trail with logs, trees, root-wads, etc. to prevent further use.

- Maintain vegetation on especially erosive areas.
- Prevent vehicular traffic when trails are wet and subject to damage if used.
- Rehabilitate water bars and turnouts if they fail to function due to excess sediment buildup or if scour develops at the outflow point.
- Maintain green browse planted on log landings and openings through adequate fertilization and replant as necessary.
- Regular and timely inspections for adverse effects will be conducted with trails and landings and associated measures maintained or restored as necessary.
- Trails and landings utilized and managed as firebreaks will be properly maintained to accomplish this purpose.
- Access to trails and landings shall be controlled when and where needed for erosion abatement, safety and liability, and reduced maintenance costs. Refer to the practice standard Access Control-472 as needed.
- Trails and landings no longer needed may be decommissioned. Refer to the practice standard Road/Trail/Landing Closure and Treatment-654, as needed.

## **REFERENCES**

Garland, John. 1997. Designated Skid Trails Minimize Soil Compaction. Woodland Workbook, Oregon State University Extension Service, EC1110.

University of Minnesota. 2002. Broad-Based Dips. Forest Management Practices Fact Sheet #6, Managing Water Series.

**NATURAL RESOURCES CONSERVATION SERVICE**

**CONSERVATION PRACTICE**

**STANDARD APPROVAL AND CERTIFICATION**

**FOREST TRAILS AND LANDINGS**

**Code 655**

**(ft and/or acs)**

**PRACTICE SPECIFICATIONS APPROVED:**

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**/s/ Rick Williams**

State Forester

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**1/11/2013**

Date

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State Resource Conservationist

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Date

These practice specifications are needed in Section IV, Conservation Practices of the Field Office Technical Guide under Forest Trails and Landings 655.

**CERTIFICATION:**

Reviewed and determined adequate without need of revision.

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**/s/ Mary Webb-Marek**

(Zone Specialist)

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**1/11/2013**

(Date)