

Soil Disturbance Land Use Chart

↓	Degree of Reversibility	Land Use	Soil Protection Classification
		Permanent buildings/structures/hardscape Permanent travel lanes Permanent livestock training facilities Permanent parking and storage areas Cut and/or fill (includes stormwater basins)	Permanent Soil Disturbance (Red Category)
Improved travel lanes Improved livestock training facilities Semi-permanent parking and storage areas Soil stockpiling	Semi-Permanent Soil Disturbance (Orange Category)		
Geotextiles and geomembranes Temporary structures Unimproved travel lanes Unimproved livestock training facilities Temporary parking and storage areas Agricultural water impoundments Ground-mounted solar energy facilities	Temporary Soil Disturbance (Yellow Category)		
Agricultural production Woodland Wetlands/streams Conservation practices	Soil Protection (Green Category)		


Draft Soil Protection Standards

Geotextiles and Geomembranes

Best Management Practice



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Wetlands/streams			
Conservation practices			

Permeable Geotextile Use

- Example use:
 - Intensive nursery production
- Fabric must be:
 - Permeable to water
 - Over uncompacted native soil



Temporary Impermeable Geomembrane Use



- Example use:
 - intensive field crop production, silage wraps
- Geomembrane must be:
 - Installed to minimize erosion
 - Fully removed at the end of its life



Proagproducts.co.nz



Geotextiles Not Following BMPs

- Compacted subsoil
- Underlain by gravel



Temporary Geomembranes Not Following BMPs

- Improper disposal
- Excessive erosion



Committee Comments

1. This rule should not prohibit farmers from having 80% of their farm covered with plastic mulch.
 - **Plastic mulch use in compliance with the BMP is unlimited.**

Outstanding Issues/Possible Edits/Notes

1. Long-term impermeable geomembrane use will be discussed in Ag. Water Impoundments BMP.
2. If topsoil needs to be stripped and stockpiled for geotextile installation, it should follow the Soil Stockpiling BMP.

Draft Soil Protection Standards

Unimproved Travel Lanes

Best Management Practice



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Ag Production Lanes

- Low-use lane
- Native soil
- Greater than 50% vegetated



Unimproved Travel Lanes

- Low- to moderate- use lane
- Minimal width – less than 16 feet
- Made of native soil or shells
- Includes protected temporary access roads



Travel Lanes Not Following BMPs

- Erosion could be remediated by following Improved Travel Lane BMP and modifying field practices



Subcommittee Comments

1. This is not really a Best Management Practice as written.
 - The General Standards section of the Soil Protection Rule will explain the purpose and intent of the BMPs and how they comport with the established soil disturbance limitation rather than each BMP reciting it (a model is the Ag. Management Practices - AMPs - articulated in the Right to Farm rules).

Outstanding Issues/Possible Edits/Notes

1. Definition of travel lanes will be firmed up.
2. More “best management practices” will be added for designing unimproved travel lanes.

Draft Soil Protection Standards

Improved Travel Lanes

Best Management Practice



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Improved Travel Lanes

- Stockpile topsoil
- No deliberate soil compaction
- Separate base material from native soil
- Minimum 6 inches subbase to distribute loads



Example of geotextile separation



Permanent Travel Lanes

- Any lanes not following BMPs
- Any lanes surfaced with
 - Asphalt
 - Asphalt millings
 - Poured concrete
 - Porous pavement



Subcommittee Comments

1. Would rather have the gravel road standard leave the topsoil in place and place gravel above.
 - There would need to be a separation between the gravel and soil to facilitate eventual removal. The main concerns are compaction and loss of organic matter.
2. Wants staff to look into whether hydrocarbons leach from recycled asphalt millings.
 - Staff did some preliminary research and found that it is variable, but there are some pollutants that can leach from recycled asphalt, including polycyclic aromatic hydrocarbons (PAH).

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Temporary Structures

Best Management Practice



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High Tunnels and Low Tunnels

- No foundation
- Can be anchored
- Plastic cover no more than 6 mils thickness
- Installed to minimize erosion



High Tunnels Not Following BMPs



Temporary Tents

- Must maintain 70% ground cover, 90% crop residue, 6 inches coarse mulch, or ground protection mats
- Less than 30 consecutive days of use
- Less than 120 total days of use
- Restoration after use (reseeding, cover crop, straw mulch, etc.)



<http://www.jamaicatent.com>



<https://www.adirondack.net/>

Movable Structures

- Use outrigger boards beneath jacks
- Less than 120 total days of use
- Restoration after use (reseeding, cover crop, straw mulch, etc.)



Dakotariggers.com



<http://festivalandeventproduction.com/>



Septicnow.com

Sheds

Run-In/Turn-Out Shed

- No floor
- Less than 250 sq ft total area
- Less than 14 ft tall
- No utility connections



Garden-Type Utility Shed

- No foundation
- Less than 200 sq ft total area
- Less than 10 ft tall
- No utility connections



Permanent Structures

- Permanent foundations, floors, footings, things that can't be moved



Committee Comments

1. Plants in hoop houses should be allowed to be grown in “bagged dirt.”
 - Plants in hoop houses may be grown in containers on top of undisturbed soil. Geotextile coverings can be used on the soil in compliance with other BMPs.
2. Temporary tents and portapotties should be allowed for 180 days
Portapotties should be allowed to be emptied when the soil is above moisture capacity.
 - Temporary tents and portapotties are limited to 120 days to allow a long enough window to revegetate the site.
 - Agree – porta potties should be emptied whenever necessary; recommend a BMP amendment that notes porta-potties should be placed close enough to a lane that the hose from the truck can reach without leaving the lane.

