

**NATURAL RESOURCES CONSERVATION SERVICE
MICHIGAN CONSERVATION PRACTICE STANDARD**

FOREST TRAILS AND LANDINGS

(Ft. and Ac.)

CODE 655

DEFINITION

A temporary or infrequently used route, path or cleared area.

PURPOSE

- Provide routes for temporary or infrequent travel by people or equipment for management activities.
- Provide periodic access for removal and collection of forest products.

CONDITIONS WHERE PRACTICE APPLIES

Trails and landings including skid trails are applicable on forest land. They typically connect to an Access Road (see the Michigan NRCS Access Road (560) Conservation Practice Standard (CPS)).

Use the Michigan NRCS Recreation Trail and Walkway (568) CPS if the primary use is to be for recreation.

CRITERIA

General Criteria Applicable To All Purposes

Trails and landings shall be of a size, gradient, number and location to accomplish the intended purpose.

Meet or exceed the applicable guidelines for trails and landings in the following sections of "Sustainable Soil and Water Quality Practices on Forest Land":

6. Forest Roads
7. Water Diversion Devices
8. Stream Crossings
9. Rutting and Related Issues
10. Landings
11. Skidding
12. Wetland BMPs and Forest Roads

13. Forest Roads – Controlling Sediment Movement and Transport During Rain Events

See:

http://www.michigan.gov/documents/dnr/IC401_1_SustainableSoilAndWaterQualityPracticesOnForestLand_268417_7.pdf

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 shall be set back adequately from water bodies and water courses. Stream Crossings, if necessary, shall be minimized in size and number.

Assure safe ingress and egress from trails and landings to junctions with access roads. Use Michigan NRCS Access Road (560) CPS, 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, residual growing stock, and threatened and endangered species; or fragmentation of wildlife habitat.

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](#).

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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, e.g., water bars, broad-based dips, box culverts, 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. Refer to applicable drainage and erosion-sedimentation prediction technology and applicable CPSs, e.g., Critical Area Planting- (342), Structure for Water Control (587), Stream Crossing (578) and Mulching (484).

After usage, stream crossings shall be restored and stabilized.

Ensure that slash, debris, and vegetative material left on the site after practice installation will not present an unacceptable fire or pest hazard or interfere with the intended purpose.

After use, revegetate trails and landings sufficiently to control erosion. If needed, use the Michigan NRCS Critical Area Planting (342) or Conservation Cover (327)CPSs for recommended seeding mixtures on steeply sloping trails, landings, and other areas where erosion control is a major concern (critical areas).

On areas where a seedbank of desirable native species exists, allow natural revegetation (succession) to occur to reduce future forest fragmentation and protect native species.

Take measures to mitigate invasion and spread of invasive species. Comply with federal and state NRCS policy on invasive species (see Invasive Plant Species List in Section II of eFOTG).

CONSIDERATIONS

Consider impacts to wildlife from increased fragmentation of the forest stand. Creation of openings can benefit some wildlife species, e.g., early successional and edge species, yet

be detrimental to others, e.g., forest interior species.

Trails and landings, particularly after usage, may be utilized and managed for wildlife food and cover plantings. Refer to appropriate Michigan wildlife habitat CPSs, 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 revegetating trails and landings.

Place slash, debris, and rocks a minimum of four feet from the edge of all landings and harvest trails, and pile such material to a height not to exceed four feet.

Locate landings and trails to preserve the aesthetic quality.

Locate landings and trails a minimum of 100 feet from riparian areas if feasible.

During construction, stockpile all topsoil and re-spread after final grading to maintain natural fertility and promote re-growth of native vegetation.

Discontinue hauling and harvesting operations when rutting exceeds 6 inches in depth.

Regularly inspect landings and trails to remove refuse and garbage. Report lubricant, solvent, and fuel spills to Michigan Department of Environmental Quality Pollution Emergency Alerting System Hotline: 1-800-292-4706.

Close trails as needed for erosion control, safety and liability, and to reduce maintenance costs. Refer to the Michigan NRCS Road/Trail/Landing Closure and Treatment (655) Conservation Practice Standard.

Consider using forest trails and landings secondarily for other purposes, e.g., recreation wildlife food and cover plantings, provided it does not compromise the purpose of the practice.. Refer to Michigan NRCS Standard 568 - Recreation Trail and Walkway if primary use is to be for recreation.

PLANS AND SPECIFICATIONS

Specifications for applying this practice shall be prepared for each site and recorded using the Michigan NRCS Forest Trails and Landings (655) Conservation Design Sheet, narrative statements in the conservation plan, or other acceptable documentation.

Because Forest Trails and Landings are often designed in conjunction with a timber harvest or other management activity, it may not be feasible to fully design and layout the practice in advance. Therefore, two levels of planning documentation are required as detailed below.

Minimum documentation to include this practice in a conservation plan (including a Conservation Activity Plan) includes:

- Approximate length, width and slope of new trails or trail segments and landings and/or those needing treatment.
- Information about the timing of practice installation.
- General description of the installation or treatments anticipated.
- Location of buffer zones for streams, special areas and other sensitive areas that need protection, including wetlands and locations of threatened and endangered species.

Minimum documentation required prior to installation of this practice includes all items listed above and:

- Site map, preferably with topographic information, showing location(s) of trails, landings, and stream crossings.
- Length, width, and slope of trails or trail segments and landings.
- Location and/or spacing (on site map or described in plan) of structural erosion control measures, and other required treatments.
- Detailed design information, including standard drawings, for all erosion control measures, stream crossings, cuts and fills, and other earthwork, structures, etc.

- Identification of trails and landings intended or anticipated for management activities in subsequent years.
- Specifications for operation during wet or dry weather periods to avoid soil erosion, compaction, and potential fires.
- Location or description of sites needing seeding.
- Species, rates, and planting information for any areas that require seeding.
- Operation and maintenance requirements

OPERATION AND MAINTENANCE

Regular and timely inspections for adverse effects shall be conducted with trails and landings and associated measures maintained or restored as necessary.

Trails and landings utilized and managed as firebreaks shall be properly maintained to accomplish this purpose while maintaining acceptable mitigation of other concerns.

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 Michigan NRCS Access Control (472) CPS as needed.

Trails and landings no longer needed may be decommissioned. Refer to the Michigan NRCS Road/Trail/Landing Closure and Treatment (654) CPS, as needed.

Protect watercourses and water quality during and after removal and transport of trees. Remove temporary bridges in a timely manner and stabilize channels and banks as needed. Use the Michigan NRCS Stream and Shoreline Protection (580), and Stream Channel Stabilization (584) CPSs, as needed.

Upon completion of harvest, leave all loading areas, landings, and trails in a stable, vegetated condition.

REFERENCES

University of Minnesota. 1998. Broad-Based Dips. Forest Management Practices Fact Sheet #6, Managing Water Series. Regents of the University of Minnesota. MN.
<http://www.extension.umn.edu/environment/tre>

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Wiest, Richard L. 1998. A Landowner's Guide to Building Forest Access Roads. NA-TP-06-98. USDA Forest Service, Northeastern Area State and Private Forestry. Radnor, PA.
<http://www.na.fs.fed.us/spfo/pubs/stewardship/accessroads/accessroads.htm>

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