

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

WATER HARVESTING CATCHMENT

(No.)
CODE 636

DEFINITION

A facility for collecting and storing runoff from precipitation.

PURPOSE

Provide water for livestock, fish, wildlife, and/or other purposes by sealing of the watersheds or contributing areas to increase, collect, and store runoff water for future use.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to areas where there is a need for additional water. The contributing area shall have a potential to furnish the quantity and quality of water required for the intended use.

It also applies to simple curbs and diversions constructed to collect and store runoff from such high runoff areas as rock outcrops or existing paved or impervious areas.

CRITERIA

Each water-harvesting catchment shall be designed according to a plan suited to the water requirements and the site conditions. The following points shall be considered in designing water-harvesting catchments:

1. The area of the apron shall be large enough to yield the required amount of runoff from the expected storms.
2. The apron shall be smooth and impervious to insure that adequate runoff occurs. Compacted earth, treated earth, wax, rubber, plastic, asphalt, concrete, steel, and other such suitable materials are acceptable for this purpose.
3. Foreign runoff shall be diverted from the catchment area to prevent damage and excessive sedimentation.
4. An overflow pipe or auxiliary spillway will be installed to prevent damage to the apron from runoff in excess of that needed to maintain the

design capacity of the conveyance system. A sediment trap will be installed between the apron and the storage basin.

5. The storage basin shall be of adequate size, impermeable, and durable to hold water for the intended purpose. Earth basins and tanks constructed of steel, concrete, butyl rubber, and similar facilities are acceptable. Earth dams shall have at least 1 foot of freeboard above the design high water. All storage basins shall be protected from 10-year-frequency storms. An overflow device shall be installed in all storage basins.
6. The apron and storage areas shall be protected from damage by weather, animals, vandals, wildlife, and traffic. Fencing shall be installed as necessary.

CONSIDERATIONS

Consider the effects the practice has on surface and ground water. Factors may include changes in evaporation, timing of releases from the catchment, and the impact of the type of catchment on surface water versus ground water.

Evaporation control measures may be needed to insure that adequate storage capacity is maintained.

Consider covered storage and/or storage tanks to store runoff.

Cultural Resources Considerations

NRCS's objective is to avoid any effect to cultural resources and protect them in their original location. Determine if installation of this practice will have any effect on any cultural resources.

Document any specific considerations for cultural resources in the design docket and the Practice Requirements worksheet.

GM 420, Part 401, the California Environmental Handbook and the California Environmental Assessment Worksheet provide guidance on how the NRCS must account for cultural resources. The Field Office Technical Guide, Section II contains

general information, with Web sites for additional information.

Endangered Species Considerations

Determine if installation of this practice, along with any others proposed, will have an effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern, or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates that the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Water Quantity

1. Effects of trapping or catching of water on surface and ground water. Factors include changes in evaporation, timing of releases from the catchment, and the impact of the type of on surface water versus ground water decreases.

Water Quality

1. Potential improvement in surface water quality resulting from flow reduction's contribution to reducing erosion and sediment yield. Consider the size of the harvest area and the impact of associated structures, such as sediment traps.
2. Effects of reduced dilution water on water quality factor such as dissolved substances, waste assimilation capacity, and dissolved oxygen.
3. Effects of loss of ground water dilution and the reduction of input of dissolved salts and chemicals on ground water quality.

PLANS AND SPECIFICATIONS

Plans and specifications for water-harvesting catchments shall be in keeping with this standard and shall describe the requirements for installing the practice to achieve its intended purpose.

OPERATION AND MAINTENANCE

An O&M plan specific to the type of installed water-harvesting catchment shall be provided to the landowner. The plan shall include, but not be limited to, the following provisions:

1. Inspecting and testing valves, pumps, and other appurtenances;
2. Maintaining erosion protection at outlets;
3. Checking for debris, minerals, algae and other materials that may restrict system flow;
4. Draining and/or providing for cold weather operation of the system;
5. Controlling all vegetation, wildlife, rodents, or burrowing animals from the apron;
6. Maintaining all fences to prevent unauthorized human or livestock access; and
7. Inspecting the catchment area for signs of ultraviolet degradation of flexible materials.