

PERMANENT IMPOUNDMENT GUIDELINES

- Subject:** Procedure for the design, inspection and performance security release of permanent impoundments
- Effective:** February 26, 2013
- Purpose:** To provide guidance for the consistent and correct implementation of the requirements of Chapter 1501: 13-9-04(H)(2) Ohio Administrative Code (OAC) for determining stable water levels and minimum water depths of permanent impoundments that are consistent with the post-mining land use and defining the conditions of the impoundments at the time of performance security release.

Rule 1501: 13-9-04(H)(2) of the Ohio Administrative Code states:

“Permanent impoundments. A permanent impoundment of water may be created if authorized by the chief in the approved permit based upon the following demonstration:

- (a) The size and configuration of such impoundment will be adequate for its intended purposes;
- (b) The quality of impounded water will be suitable on a permanent basis for its intended use and, after reclamation, will meet applicable state and federal water quality standards, and discharges from the impoundment will meet applicable effluent limitations and will not degrade the quality of receiving water below applicable state and federal water quality standards;
- (c) The water level will be sufficiently stable and be capable of supporting the intended use;
- (d) Final grading will provide for adequate safety and access for proposed water users. For impoundments where the vertical portion of a highwall remains, the vertical portion shall be located at least eight feet below the low-water line;
- (e) The impoundment will not result in the diminution of the quality and quantity of water utilized by adjacent or surrounding landowners for agricultural, industrial, recreational, or domestic uses;
- (f) The impoundment will be suitable for the approved postmining land use;
- (g) The reduced portion of any highwall shall have a final slope appropriate for the postmining land use and shall have a minimum static safety factor of 1.3; and
- (h) The face of the reduced portion of any highwall shall be vegetated with species appropriate for the postmining use.”

Wetlands

In order for wetlands to meet their intended use, wetlands are not subject to these guidelines.

Landowner

A landowner cannot require that an impoundment exceed the volume and surface area requirements of the approved design of that impoundment for the approved land use, however, a landowner may determine that an impoundment, that does not meet those requirements, is adequate to be permanent for his intended purpose

or land use. The DMRM will determine the adequacy of the impoundment with respect to the other design requirements.

General

Chapter 1501: 13-9-04(H)(2)(a) & (c) OAC requires that a permanent impoundment be of an adequate size and configuration and with a sufficiently stable water level to support the intended post-mining land use. It is recognized that the water level of an impoundment will vary throughout the year and that the amount of variation will depend on the annual rainfall and source(s) of the water flowing into the impoundment.

Inspection

Upon construction, permanent impoundments shall be inspected to verify compliance with Chapter 1501: 13-9-04 OAC. Any "as-built" design should reflect the fact that the impoundment has been constructed with sufficient water depths to support its intended future use. If the initial inspection or any subsequent inspections reveal that the impoundment does not reflect the pond certification the inspector shall require corrective steps to be taken.

Agricultural Impoundments

Agricultural impoundments are those solely intended to support livestock. The following procedures are established for agricultural impoundments:

a) Design

To meet the requirements of 1501: 13-9-04 OAC, permanent agricultural impoundments must be designed to meet the depth requirements listed below; and, upon completion of backfilling and grading, where reclamation has advanced sufficiently to allow for removal of any non-permanent diversion ditches on the yearly segment, must have a sufficient watershed to support water levels and depths to support intended use. If the impoundment is recharged by surface runoff only, an impoundment should have a 6:1 ratio of acreage within the watershed to the surface area of the impoundment [per Natural Resources Conservation Service (NRCS) Conservation Practice Standard, Pond No. 378]. If the impoundment is recharged in part by a groundwater source, this ratio will be reduced according to the volume of the flow from the groundwater source.

Permanent agricultural impoundments that do not meet the watershed criteria of Natural Resources Conservation Service (NRCS) Conservation Practice Standard, Pond No. 378 will be reviewed on a case-by-case basis to determine if the requirements of the rule have been achieved with respect to the size and configuration being adequate for its intended use and whether the water level is sufficiently stable and capable of supporting intended use.

