

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

CLOSURE OF WASTE IMPOUNDMENTS

(Each)

CODE 360

DEFINITION

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

PURPOSE

This practice may be applied as part of a conservation management system to support one or more of the following purposes.

- To protect the quality of surface water and groundwater resources.
- To eliminate a safety hazard for humans and livestock.
- To 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 NRCS standards, this practice will only apply where the investigation, as called for in National Engineering Manual (NEM) 501.23, shows structural integrity.

CRITERIA

General. The closure shall comply with all Federal, State, and local laws, rules, and regulations.

All structures used to convey waste to waste impoundments 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 NRCS conservation practice standard, Waste Utilization, Code 633 and Nutrient Management, Code 590. The sludge remaining on the bottom and sides of the waste treatment lagoons or waste storage ponds shall be removed to the fullest extent practical and utilized in accordance with NRCS conservation practice standard, Waste Utilization, Code 633 and Nutrient Management, Code 590. It may be necessary to remove and properly dispose soil in the bottom and side slopes of the impoundment if it appears to be laden with manure.

Concrete or synthetic liners may be buried in the existing facility if all of the following requirements are met:

- Liner is broken up or holes are made to allow movement of water through the profile after the facility is closed.
- Test pits or soil borings are made below the liner to check for soil mixed with waste. If soil mixed with waste is present, the liner must be pulled back to allow the removal waste laden soil. The liner material may then be buried in the closed facility. If the liner is removed from the facility is must be disposed of in accordance to all local, state and federal laws and regulations.

Conservation practice standards are reviewed, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.
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Land Reclamation. Impoundments with embankments may be breached so that they will no longer impound water and excavated impoundments shall be backfilled. 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 three feet or more above natural ground.

- (1) Embankment Impoundments. All 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 three horizontal to one vertical (3:1). All contaminated runoff from the construction site shall be contained and disposed of in an environmentally sound manner.
- (2) Excavated Impoundments. The backfill height shall exceed the design finished grade by 5 percent to allow for settlement. The finished surface shall be constructed of the most clayey material available and mounded to shed rainfall runoff. Incorporate available topsoil where feasible to aid establishment of vegetation.
- (3) Both embankment and excavated impoundments shall be excavated, backfilled, filled in, compacted, graded, etc. to the elevations and contour necessary so that surface water can drain freely from the entire site.
- (4) Existing perimeter drains shall meet NRCS code 606, Subsurface Drainage. The perimeter drain can be diverted into the convert pond to help supply water. Perimeter drains shall be monitored for water quality. If perimeter drains show continuous evidence of poor water quality, the drainage shall be collected and treated or properly disposed.

Conversion to Fresh Water Storage. The converted impoundment shall meet the requirements as set forth in the NRCS practice standard 378 – Pond. Water from the fresh water pond conversion shall meet all federal, state and local requirements. The discharge from the converted fresh water pond shall be collected and monitored. Water shall not be

discharged until all water quality requirements (tests) are met.

Safety. Precautions (fencing and warning signs) shall be used to ensure that the pond is not used for incompatible purposes such as swimming and livestock watering until water quality is adequate for these purposes.

Protection. All disturbed areas not returned to crop production shall be vegetated in accordance with seeding specifications in the Field Office Technical Guide, or other suitable measures used to control erosion and restore the esthetic value of the site.

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 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.

Keep sludge left in place flooded to prevent its aerobic decomposition with the potential release of nutrients to surface and ground water.

The construction of buildings or other facilities should not be considered in the area of the impoundment closure until the area is allowed to settle for several years.

PLANS AND SPECIFICATIONS

Plans and specifications for closure of abandoned waste treatment lagoons and waste storage ponds 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. The approximate location of the waste storage facility which was removed and any tile outlets shall be maintained in the cooperators file.

OPERATION AND MAINTENANCE

An operation and maintenance (O&M) plan shall be prepared for the closure of the waste impoundment and any other associated conservation practices. The owner shall sign the O&M plan to indicate an understanding of the requirements and commitment to operate and maintain this practice as specified. The proper closure of a waste treatment lagoon or waste storage pond should require little or no operation and maintenance. However, if it is converted to another use, such as a fresh water pond, operation and maintenance shall be in accordance with the needs as set forth in NRCS conservation practice standard for the intended purpose.