Committee Comments (continued)

1. What about glass greenhouses where the soil is used underneath?
 - Glass greenhouses are not exempt from Universal Construction Code (UCC) permits and therefore would not be considered temporary structures:

<http://liberty.state.nj.us/agriculture/divisions/md/pdf/greenhousefactsheet.pdf>

Outstanding Issues/Possible Edits/Notes

1. Clarify that temporary structures placed over other disturbance are not subject to the Temporary Structures BMP (won't count disturbance twice).
2. Clarify references to the Universal Construction Code.
3. Clarify that sheds must be for an agricultural purpose.

Draft Soil Protection Standards

Unimproved Livestock Training Facilities

Best Management Practice





Unimproved Livestock Training Facilities

Best Management Practice

- design standards for the use of unimproved arenas and tracks at livestock training facilities on preserved premises
- allows for current or proposed agricultural uses while minimizing the potential negative impacts on soil quality



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Unimproved Livestock Training Facilities

- No intentional soil compaction
- No topsoil movement
- Surface may have:
 - Grass
 - Bare soil
 - Plant-based mulch
 - Woodchips
 - Up to 2 inches of sand or fine gravel



Unimproved Livestock Training Facilities

- Infiltration rate of surface greater or equal to the underlying soil
- Maintain soil loss below Soil Loss Tolerance Rate “T”
- Use facility when soil is below field moisture capacity
- Address erosion promptly
- Avoid soil contamination



Draft Soil Protection Standards

Improved Livestock Training Facilities

Best Management Practice





Improved Livestock Training Facilities

Best Management Practice

- design standards for the installation, maintenance, and restoration of improved livestock training facilities
- to support current and future proposed agricultural uses while minimizing potential negative impacts on the soil



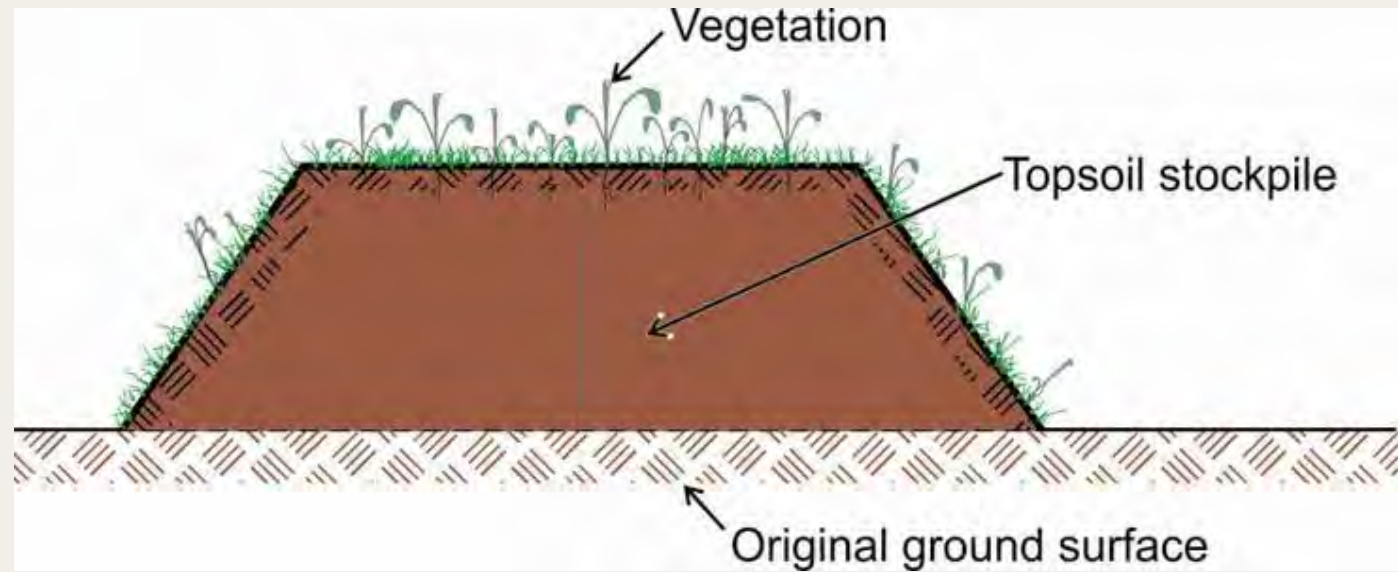
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Improved Livestock Training Facilities

- Before installation topsoil must be stockpiled
- Only low ground pressure equipment can be used
- No intentional soil compaction



https://www.researchgate.net/figure/Example-of-a-vegetated-topsoil-stockpile_fig168_318967816



<http://www.drumclogplant.com/low-ground-pressure-excavators/>



Improved Livestock Training Facilities

- Geotextile fabric keeps surface material from mixing with native soil
- Six inches of subbase added over fabric
- Surface dressing according to horses' needs
 - Gravel
 - Cinders
 - Sand
 - Soil
 - Synthetic blends
- Infiltration rate must be greater than that of native soil



Improved Livestock Training Facilities

- No concrete, asphalt, or millings
- Water may be used for dust control
- Never use motor oil or salt for dust control
- Always maintain separation between surface material and native soil
- Avoid soil contamination
- Address erosion promptly

