NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

LAND SMOOTHING

(Ac.)

CODE 466

DEFINITION

Removing irregularities on the land surface.

PURPOSE

To improve surface drainage, provide for more uniform cultivation, and improve equipment operation and efficiency.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies on areas where depressions, mounds, old terraces, turn-rows, and other surface irregularities interfere with the application of needed soil and water conservation and management practices.

It is limited to areas having adequate soil depth or where topsoil can be salvaged and replaced.

This practice does not apply to the regular maintenance on irrigated land or on land that has been modified using practice standards Precision Land Forming (462) or Irrigation Land Leveling (464).

CRITERIA

The extent of rough grading required and tolerances of the finished smoothing job shall be in keeping with the requirements of the planned cropping system.

The degree of smoothing shall be adequate to meet the objectives of the practice. The smoothed surface shall have sufficient slope (minimum 0.05 percent, but preferably 0.10 percent) to drain into outlets.

Construction operations shall be carried out in such a manner that erosion and air and water pollution are minimized.

Irregularities shall be smoothed to the degree required for the planned use.

The depth of soil removal shall be limited to that necessary for filling minor irregularities (usually not over 3 inches deep) with no extensive areas of unproductive subsoil exposed.

The land to be smoothed shall be cleared of vegetative matter and trash.

CONSIDERATIONS

Where possible, the ground surface should be plowed or disked prior to smoothing.

Effects on the water budget, especially on volumes and rates of runoff, infiltration, and evaporation.

Effect on erosion and the movement of sediment and soluble substances attached to sediment carried by runoff.

Potential for earth moving to uncover or redistribute toxic materials, such as saline soils.

Effects on wetland hydrology and/or wetland wildlife habitat.

Effects on the use and management of nutrients and pesticides should be evaluated.

Consider the effects on downstream water quality.

Potential impacts to existing utilities.

Effects on soil loss due to increased wind erosion potential and subsequent deposition.

Effects on the visual quality of downstream water resources should be considered.

PLANS AND SPECIFICATIONS

Plans and specifications for land smoothing shall be in keeping with this standard and shall describe the requirement for applying the practice to achieve its intended purpose.

Land Smoothing Specifications.

Construction operations shall be carried out in such a manner that erosion and air and water pollution are minimized and held within legal limits.

The land to be smoothed shall be cleared of vegetative matter and trash.

Irregularities shall be smoothed to the degree required for the planned use and the requirements of subsequent tillage, floating, or planning to be performed.

Where possible, the ground surface should be plowed or disked prior to smoothing.

OPERATION AND MAINTENANCE

Actions shall be carried out to insure that this practice functions as intended. Such actions shall include performing maintenance when needed to insure that surface irregularities are maintained at the degree of smoothness required.

REFERENCE

National Engineering Handbook Part 650, Engineering Field Handbook.