

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

BEDDING

(acre)
Code 310



DEFINITION

Plowing, blading, or otherwise elevating the surface of flat land into a series of broad, low ridges separated by shallow, parallel channels with positive drainage.

PURPOSE

To improve the drainage of surface water.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to all land uses with flat to nearly flat topography and poorly drained soils. It is generally applicable where land use does not warrant more intensive drainage.

CRITERIA

Laws and regulations. All planned work shall comply with federal, state, and local laws, rules, and regulations.

Evaluate and minimize or avoid impact to cultural resources, wetlands, and Federal and State protected species to the extent practical during planning, design and implementation of this conservation practice in accordance with established National and Florida NRCS policy, General Manual (GM) Title 420-Part 401, Title 450-Part 401, and Title 190-Parts 410.22 and 410.26; National Planning Procedures Handbook (NPPH) FL Supplements to Parts 600.1 and 600.6; National Cultural Resources Procedures Handbook

(NCRPH); and The National Environmental Compliance Handbook (NECH).

Beds. Bedding shall run in the direction of available land slope.

Shape beds and provide cross – row ditches where required to provide free movement of water from the crown to the dead furrow.

Soils must be of sufficient depth to provide a satisfactory root zone after bedding.

Parallel channels shall be graded toward an outlet.

The velocity of water in the channels needs to be slow enough to prevent erosion during storm events.

Crowns shall provide a cross slope of not less than 0.3 percent.

Base the crown height, width, and maximum length of beds on site conditions and crop requirements. The dimension requirements are shown in Table 1.

Capacity. Channel and outlet capacities shall be based on the appropriate surface drainage coefficient, or on recommended removal rates from local drainage guides.

Hydraulic gradient. Parallel channels shall be graded toward an outlet.

To prevent channel erosion, design velocities shall not exceed those in NRCS National Engineering Handbook, Part 650, Engineering Field Handbook, Chapter 14, Water Management (Drainage), 650.1412(d).

Outlet. Drainage outlets must have sufficient capacity and depth to provide for removal of water from the parallel channels.

Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service

Table 1 – Bedding Dimension Requirements

Crop	Min. Height ^{1/} (ft)	Max. Width ^{2/} (ft)	Max. Length ^{3/} (ft)
Pasture	1.0	120	1,320
Cultivated Crops	1.0	80	1,320
Forest	0.5	24	2,640
Citrus For surface drainage only	1.0	120	1,320
When needed to improve subsurface drainage	2.5	60	1,320

^{1/} Minimum difference in elevation between the bottom of the channels and top of the finished bed.

^{2/} Limiting horizontal distance between channels.

^{3/} The maximum length of channels before emptying into a larger cross section. The maximum length does not apply if channels bordering individual beds are designed to provide needed capacities in accordance with standards and specifications for Surface Drainage, Main or Lateral, Code 608.

CONSIDERATIONS

Parallel channels may be shallow and side slopes steep or flat, based on the soil, crops grown, and local construction and maintenance methods.

Identify areas where the rooting depth may limit plant growth after construction of the beds on the plan map.

Consider practices that will mitigate off-site water quality impacts (i.e., wetland treatment areas, filter strips, buffer strips, etc.)

If the bedding will exceed the depth of prior disturbance, this activity could affect significant cultural resources.

Evaluate tree planting suitability to the site before implementing bedding. When trees require a well drained soil (e.g. Longleaf pines) and specific management practices (e.g. prescribed burning or mechanical vegetation management) for survival, then bedding may not be appropriate. Refer to Florida NRCS Conservation Practice Standards Tree/Shrub Establishment, Code 612 and Guidance Documents for more information on tree and shrub planting.

PLANS AND SPECIFICATIONS

Specifications will be developed site specifically for each application. Specifications for this practice shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose(s). As a minimum the plans and specifications shall include:

- Plan view sketch of the beds showing location, orientation, and spacing.
- Typical cross section of bed.
- Direction and angle of bed.
- Location of utilities and notification requirements.
- Vegetative requirements if applicable.

OPERATION AND MAINTENANCE

Prepare an operation and maintenance (O&M) plan for use by the landowner or operator responsible for the beds. The O&M plan shall document needed actions to ensure that practices perform adequately throughout their expected life.

O&M requirements shall be included as an identifiable part of the design. Depending on the scope of the project, this may be accomplished by brief statements in the plans and specifications, the conservation plan narrative, or as a separate O&M plan.

The O&M plan shall include, but not limited to, the following provisions:

- Maintain the beds to the planned height.
- Remove sediment from the channels as necessary to facilitate drainage and to prevent ponding.
- Maintain the outlet in a stable condition.

REFERENCES

Florida NRCS Conservation Practice Standards
Surface Drainage Main or Lateral, Code 608
Critical Area Planting, Code 342
Tree/Shrub Establishment, Code 612
General Manual
Title 420-Part 401
Title 450-Part 401
Title 190-Parts 410.22 and 410.26

National Cultural Resources Procedures Handbook

National Environmental Compliance Handbook

National Food Security Act Manual

National Planning Procedures Handbook Florida
Supplements to Parts 600.1 and 600.6

NRCS National Engineering Handbook, Part 650,
Engineering Field Handbook, Chapter 14,
Water Management (Drainage)

General Manual

Title 420-Part 401

Title 450-Part 401

Title 190-Parts 410.22 and 410.26

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