

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**CLOSURE OF WASTE IMPOUNDMENTS**

(No.)

**CODE 360**

**DEFINITION**

The closure of waste impoundments (treatment lagoons and liquid storage facilities) that are no longer used for their intended purpose in an environmentally safe manner.

**PURPOSES**

- Protect the quality of surface water and ground water resources
- Eliminate a safety hazard for humans and livestock
- Safeguard the public health

**CONDITIONS WHERE PRACTICE APPLIES**

This practice applies to agricultural waste impoundments that are no longer needed as a part of a waste management system and are to be permanently closed or converted.

Where these impoundments are to be converted to fresh water storage and the original impoundment was not constructed to Natural Resources Conservation Service (NRCS) standards, this practice will only apply where the investigation, as required in National Engineering Manual (NEM) Part 501.23, shows structural integrity.

**CRITERIA**

**General Criteria Applicable to All Purposes**

The closure shall comply with all federal, state, and local laws, rules, and regulations including pollutant discharge elimination system requirements.

All structures used to convey waste to waste impoundments or to provide drainage from the impoundment area shall be removed and

replaced with compacted earth material or otherwise rendered unable to convey waste.

Liquid and slurry wastes shall be agitated and pumped to the extent conventional pumping will allow. Clean water shall be added as necessary to facilitate the agitation and pumping. The wastewater shall be utilized in accordance with Conservation Practice Standard 633, Waste Utilization. The sludge remaining on the bottom and sides of the waste treatment lagoon or waste storage facility may remain in place if it will not pose a threat to the environment. If leaving the sludge in place would pose a threat, it shall be removed to the fullest extent practical and utilized in accordance with Conservation Practice Standard 633, Waste Utilization.

**Land reclamation.** Impoundments with embankments may be breached so that they will no longer impound water, and excavated impoundments may be backfilled so that these areas may be reclaimed for other uses. Waste impoundments that have water impounded against the embankment are considered embankment structures if the depth of water is 3 feet or more above natural ground.

1. Embankment impoundments. Waste shall be removed from the site before the embankment is breached. The slopes and bottom of the breach shall be stable for the soil material involved; however, the side slopes shall be no steeper than 3 horizontal to 1 vertical (3:1).

2. Excavated impoundments. The backfill height shall exceed the design finished grade by 5 percent to allow for settlement. The top of the backfill shall be constructed with at least 1 foot of the most clayey material available and 1 foot of topsoil to aid establishment of vegetation, mounded to shed rainfall runoff.

Closed waste storage structures shall be demolished or disassembled or otherwise altered to such an extent that no water can be impounded. Disassembled materials such as pieces of metal shall be temporarily stored until their final disposition in such a manner that they do not pose a hazard to animals or humans.

Demolished materials shall be buried on-site or moved off-site to locations designated by state or local officials. If buried on-site, the materials are to be covered with soil to a settled depth of 1 foot, and the backfill shall be sufficiently mounded such that runoff will be diverted from the site after the backfill settles.

**Conversion to fresh water storage.** The converted impoundment shall meet the requirements as set forth in the appropriate conservation practice standard for the intended purpose.

**Safety.** When sludge is not removed from a waste impoundment that is being converted to fresh water storage, the impoundment shall not be used for fish production, swimming, or livestock watering until water quality is adequate for these purposes. Precautions (fencing and warning signs) shall be used to ensure that the facility is not used for purposes incompatible with the current quality of water.

Personnel shall not enter an enclosed waste impoundment without breathing apparatus or taking other appropriate measures.

**Protection.** All disturbed areas shall be revegetated, or other suitable measures shall be used to control erosion and restore the esthetic value of the site. Sites not suitable for revegetation through normal cropping practices shall be vegetated using Conservation Practice Standard 342, Critical Area Planting.

Measures shall be taken during construction to minimize site erosion and pollution of downstream water resources. This may include such items as silt fences, hay bale barriers, temporary vegetation, and mulching.

## CONSIDERATIONS

Reduce pumping effort to empty waste impoundments where the surface is covered by a dense mat of floating vegetation by first applying herbicide to the vegetation and then

burning the residue. Appropriate permits must be obtained before burning.

Alternative methods of sludge removal may be required where the impoundments contain large amounts of oyster shells, soil, or other debris.

Minimize the impact of odors associated with emptying and land applying wastewater and sludge from a waste impoundment by using an incorporation application method at a time when the humidity is low, when winds are calm, and when wind direction is away from populated areas.

Soil to fill excavated ponds should not come from important farmlands (prime, statewide, local, and/or unique).

Breeched embankments may detract from the overall esthetics of the operation. Embankments should be removed and the site returned to its original grade.

If sludge is not removed promptly keep sludge left in place covered with water to prevent its aerobic decomposition with the potential release of nutrients to surface and ground water.

Disassembled structural facilities may be suitable for assembly at another site. Care should be taken during closure to minimize damage to the pieces of the facility, particularly coatings that prevent corrosion of metal pieces.

## PLANS AND SPECIFICATIONS

Plans and specifications for closure of abandoned waste treatment lagoons and waste storage facilities shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The plans and specifications shall also be consistent with the requirements of that standard.

## OPERATION AND MAINTENANCE

The proper closure of a waste treatment lagoon or waste storage facility should require little or no operation and maintenance; however if it is converted to another use (such as a fresh water facility), operation and maintenance shall be in accordance with the needs as set forth in the appropriate conservation practice standard for the intended purpose.