The impact of downstream users shall be considered in the approval of a permanent impoundment. The inspector shall periodically inspect permanent impoundments to determine if they are having such adverse effects on downstream users as increased bank erosion or diminished stream flow. Permanent impoundments

shall not reduce the flow of the receiving stream past the point where it adversely effects the water used for agricultural or recreational purposes.

b) Water depth

In general, permanent agricultural impoundments need to have a depth of at least eight (8) feet over twenty-five percent (25%) of the approved design surface area. If spring-fed, the minimum depth can be reduced to six (6) feet.

c) Water level fluctuation

In accordance with rule 1501: 13-9-04 (H) (2) OAC water level fluctuations must be compatible with the intended use of the impoundment. It is anticipated that the water level of the impoundment will fluctuate throughout the year. If the water level fluctuates more than twenty-four inches below the crest of the primary spillway, the inspector may contact a Division engineer for assistance to determine if the amount of fluctuation is acceptable for the intended use. The same procedure applies to impoundments that are designed to not normally discharge, if the impoundment fluctuates more than twenty-four vertical inches below the anticipated elevation of the permanent water level.

Water level fluctuation-other land uses

In accordance with rule 1501:13-9-04 (H) (2) OAC water level fluctuations must be compatible with the intended use of the impoundment. It is anticipated that the water level of the pond will fluctuate throughout the year. If the water level fluctuates more than twenty-four inches below the crest of the primary spillway the inspector may contact a Division engineer for assistance to determine if the amount of fluctuation is acceptable for the intended use. The same procedure applies to impoundments that are designed to not normally discharge, if the impoundment fluctuates more than twenty-four vertical inches below the anticipated elevation of the permanent water level. If a permanent impoundment is to be used to assist in flood control, then the maximum fluctuation will be applied at the lowest point of drawdown.

Conversion from temporary to permanent impoundment

For a temporary impoundment being converted to a permanent impoundment, the permittee shall submit with the Application to Revise the Permit (ARP), or as soon after as practical, the data which demonstrates that the impoundment has a stable water level that is suitable for its intended post-mining use as required by OAC 1501: 13-9-04.

Reclamation and performance security release

Prior to a Phase 3 performance security release, accumulated sediment in the impoundment may need to be removed in order to restore the impoundment to a condition that will be suitable for the landowner's intended use.

To be eligible for a Phase 2 or a Phase 3 performance security release, the inspector must verify that the impoundment meets the standards of Chapter 1501: 13-9-04 OAC with respect to stable water levels and will be

suitable for the landowner's intended use of the impoundment. As with any release, the inspector needs to compare the field measurements against the approved plan to assure that the field conditions match the approved plan. Inspectors may need the assistance of an engineer to accomplish this. Prior to the approval of the request the inspector will need to check the following:

Phase 1:

1. Prior to approval, all pits shall be backfilled and graded. Where the approved reclamation plan includes a last-cut impoundment or where the permittee has submitted or must submit an ARP to include a last-cut impoundment in the reclamation plan, Phase 1 release requests may only be approved after the impoundment is certified and the inspector verifies that the impoundment meets the design approved in the original permit or the approved ARP.

Phase 2:

1. Approved permanent impoundment(s) shall be constructed per the approved or as-built plan and certified as a permanent impoundment and are subject to the requirements of OAC 1501: 13-7-05(B)(1)(b)(v).
2. The embankment of the impoundment(s) shall be well vegetated and in good repair.
3. The quality of the water discharging from the impoundment(s) shall meet the appropriate effluent standards as specified in PD Inspection & Enforcement 2009-01.

Phase 3:

1. The impoundment(s) shall be part of the approved reclamation plan, certified as permanent and the embankment shall be well vegetated and in good repair.
2. It shall be determined that the permanent impoundment(s) will be suitable for the approved land use or meets the landowner's intended use and has a stable water level as defined in this guidance.
3. The quality of the water discharging from the impoundment(s) shall meet the appropriate effluent standards as specified in PD Inspection & Enforcement 2009-01 or deemed to be non-polluting by a Division hydrologist.
4. The water entering the permanent impoundment(s) shall meet the appropriate effluent standards as specified in PD Inspection & Enforcement 2009-01 or deemed to be non-polluting by a Division hydrologist.

Upon submittal of a performance security release request for yearly segments with permanent impoundments approved in the current reclamation plan, the inspector may review past inspection reports to determine if the impoundment has a stable water level and will be suitable for the landowner's intended use of the impoundment(s) and is not adversely affecting downstream users. If these criteria cannot be met, the permittee will be contacted and informed that the performance security release request cannot be approved and why.